

An Examination of IT Offshore Outsourcing and the Challenges of Working Effectively with Suppliers

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EXECUTIVE SUMMARY

This paper examines offshore outsourcing, a type of business process outsourcing (BPO) in which IT-related work is exported from the United States and other developed countries to areas of the world where there are lower labor costs. It provides an overview of offshore IT outsourcing, and examines a set of best practices that apply to establishing effective working relationships between client companies and their vendors.

The fundamental idea behind offshore outsourcing is to move part of the value chain to lower cost locations in order to control costs through labor and skill arbitrage.

The process of outsourcing to nations in close physical proximity to a company has come to be known as ‘nearshoring.’ Related methodologies include ‘best shoring,’ a scenario in which companies can choose to have their work completed on-site, off-site domestically, or offshore; and ‘dual shoring,’ an outsourcing model utilizing geographically dispersed locations to create 24-hour work cycles and to leverage labor strengths in various locations.

The outsourcing of IT work allows companies to meet their IT needs without adding internal staff or investing in new IT infrastructure initiatives. Offshoring can facilitate a strategic move to new forms of organization and management, allowing companies to focus on core competencies while outsourcing nonessential tasks and processes. A company may choose to move IT work offshore because of a need to tap into specialized labor pools available abroad or because of a lack of sufficient labor resources domestically, but research confirms that cost is the primary driver behind the movement.

In the mid-1980s, U.S. hardware and software companies began to use offshore labor for low-end work, and in the early 1990s, Jack Welch created a plan to move General Electric forward by utilizing Indian resources. While GE’s move to India was via a wholly-owned subsidiary, one of the first large deals in the world of IT outsourcing to offshore sites was a \$3.2 billion contract between Xerox and EDS in 1994. This was an event that some would describe as the validation of the practice, and the initiation of offshore outsourcing. IT needs preceding Y2K were perhaps the largest factor in moving offshore outsourcing into corporate consciousness and establishing it as a viable business practice.

The trend among companies to look offshore for IT solutions has led to a large amount of research aimed at determining which offshore countries are the best IT destination points. A.T. Kearney’s 2004 *Offshore Location Attractiveness Index*, a rather exhaustive study which ranks countries by their financial structure, business environment, and people skills, indicates that India is the preferred destination for offshore outsourcing.

India has significant BPO experience, tremendous depth of human resources, and a low cost structure. Though it trails in BPO experience, China ranks as the second most attractive offshore location through a similar mix of low costs and a vast labor pool. The third and fourth most attractive destinations are Malaysia and the Czech Republic, which lack the huge labor pools of India and China, but offer costs competitive with leading Asian locations, and benefit from well-developed infrastructures, good business environments, and strong governmental support. ***While summary information is useful when considering offshore options, detailed research offers information that could prove***

valuable to managers as they look to balance a wide array of issues in making offshore decisions.

The utilization of offshore outsourcing appears to move in direct correlation with the size of a company, as evidence points to the fact that more large companies engage in the practice than small companies. ***This paper presents four business models utilized in moving IT work offshore: captive operation, joint venture, build-operate-transfer (BOT), and fee-for-service.*** The fee-for service model is the most commonly used path for offshore outsourcing, and is the model examined in the Monsanto case study.

The case study examines Monsanto's offshore outsourcing initiative through a series of interviews with individuals involved in the process. Interviews were conducted with Monsanto employees and with employees of two Indian-based offshore suppliers. We evaluated Monsanto's effectiveness by measuring their processes and procedures against an established set of recommended best practices for working with IT outsourcing suppliers.

Monsanto is a global agricultural and biotechnology company located in St. Louis, Missouri, which began its offshore outsourcing initiative in 2003 when a number of pilot projects were widely implemented across the IT organization. ***The case study focuses on the SAP Development and Decision Services team within Monsanto, and details its experiences with offshore outsourcing from late 2003 to November 2005.***

SAP is an Enterprise Resource Planning (ERP) packaged software. SAP applications provide companies the capability to manage a wide range of business functions including their accounting process, production operations, material management, and human resources. A typical Monsanto SAP development project would include only Monsanto employees and local contractors as the project team members. When an SAP Development project is staffed with offshore resources, the Project Manager, Business User, System Analyst, and Development Coordinator roles remain intact, while the in-house Developer role is removed. Three new roles are then added: the Offshore Coordinator, the Offshore Technical Lead, and the Offshore Developer.

When this case study was researched in November 2005, Monsanto's SAP Development and Decision Services Team was using two offshore outsourcing vendors, Hewlett Packard Global Delivery India Center, and Yash. ***The case study examines each step of a typical SAP offshore outsourcing development project and details various team members' perspectives on the process.***

The case study found that an important factor in a successful offshore relationship is establishing the proper ratio of on-site coordinators to offshore developers. In addition, the highly interactive development process at Monsanto required a good deal of rapport between the involved parties to be successful.

While supplier proficiency in English was generally not considered an issue, quality and frequency of status reporting was considered important to the offshore initiative's success.

The case study will show that Monsanto employees responsible for working with offshore vendors learned that not all offshore IT companies are equal. Each offshore company may have a particular culture and set of skills and experiences to offer, which may not match perfectly with the client. The status of offshore outsourcing, as of November 2005, is in decline at Monsanto.

For those companies considering an offshore outsourcing engagement, the Monsanto case study illustrates some of the challenges that may be encountered. The purpose of Monsanto's offshore outsourcing initiative was to save money, and there was no desire to re-engineer development processes or management practices in order to work more effectively with suppliers. Monsanto's disregard for best practice recommendations, including their failure to design effective organizational interfaces, lack of a requirement for daily status reports, and failure to allow team members to meet face-to-face helped create an outsourcing relationship that failed to meet objectives.

INTRODUCTION

The purpose of this paper is to provide an overview of offshore IT outsourcing, and to examine a set of best practices that apply to establishing effective working relationships between client companies and their vendors. While the set of best practices can be applied to domestic as well as offshore vendors, our focus is on an offshore scenario, as we thoroughly examine one company's use of offshore developers to augment their in-house SAP development staff. We conducted a series of interviews with in-house employees involved in the offshore outsourcing initiative, and interviewed employees of two of the offshore suppliers providing development services. This methodology allowed us to build a case study that provides insight into the procedures established to govern the outsourcing process, and further provides anecdotal evidence of real-world consequences that are a direct result of a company's diligence in selecting vendors, defining roles, and managing relationships.

WHAT IS OFFSHORE OUTSOURCING?

*Offshore outsourcing is a type of business process outsourcing (BPO) in which IT-related work is exported from the United States and other developed countries to areas of the world where there are lower labor costs.*¹ There are a host of factors that companies must consider when deciding whether to use this strategy, and when choosing where to move this work. Those considerations include the political stability of the target country, the labor costs and size of the labor pool relative to other potential offshore sites, and the business environment and tax advantages of a particular country.

Several other terms for offshore outsourcing have entered the business lexicon in recent years. Generically, the process is often referred to simply as 'offshoring.' The process of offshoring to nations in close physical proximity to a company has come to be known as 'nearshoring.' This term describes scenarios such as a U.S.-based company outsourcing to Canada or Mexico, which points to the fact that offshore outsourcing has come to mean moving work to any country other than your own, and not necessarily moving across oceans or relocating work half way around the globe. Other terms that might be heard in a discussion of offshore outsourcing are 'best shoring,' which describes a scenario in which clients of an outsourcing company can choose to have their work completed on-site, off-site domestically, or offshore; and the term 'dual shoring,' an outsourcing model that includes work being done in several geographically dispersed locations in order to create 24-hour work cycles and take advantage of particular labor strengths in various locations.²

Whatever the terminology and methodology, the fundamental idea behind offshore outsourcing is to move part of the value chain to lower cost locations in order to control costs through labor and skill arbitrage. The tremendous advances in telecommunication technology have made the practice possible, and the tremendous market pressures on companies to control costs have made the practice, in the eyes of many, necessary.

REASONS FOR OFFSHORE OUTSOURCING

While the move to offshore outsourcing is a relatively new phenomenon, the domestic outsourcing of IT work has been a factor in American industry for several decades for a variety of reasons. The first of those reasons is the desire on the part of many companies to control or contain costs. The outsourcing of IT work on a fee-for-service basis allows companies to meet their IT needs without adding internal staff or investing in new IT infrastructure initiatives. The second reason is a strategic move to new forms of organization and management, which allows companies to focus on core competencies while outsourcing nonessential tasks and processes. A related reason is the desire on the part of management to get rid of functions it views as troublesome or uncontrollable, or functions for which the business value is not demonstrable. Finally, there may be something of a bandwagon effect, in which hype and publicity surrounding the practice has caused others to consider outsourcing themselves.³

A survey of 1,100 buyers of outsourcing services, conducted by the Outsourcing Institute in 2003 (Figure 1), confirms these reasons for looking outside the company walls for IT solutions and services. The ability to improve company focus and control cost was the primary reason noted by the respondents for outsourcing IT work.⁴

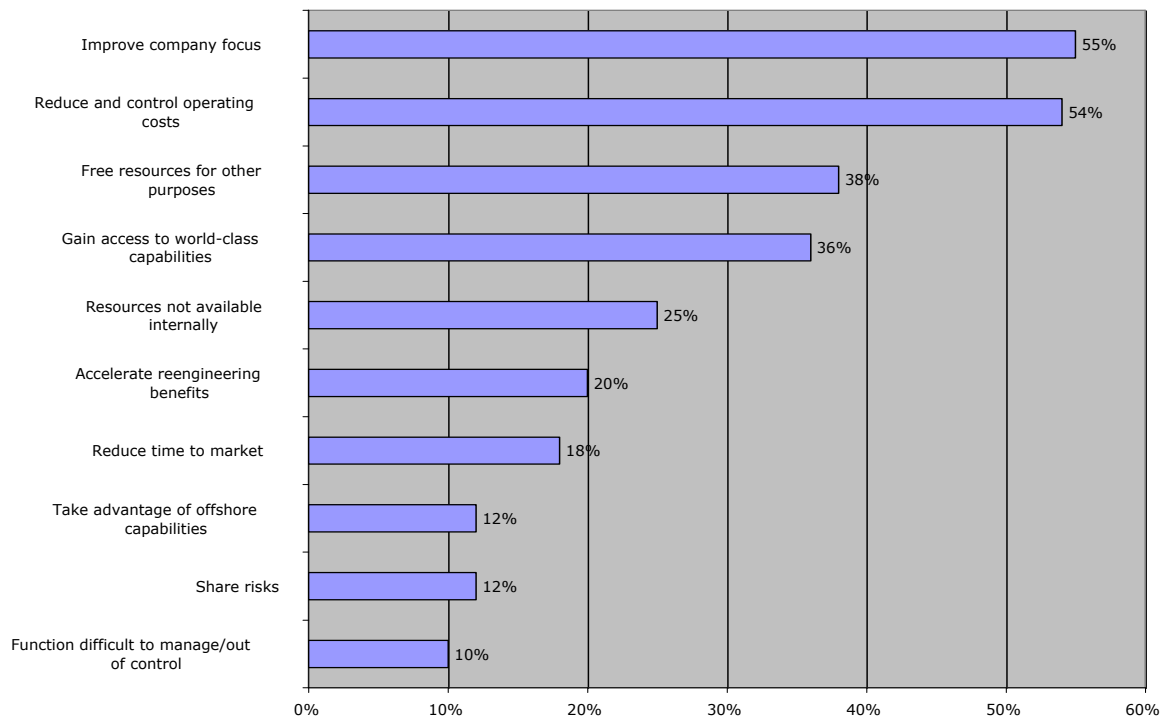


Figure 1. Reasons for outsourcing IT functions.

