IT outsourcing industry practices, models, trends and challenges from a case of a Malaysian offshore global service provider

Abdul Rahman Ahlan, Yusri Arshad, Mohd Adam Suhaimi, Husnayati Hussin

Abstract— The impact of Kodak IT outsourcing contract spread across the global. The practices have also been adopted in Malaysia since 1990s but were not widely publicized until massive public sector computerization projects and automation of financial systems after Asian financial crisis in 1997. Thus, many service providers, including world-class firms, providing ITO business models can be found operating in Malaysia. They provide both IT asset and services outsourcing. ITO models evolve from traditional to innovation phase in 2010 onwards. One of the innovative models in Malaysia is the global offshore service delivery model which is based on four pillars, namely: Experienced Leadership; Global Best Practice; Human Capital; Domain Knowledge. To be able to compete globally, Malaysia has equipped its companies with higher capabilities and competencies via international certifications and continuous skills developments. Several advantages proposed by Malaysia include: economic stability, political stability, multi-lingual, world-class infrastructure, affordable lifestyle, value propositions and many others. In this paper, we present the detailed views of a senior executive management on two open-ended in-depth interviews, literature and document reviews, secondary sources and one CEO roundtable discussion held in International Islamic University Malaysia. This paper contributes to the practice as well as the IT outsourcing literature.

Keywords— Malaysia, IT outsourcing, case study, service delivery, service provider, shared services and outsourcing.

I. INTRODUCTION

IT innovation has continuously improved the businesses as well as daily chores. IT outsourcing (ITO) is considered as

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one of the innovative practice and model to overcome the increasing IT investment costs and to focus on core business areas to enhance competitive edge. The ITO has advanced practically which can be seen from the innovative business models developed in each service provider firms. In order to convince their world-class high capabilities and competencies to the clients, they acquired international standards such as Capability Maturity Model and Integration (CMM or CMMI), International Organisation for Standardisation (ISO), United Kingdom Accreditation Service (UKAS), local supervision bodies such as MSC-status (Multimedia Super Corridor managed by Multimedia Development Corporation) and Standard and Industrial Research Institute of Malaysia (SIRIM) in Malaysia and others [4].

In Malaysia, Outsourcing Malaysia and MDec work closely and in concert to raise the standards of shared services and outsourcing (SSO) providers generally and ITO providers particularly with the international capability and competency models and certifications. Malaysian institutes of higher learnings (IHLs), providing ICT courses, also incorporate the industry requirements and expectations of the graduates in their curriculum or courses in order to continuously supply capable and competent knowledge workers [1][2].

II. LITERATURE REVIEW

A. Global ITO practices and models

Currie [7] identified six typology of outsourcing models in US companies. These include (1) consultancies/service providers; (2) hardware vendors; (3) system houses; (4) generic outsourcers; (5) niche player consultancies; and (6) niche player IT suppliers. In parallel to the trends of ITO markets and in looking out for lucrative outsourcing contracts, service providers are attempting to enhance their products and services portfolio to include newer models like demand utilities, application service providers (ASP), business process outsourcing (BPO), customer relationship management (CRM), and knowledge management (KM) among others.

Currie argues that companies should seek to understand the strategic positioning of IT suppliers. She finds that the large IT

service providers have made inroads into new vertical markets from health care to e-commerce. They have also expanded their service offerings to include business process outsourcing (BPO), customer relationship management (CRM) and e-business. Currie explores some of these changes and presents a conceptual framework which captures some of the dynamic changes in the software and computing services industry. These involve mergers, acquisitions, joint ventures and partnering.

B.   IT outsourcing in Malaysia

Ever since the Kodak Effect, outsourcing has an impact in Malaysian public sector mass-modernization and automation projects. The move was initiated by the then fourth Prime Minister to upgrade the Prime Ministerial Office (PMO) and all the ministries especially MAMPU, a government IT agency, in order to improve the service delivery of public services [9]. Following the 1997 Asia economic crisis, Bank Negara Malaysia urged all financial institutions to merge and improve their businesses via adoption of information and communication technology, reduce costs and improve services and governance. Private sectors which were quick to world business issues especially on cost factor and technology advantage also began to adopt ITO.

Nowadays, most public sector agencies widely use the services of ITO service providers to upgrade their systems, IT infrastructure and many other services. Private sector, especially for medium-to-large organizations such as financial institutions and manufacturing, is reported to continuously use ITO as an innovative approach to reduce costs as well as maximise users' and customers' satisfactions. The outsourcing Malaysia (OM) is a private organization to assist in various aspects of SSO in Malaysia. Its members provide all kinds of SSO services ranging from asset to services outsourcing.

