The Various Aspects of Outsourcing the IT Function

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***Abstract*— This document gives factors of outsources including the phenomenon of outsources the reason to use and not use outsourcing. We also discuss the risk of outsource, the benefits of outsource IT, the costs of outsource and the impact of it.**

***Keywords*— Factor, Risk, Benefit, Costs, Influence**

I. INTRODUCTION

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II. FACTORS OF OUTSOURCES

A. The Phenomenon of Software Development

Only a decade ago, the number of entities engaging in global software development was small—but this has rapidly changed. Today, 203 of the US Fortune 500 engage in offshore outsourcing.1 In a recent study, we found that within the largest US firms, the median ratio of IT work outsourced— but consumed largely in the US— is 6.5 percent.2 Meanwhile, in the much smaller Netherlands, about 250 Dutch companies of various sizes engage in some kind of offshore work.[2]

Upwards of 50 nations are currently participating—at least minimally—in collaborative software development internationally. In India, there are now 800 IT service firms competing for work globally.3 Many American firms are in the process of a radical push to send their key software processes offshore, and critical centres of software R&D are growing outside the traditional centres (such as the US)—in Ireland, Israel, Singapore, Finland, and many other nations. Finally, the marketplace is responding to the increased demand for IT labour through the construction of new commercial mechanisms. Business-to-business intermediaries, such as ITsquare.com and IT-radar.com, serve as exchanges between worldwide IT services vendors and small- and medium-size businesses with IT needs.

B. Decision to Proceed with Outsourcing

Determining factors to outsource the organization's IT functions are the need to meet IT goals such as, to focus on core business strategy, to reduce or control costs while improving functionality, to improve competitiveness, to provide better management control, to improve IT flexibility, to free up resources for core functions, to gain access to world-class capabilities, and to provide better IT service [5]. It is also very important to determine what part of IT functions will be outsourced, or if the entire IT organizational function will be outsourced.

By outsourcing the IT functions, organizations can fulfil the need to gain access to world-class capabilities, and therefore improving IT services. It is becoming more difficult for organizations to find the highest level of expertise, since the demand for this service has increase in the last few years, and continues increasing, and with that, salaries demand has increased also, making some organizations less competitive in the market place.

C. The Factors of Not Using Outsource

There are factors that can also make management not to outsource their IT functions. One of these is the amount of technical knowledge transfer that will take place while outsourcing the functions. Management believes that by outsourcing their IT functions, the organization will lose the knowledge base of their systems. They are also concern that there will also be an increase in potential security issues, since resources will no longer be kept by the organizations staff, given the fact that they will be exposed to a greater number of individuals outside the organization that will be handling the information. The loss of control over the personnel handling the data is for some companies unacceptable. Also outsourcing might not be taken well by users, they might feel alienated. It might not fit well with the corporate culture. Many outsourcing functions required remote access to resolve system issues, but if they cannot be resolved then delays might occur, resulting in uncalculated downtime, higher costs, and breakdown in service quality. The loss of information system hardware might be another unacceptable area that will sway organizations management not to outsource. Hidden costs of repairs, hardware upgrades and maintenance can also be cause for management not to outsource.

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IV. RISK OF OUTSOURCE

A. Risk

There are also risks to consider when outsourcing the organizations IT functions. Some of these risks are: loss of control, viability of service providers, quality of service, trust, performance of applications and services, lack of expertise, hidden and uncertain costs, limited customization and enhancements, knowledge transfer, legal and regulatory matters.

One very obvious risk associated with handing sensitive company information such as; vendors, partners, and even customer information to third party personnel, is that it will create a higher level of exposure and security concerns. The risks associated with this loss of control over who is going to be handling the data might be considered by the organization too risky and unacceptable.

There are the risks that the outsource personnel might not have the same level of commitment since the goals of the outsource organization and the data owner are not completely aligned. The risk associated with not being completely aligned, is that not having the same level of commitment to protect the data could put the data owner in a vulnerable situation if security is breached. Another risk is the viability of service providers. When outsourcing IT functions, organizations are concern with the risks that the outsourcing organizations could leave customers with no access to their data, due to security attacks on the outsourcing company. Because outsource maintenance occurs a lot of times remotely, data is expose to possible Man-In-The-Middle Attacks, and this is another risks that organizations fear. Another risks associated with outsourcing is legal and regulatory matters. If the outsourcing organization is not knowledgeable in this area it can have a negative financial impact, as well as loss of reputation and confident that can jeopardize the organization's operations beyond repair.