Source: http://outsourcinginstitute.com/oi_index. Online survey of 1,100 buyers of outsourcing services, 2003.

While there are clearly a number of reasons for domestic outsourcing, the compelling reason for moving to offshore outsourcing is cost. A study conducted by Ziff Davis in 2003 showed that the average salary for a programmer in the U.S. was \$74,486, while

programmers in India were earning an average of \$6,350, and programmers in Thailand averaged \$1,706 per year.⁵ A specific company may choose to move IT work offshore because of a need to tap into specialized labor pools available abroad or a lack of sufficient labor resources domestically, but a survey done by the Ventoro Company in 2004 (Figure 2) confirms that cost is the primary driver in the movement offshore. The online survey asked 5,231 buyers of IT outsourcing services why they were moving work offshore, and 71% of the respondents indicated that they were doing so in order to achieve cost savings.

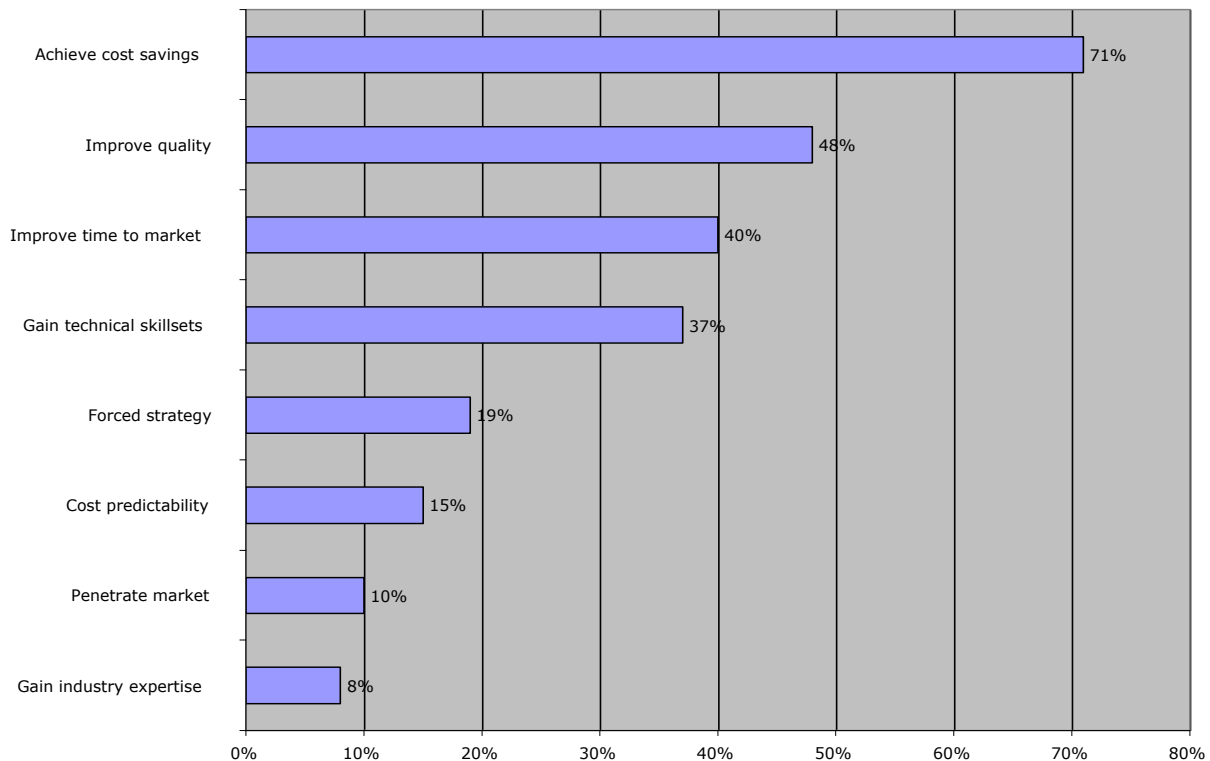


Figure 2. Reasons for outsourcing IT functions to offshore locations.

Source: <http://ventoro.com>. Online survey of 5,231 executives who are buyers of outsourcing services. © 2004.

A BRIEF HISTORY OF OFFSHORE OUTSOURCING

One of the early milestones in the domestic outsourcing of IT work was the creation of EDS by Ross Perot in 1962. The EDS corporate website contains a company timeline, which describes Perot’s concept that he could sell idle time on IBM mainframes to companies that could not afford to purchase a mainframe themselves. Perot founded EDS based on this premise, and proceeded to build it into a company that he would sell 22 years later for \$2.2 billion.

In 1988, Eastman Kodak entered into arrangements with three companies to handle the majority of its IT operations. This move signaled a change in the scope of outsourcing, moving away from low-level outsourcing like the use of timesharing mainframes and the

use of contract labor to accomplish specific tasks, to a much broader approach wherein significant portions of a company's IT operation could be outsourced.⁶

In the mid-1980s, U.S. hardware and software companies began to use offshore labor for low-end work, such as motherboard production, language localization, and the creation of printer and device drivers. In the early 1990s, Jack Welch created a plan to move General Electric forward by utilizing Indian resources. GE had a long history in India, having built the country's first hydroelectric plant in 1902, and establishing International General Electric there in 1930 to sell GE products and services. Because of that familiarity with India's business climate, culture and infrastructure, Welch felt confident in GE's ability to move IT work there and announced his '70-70-70' plan. The plan called for 70% of GE's IT work to be outsourced, 70% of the outsourced work to be done offshore, and 70% of the offshore work to be done in India.⁷

Because of GE's prominence in corporate America, and Welch's status as one of the leading captains of industry, this move to offshore sites for the execution of IT work garnered considerable attention, and became one of the early milestones in the establishment of offshoring as an accepted business practice.

While GE's move to India was via a wholly-owned subsidiary, one of the first large deals in the world of IT outsourcing to offshore sites was a \$3.2 billion contract between Xerox and EDS (no longer a Perot-owned, Texas-based company, but a huge multinational corporation) in 1994. ***This was an event that some would describe as the validation of the practice, and the initiation of offshore outsourcing.***⁸

Most IT industry observers would agree that Y2K was perhaps the single largest factor in moving offshore outsourcing into corporate consciousness and establishing it as a viable business practice. The need for massive code writing and repair as the new millennium approached caused many companies to look abroad for resources as the domestic labor pool proved too small to accomplish the task. This idea of Y2K as the tipping point in the movement of IT work to offshore sites is borne out by the fact that virtually no Fortune 500 companies were offshoring IT work in 1990, and by 2002, 50% to 70% were outsourcing some IT functions offshore.⁹ A recent Forrester Research study indicates that roughly 40% of Fortune 1000 firms are outsourcing offshore, and there are strong indications that the percentage of companies offshoring falls as the size of the companies decreases. While some smaller firms do move IT work offshore, the practice remains primarily a large-company phenomenon.

TOP LOCATIONS FOR OFFSHORE OUTSOURCING

As might be expected, the trend among large companies to look offshore for IT solutions has led to a large amount of research aimed at determining which offshore countries are the best IT destination points. While some of that research has come from the academic community, much of it is a result of studies conducted by consulting firms that have been established to help facilitate the process of selecting offshore destinations and specific vendors in those areas. One such study is A.T. Kearney's *2004 Offshore Location*

Attractiveness Index, a rather exhaustive study which ranks countries by their financial structure, business environment, and people skills.¹⁰ Because cost advantage is considered the primary driver behind offshore decisions, financial factors received 40% of the total weight in the survey, while business environment and people skills each constitute 30% of the total weight. The sources for the Kearney study included the Organisation for Economic Cooperation and Development (OECD), World Bank, U.S. Census Bureau, World Economic Forum Global Competitiveness Report, and various local governmental agencies.

Countries Ranked Based on Financial Structure

The Kearney report considered three primary factors when assessing the financial structure of offshore locations. Those factors were compensation costs, infrastructure costs, and tax and regulatory costs. Each was graded on a scale of 1 to 4.

Compensation costs The primary considerations in this area were average wages and median compensation costs for relevant IT positions, such as programmers and local operations managers. India, Vietnam, and the Philippines scored highest in this category, with more developed countries like Singapore and Canada scoring the lowest.

Infrastructure costs This area measured the cost of electricity and telecommunications systems, and the cost of travel to major customer destinations. Malaysia, Canada, and Russia scored highest in this area, with Brazil and Chile scoring the lowest. India and the Philippines were in the middle of the pack in this category.

Tax and regulatory costs This category focused on the relative tax burden in a particular country, the costs of corruption, and fluctuating currency exchange rates. Singapore and India were the leaders in this category, with China and the Czech Republic scoring the lowest.

India led the pack in the financial structure category (Figure 3), followed closely by Vietnam and the Philippines. China ranked as the fifth best offshore location in terms of financial considerations, and was hurt primarily by a very low score in the tax and regulatory environment area. Singapore and Canada were well down the list due to high compensation costs as compared to the other countries.

