

# IT Outsourcing: Strategic Implications

Peng S. Chan, (Email: pcan@exchange.fullerton.edu), California State University  
Dennis Pollard, (Email: dpollard@fullerton.edu), California State University  
Seungwook Park, California State University

## ABSTRACT

*There is a strong belief that by washing our hands of IT issues and turning them over to outside experts, effective IT systems will painlessly appear. This is the myth of outsourcing which believes that a company can simply hire an outside firm with the appropriate expertise that will manage our information technology cheaper and better. Then we won't have the management headaches. The reality is that outsourcing affects lots of aspects in an organization. Even when a company decides to go for a total outsourcing for IT requirements, it still has to manage everything, including the IT component. This study analyzes when the right time to outsource is, and what are the good reasons to do outsourcing. The research also analyzes why some outsourcing don't work. The question actually is how outsourcing IT can return strategic value to the company.*

## INTRODUCTION

Information systems affect all aspects of a business. Stuart argued that as business move onward, it requires lots of changes and modifications in order to survive<sup>i</sup>. With information technology, a company can have advantages such as flatter organization structure, with less middle manager, better employee morale due to more towards self-directed approach, faster reaction times by managers. Not to mention customer satisfaction and competitive edge.

An information system actually is not a solution to all business challenges; instead, information system makes it faster for a business to adapt to the environmental demands and requirements. As business environmental factors keep changing, the information system also needs intensive modifications in order to be useful. Resisting adapting to business changes could cause failure in an information system, and will affect the business for sure.

To integrate all the systems a company has can be very devastating and costly. Most companies now are struggling to achieve an integrated information system; however most of them end up paying higher and higher cost in IT investment to clean up their system. One way to overcome this is that a company doesn't do all of the operational, not strategic, stuff in-house. Companies should only focus on their competitive competence.

Outsourcing was hype in early 90's as one way to reduce IT cost from global point of view, as well as to gain better expertise for better business operations. However, almost 90% of companies who invest millions of dollars in outsourcing ended up terminating the contract and bring the expertise back home. Those companies claim that they can save millions of dollars doing IT in-house instead of outsourcing.

The purpose of this research is to analyze when the right time to outsource is, and what are the good reasons to do outsourcing. The research also analyzes why some outsourcing didn't work. The question actually is how outsourcing IT can return strategic value to the company.

## THE CURRENT SITUATION

As environmental changes speed up, most businesses react with faster information system development and modification.<sup>ii</sup> Most companies used to maintain an in-house IT expertise, however, when it comes the information technology innovation that is in such a very fast pace, it becomes more and more expensive. Moreover, the delivery of the system also become incompatible with the quality expected, which results in delay in completion of the system.

North American companies alone spent \$114 billion in in-house software development, and this cost will go higher as more of the companies' business aspects will be automate, or conducted over the Internet.<sup>iii</sup> The Gartner Group reports that due to high turnover, the average stay of a programmer in any one job is only 11 months, and companies spend more than 10 % of their IT budgets recruiting and training new staff. As a result, more and more companies consider outsourcing to line up their information technology with their business strategy.

From management point of view, the more aspect of IT to outsource, the more efficient it is for administrative purposes. It would be easier for the accounting department to issue one payment for many tasks accomplished.

## **THE KEY QUESTIONS IN OUTSOURCING**

More and more companies consider outsourcing in adapting to environmental changes that the business faces. As Johnson pointed out, human resources accounts for more than 75% of the cost of developing and maintaining an in-house system and it is very hard to predict staffing requirements over given a period of time<sup>iv</sup>. Modifications in a system typically stretch IT personnel to their limits. Many tasks must be performed in such a little time such as demanding schedules, rapid learning and adaptation, very high stress. The problems become acute where personnel must operate the old system and the new system at the same time. By outsourcing, the companies can provide the extra human resources needed to operate both systems. Furthermore, it frees employees for training to operate the new system.

From manager's point of view, total outsourcing is preferable compare to partial outsourcing. Some companies even outsource their IT infrastructure 100% to a provider.<sup>v</sup> This gives them the advantage of the depth of expertise the provider has with such rapid development. The problem with maintaining an in-house expertise is the productivity issue. All new systems have a learning curve for users and system operators. Both require training before the installation begins. But no matter how good the training, users and operators will require a period of time after system installation to reach their peak efficiency. This issue does not exist when a company outsources the IT infrastructure. Instead, the company can relocate its human resource to focus on more important issues for the company. Companies also need to analyze carefully what project to outsource by determining the type of project, the provider knowledge, and level of business disruption if the system should fail.

