CHAPTER 4

RESEARCH METHODOLOGY

4.1 Development of conceptual framework and hypotheses

As presented earlier at the introduction, the purpose of this study is twofold where the primary focus will be specifically on offshore outsourcing. The research attempts to investigate the critical aspects of operational efficiencies and the factors which determine that these efficiencies are realized. It will be viewed from the perspective of transactional cost economic (TCE) and resource-based view (RBV) theories. This study also looks at risks involved in offshore outsourcing and the impact of ineffective risk control and management on realizing the benefits of outsourcing.

The study would also will look at Malaysia in the context of these determining factors and establish if it has the ability to emerge and/or sustain as an attractive outsourcing hub. It takes a holistic view of Malaysia's positioning as an attractive hub in comparison to other established countries such as India and China as well as emerging markets such as Philippines and Vietnam.

It attempts to answer the following questions:

(1) What are the factors determining the operational efficiencies derived from offshore outsourcing?

(2) To what extent does risk control and management influences the operational efficiencies derived from offshore outsourcing?

(3) Based on the factors that determines operational efficiencies, is Malaysia an attractive outsourcing hub with the ability to provide such advantages?

(4) Can Malaysia sustain its position in comparison to other established outsourcing hubs and emerging markets?

4.2 Operational Efficiencies

In order to answer the first question, operational efficiencies must be determined. From existing literatures and past research, there were many facets to operational efficiencies that were established. For the purpose of this study, operational efficiencies will be viewed from the perspective of three theories, which are transactional cost economic (TCE) theory, resource based view (RBV) and knowledge based view theories. Though there are various other theories available, these three theories are the most common ones detailing the efficiencies and most often that not, these theories are also used as a fundamental base to develop other related theories.

To summarize, transactional cost economic theory fundamentally explains that organizations adopt governance structures to minimise transaction costs (Williamson, 1975, 1985). Resource based view focuses on gaining competitive advantage by acquiring, exploiting and developing strategic resources such as plant, technology, equipment, access to raw materials, human resources or organizational resources (Barney, 1991). Knowledge based view theory focuses on the knowledge set as a core capability that differentiates and provides a competitive advantage (Leonard-Barton, 1992).

Knowledge set can comprise of employee knowledge or skills, technical or managerial systems, norms and values (J.R. Kroes, S. Ghosh, 2010) which an organization can capitalize to develop and sustain competitive advantage.

Therefore in this study, operational efficiencies derived from offshore outsourcing shall focus on cost related efficiencies, access to strategic resources and exploitation of such resources to gain competitive advantage as well as the deployment of knowledge set to create differentiation and competitive advantage. 10 questions were developed to gauge the operational efficiencies that are gained by organizations which cover their ***ability to stay competitive and responsive, restructuring of value chain activities, core competencies and reallocation of valuable resources, cost reduction, knowledge and time arbitrage as well as quality and risk management.***

4.3 Determining factors of operational efficiencies

It is very common find researches done on drivers of outsourcing and its benefits. Studies were also conducted on the various successes and failures of outsourcing. However it is seldom to find literatures addressing the factors that actually determine whether an organization realizes the benefits of outsourcing. From reviewing the existing literatures, we found that there is a direct link between the drivers of outsourcing and the factors determining its success. For example *cost, flexibility, innovativeness, quality, time* (Gottfredson et al. 2005; Leonard-Barton 1992; Bozarth et al. 1998; Loh and Venkatraman 1992; McFarlan and Nolan 1995 and Weber et al. 1991) were identified as

some of the key outsourcing drivers among others. In other words, businesses embark on outsourcing strategies to be able to achieve cost reduction, flexibility, innovativeness, quality and time arbitrage. While these may be the motivating reasons for the Clients to outsource their businesses, the Vendor (also known as Service Provider) must be able to deliver these expectations. Until and unless an organization is able to be more flexible, reduce costs, be innovative, increase quality and deliver time arbitrage, operational efficiencies cannot be realized. This is not only applicable for the Vendors but also for the Clients themselves. Most decisions to outsource are done post the strategic evaluation which also includes restructuring of the value chain activities. If a business believes that they will be more flexible by outsourcing some of their activities, then the flexibility must be present post outsourcing. If the business fails to be flexible despite embarking on outsourcing, therefore the efficiencies which the business had initially targeted will not be realised. Therefore both Client and Vendor must be able to fulfil the factors that determine the operational efficiencies to be realized. This research intends to prove that the drivers of outsourcing are in actual fact the determining factors that could potentially determine if the targeted operational efficiencies are indeed achieved. In other words, these determining factors could either make or break an outsourcing initiative.