A.T. Kearney Offshore Location Attractiveness Index 2004

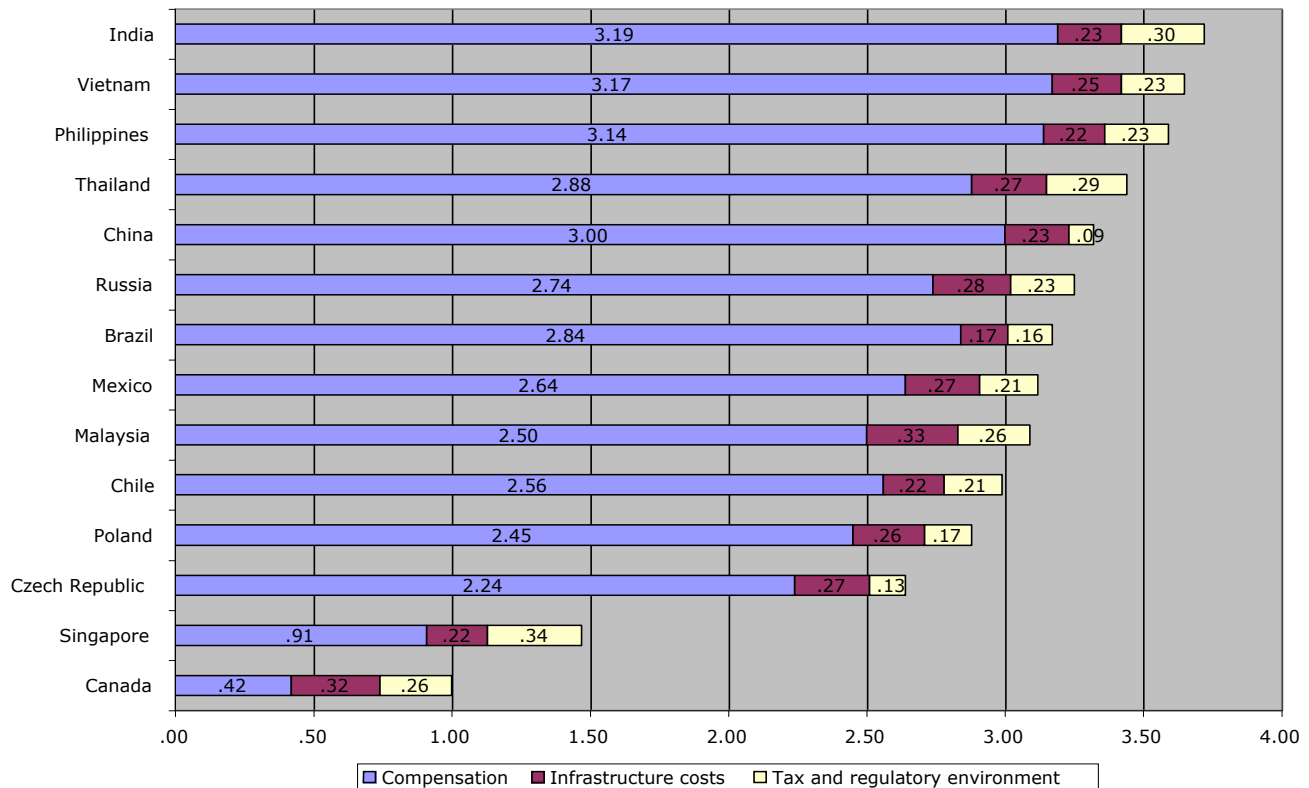


Figure 3. Offshore locations ranked by financial structure.

Note: Calculated on a scale of 1 to 4. Sources: A.T. Kearney, Economist Intelligence Unit, OECD, World Economic Forum Global Competitiveness Report, CB Richard Ellis, Forbes, EDS, local government statistics, independent compensation surveys.

Countries Ranked Based on Business Environment

When ranking offshore locations by business environment, the Kearney report graded four areas: country risk, infrastructure, culture adaptability, and security of intellectual property. Each was graded on a scale of 1 to 3.

Country risk Each country was graded on their overall business and political environment, including the extent of bureaucracy, and government support for the IT and communications industries. Singapore and Canada scored highest in this area, while Russia and the Philippines achieved the lowest scores.

Infrastructure The overall quality of the telecommunications and IT services infrastructure was measured in this category. Again, Singapore and Canada were the leaders in this classification, with Vietnam and Russia scoring lowest.

Culture adaptability This area evaluated the ability of a country's native culture to adapt to new business practices, and to the culture of their clients. Again, Singapore and Canada received the highest scores in this category. Many countries scored poorly in this area, including China, Vietnam, Russia, and the Philippines.

Security of intellectual property (IP) This category was based on software piracy rates and investor ratings of IP protection laws. Singapore and Canada were once again the leaders in this category. Vietnam, China, and Russia scored very low in IP security.

Singapore scored highest in the business environment category (Figure 4), followed closely by Canada. India ranked in the middle of the pack, with Russia and Vietnam pulling up the rear.

A.T Kearney Offshore Location Attractiveness Index 2004

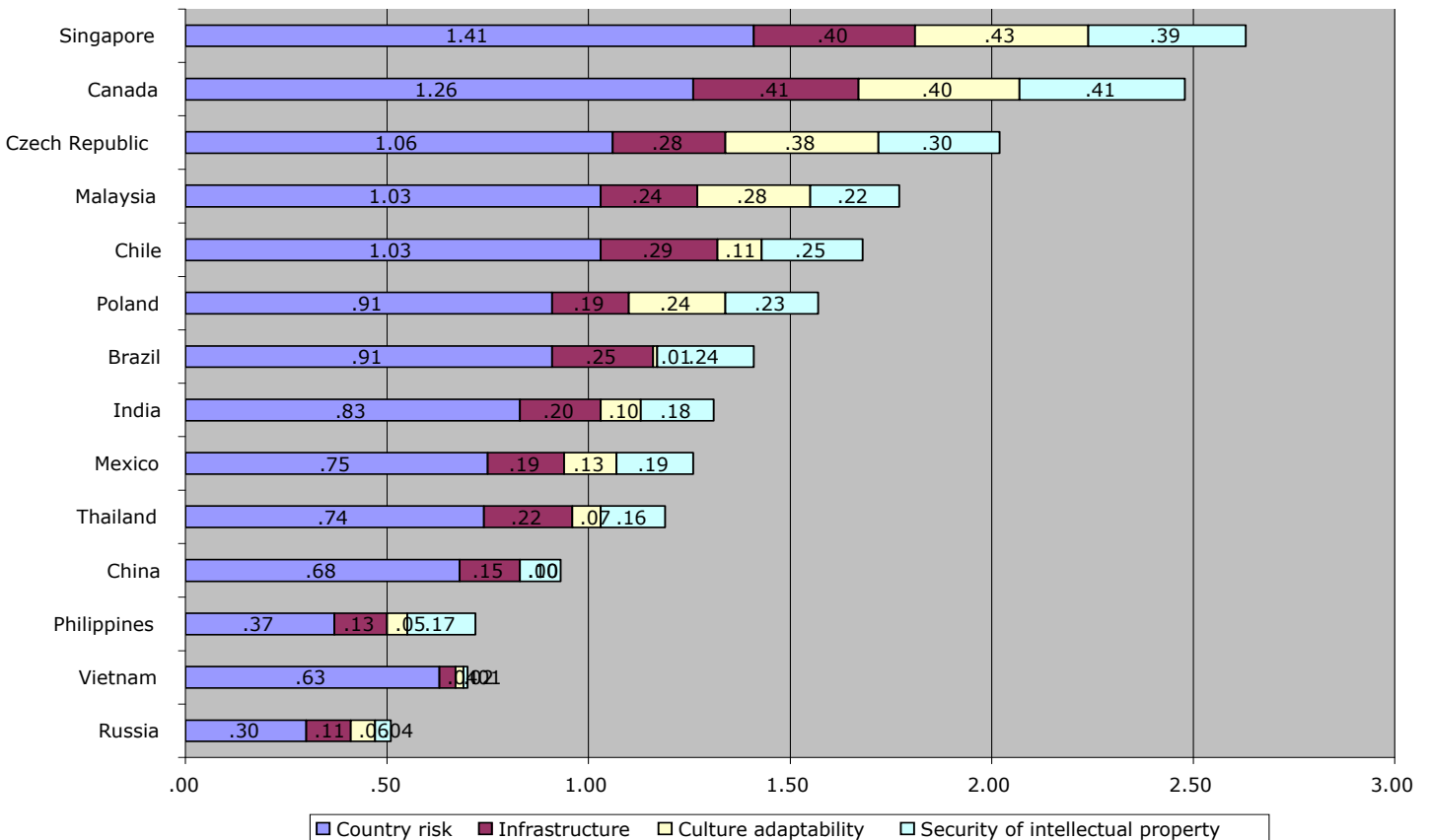


Figure 4. Offshore locations ranked by business environment.

Note: Calculated on a scale of 1 to 3. Sources: A.T. Kearney, Economist Intelligence Unit and Foreign Direct Investment Confidence Index™ 2003, A.T. Kearney/Foreign Policy Globalization Index™ 2003, World Economic Forum Global Competitiveness Report, Business Software Alliance, local government agencies.

Countries Ranked Based on People Skills

Kearney rated offshore locations based on people skills by evaluating BPO experience, size and availability of labor pool, education, language skills, and employee retention. Each of the five areas was graded on a scale of 1 to 3.

BPO experience Each country was graded on their existing BPO market size and the relative quality of their management and IT training. India enjoyed a large lead in this area, with Vietnam and Russia scoring poorly.

Size and availability of labor pool This area evaluated the size of the total workforce, and the size of the university-educated workforce. China and India were the clear leaders in this category, with no other countries coming close. Vietnam, Malaysia, and the Singapore were weak in this area.

Education This category evaluated scores on standardized education tests. Canada and Singapore did well in this category.

Language This category evaluated scores on standardized language tests. Canada and Singapore again did well in this category.

Employee retention Each country was graded based on their relative BPO growth and unemployment rates. Scores were fairly evenly distributed in this category, with the exception of China, which graded out remarkably low.

India scored highest in the rankings of people skills (Figure 5), based primarily on its strength in BPO experience and the size and availability of its labor pool. China fared well in this category, but was hurt by its lack of BPO experience and its low scores in the employee retention area. Vietnam and Thailand brought up the rear in people skills, with low scores across the board.