III.   THEORETICAL FOUNDATIONS

A.   Resource-based views

The resource-based view (RBV) argues that firms possess resources, a subset of which enables them to achieve competitive advantage, and a subset of those that lead to superior long-term performance. Resources that are valuable and rare can lead to the creation of competitive advantage. That advantage can be sustained over longer time periods to the extent that the firm is able to prevent against resource imitation, transfer, or substitution[1] (Figure 1).

B. Strategy and Diffusion of Innovation theories
i) Theory of competitive strategy

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[1]   See   http://www.fsc.yorku.ca/york/istheory/wiki/index.php/   Resource-based_view_of_the_firm for further details.

Michael Porter's 1979 (Porter) framework uses concepts developed in micro-economics to derive five forces that determine the attractiveness of a market. They consist of those forces close to a company that affect its ability to serve its customers and make a profit. A change in any of the forces requires a company to re-assess its marketplace. According to Porter, the five forces model should be used at the industry level; it is not designed to be used at the industry group or industry sector level.

Figure 1
The Resource-based View Over Time
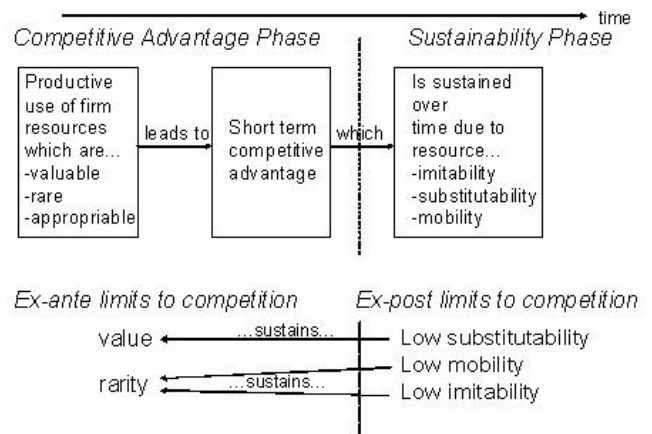
Source: Wade and Hulland (2004) [11]

It uses concepts developed in Industrial Organization (IO) economics to derive five forces which determine the competitive intensity and therefore attractiveness of a market. Attractiveness in this context refers to the overall industry profitability and vice versa. The four forces, namely the bargaining power of customers, the bargaining power of suppliers, the threat of new entrants, and the threat of substitute products, combine with other variables to influence a fifth force, the level of competition in an industry.


Source: http://www.brs-inc.com/porter.asp
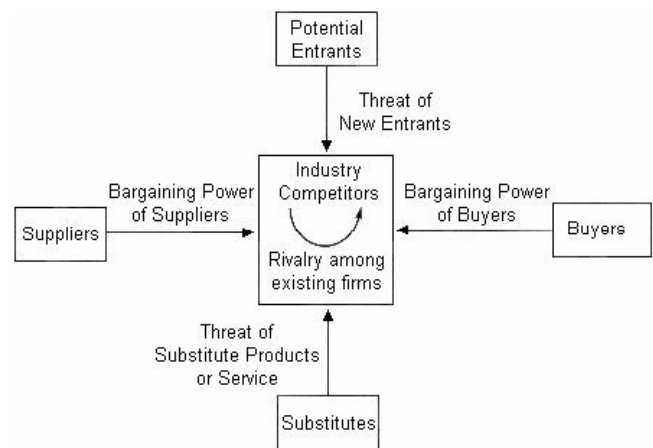
Figure 2: Porter's five forces of strategic system

ii) Diffusion of innovation theory (DOI)

Moore and Benbasat (1991), working in an IS context, expanded upon the five factors impacting the adoption of innovations presented by Rogers, generating eight factors (voluntariness, relative advantage, compatibility, image, ease of use, result demonstrability, visibility, and trialability) that impact the adoption of IT. Scales used to operationalize these factors were also validated in the study.
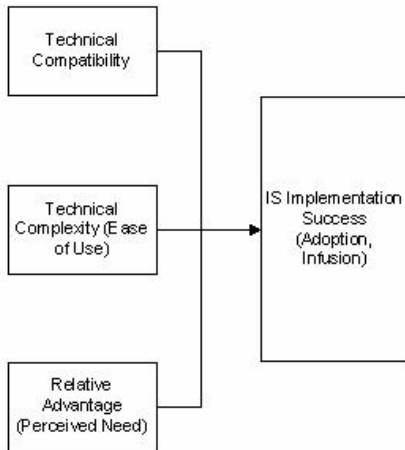
Sources: Agarwal and Prasad (1998), Cooper and Zmud (1990), Crum et. al. (1996)

Figure 3: IS diffusion variance model

Since the early applications of DOI to IS research the theory has been applied and adapted in numerous ways. Research has, however, consistently found that technical compatibility, technical complexity, and relative advantage (perceived need) are important antecedents to the adoption of innovations [5][6] leading to the generalized model in figure 3 above.

