

## ***IT Outsourcing Trends in Malaysia: An Insight***

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### **Abstract**

The discussion on IT outsourcing has gained popularity almost everywhere around the world and towards some extent has received favorable responses from big corporations in mostly developed countries like the United Kingdom, United States, Sweden and Denmark. Little or very few stories are known about IT outsourcing in developing countries like Malaysia. This paper highlights the findings of a study carried out on IT outsourcing among the Malaysian companies. Although the number of companies in the study does not represent the entire Malaysian companies as a whole, the findings provide sufficient initial information as far as the IT outsourcing trends is concerned. The study has shown that IT outsourcing is not new in Malaysia as some companies indicated that they have been outsourcing for at least the last ten (10) years. The most common IT services outsourced are the application and software developments. In addition, the study illustrated that Malaysian companies tend to outsource IT procurement, system architecture and project management to local vendors rather than their foreign counter parts. Nevertheless, foreign vendors are more sought after for software developments as well as networking.

**Keywords:** *IT Outsourcing, Outsourcing Trends, Outsourcing Practices, Malaysia, IT Outsourcing Factors.*

## INTRODUCTION

For some time there has been widespread acknowledgement that Information Technology (IT) has become the engine that drives the modern organization. Over the last decade, one of the more widespread developments in meeting an organization's IT needs is the practice of outsourcing. IT outsourcing (ITO) is defined as the process of procuring services or products from sources that are external to the organization (Lankford and Parsa, 1999). As far as service is concerned, this usually involves the transfer of operational control to the suppliers. Thus, ITO is a practice of transferring IT assets, leases, staff, and management responsibility for delivery of services from internal IT functions to third-party vendors (Lacity and Hirschheim, 2000). ITO is therefore a full transfer or delegation of an organization's facility management functions to an external firm. Outsourcing has emerged as an effective tool to revamp strategies and is beneficial to business in a financially viable and proactive manner (Pinnacle Systems Inc., 2003). ITO is an effective strategy for gaining and maintaining competitive advantage when it is executed as part of an overall program to build a high-performance IT organization (Lankford and Parsa, 1999).

Although companies outsource for many reasons, ITO is growing due two primary phenomenons (Lacity and Wilcocks, 2001). First, interest in ITO is largely a consequence of a shift in business strategy. Many companies have recently abandoned their diversification strategies to focus on core competencies. Senior executives have come to believe that the most important sustainable competitive advantage by concentrating on what an organization does better than anyone else while outsourcing the rest. Second, the growth in outsourcing is a function of the vague value delivered by Information Systems (IS). In many companies, senior executives view IS as an overhead which is an essential cost but one that is to be minimized nevertheless.

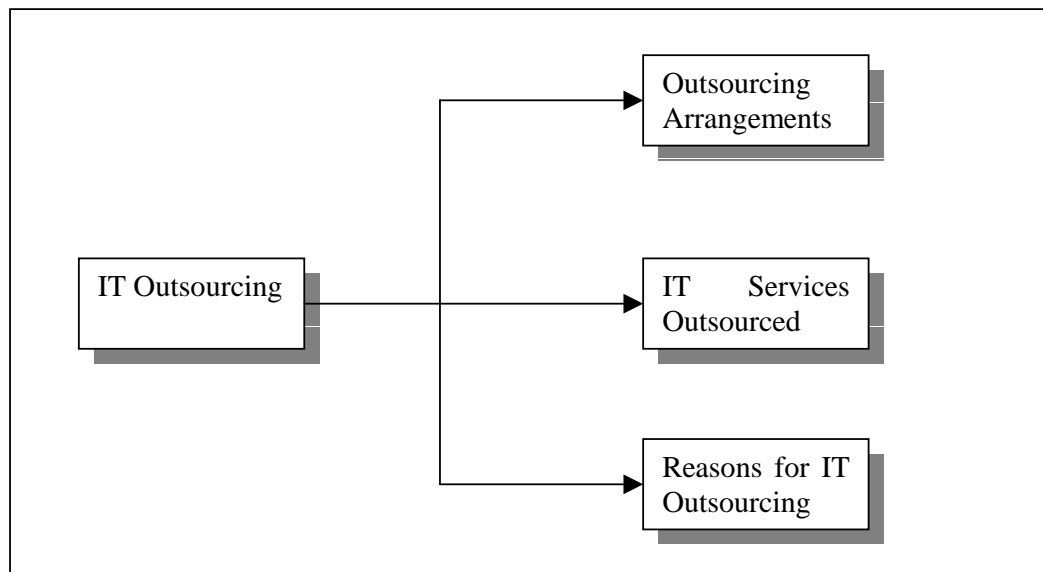
The first major success in ITO is with Eastman Kodak (Lacity and Hirschheim, 1995) when they outsourced the bulk of their IT functions in 1989. Since then ITO has been widely practice. Never before had such a well-known organization (where IS/T was considered to be a strategic asset) turned over their IT functions to a third party providers (Applegate and Montealegre, 1991). Since then both large and small companies have found it acceptable, indeed fashionable, to transfer their IS assets, leases and staff to outsourcing vendors (Arnett and Jones, 1994). Kodak appears to have legitimized outsourcing, leading to what some have called "the Kodak effect" (Caldwell, 1994). Besides Kodak, there are a number of other high profiles companies that have applied ITO including British Aerospace, British Petroleum, Chase Manhattan Bank, Continental Airlines, Continental Bank, DuPont, Enron, First City, General Dynamics, McDonnell Douglas (now Boeing), and Xerox (Hirschheim and Lacity, 2000).