While there many be many drivers of outsourcing, we have identified five main criteria which will be tested as the determining factors of operational efficiencies. The five factors to be tested are ***human capital*** (labor, knowledge, time, skill) (Lewin & Couto, 2007***), costs reduction*** (Gottfredson et al. 2005; Leonard-Barton,1992), ***quality*** (Bozarth et al. 1998; Loh and Venkatraman, 1992; McFarlan and Nolan, 1995; Frohlich and

Dixon, 2001), ***innovativeness*** (Koh and Venkatraman, 1991; Bozarth et al. 1998; Loh and Venkatraman, 1992; Smith et al. 1998; McFarlan and Nolan, 1995; Weber et al.,1991) and ***flexibility*** (Narasimhan and Das,1999; Choi and Hartley, 1996; Weber et al.,1991). These five factors will form the independent variables of this research. 10 questions each were developed to gauge if organizations are fulfilling the factors that determines whether operational efficiencies are realized.

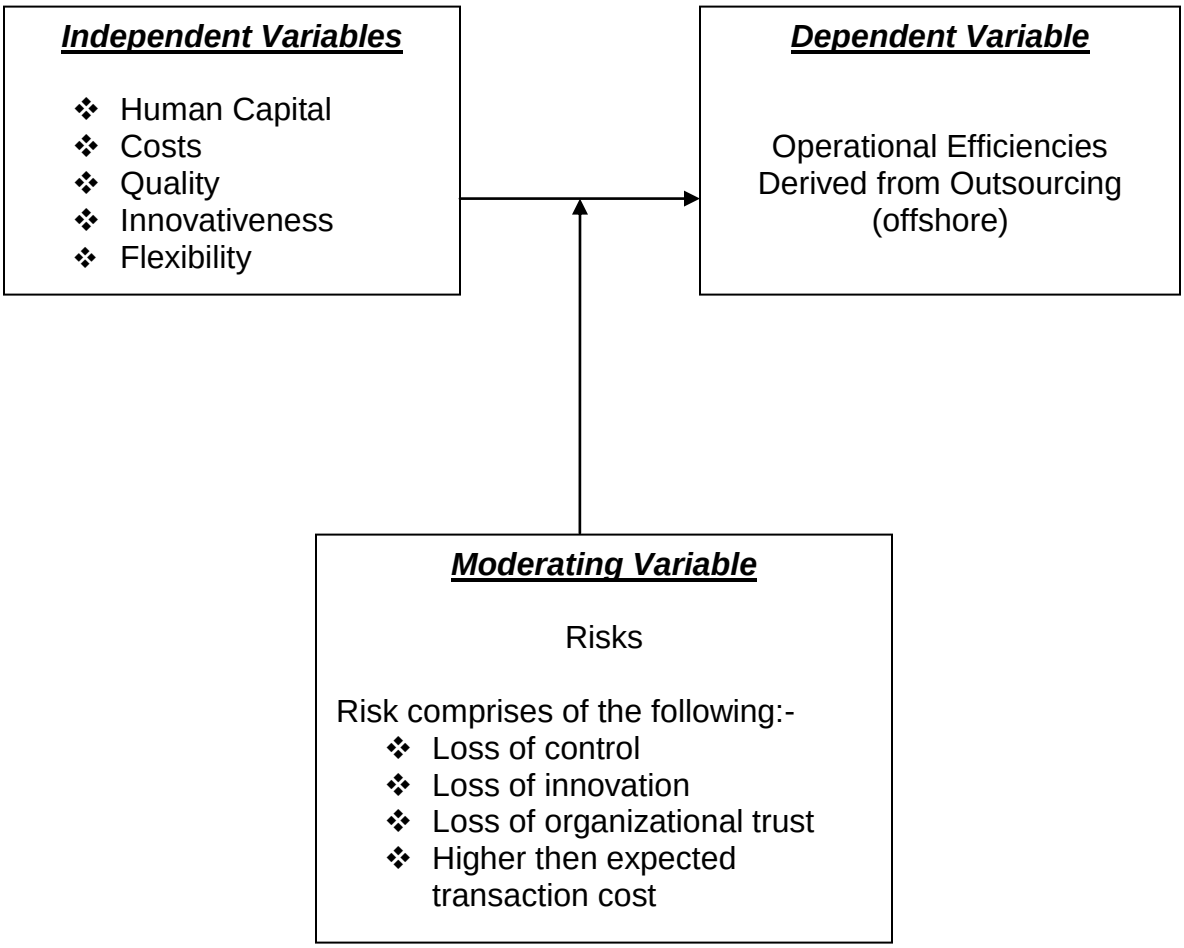
4.4 Risks

Risks associated with outsourcing have been a widely discussed and researched are in the context of offshore outsourcing. This paper has also discussed the types of risks and risks management as a crucial factor for a successful outsourcing partnership. While risk has been viewed as a variable that directly influences the results of outsourcing, it has never been looked as a moderator which could potentially alter the success of outsourcing. This study intends to prove that despite an organization effectively managing the five determining factors that provides outsourcing efficiencies, the failure to manage and control risk could potentially modify the outcome of strategic outsourcing partnerships and hence the operational efficiencies cannot be realized by businesses.

For the purpose of this research, risks will be introduced as a moderating variable to gauge the extent of its impact to realizing operational efficiencies. In this research, risk primarily covers ***loss of control, loss of innovation, loss of organizational trust*** (Cecily A. Raiborn, Janet B. Butler, Marc F. Massoud, 2009) and ***higher than anticipated***

transaction costs (Albertson, 2000). 10 questions were developed to gauge if organizations are controlling and managing risks effectively.

4.5 Conceptual framework



The dependent variable for this research will be operational efficiencies derived from outsourcing whereas the five independent variables will be the factors that determine whether operational efficiencies are realized. The five independent variables are human capital, cost, quality, innovativeness and flexibility. A moderating variable is introduced

into this research to primarily gauge the extent of its impact on the relationship between the dependent and independent variables. The moderating variable in this conceptual framework will be risks that comprises of loss of control, loss of innovation, loss of organizational trust and higher than anticipated transaction costs.

4.6 Hypotheses