## **OUTSOURCING AND INDUSTRY FORCES**

By enabling a new approach to meeting needs and performing functions, outsourcing creates new substitutes. Outsourcing reduces the barrier to entry to the industry such as the need for mobile technology, implementing a good system, access to highly qualified technology talents. Anything that outsourcing eliminates or makes easier to do reduces barriers to entry. Outsourcing providers also try to get as many businesses as they could. As such, they are difficult to keep proprietary from new entrants. Furthermore, a lot of new entrants have come into many industries.

Technology outsourcing providers actually provide additional cushion to the client companies in their own forecasts for needed system, especially in high-tech environments where change occurs rapidly. The result is speculative IT requirements on both ends of the value chain. This cushioning is completely independent of true demand; it wouldn't exist in a vertically integrated model, where system development is done in-house and changing a system design can be as simple as walking down the hall. Therefore, an outsourcing provider must be distinguished in order to compete with other outsourcers, which make supplier bargaining power low.

Outsourcing provides end customer faster and more efficient access to the company's service, which means lowering buyer bargaining power. The outsourcing adds new channels or reduces customer bargaining power over traditional in-house development. The outsourcing also makes it faster for a company to meet buyer demands if implemented accordingly, therefore makes it higher for a customer switching cost to turn into another company.

A technology outsourcer can provide the service to the competitor of its other customer, which, thus intensify the rivalry within the industry and reducing differences among competitors as offerings are difficult to keep

proprietary. Outsourcing will turn competition to price. Since the outsourcing widens the geographic market, it increases the number of competitors.

## **OUTSOURCING AND COMPETITIVE ADVANTAGE**

The value chain is a useful tool in outsourcing decisions. Understanding the linkages between activities can lead to more optimal make-or-buy decisions that can result in either a cost advantage or a differentiation advantage.

In order to better understand the activities leading to a competitive advantage, one can begin with the generic value chain and then identify the relevant firm-specific activities. Process flows can be mapped, and these flows used to isolate the individual value-creating activities.

Once the discrete activities are defined, linkages between activities should be identified. A linkage exists if the performance or cost of one activity affects that of another. Competitive advantage may be obtained by optimizing and coordinating linked activities.

The primary value chain activities described above are facilitated by support activities. Porter identified four generic categories of support activities, the details of which are industry-specific<sup>vi</sup>:

- *Procurement* - the function of purchasing the raw materials and other inputs used in the value-creating activities.
  - *Technology Development* - includes research and development, process automation, and other technology development used to support the value-chain activities.
  - *Human Resource Management* - the activities associated with recruiting, development, and compensation of employees.
  - *Firm Infrastructure* - includes activities such as finance, legal, quality management, etc.
- Support activities often are viewed as "overhead", but some firms successfully have used them to develop a competitive advantage, for example, to develop a cost advantage through innovative management of information systems.

## **OUTSOURCING AS STRATEGY**

Even so, now's not the time to give outsourcing the bum's rush. Its status as a strategic management tool remains secure, even if its evolution to this point has been far from smooth. But to get real strategic value from your third-party relationships, companies often have to throw out much of what they thought they knew - for example, the myth about always maintaining control of customer touch points. Some of the biggest success stories out there are turning this old saw on its head. UPS Supply Chain Solutions (Atlanta) handles everything from order taking to delivery to customer service for its clients.<sup>vii</sup>

## **OUTSOURCING AS VALUE-ADDED TOOL**

Outsourcing can free managers to focus on more strategic, higher-value activities, but only if they discipline themselves to use the freed-up time appropriately. Most companies take the outsourcing approach and then fail to reap its benefits because they micromanaged their outsourcing partners. To get the most out of outsourcing, companies need to think longer-term, about moves with enterprise-level outcomes like improved ROI or greater shareholder returns. This means outsourcing with a focus on external results such as repositioning company in the marketplace or changing company's value proposition to customers in some key way, versus using outsourcing to save 5 percent on the cost of an internal administrative process.