It is estimated that the global revenues for ITO have been growing at a rapid rate. The Outsourcing Institute's survey of 1200 companies indicates that 50% of all companies with IT budgets of USD5 million or more are either outsourcing or evaluating the option. They also reported that one-twelfth of IS dollars spent in 1995 flowed through an outsourcing contract and that this proportion was rising fast (<http://www.outsourcing.com>). International Data Corporation noted that the actual global ITO spending was USD40 billion in 1996 and reached USD71 billion in 2003, representing a growth rate of 12.2% per annum (IDC, 1999). Dataquest reported that

the ITO industry revenue was USD194 billion in 1999 and grew to USD531 billion in 2002 (Young, 2000). In addition, it is also estimated that USD500 billion or RM1.9 trillion global industries will be created by 2008 (The Star, 2005).

ITO is also growing in Malaysia as Malaysia is seen as an attractive location for offshore outsourcing contracts due to our strong infrastructure and our multilingual skills (IDC Malaysia, 2003). The local ITO market was expected to grow by 17.7% to USD107.80 million (RM410 million) in 2003, from USD92 million a year earlier. More companies are expected to embrace outsourcing once they realized the benefits of outsourcing their IT operations. With the current volatile global economy, many companies in Malaysia are forced to focus on their core businesses and outsource other operations. For example, CSA Malaysia has invested RM8 million to build an advanced call center, a data center and expand its training center for its ITO division (Lee, 2003).

As outsourcing is gaining momentum in Malaysia it is only appropriate that research be conducted in the area. This study was initiated to provide an insight of ITO practices in Malaysian companies. It hopefully will be a research platform for subsequent in-depth researches on ITO. It basically aims to study IT services outsourcing trends among Malaysian companies by analysing the types of outsourcing arrangements and the various IT services being outsourced. In addition, this research tries to understand the key factor for outsourcing. The framework of the research is illustrated in Figure 1.



**Figure 1: Research Framework**

This paper is organized into six sections. In Section One, brief definitions, a glimpse of outsourcing markets and research framework are highlighted. Section Two contains the literature review of ITO where description of ITO, reasons for ITO and the types of ITO arrangements are described. This section also includes an overview of ITO practices in Malaysia. Section Three of this paper describes the methodology used for the study. Section Four highlights the findings while Section Five concludes the discussion, discusses the limitation and possibilities of future researches.

## **REVIEW OF LITERATURE**

### **Overview of IT Outsourcing Practices**

IT outsourcing can be carried out in many combinations depending on the component of services scope that is outsourced and the responsibilities attached to the outsourced contract. Different authors describe ITO arrangements or options differently. For example, Lacity and Hirschheim (1995) offer taxonomy of sourcing decision options: They have classified IT outsourcing into three categories.

*Total Outsourcing* – the decision to transfer IT assets, leases, staff, and management responsibility for delivery of IS products and services follows:

"... turning over to a vendor some or all of the IS functions..." (Apte et al., 1997)

"...the contracting of various information systems' sub-functions by user firms to outside information systems vendors" (Chaudhury et al., 1995)

"...the organizational decision to turn over part or all of an organization's IS functions to external service provider(s) in order for an organization to be able to achieve its goals" (Cheon et al., 1995)

"... the commissioning of a third party (or from an internal IS function to a single third party vendor) which represents more than 80% of the IS budget.

*Total Insourcing* – the decision to retain the management and provision of more than 80% of the IS budget internally after evaluating the IS services market.

*Selective Sourcing* – the decision to source selected IS functions from external provider(s) while still providing between 20% and 80% of the IS budget internally. This strategy may include single or multiple vendors. The use of percentages of IT budget as differentiating total from selective decisions is consistent with the studies done by Willcocks and Fitzgerald (1994) which shows that selective sourcing usually takes up between 25 to 40% of the formal IT budget.