Based on the conceptual framework, the following hypotheses have been developed. This research intends to prove that a relationship exist between the dependent variable and each of the independents variables. It attempts to prove that there is a positive relationship between costs, human capital, quality, innovativeness, flexibility and operational efficiencies. Therefore the more an organization is able to exploit and tap into their human capital resource, increase performance quality, innovativeness and flexibility, the higher the operational efficiencies which are derived. Meanwhile the relationship between cost and operational efficiency that translates into a simple fact whereby the more an organization is able to reduce cost, the more efficient it becomes. Risks have been introduced as a moderator to gauge the extent of its impact of the above relationships. This research attempts to prove that despite the positive (and/or negative) relationships between the dependent variable and independent variables, failure to control and manage risks effectively will substantially impact the operational efficiencies which are derived from strategic outsourcing initiatives.

1. Human Capital

The more an organization is able to develop, deploy and exploit the human capital resources, the higher the operational efficiencies that will be realized. The lower the capability of an organization to develop, deploy and exploit human capital resources, the lower the operational efficiencies that will be realised.

H1a) There is a positive relationship between human capital and operational efficiencies derived from offshore outsourcing

Poor risks control and management will reduce the potential operational efficiencies that can be realized by an organization despite being able to develop, deploy and exploit the human capital resources effectively and efficiently.

H1b) The relationship between human capital and operational efficiencies is moderated by risk

2. Costs

The more an organization is able to reduce costs (both coordination and transaction risks costs), the higher the operational efficiencies that will be realized. The lower the capability of an organization to reduce costs (both coordination and transaction risks costs), the lower the operational efficiencies that will be realized

H2a) There is a positive relationship between cost and operational efficiencies derived from offshore outsourcing

Poor risks control and management will reduce the potential operational efficiencies that can be realized by an organization despite being able to reduce costs effectively and efficiently.

H2b) The relationship between cost and operational efficiencies is moderated by risk

3. Quality

The more an organization is able to improve quality (conformance and performance), the higher the operational efficiencies that will be realized. The lower the capability of an organization to improve quality (conformance and performance), the lower the operational efficiencies that will be realized

H3a) There is a positive relationship between quality and operational efficiencies derived from offshore outsourcing

Poor risks control and management will reduce the potential operational efficiencies that can be realized by an organization despite being able to improve quality (conformance and performance) effectively and efficiently.