IV. METHODOLOGY

The actual research involves in-depth interviews on seven informants who are senior executive management in service provider firms in the Klang Valley, Malaysia. In addition a survey on 330 respondents was also carried out as part of the actual data collection method done by the research team. A critical literature and document reviews enrich the writing of the paper.

This paper will focus on responses from one case study of Malaysian-based offshore service provider firm in Klang Valley. The participant represented the global service offshore delivery firm in Malaysia ITO industry. The research team also decided to choose participant who has obtained Carnegie Mellon capability maturity model and integration (CMMI) level 5 certification, ISO, UKAS, Sirim and MSC-Status companies. In addition, the respondent is a Certified Outsourcing Professional with more than ten years in outsourcing field. Such informant definitely has a lot of experience and much more information to share for this in-depth insight. Initially, the researcher conducted in-depth interviews with seven participants and decided to pick three of

them to participate in the case studies to represent infrastructure, software development and service delivery outsourcing field.

However, due to the case study best to be presented in narrative order, the article will be way too long. Therefore, for this paper only one case study will be presented focusing on global offshore service delivery model of ITO. The researcher will not reveal the real name of the participant, as it is part of the ethics of doing research where the background of participant should be kept confidential. Therefore, SP1 (pseudonym for service provider 1) will represent global offshore ITO service delivery model for this case study.

The case study was conducted over a few meetings and exchange of calls and emails for a few months with the subjects. The interviews, which were open-ended type, were audio-recorded and transcribed and then the transcripts were reviewed by a second researcher for further analysis before the data was used. The purpose of the case study is to gain as much information as possible about the participants' experiences in ITO practices, models, trends and challenges in Malaysia settings [8][10].

The case study was used as part of the data collection method for the actual research project. Other methods that have been used by the researcher were survey on 330 respondents and in-depth interviews on seven informants. However, this article will only focus on the results related to the perceptions and experiences of SP1 respondent. The results were obtained through one case study which emphasizes on global offshore ITO service delivery model, ITO practices, models, trends and challenges in Malaysia. The researcher decided to report the case study as a narrative. Many quotations are presented in reporting the case study in order to give a better understanding of the story.

V. RESULTS AND DISCUSSIONS

4.1 Background of participant and firm

The participant firm has been in the industry for about seventeen years. The headquarters is based in Malaysia but basically it serves the customers in the United States and Canada. The respondent is a certified outsourcing professional (COP) with more than fifteen years experience in the field of global ITO.

The firm helps customers manage their mission critical applications so that they can focus on their core business, improve their efficiencies on non-core activities, reduce costs and speed up time-to-market. By leveraging on its significant presence in the U.S., the firm has built an impressive customer base ranging from the Fortune 1000 companies and the public sector entities in the North America market.

The firm is an MSC-status and ISO 9001-2000 certified company, providing comprehensive suite of services, spanning

from enterprise applications to infrastructure management services. It also holds CMMI Level 5.

What differentiate the firm from its counterparts are their capabilities through rational deployment of solutions that are backed by their proven global delivery model. Their emphatic endeavor to develop and enhance customer-centric processes ensures complete customer satisfaction.

The firm engages with corporations looking to leverage offshore outsourcing, by deploying a proven global delivery model that provides a framework for reducing IT cost and time to market. The primary focus of the model is in creating value relationships and effective engagement management such that corporations realize benefits beyond cost arbitrage.

4.2 IT outsourcing practices and models

The outsourcing model that the firm operates is known as offshore delivery centre whereby the firm deploys standard global delivery model that most large companies deployed. Customers are in one country but delivery is from offshore, using telecommunication network offshore services. It is a very comprehensive delivery model.