## **Reasons for IT Outsourcing**

The first question that arises in discussing the topic is why do organizations outsource IT? Many companies outsource their IT functions because of cost, customer service, management, IT performance, IT resources and corporate strategy (Computerworld, 2003; Turban et al., 1996, Mcfarlan and Nolan 1995). Meanwhile, Lacity and Hirschheim (1995) said that the outsourcing phenomenon evolves from two trends. Firstly, IT is evolving into utility thus it is easy to obtain good services from specialized vendors and moreover prices are lower due to the economy of scales. Secondly, there is bandwagon effect on outsourcing due to the fact of early success by Eastman Kodak “Kodak Effect” (Lacity and Hirschheim, 1993). Moreover, many IT firms around the globe have setup facilities to offer a broad range of ITO services ranging from IT infrastructure, data center, helpdesk, web hosting, application development and management. Forrester Research Inc (Computer World, 2003) has estimated that the ITO business is worth about USD4 billion in year 2000 and will grow to USD136 billion and provide 3.3 million jobs by year 2015.

McCarthy (1996) has pointed primary reasons for companies to consider outsourcing. He described them as follows:-

- Outsourcing allows companies to refocus their resources on their core business.
- Corporations can buy technology from a vendor that would be expensive for them to replicate internally.
- Outsourcing lets companies re-examine their benefit plans, make them more efficient, and save time and money while improving efficiencies.
- Companies outsource to improve the benefit plan service level to their employees by making the information more consistent and more reliable.
- A final possible reason is to reduce costs, certainly over longer term.

## **Types of IT Services**

Next, in discussing outsourcing, we also have to ask what tasks companies normally outsource. Organizations generally operate their IS environment on a customized basis, buying standard equipment, system and application software, and communications, and assembling them into an infrastructure unique to them. Interest in outsourcing resurfaced in the early 1990s, not for contract programming and specific processing services, but for network and telecommunication management, distributed systems integration, application development, and systems operations (Lee et al., 2003). IT personnel were shifted from the customer to the vendor, with some vendors purchasing customers’ mainframe hardware and managing client services onsite. System integration was another popular outsourcing segment in the 1990s and involved highly complex technology, including network management and telecommunications, along with associated education and training. Other researchers, Lacity and Hirschheim (2000) stated that some components of the IT services that can be outsourced include disaster recovery, client/server and personal computing, mainframe and midrange, network, end-user/PC support, helpdesk, project management, application systems development, business application support and maintenance, systems architecture and procurement.

## **IT Outsourcing in Malaysia**

The downturn of economy has amplified the importance of cost management, leading companies to make cost savings their number one objective in an outsourcing agreement. In addition to this, other significant factors such as technological competency, focusing on core competency, shortage of IT resources and economy climates are accelerating the growth of the outsourcing market (Lee, 2003).

Realizing the benefits of outsourcing, the Central Bank of Malaysia (Bank Negara) has been pushing local banks to seek outsourcing partners to handle non-critical functions of the business. As a result, Bank Bumiputra-Commerce Bank (BCB) has become the first bank in Malaysia to outsource its IT functions to Electronic Data Systems (EDS) with a USD250 million 10-year contract. This is the largest outsourcing deal in Malaysia (ITWorld, 2002). Meanwhile, Malayan Banking Berhad (Maybank) has outsourced their IT tasks to Computer Science (CSC) in a 10-year deal valued at RM342 million. CSC will take over management of the bank's mainframe, mid-range, desktop, help desk and network infrastructure in Malaysia and Singapore. It will provide the services mostly via its affiliates Computer Systems Advisers (CSA) Berhad and CSA Automated. CSC and its affiliates will absorb about 320 bank employees (Perez, 2003). In addition, Maybank data center has been outsourced to Hewlett-Packard (Madhavan, 2003).

The overall outsourcing market in Malaysia remains strong and many companies are outsourcing their IT operations. EDS leads the pack in the outsourcing revenue ranked in 2003 with approximately USD50 million (RM190 million); a far second is HeiTech Padu Berhad with approximately USD14 million (RM53.2 million) while third is Hewlett-Packard with approximately USD10.5 million (RM39.9 million) (Madhavan, 2003). In addition, Accenture Malaysia is optimistic in securing three to four outsourcing contracts from local financial institutions valued from USD260 million to USD400 million (Lee, 2003).

## **METHODOLOGY**

This section describes the sampling method, research instrument, data collection procedures and analysis used in the study.

### **Sample of Study**

A list of 100 companies operating in Klang Valley was obtained from the KLSE website. The selection was based on the companies' market capitalization. Out of this total, 60 are local companies while 40 are multinationals operating in Malaysia.