A.T. Kearney Offshore Location Attractiveness Index 2

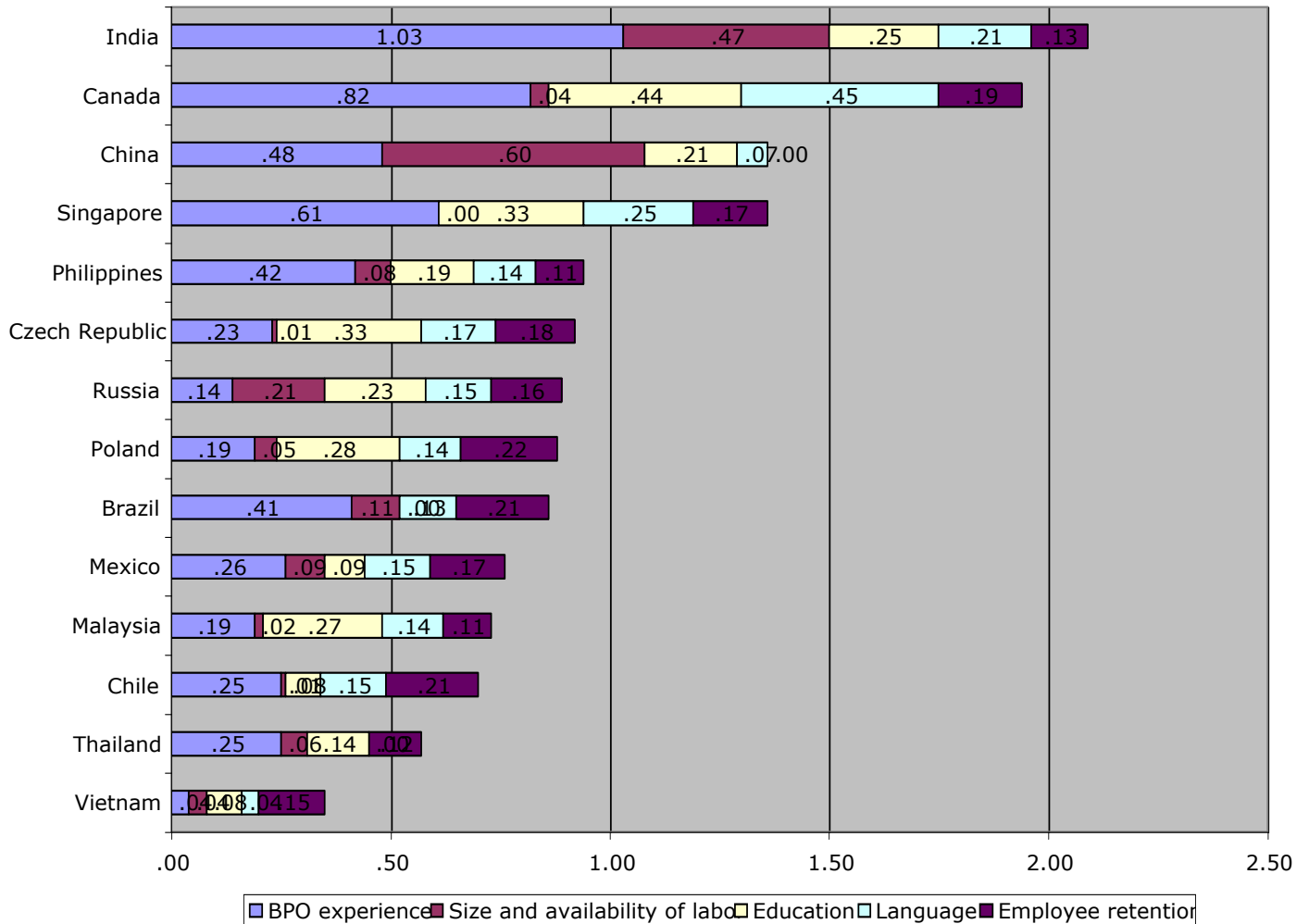


Figure 5. Offshore locations ranked by people skills.

Note: Calculated on a scale of 1 to 3. Sources: A.T. Kearney, Organization for Economic Cooperation and Development, World Bank, U.S. Census Bureau, World Economic Forum Global Competitiveness Report, Carnegie Mellon Software Engineering Institute, Customer Operations Performance Center, Educational Testing Service, local government agencies.

India is the Top Ranked Country for Offshore Outsourcing

The summary chart below (Figure 6) shows that India captured the top spot by a comfortable margin. India has significant BPO experience, tremendous depth of human resources, and a low cost structure. Though it trails in BPO experience, China secured its spot as the second most attractive offshore location through a similar mix of low costs and a vast labor pool. The third and fourth spots on the list went to Malaysia and the Czech Republic. These countries lack the huge labor pools of India and China, but offer costs competitive with leading Asian locations, and benefit from well-developed infrastructures, good business environments, and strong governmental support. The Czech Republic also enjoys a geographical advantage for those European companies looking for nearshoring options.

A.T. Kearney Offshore Location Attractiveness Index 2004

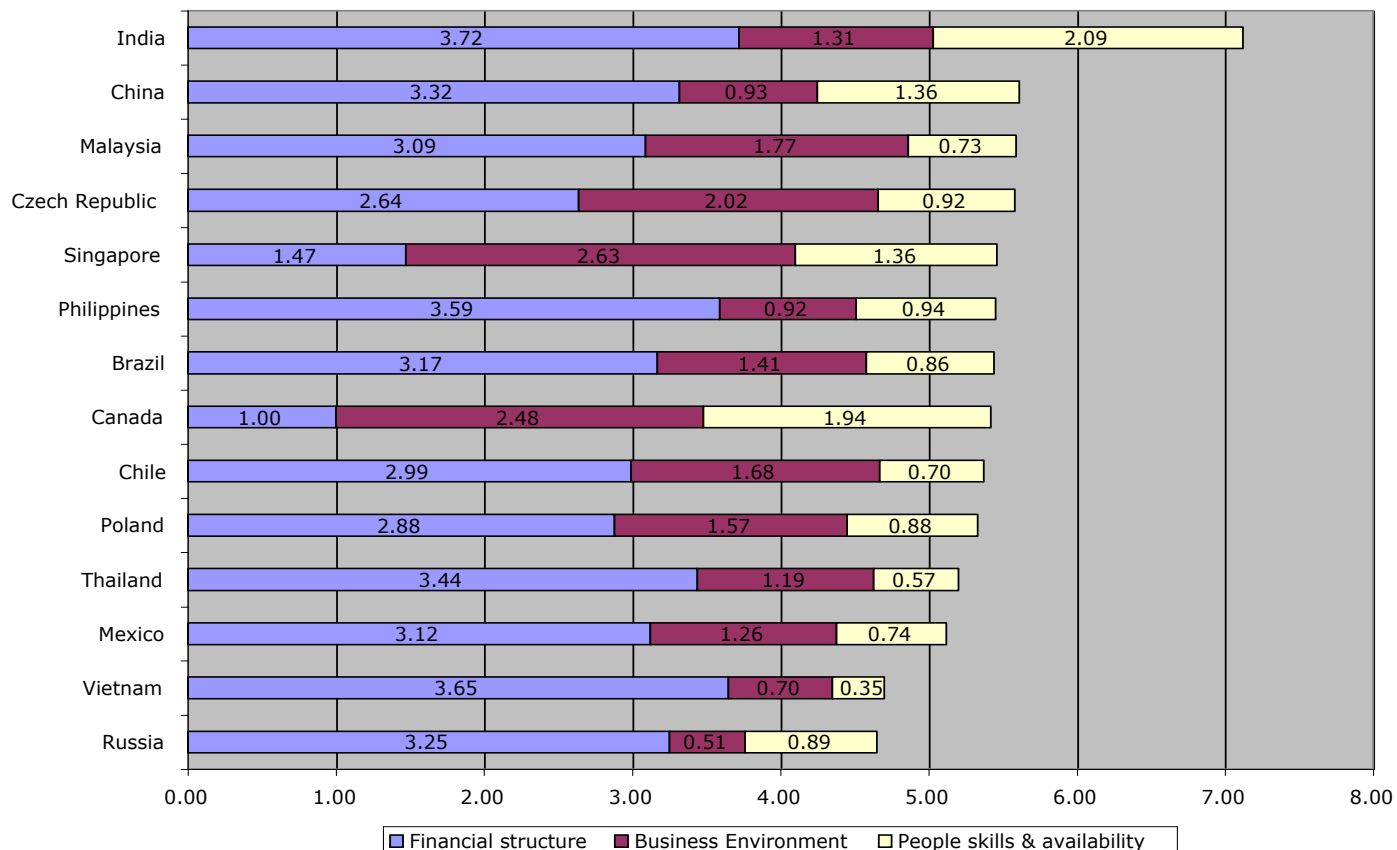


Figure 6. Top offshore locations for IT outsourcing.

Note: The numbers in the bars are index numbers. The weight distribution for the three categories is 40:30:30, meaning that the financial structure is rated a scale of 1 to 4, and the business environment and people skills are on a scale of 1 to 3. Source: A.T. Kearney.

While the summary information is useful when considering offshore options, the detail offered in Figures 3 through 5 provides information that could prove very valuable to CEOs and CIOs as they look to balance a wide array of issues in making their offshore decisions. Some companies will be looking for defined skill sets such as fluency in English or BPO experience and expertise, while others will base their decisions on IP concerns or tax and regulatory benefits.

In a similar vein, the countries listed may adjust their focus based on their strengths and weaknesses relative to other offshore locations. Singapore, which scored as the fifth most attractive offshore location, receives a significant amount of outsourced IT work despite the fact that it enjoys one of the highest per capita income levels in the world. While its cost structure is not competitive with other Asian countries, Singapore is a high-end niche player in this market because of its business environment advantages, including political stability, favorable tax regulations, and an IP security environment strengthened by recent legislation and strong enforcement of IP laws. India might further increase its margin as the preferred offshore destination if it strengthens IP regulations and continues to address infrastructure issues. China, with its vast labor pool and solid education system will likely continue to gain strength as an offshore destination as it gains more BPO experience.