## **OUTSOURCING AS A WAY OF TRANSFORMATION**

Some forward-thinking executives are beginning to use outsourcing as a change-management tool to drive major, enterprise-level transformation, such as a shift in competitive position or a major increase in market share or

stock price. Transformational outsourcing can work because it goes outside for the critical missing piece, drawing on the expertise of a partner who can hit the ground running.

Organizations often find transformational outsourcing is faster and more effective for organizations than other major change initiatives, such as reengineering or acquisitions. Explains Linder: Most companies have tended to use mergers and acquisitions to get themselves into new industries and change the boundaries of what they were doing, however most of them find better result with outsourcing.

## **MANAGERIAL IMPLICATIONS**

Outsourcing is a critical decision a manager has to take. Although it is considered efficient and savvy, outsourcing involves massive changes in an organization, and it is hard to reverse. One of the most popular outsourcing in IT other than software development is the data storage. IT-savvy enterprises seek to locate resources where they are most needed and most economical and try to fully utilize existing capacity before adding additional resources.<sup>viii</sup> Indeed, most companies would welcome the opportunity to locate storage resources where space and labor are readily available and affordable.<sup>ix</sup>

Some aspects that a company should consider in choosing a potential information technology provider is the ability to provide the expertise needed. Another thing to consider is that whether they have enough resources to be devoted to the client company. If the provider takes projects from other client companies, the client company wants to make sure that the provider has sufficient resources to do the work for them. It is wiser to outsource gradually toward a total outsourcing instead of drastically outsource the IT requirements.<sup>x</sup>

## **TYPES OF OUTSOURCING**

Before we analyze further about challenges in outsourcing, especially in IT aspect of business infrastructure, we will go over how a company conducts outsourcing, a comparison between local outsourcing and offshore outsourcing. Michael Porter's cluster concept suggests that there are two types of outsourcing: local outsourcing and offshore (global) outsourcing.<sup>xi</sup>

### **Local Outsourcing (United States Perspective)**

Local outsourcing is preferable in terms of the possibility of high interaction needed in developing a system within a company. A system development usually requires lots of user involvements to determine the requirements of the system in order to support the business. A provider needs to conduct a lot of surveys or interview to gather information before they begin to start a development or a modification of a system. Furthermore, they need to conduct a test to a system prototype to meet the user requirements, and modification to the prototype is more than likely to happen.

As Foegen stated, local outsourcing is preferable towards total outsourcing in IT infrastructure of business.<sup>xii</sup> It is also preferable in developing and negotiating contracts, since the client companies and the provider have the same legal ground and understanding. It is easier to settle disagreement or dispute over a contract where local laws apply. Another preferable aspect is employee training as part of contract. With local outsourcing, it is easier for companies to get a more thorough training for their employees, which means more percentage of success in implementing a new system.

The problem with local outsourcing is that the market for highly skilled IT professionals is very tight in the United States. As a result, the price can be very expensive. Another thing is that the complexity in such a fast pace for Information Technology changes makes it difficult to find sufficient expertise locally.

## **Offshore Outsourcing**

Another strategic option in outsourcing is offshore outsourcing in lining up information technology with business requirements. Amoribieta *et al* found out that more and more companies, such as GE, Target, Bank of America, and American Express, feel that offshore Information Service providers are capable of high quality service and its delivery in terms of speed and reliability, all at a lower cost<sup>xiii</sup>.

Most American companies outsource their IT requirements such as help desk to India, which combine high quality and low cost. Other countries of choice include China, Israel, and Ireland. IT providers from these countries have excellent capabilities and provide more value added services. Compared to the United States provider, the hourly fully loaded programming wages are 40% - 60% lower in those countries. This of course benefits companies by freeing up some capital to do another development.

An offshore outsourcing is preferable for Information Technology requirements that do not need a lot of interaction between the client companies and the provider in development or modification process. A low level of business disruption due to system failure is also a good aspect of a project that can be outsourced offshore. Most company initiates the outsourcing relationship with asking the outsourcer to do the project on-site. Then, after confidence considered convincing, the project moves off-site.

Due to much time and substantial resources are required to negotiate them and to oversee the work and the integration of development teams, Amoribieta *et al* argued that companies with more than 50 in-house employees focusing on software development or maintenance could consider offshore software partnerships.