### **Research Instrument**

Primary data collection method was used whereby a survey was conducted using a questionnaire. The questionnaire is divided into three sections. Section 1 gathers data pertaining to characteristics of the company such as industry classification, ownership, size (total employee, IT staff and revenue) globally and locally and local IT budget for the local organization and outsourcing. Section 2 collects information pertaining to IT components that are outsourced and vendor preference. There are a

total of eleven (11) questions in this section. Each of these questions comes with a brief explanation to ensure uniformity in understanding among the respondents. A six (6) categorical scale was used for these questions with an intention to investigate the component of IT services outsourced and the accompanying degree of IT outsourcing. These components of IT services are consistent with those studies done in UK and US companies (Wilcocks and Lacity, 1998; Lacity and Hirschheim, 2000). Finally respondents are required to state their reasons for outsourcing their IT in Section 3. There are twenty eight (28) questions covering possible reasons why organizations would outsource their IT services. The items were adopted from previous studies such as Lacity and Hirschheim (1994), Willcocks, Lacity and Fitzgerald (1995), Lacity and Hirschheim (2000) among others.

### **Data Collection**

The questionnaire was distributed either by mail, e-mail or hand to the heads of IT or senior managers with IT responsibilities in the selected organizations. Fifty of the questionnaires were returned by mail, thirty by e-mail and another three were carried out via phone call. Four respondents responded via email informing us that it is against their company policy to review any confidential data. Therefore, they were not able to participate in the survey. All data collected from the respondents are coded and entered into SPSS Release 10.0.1. As the main objective of the study is to provide an initial insight to IT outsourcing practices in Malaysian companies, the data collected was analyzed using frequency and cross-tabulations statistical methods. A factor analysis however, was used to determine the factors that motivate companies to outsource their IT services.

There were many problems encountered in the process of gathering data via mail. Some potential respondents declined to participate due to data confidentiality. After some persuasion and assurance on the confidentiality of data, some responded. Others were not in the office when the questionnaires were sent to them. Following which, calls were made, and subsequently we manage to obtain response from them even though it was after the closing date. As in most survey, some respondents provided incomplete responses. For those who provided their personal contact information, we were able to verify their data while others were treated as incomplete and rejected.

## **FINDINGS OF THE STUDY**

### **Demographic Profile of Respondents**

As mentioned above, a total of 83 respondents returned the questionnaires, which represents a 40% response rate. Fifty (60.2%) of the questionnaires were filled in by Chief Information Officer of the companies while 4% was completed by Marketing and Operations Managers respectively. The remaining respondents claimed that they fall under the “Others” category.

From Table 1, it can be observed that 54.2% of total respondents were from local companies and the remainders were foreign-owned companies. Among the foreign-owned companies were Japanese and Taiwanese companies, 14 and 11 respectively.

The percentage however, is not reflective of the total companies' population in Malaysia.

**Table 1: Companies Ownership**

|                 | Frequency (n= 83) | Percent (%) |
|-----------------|-------------------|-------------|
| Local Companies | 45                | 54.2        |
| Foreign-owned   | 38                | 45.8        |

It was discovered that nearly 23 percent of the respondents were from manufacturing industry while nearly 40 percent of the respondents choose to be classified under others (Table 2).

**Table 2: Companies Industry**

|                           | Frequency (n= 83) | Percent (%)  |
|---------------------------|-------------------|--------------|
| Architecture/ Engineering | 10                | 12.0         |
| Insurance                 | 3                 | 3.6          |
| Education                 | 3                 | 3.6          |
| Finance                   | 7                 | 8.4          |
| Service                   | 8                 | 9.6          |
| Manufacturing             | 19                | 22.9         |
| Others                    | 33                | 39.8         |
| <b>Total</b>              | <b>83</b>         | <b>100.0</b> |

A majority (69.9%) of the respondents have revenue of more than RM20 million (Table 3). Subsequently, a majority of these companies (42.2%) have a higher IT budget (more than RM5 million) and nearly 10% between RM2 million to RM5 million. This data is representative of the type of respondents who is able to invest in major IT applications.

Nearly 30% of the companies also indicated that they spent between RM100, 000 and RM500, 000 for IT outsourcing and 19% indicated between RM500, 000 and RM1 million. This indicates that the IT outsourcing budget is still a relatively small proportion of the overall IT budget.