*The current flow of outsourcing dollars supports the findings of the Kearney study, with some estimates having India receiving as much as 80% of today's offshore outsourcing revenue.*¹¹ Further, there are indications that China is gaining ground as an offshore destination, with predictions that within the next three to five years, India and China may receive almost equal amounts (\$27 to \$30 billion) of outsourcing revenue.¹²

TRENDS IN OFFSHORE OUTSOURCING

In a 2002 article, Erran Carmel established four distinct stages of offshore outsourcing and discussed the different paths that companies follow when moving IT work offshore. He noted that companies move from the bystander stage to the reactive/experimental stage when the voices of offshore champions begin to be heard. The reactive/experimental stage is viewed as a transitional stage, with ad hoc decisions being made and pockets of offshore activity emerging within a company. As evidence of offshore capabilities and cost savings emerge, companies move into a third stage in which they focus on the cost savings and operational advantages afforded by moving selected IT functions offshore. Finally, in stage four, companies begin to view offshore outsourcing as a crucial and attractive strategy for achieving a wide range of strategic objectives.¹³

Carmel estimated that in 2002, 50% to 70% of all Fortune 500 companies were outsourcing some IT functions offshore, and other studies have shown that only 40% of Fortune 1000 firms were involved in the practice.¹⁴

The utilization of offshore outsourcing appears to move in direct correlation with the size of a company, as evidence points to the fact that more large companies engage in the practice than small companies. One theory is that small companies lack the resources to overcome the initial difficulties involved, such as high transaction costs in the startup stage. Another factor may be that the economies of scale that allow large companies to mitigate offshoring costs over thousands of transactions are not in play with smaller firms.¹⁵

*Whatever the reason, recent statistics show that 36% of \$500 million companies are outsourcing offshore, compared to 43 % of \$5 billion companies, 48% of \$25 billion companies, and 52% of companies with revenue exceeding \$50 billion.*¹⁶

BUSINESS MODELS FOR OFFSHORE OUTSOURCING

As illustrated in Figure 7 below, there are three distinct business models that companies utilize in moving IT work offshore.¹⁷ The basic difference in the three is the amount of ownership on the part of the client company, with captive operations being wholly owned by the 'client' company, and pure outsource models following a fee-for-service path in which the offshore operation is wholly owned by the service provider.

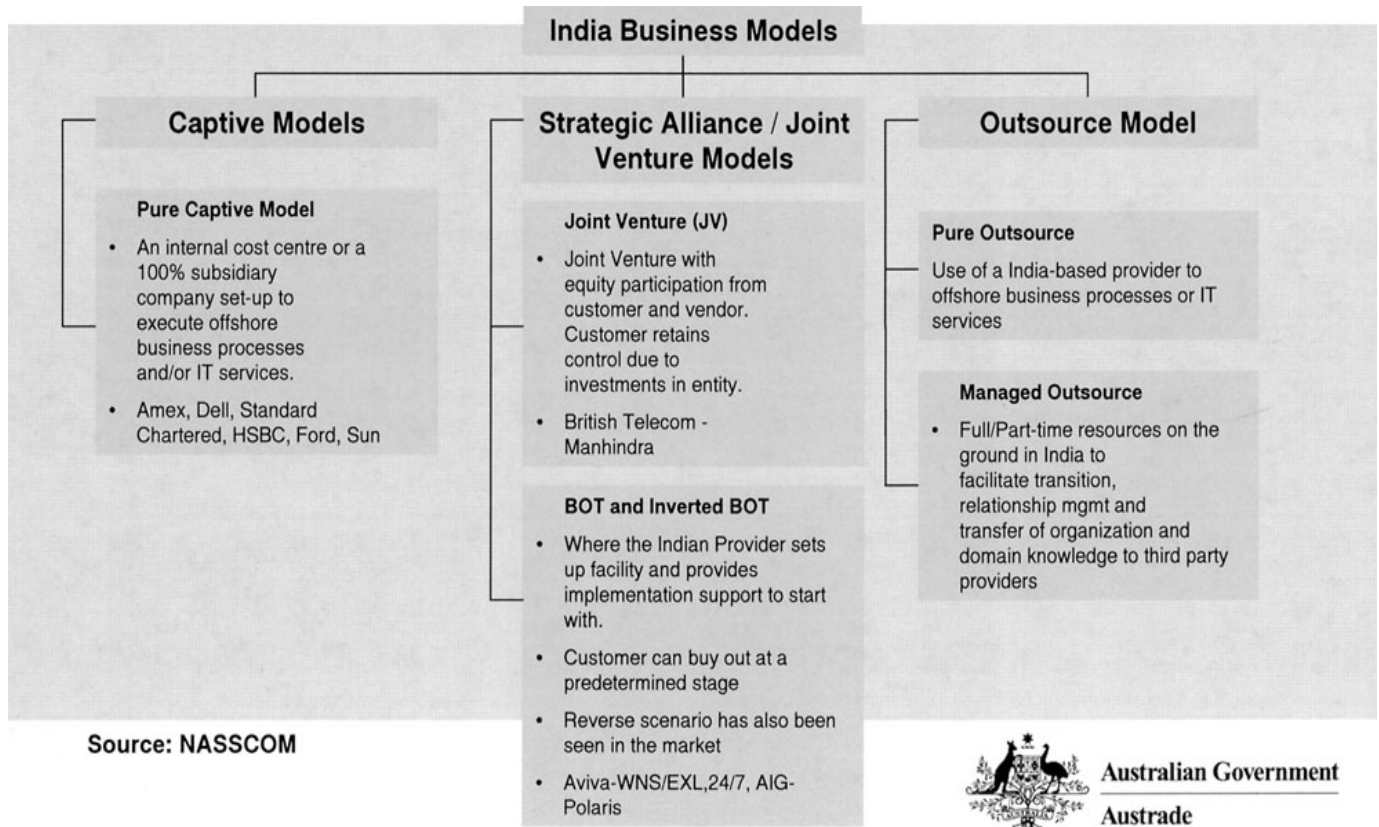


Figure 7. Business models for offshore outsourcing.
 Source: NASSCOM.

A 2004 article by Rottman and Lacity approaches these same sourcing models in a slightly different manner. The models are broken down in four separate categories: captive, joint venture, build-operate-transfer (BOT), and fee-for-service. The managed outsourcing model in the figure above is simply a fee-for-service model to which best practice principles described by Rottman and Lacity (the face to face meeting of domestic and offshore team members) are applied. Likewise, the BOT model is not treated by Rottman and Lacity as a joint venture, since it is actually a hybrid that moves from a straight fee-for-service model to a captive model once the contract is executed and ownership is transferred.¹⁸

The structure and detail of the four sourcing models as described by Rottman and Lacity are described below.

The Captive Model: Build To Own

In the captive model a company builds, owns, staffs, and operates its own offshore facility. This model is costly, results in a high degree of risk, and affords a high degree of control.

The Joint Venture Model: A Supplier Partnership

In the joint venture model a company and a supplier share ownership in an offshore operation. This model is costly, though potentially not as expensive as the captive model since the supplier can help share the burden of startup and operational expenses. This model is considered high risk, and the amount of control depends in large part upon the amount of ownership the client company maintains.

The Build-Operate-Transfer Model: Let Your Supplier Build and You Own It Later

In the BOT model the supplier owns, builds, staffs, and operates the offshore facility on behalf of the customer. Ownership and employees transfer to the customer upon completion of a pre-established timeframe or set of objectives. This model allows the customer to sidestep some of the legal obstacles and local cultural issues that might be encountered in establishing a captive operation. The BOT is considered to be a moderate cost and moderate risk model. The amount of control afforded the customer is considered moderate, and is to some extent dependent upon where the customer is on the time spectrum relative to ownership.

The Fee-for-Service Model: Lowest Risk but Lowest Control

In the fee-for-service model a company signs a contract for services in exchange for paying the supplier a fee. This model is considered low cost and low risk, and affords a low degree of control.

The fee-for service model is the most commonly used path for offshore outsourcing today, and is the model examined in the case study below. In addition to describing the various sourcing models, the Rottman and Lacity report articulates a set of recommended best practices to be used in managing offshore outsourcing. A subset of those best practices, which addresses how to work most effectively with offshore suppliers, forms the basis for the case study that follows.

A CASE STUDY OF OFFSHORE OUTSOURCING AT MONSANTO

We examined Monsanto's offshore outsourcing initiative through a series of interviews with individuals involved in the process. Interviews were conducted with Monsanto employees and with employees of two Indian-based offshore suppliers. We evaluated Monsanto's effectiveness by measuring their processes and procedures against the recommended best practices for working with IT outsourcing suppliers as described by Rottman and Lacity (see Table 1). Note that Rottman and Lacity present 28 recommended best practices governing the outsourcing process. The case study focuses on only the subset of those recommendations that deals specifically with working effectively with suppliers, as listed in the table below.

Table 1. Best Practices for Working with IT Outsourcing Suppliers

Sourcing Challenge	Practices to Overcome the Challenge
How can we effectively work with suppliers?	13. Design effective organizational interfaces.
	14. Elevate your own organization's CMM certification to close the process gap between you and your supplier.
	15. Bring in a CMM expert with no domain expertise to flush out ambiguities in process.
	16. Negotiate the CMM documents for which you will and will not pay.
	17. Tactfully cross-examine, or even replace, the supplier's employees to overcome cultural communication barriers.
	18. Require the supplier to submit daily status reports.
	19. Let the project team members meet face-to-face to foster camaraderie.
	20. Consider innovative techniques, such as real-time dashboards, to improve workflow verification, synchronization, and management.
	21. Manage bottlenecks to relieve the substantial time-zone differences.

Source: Rottman, J. & Lacity, M., "Proven Practices for IT Offshore Outsourcing," Sourcing and Vendor Relationships, Vol. 5, No. 12, ©2004 Cutter Consortium.

Monsanto, A Midwestern Based Company Focused on Farming

Monsanto is a global agricultural and biotechnology based company located in St. Louis, Missouri, U.S.A. Products include herbicides, seed, animal agriculture products, and seed traits. Roundup is the most well-known herbicide that Monsanto produces. Corn, soybean, and cotton seeds are manufactured and sold through subsidiary companies. Monsanto's animal agriculture products include swine genetics and posilac, a growth hormone administered to cows to increase milk production. Seed traits are genetically engineered plants designed to resist specific pests or herbicides. Monsanto brands include Yieldgard, which is corn seed designed to resist insects such as root worm and corn borer; Bollgard, which is cotton seed designed to resist the bollworm; and Roundup Ready Corn, Soybeans, and Canola, which are designed to resist the Roundup herbicide.