V. BENEFIT OF OUTSOURCE IT

A. Benefit

There are many benefits that can be very beneficial to every organization when outsourcing their IT functions, including the following:

- **Reduce development costs.** Outsourcing providers can cut both capital costs and labour costs by reducing the amount of internal equipment (such as servers, software costs, desktops, etc.) and the number of in-house IT stuff.
- **Focus on core competencies.** By handing over noncore activities to a trusted third party, a company can concentrate on activities central to its value proposition and increase its competitive positioning.
- **Increase efficiency.** Outsourcing IT can save a large amount time and personnel which can be put on core competencies and, therefore, a company can be run more efficiency than doing everything on their own. Also having developers located in different time-zones can allow organizations to increase the number of daily working hours in a 'follow-the-sun' development model which can decrease cycle time.
- **Increase flexibility.** Outsourcing gives flexibilities to a company for them to react quickly to changing market conditions, fluctuating demand cycles, and increased competition.
- **Access to Large Skilled Labour Pool.** Outsourcing to an experienced company with talented developers will increase the productivity and quality vastly.

B. Models Applied for Outsourcing Project

In *The Handbook of Global Outsourcing and Offshoring* by Ilan Oshri, Julia Kotlarsky and Leslie P. Willcocks, they have summarised outsourcing model, as the following:

Phase based model

Division of work by phase/process step, when globally dispersed sites engage in different phases of a project in a sequential manner. This means that work is handed over to a remote site after completing certain process steps.

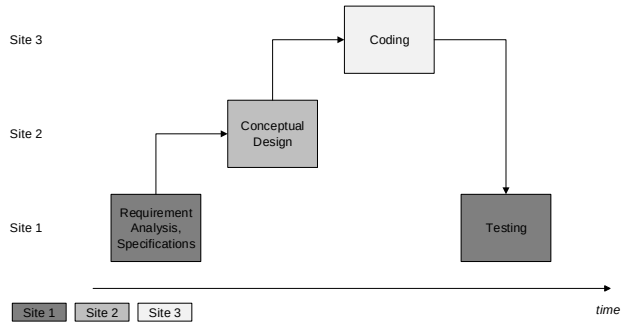

Figure 1 - Phase Based Model

Modularization model

Division of work by product structure (product module), when each product module/feature is developed at a single site. This approach allows for different sites to work on different modules in parallel.

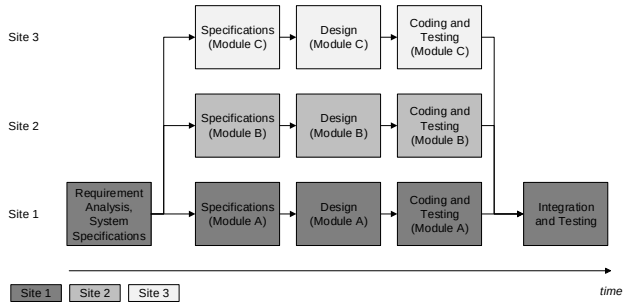

Figure 2 - Modularization Model

Distributed model

Division of work that minimizes requirements for cross-site communication and synchronization; however, only for particular types of product architectures.

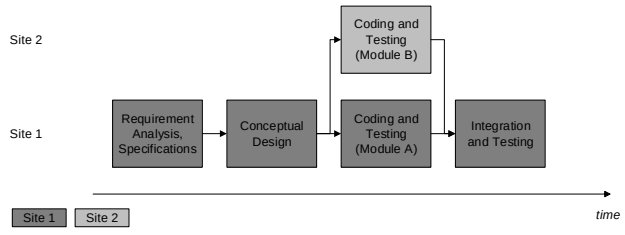

Figure 3 - Distributed Model

Customization model

Division of work based on product customization, so that one site develops the product and other sites perform customization, that is, changes such as adding features and enhancements for specific customers. In such a case, the sites that customize the product are in a geographical proximity to the customer.