**Table 3: Companies Revenue and IT Budget**

| <b>Companies Revenue</b>     | <b>Frequency</b> | <b>Percent (%)</b> |
|------------------------------|------------------|--------------------|
| RM1- RM5 mil                 | 3                | 3.6                |
| RM5 – RM10 mil               | 4                | 4.8                |
| RM10 - RM15 mil              | 11               | 13.3               |
| RM15 - RM20 mil              | 7                | 8.4                |
| > RM20 mil                   | 58               | 69.9               |
| <b>Total</b>                 | <b>83</b>        | <b>100.0</b>       |
| <b>IT Budget</b>             |                  |                    |
| < RM 100K                    | 3                | 3.6                |
| RM100K - RM500K              | 13               | 15.7               |
| RM500K - RM1 mil             | 9                | 10.8               |
| RM1 – RM2 mil                | 8                | 9.6                |
| RM2 – RM5 mil                | 15               | 18.1               |
| > RM5 mil                    | 35               | 42.2               |
| <b>Total</b>                 | <b>83</b>        | <b>100.0</b>       |
| <b>IT Outsourcing Budget</b> |                  |                    |
| < RM 100K                    | 9                | 10.8               |
| RM100K - RM500K              | 24               | 28.9               |
| RM500K - RM1 mil             | 16               | 19.3               |
| RM1 – RM2 mil                | 10               | 12.0               |
| RM2 – RM5 mil                | 15               | 18.1               |
| > RM5 mil                    | 9                | 10.8               |
| <b>Total</b>                 | <b>83</b>        | <b>100.0</b>       |

The percentage of companies that have ventured into IT outsourcing for more than one year is nearly 93% as illustrated in Table 4 below. This shows that IT outsourcing practices have been quite prevalent among companies in Malaysia. Out of this, 12 companies have been doing IT outsourcing for the last ten years which indicates that some companies are gaining advantages through outsourcing arrangements. Nevertheless, the longer period also indicates that some of these companies are bounded by outsourcing agreements with external vendors that limit them from acquiring IT resources from other vendors.

**Table 4: Number of Years Companies Outsource IT**

|            | <b>Frequency</b> | <b>Percent (%)</b> |
|------------|------------------|--------------------|
| < 1 yr     | 6                | 7.2                |
| 1 - 3 yrs  | 21               | 25.3               |
| 3 - 5 yrs  | 17               | 20.5               |
| 5 - 7 yrs  | 13               | 15.7               |
| 7 - 10 yrs | 14               | 16.9               |
| > 10 yrs   | 12               | 14.5               |
| Total      | 83               | 100.0              |

**IT Services Outsourced**

This section describes the trends of IT outsourcing types among Malaysian companies and the origin of the providers. In Table 5, the data gathered from the survey is recoded to define if the company is doing total outsourcing, selective outsourcing or total insourcing.

**Table 5: Level of Outsourcing**

| <b>Type</b>           | <b>Frequency</b> | <b>Percentage (%)</b> |
|-----------------------|------------------|-----------------------|
| Total Outsourcing     | 2                | 2.4                   |
| Selective Outsourcing | 76               | 91.6                  |
| Total Insourcing      | 5                | 6                     |
| Total                 | 83               | 100.0                 |

From this redefinition, 76 respondents representing 91.6% of the respondents carry out selective outsourcing. In addition, 5 respondents representing 6% of them carry out total insourcing and the remaining 2 respondents representing 2.4% of the respondents carry out full outsourcing. This finding is consistent with the findings by Lacity and Willcocks (2000) where 73% did selective outsourcing, 6% did total outsourcing and 22% did total insourcing in US and UK.

As far as the IT services, Table 6 summarizes the types of IT services which are outsourced by the companies. The original data collected in the study is regrouped into 3 levels of outsourcing types; none, partial outsource and full outsource.

The study further found that outsourcing for systems development and application development are the most common IT outsourcing practices among these Malaysian companies. Partial outsourcing for systems development is being carried out in 50.6% of the companies while full outsourcing is being carried out in 21.7% of them which makes up a total of 72.3%. On the other hand, partial outsourcing is 43.4% and full outsourcing is 18.1%, which gives a total of 61.5% of the companies outsource application support and maintenance this type of IT. This high percentage of

outsourcing for both of the services could be due to new IT projects implementations or maintenance for high profile IT applications such as the ERP systems. This is followed by end-user PC with a majority of respondents (60.2%) having outsourced their end-user PC operations like break-fix and end-user programming. The helpdesk outsourcing is next with 60.2% of the respondents admitted having outsourced their services.

For client server, majority of the respondents (57.9%) have outsourced it compared to 42.2% who do not. Midrange computing and mainframe have a majority (57.8%) who do not outsource it. Network covers both local area network (LAN) and wide area network (WAN). The study shows that there are 41% of the respondents who do not outsource their network services to vendors. This could mean that either their organizations setup is on single site like a factory or network infrastructure is not an important element in their daily operations. Project management outsourcing is only at 41.9%. Meanwhile, system architecture outsourcing is at 31.4% and IT procurement outsourcing is only at 21.7%. Disaster recovery is outsourced by 44.6% of respondents but a majority of the respondent (55.4%) does not protect their IT investment by outsourcing their disaster recovery. This could be due to lack of awareness on the need to protect their IT investment or simply no requirement since the IT setup is too small.