As explained by the informant, *"It is based on four different components and essentially, the delivery model is based on four pillars, namely leadership, best practice, experience and human capital development."*
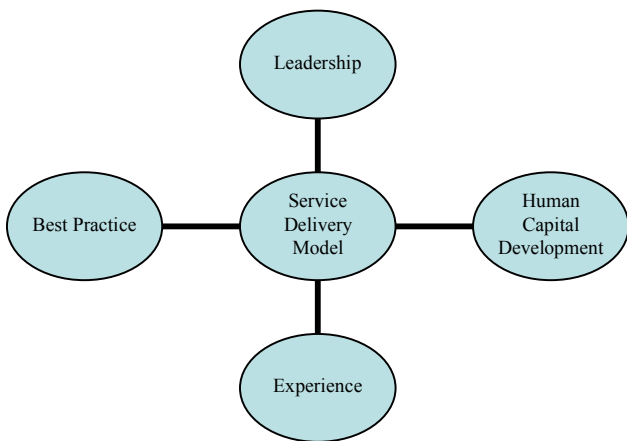

Figure 4: Global offshore service delivery model overview

The firm global delivery model is designed to fulfill the high requirements and ensure the firm to stay focused on maintaining its service receivers' projects on time and budget, meeting all their service level commitments, improving business and service delivery level as well as to motivate the offshore or/and onshore team. The detailed elaboration on each pillar and framework is presented based on the detailed figure 5 below.
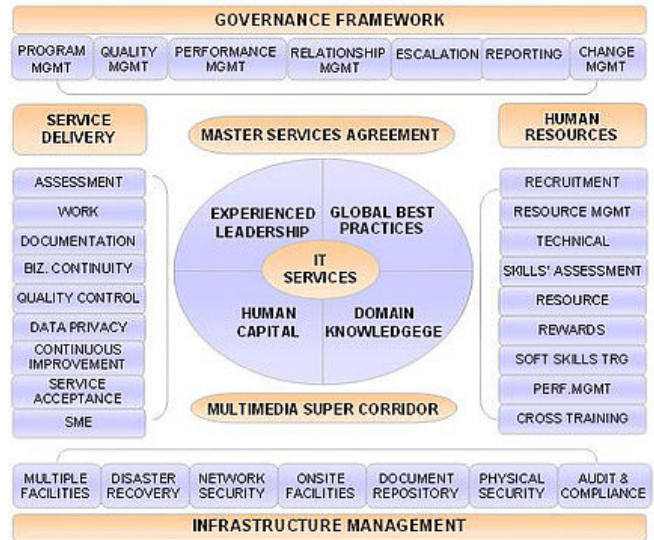

Figure 5: The firm comprehensive global delivery model

In figure 5 above, at the core of global IT service delivery framework, the model is based on four important criteria of IT services delivery, namely:

o Experienced Leadership
o Global Best Practice
o Human Capital
o Domain Knowledge

1. Experienced Leadership

Consultants are essentially people who have worked in multiple jobs industry such as they have been in the buyer-side, supplier-side and some of them have been in the consultant-side. These type of multilevel experience in IT will actually bring comprehensive type of leadership at all levels of perspectives (whether customers, suppliers, technologies or users).

2. Best Practice

To ensure global standards of delivery, benchmarking to the international standards are necessary. The firm establishes its delivery model and discipline which is complemented by certification such as capability maturity model and integration and ISO. With these certifications, the firm could be compared equally with some of the large companies like IBM, Infosys, Accenture and others which have proper capabilities and competencies.

3. Experience

Industry domain knowledge is a key to service delivery. This means that for instance, a service company, either IT company or other services, as long as the firm understands that the customer industry is important, and always keep abreast to the issues and development of the industry then the firm is intact. In ITO, a firm is not offering a technology service but a customer service. Therefore, the firm must understand the country it is serving and its industry such as Oil and Gas for

example. The firm needs to understand not only about outsourcing but also what goes on in that industry.

4. Human Capital development

The last component of the "pillars" is to have the right people and to grow them continuously. To develop an expert takes time. In fast-moving IT field and ITO industry, the environment changes rapidly and hence human capital also need to continuously upgrade themselves along with the changes.

The Firm Global Delivery Frameworks

As mentioned earlier, the model is based on four critical components that make up the delivery framework. Each component will be briefly elaborated accordingly.