Examples of projects for offshore outsourcing include modifications of core systems, modifications of architecture efforts, the maintenance of legacy systems, data cleansing, and release updates. Offshore outsourcing is a particularly important option for maintaining legacy systems. Often a large and complicated part of an IT organization's workload and one that is getting harder to accomplish given the relative rarity of legacy skills and the unattractiveness of the work. A good example of this is a company needed an expertise in 'small talk' language several years ago, and they couldn't find it in United States. They ended up finding that expertise in a country in Europe.

The drawbacks of offshore outsourcing are language, politics, and culture. These will happens usually at the early stage of relationship. Another thing is some encryption regulations in the United States might forbid some of Information Technology requirements to be done offshore. Language and time difference can cause other problems. It is recommended for Client Company and provider to have a 24 hour technology capability to access the project or data between each other.

## **MANAGEMENT CHALLENGES IN IMPLEMENTING IT OUTSOURCING**

Although outsourcing sounds very fruitful for a company, in reality, very few of outsourcing relationship succeeds between companies and providers. Allen pointed out that most Information Technology contracts (almost 70%) need to be replenished once, and 15% ended up terminated<sup>xiv</sup>. Some companies complain that the providers don't understand what they want, and that the cost is too high compare to the results they got. The following are some issues or challenges that will be posed to a company that will outsource their Information Technology requirements.

## **MANAGEMENT AND COORDINATION**

The most obvious is the cost of management and coordination required to supervise disparate sites, transfer new product lines, update technologies, etc. Companies have generally developed their software in-house, so they have not yet fully worked out their approach to development partnerships. But the approach of high-quality outsourcing makes it essential for client companies to apply to this area their expertise in writing contracts and in managing provider relationships. In software development as in other fields, forging a successful outsourcing partnership requires a high degree of due diligence and commitment on both sides.

As Johnson argued, the real challenge lies in writing a contract that is specific enough to protect a company yet flexible enough to accommodate unplanned events<sup>xv</sup>. Obviously, all contracts require traditional legalese to protect both the host company and the contractor. In addition to attachments articulating expectations, defining costs and deliverables, explaining evaluation criteria, and identifying processes, there should also be an escape or contingency statement that allows either party to adjust for unexpected events. Companies should also ensure that the contract terms and conditions bind providers. It is becoming more commonplace for providers to subcontract without the host company even being aware of it.

Company managers agree that successful outsourcing requires a shift in their mindset, which is that they must manage paper or contracts rather than workers. They must replace one type of organizational learning approach on how to do something with another, which is managing a provider doing something. Integrating and managing a diverse, split work force embodying different corporate cultures and perhaps divided loyalties can be a daunting assignment compare to the more traditional approach to work force management. The preliminary feasibility, risk, and financial analyses and the selection of the provider are all very important. But it is time to emphasize how to manage the ongoing situations of the outsourcing process, after the contract has been signed.

Johnson also stated that other critical information to include in the contract is the explicit description of employment policies that the provider must adopt. For example, if the host company has a drug-free policy, it is important that outsourcer's employees follow the same policy to facilitate their successful integration into the host company's environment vice versa.

## **QUALITY CONTROL**

Client company may be jointly and severally liable for a provider's mistake in maintaining statutory records or following legal procedures. Therefore, it is very important to apply TQM (Total Quality Management) in conducting outsourcing. Many companies don't realize this problem, they provide a very little budget for prevention cost, which mostly result in paying a high error cost, such as lawsuits.

Amoribieta *et al* pointed out that, in order to help companies evaluate the qualifications of outsource software developers; the Software Engineering Institute has developed a framework called the Capability Maturity Model (CMM), which applies TQM principles to software development.<sup>xvi</sup> Case studies show that this approach improves the quality of software and the productivity of the developer, and the model has been widely accepted in the industry. Information about the capabilities, tools, and expertise of some providers is sketchy, so on-site visits, as well as references and research, are essential in selecting outsource provider.

## **EMPLOYEE ISSUES**

Some employees relish the flexibility, convenience, and professional growth that outsourcing offers. Johnson argued that, it is important to regularly remind everyone of the rationale behind outsourcing.<sup>xvii</sup> In most industries, especially in the high-tech arena, it is deemed almost impossible to predict staffing requirements over a given period of time. One benefit of using contract workers is the ability to respond optimally to changes driven by the business environment. To many, outsourcing also carries a negative connotation associated with companies who put profit above all else. Amid growing competition, companies are being challenged to harness the benefits of outsourcing while simultaneously minimizing its detrimental effects.