Total sales for 2004 were \$5.5 billion dollars. The IT budget for 2004 was 1.8% of total revenues. Monsanto has roughly 15,000 employees world-wide. Of the 15,000 Monsanto employees, 600 work in the IT department.

The IT organization is headed by the CIO and the Information Technology Leadership Team (ITLT). The CIO reports to the Chief of Staff, who in turn reports to the CEO. Coincidentally, the current Chief of Staff is the former CIO. The ITLT determines strategy and direction for the Monsanto IT organization, and is composed of leaders of the ten high level IT organizations at Monsanto. Six of these organizations report directly to the CIO,

and are considered enterprise wide IT organizations. IT Strategy and Communications, Enterprise Infrastructure, Enterprise Architecture, Enterprise Applications, IT Operations, and Information Security fall into this group. The remaining four leaders of the ITLT represent IT organizations from the various business units, and do not report to the CIO. These organizations include the IT units of the North American business unit, the International Commercial unit, the Seed conglomerate business, and Human Resources.

How Offshoring is Used at Monsanto

Monsanto began its offshore outsourcing initiative in 2003, when a number of pilot projects were widely implemented across the IT organization. A Program Management Office (PMO) was established to facilitate offshore outsourcing at Monsanto. The PMO was not responsible for creating standard processes or directly managing offshore projects, as these items were left to the various IT teams that piloted offshore outsourcing. Instead, the PMO was responsible for facilitating the offshore relationship, including vendor selection and assisting with visas and logistics. ***By November 2005, when the research for this paper was conducted, offshore outsourcing had significantly diminished at Monsanto.*** Only two high level IT organizations were using offshore outsourcing by this time, the IT unit of the North American business, and Enterprise Applications. ***This case study will focus on a particular team within Enterprise Applications, SAP Development and Decision Services, and its experiences with offshore outsourcing from late 2003 to November 2005.***

SAP DEVELOPMENT AT MONSANTO: OVERVIEW AND PRACTICES

What is SAP Development?

SAP is an Enterprise Resource Planning (ERP) packaged software. SAP applications provide companies the capability to manage a wide range of business functions, including the accounting process, production operations, material management, and human resources.¹ These applications are grouped into 'modules' within SAP. Examples include the Sales and Distribution (SD) module, the Materials Management (MM) module, and the Finance (FI) module. The major advantage of SAP is that these modules are integrated into a common corporate database. Transactions that users perform in one module will automatically be taken into account in other modules. For example, a delivery generated in the SD module will affect inventory in the MM module. The business logic behind these modules is based on industry best practices, however, every business is unique and will have its own variations on this business logic. To account for these variations, SAP is often customized through configuration and development. SAP developers write custom programs within SAP using a programming language called ABAP. Programs can include reports, interfaces to external systems, documents, and modifications to SAP applications. The Monsanto SAP Development and Decision Services team, which is included in the company's Enterprise Applications umbrella, is responsible for coordinating all SAP development, and performs the majority of the company's SAP programming.

Project Roles During In-house SAP Development

An in-house staffed SAP development project would include only Monsanto employees and local contractors as the project team members. Typical roles on a project would include a Project Manager, Business Users, Systems Analysts, Development Coordinators, and Developers. The Project Manager oversees the project and is ultimately responsible for its outcome. Business Users are the subject matter experts on the various Monsanto business processes, and will define the business requirements for the project. Systems Analysts are the subject matter experts on SAP functionality and configuration. They are also knowledgeable in Monsanto business processes, and will work with the Business Users to transform business requirements into functional specifications. Once programs are developed, the Systems Analysts are responsible for testing the finished code. Development Coordinators are typically senior level developers with significant experience in Monsanto development standards and methodologies. They will often have expertise in specific SAP modules, and may be somewhat knowledgeable in Monsanto business processes. Development Coordinators will assign functional specifications to Developers, and may also develop code themselves. Developers generate the actual SAP custom programs, and may also have expertise in specific SAP modules and knowledge in Monsanto business processes, depending on the Developer's experience level.

In-house Project Communication Networks

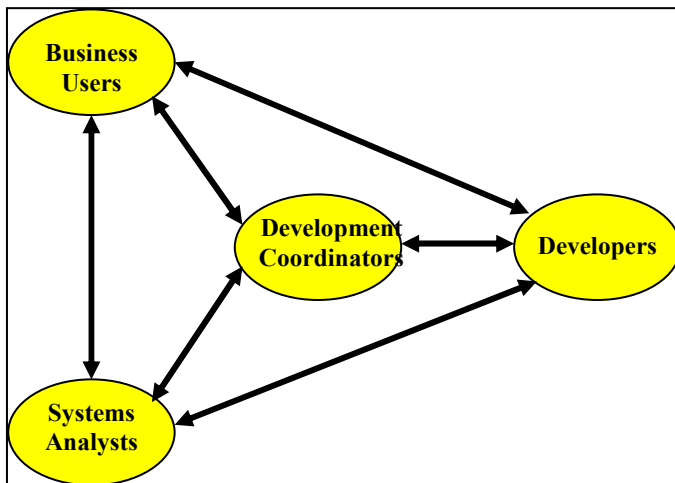


Figure 8. Monsanto in-house IT project communication network.

As shown in Figure 8, the typical communication network for an in-house SAP development project is informal and highly interactive. Virtually all project team members will communicate with one another at some point during the project. Details of what may be communicated between the project team members are displayed in Table 2.

Table 2. Monsanto In-House Communication for IT Projects

	Systems Analysts	Development Coordinators	Developers
Business Users	<ul style="list-style-type: none"> • Develop requirements. • Work together to test developed code. • Resolve design issues found through testing. 	<ul style="list-style-type: none"> • Get technical advice when developing business requirements. • Get status on developments and help set priorities. • Inform of business processes. • Resolve design issues found through testing. 	<ul style="list-style-type: none"> • Get technical advice when developing business requirements. • Inform of business processes. • Resolve design issues found through testing.
Systems Analysts		<ul style="list-style-type: none"> • Get technical advice when developing functional specifications. • Refine design before development begins. • Get status on developments and help set priorities. • Resolve code and design issues found through testing. 	<ul style="list-style-type: none"> • Get technical advice when developing functional specifications. • Refine design before development begins. • Resolve code and design issues found through testing.
Development Coordinators			<ul style="list-style-type: none"> • Set priorities. • Share experience and methodology. • Resolve code issues found through testing.

Project Roles During Offshore SAP Development

When an SAP Development project is staffed with offshore resources, the Project Manager, Business User, System Analyst, and Development Coordinator roles remain intact. The Developer role is removed. Three new roles are then added: the Offshore Coordinator, the Offshore Technical Lead, and the Offshore Developer. The Offshore Coordinator is typically a senior level developer and is located at the client site. He is the single point of contact between Monsanto and the remainder of the offshore team at the offshore site, which in this case study is located in India. The Offshore Technical Lead is also a senior level developer, but is located at the offshore site. This individual will assign functional specifications to the Offshore Developers, assist the Offshore Developers with technical issues, and may write code. The Offshore Developers generate the SAP custom programs.

Offshore Project Communication Networks

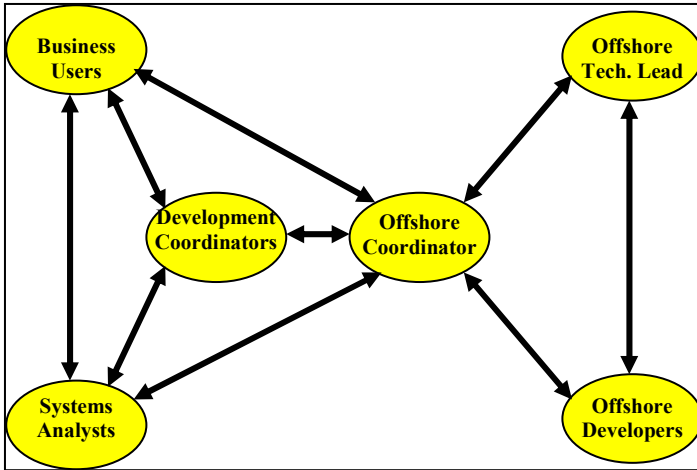


Figure 9. Monsanto's communication network for offshore IT projects.

As shown in Figure 9, the level of informality and interaction is maintained at the Monsanto site. There is also interaction among the various offshore team members. *The Monsanto team members are isolated from the offshore team members, and must communicate through a single point of contact, the Offshore Coordinator.*

Table 3 describes the details of possible communications between project team members.

Table 3. Monsanto Communication for Offshore IT Projects

	Offshore Coordinator	Offshore Technical Lead	Offshore Developer
Business User	<ul style="list-style-type: none"> • Get technical advice when developing business requirements. • Inform of business processes. • Resolve design issues found through testing. 	<ul style="list-style-type: none"> • No communication 	<ul style="list-style-type: none"> • No communication
Systems Analyst	<ul style="list-style-type: none"> • Get technical advice when developing functional specifications. • Refine design before development begins. • Get status on developments. • Resolve code and design issues found through testing. 	<ul style="list-style-type: none"> • No communication 	<ul style="list-style-type: none"> • No communication
Development Coordinator	<ul style="list-style-type: none"> • Get status on developments and set priorities. • Share experience and methodology. • Resolve code issues found through testing. 	<ul style="list-style-type: none"> • No communication 	<ul style="list-style-type: none"> • No communication
Offshore Coordinator		<ul style="list-style-type: none"> • Assign functional specifications to Offshore Developers. • Get status on developments and set priorities. • Clarify functional specifications. • Report code and design issues that need attention. 	<ul style="list-style-type: none"> • Clarify functional specifications. • Get status on developments. • Report code and design issues that need attention
Offshore Technical Lead			<ul style="list-style-type: none"> • Assign functional specifications. • Get status on developments and set priorities. • Review code and assure quality. • Share experience and methodology.

MONSANTO’S OUTSOURCING VENDORS

When this case study was researched in November 2005, Monsanto’s SAP Development and Decision Services team was using two offshore outsourcing vendors, Hewlett Packard Global Delivery India Center, and Yash.