**Table 6: Outsourcing Type of IT Services**

| Services                | None | %    | Partial | %    | Full | %    | Total | %     |
|-------------------------|------|------|---------|------|------|------|-------|-------|
| Disaster Recovery       | 46   | 55.4 | 25      | 30.1 | 12   | 14.5 | 83    | 100.0 |
| Client Server           | 35   | 42.2 | 33      | 39.8 | 15   | 18.1 | 83    | 100.0 |
| Midrange & mainframe    | 48   | 57.8 | 21      | 25.3 | 14   | 16.9 | 83    | 100.0 |
| Network                 | 34   | 41   | 33      | 39.8 | 16   | 19.3 | 83    | 100.0 |
| End User PC             | 33   | 39.8 | 24      | 28.9 | 26   | 31.3 | 83    | 100.0 |
| Helpdesk                | 33   | 39.8 | 30      | 36.1 | 20   | 24.1 | 83    | 100.0 |
| Project Management      | 49   | 59   | 24      | 28.9 | 10   | 12   | 83    | 100.0 |
| System Development      | 23   | 27.7 | 42      | 50.6 | 18   | 21.7 | 83    | 100.0 |
| Application Maintenance | 32   | 38.6 | 36      | 43.4 | 15   | 18.1 | 83    | 100.0 |
| System Architecture     | 57   | 68.7 | 12      | 14.5 | 14   | 16.9 | 83    | 100.0 |
| Procurement             | 65   | 78.3 | 11      | 13.3 | 7    | 8.4  | 83    | 100.0 |

The study further found that IT outsourcing services is being provided by both the local and foreign vendors. Table 7 shows the distribution of outsourcing contracts among local vendors and foreign ones. In some cases where IT services can be further refined into smaller components, it can be awarded to both local and foreign vendors.

**Table 7: Analysis of Origin of Outsourcing Vendor for IT Services**

| Services                | Local | %    | Foreign | %    | Mix | %    | Total responses | %     |
|-------------------------|-------|------|---------|------|-----|------|-----------------|-------|
| Disaster Recovery       | 24    | 64.8 | 13      | 35.2 | 0   | 0    | 37              | 100.0 |
| Client Server           | 32    | 66.7 | 16      | 33.3 | 0   | 0    | 48              | 100.0 |
| Midrange & mainframe    | 19    | 54.3 | 16      | 45.7 | 0   | 0    | 35              | 100.0 |
| Network                 | 31    | 63.3 | 11      | 22.4 | 7   | 14.3 | 49              | 100.0 |
| End User PC             | 43    | 83   | 3       | 6    | 4   | 8    | 50              | 100.0 |
| Helpdesk                | 41    | 82   | 4       | 8    | 5   | 10   | 50              | 100.0 |
| Project Management      | 28    | 82.3 | 3       | 8.8  | 3   | 8.8  | 34              | 100.0 |
| System Development      | 38    | 63.3 | 10      | 16.6 | 12  | 20   | 60              | 100.0 |
| Application Maintenance | 32    | 62.7 | 10      | 16.4 | 9   | 14.8 | 51              | 100.0 |
| System Architecture     | 19    | 73.1 | 7       | 26.9 | 0   | 0    | 26              | 100.0 |
| Procurement             | 18    | 100  | 0       | 0    | 0   | 0    | 18              | 100.0 |

\* Based on actual results

Local vendors stand out when it comes to end-user PC support with 83% and helpdesk services with 82% respectively. This could be due to the fact that local vendors far outnumber the foreign ones; they are more flexible and cheaper. Local vendors won 82.3% of project management could be due to government-linked companies, which have to award contracts to local vendors. Local companies also are awarded contracts for disaster recovery outsourcing in 64.8% of the companies as compared to their foreign competitors. This could be due to the availability of local vendors like Solsis, Basis Bay and CRF providing such services. For client server, 66.7% of the respondents outsourced this service to local vendor. Local vendors also won 54.3% of midrange and mainframe contracts. Since Malaysia does not have the technology to produce their own midrange or mainframe, local partners of foreign computer companies like Mesiniaga and Sunway could win these contracts. Local vendors also come up top in term of system architecture with 73.1% and procurement of IT equipment with 100%.

Foreign vendors achieved some high percentages of winning outsourcing contracts in the area of midrange and mainframe due to the strong presence of HP and IBM. They do have strong presence in the area of networking with 23.9% and 15.2% for customers with mixed vendors.