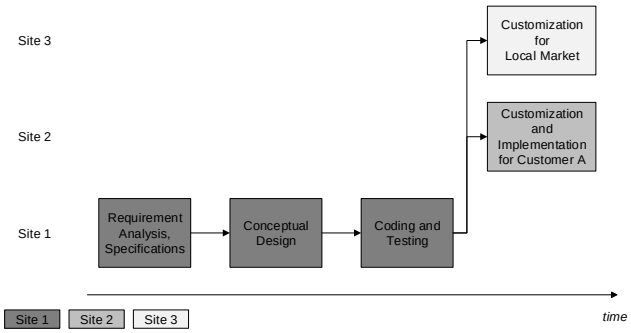

Figure 4 - Customization Model

Follow-the-sun model

Division of work across time-zones; where a task is passed on from one person to the other person located in a different time-zones at the end of a working day to reduce the project completion time and improve the resource utilization through 24-hour development.

VI. THE COSTS AND EXAMPLE

A. The Costs Originate in an Outsourcing Agreement

Essentially the elements that can cause the cost origin in an outsourcing agreement depend directly of what the organization is hoping to gain from outsourcing. Understating the cost of a function and how is being managed is an example of cost of origin in an outsourcing agreement. If the IT functions are taking more resources that are producing positive results for the organization, then perhaps it is cost effective to outsource, resulting in great financial gains that can be use in other projects, or that simply can help improve the organization's financial position. The cost origin in an outsource agreement can come from the IT goals such as, to focus on core business strategy, to reduce or control costs while improving functionality, to improve competitiveness, to provide better management control, to improve IT flexibility, to free up resources for core functions, to gain access to world-class capabilities, and to provide better IT service [5].

Selecting the right outsource company is critical to the organizations, therefore a complete analysis of the organizational needs to be conducted. This will provide the organization with a shopping list that can clearly point out what will be the financial impact of the SLA or Service Level Agreement from outsourcing. According to a 2003 article written by Stephanie Overby for CIO magazine, she indicates that the cost of outsourcing IT services can be anywhere from .2% to 2% in addition to the annual cost of the deal. The article points out that if an organization is sending 10 million dollars' worth of IT work to India, selecting a vendor could cost anywhere from 20 thousand to 200 thousand dollars per year [5].

B. Some Examples of the Dollar Impacts

The selection of the outsourcing vendor is also a tedious and lengthy process, which can go on for months before the selection is made. There might be the need to place an individual in charge of this process, or hire a consultant that can help the organization achieve the right vendor selection. A 1 to 10 percent should be added to the selection process budget for transition cost. Organizations should also be prepared to go through a very lengthy and expensive process to hand over IT functions once the outsourcing organization has been selected. A good example is Textron Financial, which according to Overby, it took them six months and $100,000 to set up a transoceanic data line with Infosys in 1998 for Y2K work. It also cost an extra $10,000 a month to keep that network functional. Organizations should also expect a 2 to 3 percent on transition cost for the cost of layoffs. Laying-off American employees is an expensive proposition that needs to be taken into account when outsourcing. Outsourcing can also cost the organization another additional expense, when internal users resist the transition to outsource, therefore a 3 to 5 percent should be budget for cultural cost. Productivity is another issue that can be affected by outsourcing, it might take time for the outsource organization to learn the companies' applications; therefore, there should be 3 to 27 percent for productivity lags, the cost of raping up.

VII. Implications on the Business Organizational Structure and Potential Personnel Issues

While there are many benefits to outsourcing IT functions, there are also implications on the business structure and potential personnel issues, including the following:

- **Loss of communication richness.** Physical distance and time zones will make the communication difficult. And the lack of domain expertise is also a risk. Therefore, liaisons will be needed to continue communicate and share the knowledge between different companies.
- **Loss of team sense.** It is difficult to integrate separate independent teams into a coherent team. Each sites have its own design approach and development process. To address this problem, the headquarter have to complete the development life cycle.
- **Cultural differences.** This is a vast problem when develop a software globally. To deal with the differences, the best way is to understand and respect different culture.

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