Provider staff may become victim to the "casual coercion" of client company employees, especially if the former believe their employment is contingent upon the latter's approval. Casual coercion occurs when a client company employee makes a request of a provider staff. The provider staff does not want to appear unresponsive or uncooperative to someone perceived to have control over his destiny. Even if it is unintentional and the request is within the contract terms, casual coercion can undermine the desired relationship between the client company and the outsourced services provider.

## **SWITCHING COST ISSUE**

Amoribieta *et al* stated that Client Company should make every effort to ensure that its in-house staff stays up to speed technically with its outsourcing provider so that it doesn't become entirely dependent on their assistance. Such dependence can be very costly indeed. A company could find itself held hostage by its Information Technology provider when no one in the client company can support one of its legacy systems for some years, which mean that they have no substantial knowledge of this system and thus simply can not switch vendors. As a result, the company will be unable to negotiate a favorable deal with its current provider, which is in a position to charge more than any other provider would have done for similar work, sometimes it could be a total of 30% from a project value<sup>xviii</sup>. The client company can escape from this trap only when it can replace the legacy system in question.

## **PROVIDER LOYALTY ISSUE**

Outsource provider staff can feel a distressing divided loyalty between their own company and the client company. Allen also pointed out that dissension and resentment may build if the provider company believes project managers from client companies are undermining or scrutinizing their activities.<sup>xix</sup> And project managers may dilute the effectiveness of the outsourcing management by involving themselves in the day-to-day activities or management of the provider company.

## **SLOWER INNOVATION**

Another hidden cost of outsourcing is slower innovation.<sup>xx</sup> Changing products and processes is more complex and time consuming across separated sites. Knowledge and technology are fragmented and dispersed. All these costs decline markedly within a cluster. Inventory largely disappears, and lead time falls sharply. In a cluster, a company can draw on a local supplier base, skilled people, specialized service providers, and local institutions that can provide training and perform research. Moreover, within a cluster there are many companies with which to partner. Being part of a cluster *facilitates* change and speeds innovation, both fundamental to modern, knowledge-based competition.

## **CONCLUSION**

Once a company decides that it is suited to outsourcing, it should establish formal processes for its make-or-buy decisions. As Allen pointed out, to reap the greatest outsourcing economies of scale, an outsourcing deal must serve the needs of the company as a whole; divisions shouldn't be allowed to act independently<sup>xxi</sup>. A senior IT leader, preferably the Chief Information Officer, ought to head up the process, and senior business leaders whose applications will be affected by outsourcing relationships ought to be involved as well. If the partnership addresses the software development and maintenance needs of most of the company, the chief executive officer too might participate in the decision making.

The choice of one provider over another shouldn't depend on price, but both parties ought to accept certain clear pricing principles. Companies should lock in per-diem rates for each category of developer that a project will require for the duration of the contract. Those rates, as well as the cost of the entire project, ought to be monitored over time so that the benefits of improved efficiencies at the outsourcer flow to the client company. However, it is important for a company to demand the degree of customization from a provider to the extent where the provider will not lose their economic of scale. The client company should realize that the resources that the vendors were demanding from them were very similar, and that they have to analyze the need to streamline the management of outsourcing efforts through a central organization for the whole company, without sacrificing the speed of development.

Companies should develop a performance-based incentive structure that might include metrics such as the number of bugs for each 100,000 lines of code, the percentage of code accepted after its first test by the user, and adherence to schedule and price agreements. There should be clear definitions of success and failure on both sides of the partnership, with defined processes for raising or lowering the level of collaboration between them. Carefully

worded exit clauses that address the responsibility for documentation, for the transfer of knowledge, and for intellectual-property rights are important as well.

Once a company chooses its outsourcer for their IT requirements, it should define the required level of service on three dimensions: resources, performance incentives, and quality. The outsourcer should guarantee that it will assign people with specific skills to the client company's project within, say, four weeks of the initial request, and the client should have the right to conduct regular audits of the outsourcer's project-management, quality assurance, and development processes. IT service-level agreements too often ignore such procedures because many companies seem to view them as more trouble than they are worth, but in the absence of an audit, a company whose relations with its partner are deteriorating may be unable to diagnose the problem.