Interestingly, local vendors won majority of the systems development (63.3%) and applications support and maintenance (73.1%) outsourcing contracts. Besides that 20% of systems development outsourcing contracts and 14.8% of application support and maintenance outsourcing contracts were awarded to a mix of local and foreign vendors.

### **Reasons for IT Outsourcing**

Factor analysis was used to separate various dimensions from the reasons to outsource IT services. It also determines the extent of each reason for each dimension. The factors were generated using the Factor Analysis function in SPSS as shown in Table 8. The factors were extracted using the Principle Component Analysis. Rotation was done using the orthogonal approach and rotation method. This resulted in 4 factor loadings. Factor loading of 0.5 was used to select each of the items in each factor in the table.

In the Table 8, reasons loaded into factor 1 are skilled IT resources; accelerate development and time-to-market cycles, staying technically up-to-date with technology changes, overcoming difficulties in recruiting knowledgeable staff and developing strategic relationship with world-class technology vendors.

Upon reviewing each of the dimensions, a unique name can be assigned to this factor to reflect the meaning it represented. Factor 1 is related to **skilled IT resources** where skilled IT resources reason has the highest loading of 0.763.

Factor 2 is loaded with reasons to improve overall organization efficiency, improve IT performance and reliability, flexible IS cost to allow management to adjust cost of IS services, predictability of cost through fixed cost contract and reducing IT overhead. Factor 2 can be represented by a unique name called **cost and performance** with predictability of cost through fixed cost contract having the highest factor loading of 0.779.

**Table 8: Rotated Component Matrix**

| Item  | Component    |              |              |              |
|---|--------------|--------------|--------------|--------------|
|   | 1            | 2            | 3            | 4            |
| Obtain necessary skilled IT resources qualified to keep pace with business growth | <b>0.763</b> | 0.425        | 0.201        | 0.245        |
| Accelerate development and time-to-market cycles                                  | <b>0.751</b> | 0.309        | 0.266        | 0.325        |
| Stay technically up-to-date with technology changes                               | <b>0.733</b> | 0.239        | 0.43         | 0.295        |
| Overcome difficulty in recruiting knowledgeable staff                             | <b>0.728</b> | 0.409        | 0.209        | 0.348        |
| Develop strategic relationship with world-class technology vendors                | <b>0.716</b> | 0.232        | 0.503        | 1.80E-02     |
| Access to infrequently used services like system upgrades, etc                    | 0.59         | 0.459        | 0.44         | 0.228        |
| Customers can determine their IT priorities                                       | 0.411        | 0.145        | 0.7          | 0.31         |
| Improve overall organization efficiency   | 0.512        | <b>0.717</b> | 0.126        | 0.16         |
| Optimize use of in-house IT resources   | 0.498        | 0.576        | -0.106       | 0.431        |
| Reduce management burden while retaining decision-making control                  | 0.397        | 0.498        | 0.424        | 0.215        |
| Reduce Capital Expenses   | 0.363        | 0.499        | 0.51         | 0.185        |
| Improve IT Performance and Reliability  | 0.36         | <b>0.747</b> | 0.102        | 0.317        |
| Flexible IS cost to allow management to adjust cost of IS service                 | 0.321        | <b>0.771</b> | 0.332        | 0.209        |
| Predictability of cost through fixed cost contract                                | 0.262        | <b>0.779</b> | 0.363        | 0.184        |
| Reduce IT Overhead  | 0.166        | <b>0.608</b> | 0.449        | 0.295        |
| Reduce IT Risk  | 0.345        | 0.37         | <b>0.612</b> | 0.313        |
| Improve response time   | 0.211        | 0.163        | <b>0.711</b> | 0.527        |
| Company strategy to outsource non-core activities                                 | 0.191        | 0.482        | 0.573        | 0.23         |
| Eliminate IT Staff management and training  | 0.166        | 0.203        | <b>0.795</b> | 0.179        |
| Improve accounting treatment  | 0.116        | 0.113        | <b>0.909</b> | 6.76E-02     |
| Access to different skills and technology   | 0.593        | 0.35         | 6.72E-02     | <b>0.606</b> |
| Obtain technology edge over competitor  | 0.537        | 0.18         | 0.311        | <b>0.638</b> |
| Business contingency and continuity capabilities                                  | 0.524        | 0.358        | 0.226        | 0.597        |
| Reduce Risk of unscheduled downtime   | 0.429        | 0.496        | 8.47E-02     | <b>0.618</b> |
| Tailor IT solution to business  | 0.266        | 0.156        | 0.461        | <b>0.764</b> |
| Complement internal IT performance  | 0.164        | 0.183        | 0.579        | <b>0.667</b> |
| Improve Cash Flow   | 0.164        | 0.505        | 0.253        | <b>0.652</b> |
| Improve customer satisfaction   | 0.154        | 0.544        | 0.392        | <b>0.627</b> |

*Extraction Method: Principal Component Analysis.*

*Rotation Method: Varimax with Kaiser Normalization*

Meanwhile, factor 3 is loaded with reasons for reducing IT risk, improving response time, eliminating IT staff management and training and improving on accounting treatment. Factor 3 can be represented by a unique name called **IT management** where the highest factor loading is for “improve accounting treatment” with 0.909.