1. Governance Framework

This is the essence of relationship management. Governance is one of those areas of global onshore/offshore and outsourcing that can make or break a project. It focuses on proactive and collaborative management of relationship, the evolution of services provided, ongoing communication processes, performance review standards and overall project management. Generally, the model's core governance tools involve:

- o Program Management
- o Quality Management
- o Performance Management
- o Relationship Management
- o Escalation Management
- o Reporting Management
- o Change Management

2. Service Delivery

For high quality service delivery to cater for each unique project, right process and practices have to be followed. It needs to be well developed to have a clear understanding of client's requirements, expectations and changes. Service receivers' participations and commitments in the programs planning, development and operation are essentials to ongoing communications and review for business continuity, improvement, and service delivery level to identify and accomplish common goals. These include using:

- o Assessment
- o Work Requests
- o Documentation
- o Business Continuity
- o Quality Control
- o Data Privacy
- o Continuous Improvement
- o Service Acceptance
- o Subject Matter Expert (SME)

3. Infrastructure Management

To deliver proven global model, it is important to have acceptable infrastructure management. Infrastructure management is essential to constantly improve business continuous process and lifecycle that helps to increase productivity, significant cost reduction and higher service level. The infrastructure management framework includes these components:

- o Multiple Facilities
- o Disaster Recovery
- o Network Security
- o Onsite Facilities
- o Document Repository
- o Physical Security
- o Audit & Compliance

4. Human Resources

Human capital competencies are important to complement technology capabilities. Human capital strategy must be designed carefully to ensure the human capital is strategically used in achieving a shared vision, integrated with the service receivers' strategic and program planning efforts, human capital needs including the size of the workforce, its deployment, the competencies needed. Then, in delivering service, the firm leverages on the human capital competencies to share the best practices and knowledge in supports and to fulfill mission accomplishment. The human resource framework includes:

- o Recruitment
- o Resource Management
- o Technical Training
- o Skills Assessment
- o Resource Loading
- o Rewards
- o Soft Skills Training
- o Performance Management
- o Cross Training

4.3 Global IT outsourcing arrangement trends

Currie (2000) distinguishes four types of ITO decisions:

(1) Insourcing (in-house sourcing). Retaining IS responsibilities as in-house functions, it is a relationship with the internal IS department.

(2) Multiple selective sourcing. A more comprehensive type, it describes a relationship with one or more IS services suppliers for only parts of the IS services.

(3) Total outsourcing. The most comprehensive type, it describes a relationship for all IS services, with one or more IS services supplies.

(4) Strategic alliance/joint venture. Today's outsourcing agreements are in the spirit of long-term (5-10 years) partnerships and alliance.

Dibbern et al. (2004), after reviewing various options for IS outsourcing arrangements based on past literature, identify

four parameters that determine the kind of outsourcing arrangement that a firm may enter into:

(1) degree (total, selective, and none);

(2) mode (single vendor/client or multiple vendors/clients;

(3) ownership (totally owned by the company, partially owned, externally owned); and

(4) time frame (short-term or long-term).

The number of service receivers and providers involved results in four types of vendor-client sourcing arrangements:

(1) simple dyadic;
(2) multi-vendor;
(3) multi-client; and
(4) complex relationship.

Simple dyadic relationship is the simplest where a single vendor is involved with the client. Multi vendor arrangement is where the firm forms relationships with multiple vendors in order to mitigate the risks. On the other hand, several client companies in the same or related industry might form an alliance when obtaining services from a single vendor and this is termed as multi-client outsourcing mode. Additionally, several client companies may form an outsourcing relationship with more than one vendor, and hence the arrangement is called complex relationship.

When asked about the Malaysia ITO arrangement practices, the informant elaborated "That's taking two layers of consulting, one is what is known as 'Globalization Advisory Services' where it talks about companies have been traditional for years … That was the first step the localization trend external focus will come when you start looking at which area I'm not good at and it is important for my company". The researchers note that the firm provides global service delivery model which differs from traditional ITO. What the informant says relates to the innovation phase[2] whereby a strategic alliance/joint venture between both parties becomes predominant contractual agreements.

The informant went on to say: "The other perspective that is coming nowadays is entry of the new markets; everybody is talking about entry of the two big markets in the world that's India and china, due to their population… What people are saying is that instead of going there directly through foreign direct investment (FDI), I will rather go and establish a joint venture with local company or outsourcing model". Thus, the sophisticated clients will prefer new ITO models compared to traditional full or selective outsourcing. In addition, a "modular corporation" (also referred to boundaryless, network

organization or virtual organization[3]) model whereby it is not defined by, or limited to, the boundaries imposed by a predefined structure. The boundaryless organization breaks down the artificial boundaries created by a design such as departmentalization and hierarchies, and the external boundaries separating the organization from its suppliers, customers, and other stakeholders.