Hewlett Packard Global Delivery India Center (HPGDIC), A Large and Established Supplier

Originally founded in Bangalore, India, as Digital GlobalSoft, HPGDIC was purchased by Hewlett Packard in 2004. HPGDIC has roughly 2,500 employees, including 1,000 SAP developers in Bangalore. The majority of its developers have two to four years of programming experience, and the company has level 4 CMM certification.¹⁹

Yash, A Small Midwestern Counterpart

Yash is a privately held company headquartered in Moline, Illinois, and was founded by an Indian national who previously worked for the John Deere IT department. The company has staff at various locations in the U.S., and the majority of its developers are located in Hyderabad, India. The company has a staff of roughly 200, and is ISO9001 certified, but does not have CMM certification. Yash has annual revenue in the \$20 to \$30 million range, and has been named a ‘Fast 500’ IT consulting firm by Inc. Magazine. The company specializes in SAP and Oracle development, and its typical developer has 5 years of programming experience.²⁰

THE SAP DEVELOPMENT PROCESS AT MONSANTO: A VIEW FROM GROUND LEVEL

The typical SAP offshore outsourcing development process at Monsanto is illustrated in Table 4 below. Details and team members’ perspectives of each process step follow.

Table 4. Monsanto SAP Offshore Outsourcing Development Process

Step	Description	Actions
1	<i>Request Design and Specification</i>	Systems Analyst designs request. Systems Analyst writes specification.
2	<i>Assignment to the Offshore Coordinator</i>	Development Coordinator assigns work to Offshore Coordinator.
3	<i>Request Review</i>	Offshore Coordinator reviews request, seeks any clarification from Systems Analyst.
4	<i>Assignment to the Offshore Developer</i>	Offshore Coordinator works with Offshore Technical Lead to assign work to Offshore Developer.
5	<i>Program Development</i>	Offshore Developer develops program, works with Offshore Technical Lead for assistance, works with Offshore Coordinator for request clarification.
6	<i>Development Testing and Quality Review</i>	Offshore Developer tests program. Offshore Technical Lead reviews program with Offshore Developer.

Table 4, continued.

Step	Description	Actions
7	<i>Turnover of Finished Program</i>	Offshore Technical Lead/Offshore Developer deliver finished program to Offshore Coordinator. Offshore Coordinator informs Systems Analyst that program is ready to test.
8	<i>Testing and Corrections</i>	Systems Analyst tests programs, notifies Offshore Coordinator of any problems. Offshore Coordinator may fix problems on-site, or return program to Offshore Developer/Offshore Technical Lead for fixes.

Step 1: Request Design and Specification

In this first step, the Systems Analyst designs the request that will need program development, and writes the functional specification. At Monsanto, SAP development is a fairly informal process. While it does maintain in-house standards for requirements gathering and design documentation, Monsanto is not a CMM certified organization, and specifications are the result of multiple team members' efforts. As noted by a manager within the PMO, "Specifications typically evolve as the project moves along....we are a highly interactive culture. It's like a group of people standing around each other working (together)."²¹

The interaction between Business Users, Systems Analysts, and the Development Teams is critical to proficient systems design at Monsanto. Clearly written specifications are not stressed because most of the understanding that the Development Teams need to create programs is gained through this interaction. With offshore outsourcing, the interaction was disrupted. "(With offshore) more effort is needed to write specifications....it was taking double the time, because you have to do a lot more pre-work developing the design," stated a Systems Analyst.²²

At Monsanto, understanding processes and requirements through interaction and not written specifications is the normal methodology. It is often expected of a Developer to regularly interact with Systems Analysts and possibly Business Users in order to do her job. As noted by a Development Coordinator, "The specifications in general need more detail, but an experienced developer would ask more questions."²³

Step 2: Assignment to the Offshore Coordinator

In this step, the Development Coordinator assigns written specifications to the Offshore Coordinator. ***There is no standardized process for assigning work to offshore resources at Monsanto.*** "Each individual IT team worked with their offshore resources differently. People tried different ways of working with offshore. We tried a few projects without the offshore coordinator, and those did not work," recalled a manager within the PMO.²¹

Development Coordinators learned that not all assignments were suitable for offshore development. As a Development Coordinator noted, "I look for clearly defined requirements, not complex, where possible. We learned it was best to keep complex work

on-site.”²³ The more complex an assignment, the more interaction would be required, which was better left to resources located at the client site.

Step 3: Request Review

In this step, the Offshore Coordinator reviews the assigned request, and seeks any clarification from the Systems Analyst. This is the last chance to refine the design through interaction before the request is assigned to an Offshore Developer. “The offshore coordinator’s experience is critical,” emphasized a Systems Analyst.²²

The Development Coordinator may be involved in this step to ensure that the offshore teams understand the request. This is additional effort outside the normal responsibilities of the Development Coordinator. “I will sometimes talk with the Offshore Coordinator, and maybe we will both talk with the Systems Analyst. If I am more comfortable with the Offshore Coordinator, he gets more range,” noted a Development Coordinator.²³

Step 4: Assignment to the Offshore Developer

In this step, the Offshore Coordinator works with the Offshore Technical Lead to assign the request to an Offshore Developer. Offshore Coordinators do not directly assign requests to Offshore Developers. “I do not actually assign work to the developers. I work with a technical lead (in India) to make assignments,” noted one Offshore Coordinator.²⁰ This work is left to the Offshore Technical Lead because he is situated with the Offshore Developers themselves, and is the most aware of their workloads and skill sets. “I have a skills matrix to determine a pool of possible people to assign work to. I then work with a technical lead (in India) to make assignments,”¹⁹ remarked another Offshore Coordinator. ***Both the Systems Analyst and Development Coordinator that were interviewed were unaware of this process, and in fact held the misconception that the Offshore Coordinators simply assigned requests directly to the Offshore Developers.***

Step 5: Program Development

In this step, the Offshore Developer develops the program, works with the Offshore Technical Lead for technical assistance, and works with the Offshore Coordinator for request clarification. This model was specific to Monsanto. The offshore vendors have used other models at different clients. As noted by one Offshore Coordinator, “This is a Monsanto model. At other clients, developers work directly with the systems analysts. I am not sure if one model is better than the other.”²⁰

Time zone differences are often considered when implementing an offshore outsourcing process. Bangalore and Hyderabad, India, where the two offshore vendors were located, were 11.5 hours ahead of Monsanto during standard time, and 10.5 hours ahead during daylight savings time. ***The advantage of the time zone difference is that program development occurs around the clock.*** Offshore Developers can code programs while Monsanto personnel sleep, and the Offshore Coordinators can make program changes during Monsanto office hours. Both vendors staggered their office hours, generally from 1:00 p.m. to 9:00 p.m. Bangalore time, so that there would be some overlap with the

Monsanto office hours. “The time zone difference mostly works to our advantage. People are constantly developing,” noted the Systems Analyst.²²

The disadvantage to time zone differences is that if major code changes must be made offshore, there is only one opportunity per day to get those changes made. The issues must also be carefully documented and communicated, so that there are no misunderstandings as to what must be done. Any misunderstandings of what must be fixed can waste a day’s worth of time. As the Development Coordinator noted, “The time zone difference has advantages and disadvantages, but mostly it is a disadvantage. During heavy testing, we only get one turnaround per day.”²³

Step 6: Development Testing and Quality Review

In this step, the Offshore Developer tests the coded program, and the Offshore Technical Lead reviews the program code with the Offshore Developer. These measures are in place to ensure code quality, and some are necessitated by CMM process requirements. Remarked one Offshore Coordinator, “The developer creates a test plan, but Monsanto does not get it, because they didn’t want it. The technical lead (in India) does peer review of the developer’s program.”¹⁹

Monsanto was unaware of any quality measures performed by the offshore teams, and there was the misconception that the Offshore Developers simply turned code over to the Offshore Coordinator. In fact, Monsanto felt the need to enforce their own quality measures on offshore code, due to concerns over quality. “We had to create a code checklist for the developers to follow to ensure quality,” recalled a Development Coordinator.²³

Step 7: Turnover of Finished Program

In this step, the Offshore Technical Lead and Offshore Developer deliver the finished program to the Offshore Coordinator. The Offshore Coordinator then informs the Systems Analyst that the program is ready for her to test. ***Because the Offshore Coordinator is the single point of contact between Monsanto and the offshore team, his proficiency in communication is critical.*** The large volume of assignments being worked for a project, the number of Offshore Developers, and the number of Systems Analysts makes it difficult for the Offshore Coordinator to maintain efficient communication with everyone at all times. “Communication was lacking. Sometimes I wasn’t notified that a program was ready,” recalled a Systems Analyst.²²

Cultural barriers to communication also existed, where the actual perception of the message was different between Monsanto and the offshore teams. These barriers sometimes distorted the communication of development status. As noted by a manager within the PMO, “One of the cultural barriers was that we would never hear bad news, until it was too late. And then when you would finally hear bad news, the response was ‘but people are working very hard.’”²¹

As noted earlier, the offshore quality process was for the Offshore Developer to test using a documented test plan and to review his code with the Offshore Technical Lead. While both Offshore Coordinators never stated that they performed any testing or quality checks on program code, the perception at Monsanto was that the Offshore Coordinator was directly responsible. As noted by a Development Coordinator, “The Offshore Coordinators would usually test code before turning it over and would fix any problems. Some offshore coordinators were more diligent than others.”²³

Step 8: Testing and Corrections

In this step, the Systems Analyst tests the program, and notifies the Offshore Coordinator of any problems. The Offshore Coordinator may fix the problems on-site, or return the program to the Offshore Technical Lead and Offshore Developer for corrections. The development experience of the Offshore Coordinator is critical, as he will often make code changes during times of heavy testing for quicker turnaround. “The Offshore Coordinator must be a senior level developer,” remarked one Offshore Coordinator.¹⁹ Another Offshore Coordinator noted that, “The Offshore Coordinator often makes program changes.”²⁰

The sheer magnitude of communication and organization required during a project, along with the number of code changes needed to be made on-site, sometimes overwhelmed the single point of contact. “Sometimes there were too many changes for the offshore coordinator to make, and they became a bottleneck. Development coordinators had to take over the organization of issue resolution, and Monsanto developers had to take over some of the code,” recalled the Development Coordinator.²³ The assumption of coordination and development responsibilities by Monsanto personnel was not a common occurrence, but did happen on occasion.