Factor 4 is loaded with reasons for accessing different skills and technologies, obtaining competitive edge over competitors, reducing risk of unscheduled downtime, tailoring IT solution to business users, complementing performance of internal IT, improving cash flow and improving customer satisfaction. Factor 4 can be represented by a unique name called **enabling business with IT technologies**. The item with the highest factor loading is “tailor IT solution to business” with 0.764.

## CONCLUSION

The data collected from the study illustrates several interesting findings that can be used for practical and research purposes especially in terms of the future ITO practices or trends among Malaysian companies. The study found that ITO is not new in Malaysia although the new orientation of the whole outsourcing has changed to focus more on the IT or IS functions. Thus, we can conclude that there are companies that have benefited from outsourcing their non-core but essential activities such the IT functions for quite some time and they seem to continue doing so in the near future. We can say that more and more companies in Malaysia are adopting ITO. This is supported by the fact that these companies tend to either transfer in parts or the full operations to external vendors to manage or operate their IT services.

The trends identified in the study would motivate local IT outsourcers to develop their business and become major player in the ITO market. A recent study on 100 organizations in the Asia Pacific region which showed that 95% of them have engaged in business process outsourcing (BPO) and ITO (The Star, 2005) would be driving force for local IT outsourcers to expand their off-shore outsourcing business outside of Malaysia. As the ITO trends becoming more acceptable to Malaysian companies, it is likely that many more giant corporations and organizations are going to outsource their IT functions. This would help them reduce operational cost and concentrate on core business activities to achieve their strategic goals. However, other implications from the study include the impact of ITO activities to existing IT employees who may be affected as a result of a company’s decision to transfer their IT assets including staff to other parties. Existing IT staff may be required to leave an organization or join the IT outsourcer for a lesser salary package resulting in resentment towards cooperating with their previous employers.

Malaysian companies that are planning to outsource their IT functions are suggested to consider the reasons for outsourcing from this study as guidelines and strategic IT directions. The main reason for Malaysian companies studied here to go for ITO is related to the skilled IT resources and ability to stay technically updated with latest technologies. IT outsourcers are seen to have access to highly skilled people and expertise. As such, they would be able to transfer some of their knowledge and resources to the client. From the client’s point of view, they would also benefit from the transfer

of technology whereby some financial implication such as training cost could be reduced.

The above factor is related to the next reason on why companies outsource their IT. It has been known that cost and performance is a major reason for outsourcing (Computerworld, 2003; Lacity and Hirschheim, 1995; Mcfarlan and Nolan, 1995). Companies find it harder to maintain their existing highly paid employees and senior executives in comparison to incurring fixed rate as stated in outsourcing contracts for a pre-determined time frame. This would enable companies to sort out their business plan. Nevertheless, the business planning would certainly have an impact to the culture of managing IT in organizations. With ITO, organizations would be better able to account for its spending and make fair justification to the overall financial performance. Finally, organizations that outsource would be able to have access to tailor-made IT solutions specifically for their business operations. With IT, these organizations can obtain competitive advantages and improve business performance and compete intensely with their competitors.

As far as research implication is concerned, this study provides an insight to the ITO activities that have been going on in Malaysia. With the findings, it is hoped that more Malaysian companies will embark on ITO to reap the benefits from it and enjoy the potential of accumulated expertise of the outsourcers. Future researches can further be carried out on the relationships between the demographic profile of companies that outsource with the types of IT services, the relationships between the origins of vendors and IT services and also look at the vendor-client relationships in successful ITO arrangements in the Malaysian context.

It must be noted here that this study has several limitations. Among them are, the survey respondents, who are local companies listed in the KLSE and foreign-owned companies located in the Klang Valley. This sample does not represent the whole spectrum of companies in Malaysia. Other companies may have different attitude towards ITO in view of different cost and IT budget structure in places outside the Klang Valley.

This survey sample is only targeted at 300 respondents. Again this sample's size is too small to represent the trends in outsourcing among companies in Malaysia. Nevertheless, it provides a preliminary overview of the outsourcing trends among companies in Malaysia.

The study did not adopt extensive statistical analysis which may produce results otherwise not discussed in this paper. However, as this is just an insight, the authors feel that the data analysis techniques used are sufficient to derive at the conclusions discussed in the earlier section.

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