4.4. IT outsourcing challenges to Malaysian companies
4.4.1 Competition with India and China?
a) Cost and population vs. value propositions
The entry of the new two big markets in the world that is India and china, due to their population size has automatically, in one shot, created 2.5 billion ready consumers. There are also local companies whereby local interest is so huge that large companies need to compete with them and might take three to five years before foreign brand get accepted. This is due to barriers to entry, local culture and protection and economic conditions. Because of that, India and China are among the top offshore ITO providers but in a recent survey it shows that their salary and other costs are rising which Malaysian companies can compete and take advantage.

Malaysia can provide low to high cost services with high capabilities and competencies [4]. Malaysia emphasizes on "value propositions" rather than total low-cost services depending on clients' needs. As explained by the informant, "Malaysia is one of the cheap nations; this is one of the best most appropriate country with the best quality of life in this part of the world and only country with the huge service potentials".

b) Competencies and capabilities
Many literature, either academically or not, recognizes India as the world number one offshore providers with competencies and capabilities originated from the U.S., as the informant puts it "India has smart middle managers from the box, only the first five to eight years of India outsourcing industry, not a single non-American or British were there on top … Indian learnt it from American and British and now they are good at it".

In Malaysia, there are sixty seven (67) International World Class MSC Malaysia Status Companies as of May 24th, 2005[4]. Recently, MDec has launched Capability and Capacity Development Program (CDP) for MSC-status companies which plan for expansion and growth. MSC Malaysia provides various development programmes and facilities to encourage growth and to maximize the companies' potentials by adopting

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[2] See Ahlan et al. (2009).

[3] See Russell T. Wescott (2001), The certified manager of quality/organizational excellence handbook, third edition. American Society for Quality, 2005. Page 9-12.

[4] http://www.mscmalaysia.my/topic/Company+Directory. Accessed on 18th March, 2009.

global good practices and process improvements[5]. Among the programs are:

- CDP Capability Maturity Model Integration (CDP CMMI)
- CDP Project Management
- CDP Software Testing
- CDP Six Sigma
- CDP Information Security Management System (CDP ISMS)
- CDP Information Technology Service Management (CDP ITSM)
- CDP Quality Management System (CDP QMS)
- CDP Showcase
- CDP Professional Development (CDP PD)

Through the CDP programs, MDec honoured fourty seven (47) companies in total with certifications in December 2008. Fifteen companies received one of the five levels of CMMI (Capability Maturity Model Integration) certification, nineteen achieved certification in software testing, four received ISO 27001 certification, four earned ISO 9001 certification and four more were honoured for sending their personnel to earn individual professional certification through CDP programs[6]. Arshad [4] is conducting a doctoral research on resources capabilities and relationship in Malaysia context using mixed-method approach.

c) Multi-languages, political and economic stability

The informant added "use Malaysia as a base because: i) it has a very multi racial environment; ii) Economic stability; and iii) Political stability". The entry point for Malaysia is much easier plus it has been part of the global organizations such as the UN, OIC, Asean+3, NAM, Unesco and many more.

Ahlan et al. [1][2] conducted researches on IT education and skill-sets impact from outsourcing in Malaysia. The study shows that Malaysian institutes of higher learnings (IHLs) churn enough relevant k-workers who are competent to support ITO or SSO services in Malaysia. The graduates are continuously developed with skills and certifications jointly organized by employers and MDec. All tertiary graduates are English conversant and most Malaysians are able to speak at least two to three languages. In addition, Malaysia is recognized by the world which has high and stable gross domestic product (GDP) growth and good financial institutions and corporate governance supervised by Central Bank of Malaysia.

As the informant puts it, "Malaysia is one of the cheap nations. This is one of the best most appropriate country with the best quality of life in this part of the world and the only country with huge service potentials". This is the result of good political and economic management.

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[5] See
http://www.mscmalaysia.my/topic/Capability+Development+Programmes for details.
[6]   http://cdp.mscmalaysia.my/news_archive_detail.php?
mainID=005&subID=00022&id=418 Accessed 18th March, 2009.

VI. CONCLUSION

The paper discusses soundly on the global service delivery model, global ITO arrangement trends and challenges to Malaysian ITO industry. Malaysia is a near-developed country with world-class infrastructure and education. Majority of Malaysians speak at least two languages with English is a second language. Many world-class ITO and SSO companies have established their bases or subsidiaries in Malaysia due to several advantages offered by unique Malaysia positioning. MDec also has certified many its MSC-status companies with the certification programs like CMMI, ISO and others.

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