OTHER CONSIDERATIONS ON OFFSHORE OUTSOURCING AT MONSANTO

The Offshore Coordinator to Offshore Developer Ratio Should be Manageable

The ideal ratio of offshore coordinators to offshore developers was nearly unanimous among all interviewed team members, with a range between 1:5 and 1:7. During the highpoint of offshore outsourcing in SAP Development, the ratio was as high as 1:13. The problems posed by the single point of contact model are compounded the higher the ratio becomes.

Team Camaraderie was Lacking

The highly interactive development process at Monsanto required a good deal of rapport between the involved parties to be successful. ***The level of rapport was often lacking between Monsanto team members and the offshore coordinators located on-site.*** Noted a Systems Analyst, “You know...I’m surprised...even though they are from my own country, I don’t have same level of rapport with them. Rapport is very important.”²² The level of camaraderie between Monsanto team members and the offshore staff located in

India was even more disparate. “There is no camaraderie. I know some names (of the developers), but don’t know them well enough to know their strengths and weaknesses,” stated a Development Coordinator.²³

With other clients, the offshore vendors had initiated face-to-face meetings between their staff and the client’s. This was not pursued at Monsanto. One Offshore Coordinator stated regretfully, “We should have sent some developers to the client site for a while. Then you would have a team.”¹⁹

The mere mention of offshore outsourcing draws considerable emotion in the United States, as evidenced by its prominence in recent political campaigns. This is particularly true in the IT workplace, where some individuals may feel threatened by the growing acceptance of IT offshore outsourcing among U.S. companies. Offshore Coordinators work at the client sites in the United States, and are not immune to the emotional environment that results from an offshore outsourcing engagement. Noted one Offshore Coordinator, “I told my wife I don’t want to do this (offshore outsourcing)...I feel bad for these people.”¹⁹ All Monsanto interview participants maintained a professional outlook on offshore outsourcing, and did not betray any highly charged emotions on the subject, nor did they indicate that any of these emotions were present in the workplace and affected the offshore vendor relationships. However, the negative undertones that come with offshore outsourcing, such as job loss and the decline of American technological supremacy, cannot be ignored and may account for some of the lack of camaraderie.

Communication Had Challenges, but English Proficiency Was Not One of Them

Proficiency in English was generally not considered a problem. Noted one Offshore Coordinator, “Language is not an issue. English is the language spoken at business meetings, even at the offshore office.”²⁰ A Systems Analyst who was a native of India noted that it is quite common for Indians to speak multiple languages, one of which is English. “Not an issue. Most (Indians) speak at least three languages, the regional language, the national language, which is Hindi, and English.”²²

As stated previously, there were sometimes cultural barriers to communication, where the actual message was perceived differently by the parties involved. “(During interviews) sometimes I thought they did not understand us. It could have been a lack of technical understanding or a language problem,” recalled the Development Coordinator.²³

Status Reporting Was Not Consistent for All Suppliers at All Times

Status reporting varied depending on the vendor. ***There was no standard status report that the offshore teams provided Monsanto.*** “I provide a monthly status report to show what is being worked on, and defects and other metrics. I also provide weekly a status report to give detailed status on what is being worked on,” remarked one Offshore Coordinator.¹⁹ The other offshore vendor did not produce the same reports.

During critical project times, daily status reporting via conference call was enacted and included the Development Coordinators, Offshore Coordinator, Offshore Technical

Lead, and the Offshore Developers. “The daily conference calls were helpful for damage control. Often times, the developers don’t feel the same pressure that I do,” recalled one Offshore Coordinator.¹⁹

What the Future Holds for Offshore Outsourcing at Monsanto

The future of offshore outsourcing at Monsanto depended on who was asked. The offshore vendors remained optimistic. As noted by one Offshore Coordinator, “The Monsanto relationship (with our company) is good and healthy.”²⁰

Those at Monsanto responsible for working with the offshore vendors day to day have definitely collected some lessons learned and applied them with mild success. “Lately it’s been easier, but we haven’t assigned complex work. I don’t think you can have the majority of your staff offshore,” remarked a Development Coordinator.²³

A further lesson at Monsanto was that not all offshore vendors are equal. Each offshore company may have a particular company culture and set of skills and experiences to offer, which may not match perfectly with the client. “Now I am not as frustrated as I used to be...because it was taking me double the time...but the latest offshore company I have been working with is better,” stated the Systems Analyst.²²

For the foreseeable future, the actual fate of offshore outsourcing is in decline at Monsanto. As mentioned previously, only two high-level IT organizations have continued to staff projects with offshore vendors. The main cause cited by a manager within the PMO was that the offshore model of development clashed with the Monsanto method of development. “Our expectations were not met. The developers were not very skilled. It wasn’t a good fit between the offshore model and the Monsanto model.”²¹ Offshore Developers did not typically have the same level of experience that local contractors would have. Offshore vendor CMM practices were designed to circumvent this issue by augmenting lower skill sets and experience levels with rigorous processes. At Monsanto, CMM practices were not required or encouraged, and offshore project members were expected to interact in the same manner as on-site project members would. Consequently, the skill, experience, communication, and relationship-building capabilities of the offshore team members were more critical than the development process used to direct their efforts.

AN EVALUATION OF MONSANTO’S CONFORMANCE TO BEST PRACTICES

Design Effective Organizational Interfaces

Monsanto failed to build effective organizational interfaces, and instead relied upon the offshore coordinators working from the Monsanto site to act as the conduit for all information going to or from the offshore suppliers. This created a bottleneck during peak times, leading to frustration on the part of all parties involved, and the creation of a patchwork solution to resolve problems with specific projects.

Elevate Your Own Organization's CMM Certification to Close the Process Gap Between You and Your Supplier

CMM certification was not considered an issue at Monsanto. One of the offshore suppliers did, in fact, have CMM level 4 certification, while the other had no CMM certification rating. There was no consideration given to raising Monsanto's certification level, or to selecting suppliers with processes that closely aligned with Monsanto's in-house practices.

Bring in a CMM Expert with No Domain Expertise to Flush Out Ambiguities in the Process

There was no outside expert brought in to evaluate processes and procedures.

Negotiate the CMM Documents for which You Will and Will Not Pay

Monsanto specified in the initial negotiations with offshore suppliers that they would not pay for CMM documentation.

Tactfully Cross-Examine, or Even Replace, the Supplier's Employees to Overcome Cultural Communication Barriers

Monsanto was able to review the resumes of developers assigned to their projects, and at times exercised their right to select which developers would work on a specific project. Monsanto also had specific developers removed from live projects after problems were encountered.

Require the Supplier to Submit Daily Status Reports

Initial requirements did not call for vendors to submit daily status reports. As problems developed on a specific project, Monsanto requested daily status meetings as part of an effort to get the project back on track.

Let the Project Team Members Meet Face-to-Face to Foster Camaraderie

While Monsanto management visited supplier's sites as part of the initial evaluation process and the suppliers positioned coordinators at the Monsanto site, Monsanto team members never met face-to-face with their offshore counterparts. As a result, there was little camaraderie between Monsanto and supplier personnel.

Consider Innovative Techniques, Such as Real-Time Dashboards, to Improve Workflow Verification, Synchronization, and Management

There were no innovative techniques implemented to improve process management or workflow verification.

Manage Bottlenecks to Relieve the Substantial Time-Zone Differences.

The offshore suppliers adjusted their work hours to create overlap with Monsanto hours, and to facilitate communication with the offshore coordinators deployed at Monsanto. During peak periods, the offshore coordinators became bottlenecks, as they were unable to keep up with the communication and the amount of work moving from site to site. Additional coordinators were sent to the Monsanto site to alleviate the problem. There was no move to redesign the organizational interface to solve the problem.

A summary of Monsanto’s adherence to best practice recommendations is provided in Table 5, below.

Table 5. Monsanto’s Conformance to Best Practices for Working with IT Outsourcing Suppliers

Sourcing Challenge	Practices to Overcome the Challenge	Yes	No
	13. Design effective organizational interfaces.		×
	14. Elevate your own organization's CMM certification to close the process gap between you and your supplier.		×
	15. Bring in a CMM expert with no domain expertise to flush out ambiguities in process.		×
How can we effectively work with suppliers?	16. Negotiate the CMM documents for which you will and will not pay.	×	
	17. Tactfully cross-examine, or even replace, the supplier's employees to overcome cultural communication barriers.	×	
	18. Require the supplier to submit daily status reports.	×	×
	19. Let the project team members meet face-to-face to foster camaraderie.		×
	20. Consider innovative techniques, such as real-time dashboards, to improve workflow verification, synchronization, and management.		×
	21. Manage bottlenecks to relieve the substantial time-zone differences.	×	

CONCLUSION

Offshore outsourcing of IT work has emerged as a viable alternative to increasing in-house staff or outsourcing domestically. The favorable labor rates and the availability of large pools of skilled and trained programmers in many Asian and European countries has allowed companies to shift substantial portions of their IT work offshore in an effort to control cost, gain access to technical skill sets, and improve their time to market.

As the offshore outsourcing industry has matured, new business models for executing an offshore strategy have emerged. Consulting firms specializing in offshore outsourcing have proliferated. The work of these consultants, combined with research done by academics, has created a body of evidence which can help managers make intelligent decisions regarding which countries offer the best outsourcing environment. Additionally, this research has led to best practice recommendations that afford new adopters the opportunity to learn from mistakes made by the early adopters of offshore IT outsourcing strategies.

For those companies considering an offshore outsourcing engagement, the case study presented on Monsanto illustrates the challenges that the individuals who work directly with suppliers might face.

Monsanto's disregard for best practice recommendations, including the failure to design effective organizational interfaces, lack of a requirement for daily status reports, and failure to allow team members to meet face-to-face helped create an outsourcing relationship that is failing to meet objectives.

The main obstacle that prohibited offshore outsourcing success at Monsanto was the desire to simply replace local contractors with offshore resources, keeping similar processes in place but saving cost. Factors such as culture, physical distance, camaraderie, and developer skill sets and experience made offshore outsourcing incompatible with Monsanto's in-house development process.

The purpose of offshore outsourcing at Monsanto was exclusively to save money. There was no desire to re-engineer development processes or management practices. While the hourly billable rate of offshore outsourcing is clearly cheaper, the inability of the offshore vendors to fit neatly into Monsanto's development methodology made it ineffective in terms of cost savings. Further, the additional effort required to manage offshore resources and to augment design specifications may have eroded what little cost savings existed.

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