Finally, with offshore outsourcing, a company can manage offshore projects by appointing a project manager who works with each offshore development team to provide technical oversight and links to the client's business units. The manager also serves as a troubleshooter, ensures that the offshore developer makes steady progress and works efficiently, and facilitates the execution of the project, for example, by setting up user groups to test the software, easing communication with the leaders of business units, and arranging for company-specific documentation.

This decentralized approach to development promotes collaboration between the outsourcer and the business units' in-house software architects, who have deep technical knowledge. Nonetheless, the transformation processes leading to successful IT systems require diligent effort, proper project management, and just plain hard work by management, system customers, and IT professionals alike. This fact of IT life cannot be stressed enough - there is no way around it. Often, one or more of these groups try to circumvent the effort by outsourcing the project. At the very least, project management responsibility must be retained internally. This is true even if the bulk of the development work is done by people outside the firm and regardless of whether custom or off-the-shelf IT systems are used.

## ENDNOTES

- <sup>1</sup> Stuart, Toby E. How Organizational Aging Affects Innovation (2001). *strategy+business*. Fourth Quarter, 2001.
- <sup>2</sup> Ma, Hao. Competitive Advantage: Kinetic and Positional (January, 2000). *Business Horizons*. Retrieved on April 30, 2003 from [http://www.findarticles.com/cf\\_0/m1038/1\\_43/59670278/print.jhtml](http://www.findarticles.com/cf_0/m1038/1_43/59670278/print.jhtml).
- <sup>3</sup> Amoribieta, Bhaumik, Kanakamedala, and Parkhe. Programmers Abroad: a primer on offshore development (2001). *McKinsey Quarterly*. Number 2.
- <sup>4</sup> Johnson, Bruce. Counterintuitive Management of Information Technology (1999). *Business Horizons*. March- April, 1999. Retrieved on April 30, 2003 from [http://www.findarticles.com/cf\\_0/m1038/2\\_42/54370813/print.jhtml](http://www.findarticles.com/cf_0/m1038/2_42/54370813/print.jhtml).
- <sup>5</sup> Allen, Sandy. 2000. Outsourcing Services: The Contract Is Just the Beginning (2000, March). *Business Horizons*. Retrieved on April 30, 2003 from [http://www.findarticles.com/cf\\_0/m1038/2\\_43/61891228/print.jhtml](http://www.findarticles.com/cf_0/m1038/2_43/61891228/print.jhtml)
- <sup>6</sup> Porter, Michael E. Competitive Advantage: Creating and Sustaining Superior Performance.
- <sup>7</sup> Craumer, Martha. Outsourcing: It's Not Just About Cost Cutting (2002, July 22). *Harvard Business School*. Retrieved on April 30, 2003 from <http://hbsworkingknowledge.hbs.edu/item.jhtml?id=3022&t=operations>
- <sup>8</sup> Chadha, Dr. Kanwar J.S. Global Storage Networks: Their Time Is Now (2001, February). *Computer Technology Review*. February, 2001.
- <sup>9</sup> SUPRA, NOTE 5.
- <sup>10</sup> SUPRA, NOTE 3.
- <sup>11</sup> Kicking global goals with Michael Porter. *The Business Review Weekly*. Retrieved on April 30, 2003 from <http://www.competitiveness.org/newsletter/tci-newsletter-april-2002.htm>
- <sup>12</sup> Foegen, Joseph H. Are managers losing control? *Business Horizons*. March-April, 1998.
- <sup>13</sup> SUPRA, NOTE 3.
- <sup>14</sup> SUPRA, NOTE 5.
- <sup>15</sup> SUPRA, NOTE 4.
- <sup>16</sup> SUPRA, NOTE 3.
- <sup>17</sup> SUPRA, NOTE 4.
- <sup>18</sup> SUPRA, NOTE 3.
- <sup>19</sup> SUPRA, NOTE 4.
- <sup>20</sup> Silverthorne, Sean. New Cluster Mapping Project Helps Companies Locate Facilities. *Harvard Business School*. Retrieved on April 30, 2003 from <http://hbsworkingknowledge.hbs.edu/item.jhtml?id=3245&t=innovation>
- <sup>21</sup> SUPRA, NOTE 5.