H3b) The relationship between quality and operational efficiencies is moderated by risk

4. Innovativeness

The more an organization is able to gain access to technology, expertise and increase innovativeness, the higher the operational efficiencies that will be realized. The lower the capability of an organization to gain access to technology, expertise and increase innovativeness, the lower the operational efficiencies that will be realized

H4a) There is a positive relationship between innovativeness and operational efficiencies derived from offshore outsourcing

Poor risks control and management will reduce the potential operational efficiencies that can be realized by an organization despite being able to gain access to technology and increase innovativeness.

H4b) The relationship between innovativeness and operational efficiencies is moderated by risk

5. Flexibility

The more an organization is able to increase supply chain flexibility, volume capability and responsiveness, the higher the operational efficiencies that will be realized. The lower the capability of an organization to increase supply chain flexibility, volume capability and responsiveness, the lower the operational efficiencies that will be realized.

H5a) There is a positive relationship between flexibility and operational efficiencies derived from offshore outsourcing

Poor risks control and management will reduce the potential operational efficiencies that can be realized by an organization despite being able to increase supply chain flexibility, volume capability and responsiveness effectively and efficiently.

H5b) The relationship between flexibility and operational efficiencies is moderated by risk

4.7 Research methodology

4.7.1 Introduction

Based on the conceptual framework, this research is intended to be both exploratory and confirmatory. From the confirmatory perspective, it is intended to determine whether the presence of the five (5) independent variables consisting of human capital, costs factor, quality, innovativeness and flexibility does indeed significantly impact the operational efficiencies derived from outsourcing practices. Moreover this research seeks to confirm these relationships not only from the Malaysian's perspective but also from non-Malaysians who primarily form part of the Clients. From the exploratory perspective, by introducing the risk factor as the moderating variable, the research was intended to go beyond the five (5) factors to develop an in depth understanding on the significance of risk in determining whether the operational efficiencies can indeed be derived despite the presence of all the other contributing factors. In addition the degree of risk which may vary due to sufficient control mechanism (or the lack of it) as well as the management techniques adopted by organizations impacts the competitive edge and the sustainability of businesses involved in outsourcing. Therefore this research explores the significance of the risk factor in 'making' or 'breaking' a business, be it the Client or Vendor.

4.7.2 Selection of Sample

A total of 200 questionnaires (enclosed with an explanatory letter outlining the purpose of this study) were distributed to respondents through electronic mail, (e-mail), faxes and/or personal delivery. The targeted sample was respondents from various organizations in Malaysia who are involved in offshore outsourcing practices. To ensure that a fair and sufficient sample size is obtained to facilitate the exploratory and confirmatory research, the stratified sampling method was adopted. The survey was intended to obtain sufficient samples to represent various groups (strata) consisting of Clients, Vendors, employees who are on various management levels, non-management roles as well as both Malaysian and non-Malaysians (primarily from offshore).

4.7.3 Design of Questionnaire

The questionnaire comprises a total of 83 questions with the following breakdown:-

(i) 13 demographic questions

(ii) 10 questions on operational efficiencies (dependent variable)

(iii) 10 questions relating to the cost factor/aspects of offshore outsourcing (independent variable)

(iv) 10 questions relating to the quality factor/aspects of offshore outsourcing (independent variable)

(v) 10 questions relating to the human capital factor/aspects of offshore outsourcing (independent variable)

(vi) 10 questions relating to the flexibility factors/aspects of offshore outsourcing (independent variable)

(vii) 10 questions relating to the innovation factor/aspects of offshore outsourcing (independent variable)

(viii) 10 questions relating to the risk factor/aspects of offshore outsourcing (moderating variable)

The demographic questions covered the common demographic characteristics of the respondents such as gender, age, nationality, education level and years of working experience. The subsequent questions were then focused on obtaining information on the type of company, industry, department, management/non-management roles and finally establishing if they are (the organization) involved in outsourcing practices classifying the Vendor and Client.

All the questions relating to the dependent variable, independent and the moderating variables were designed upon reviewing various academic researches and/or their subsequent findings that paved way for this exploratory and confirmatory study.

1. Operational Efficiencies (Dependent Variable)

The 10 questions relating to operational efficiencies were mainly focused on the various benefits that are derived from embarking on outsourcing strategies. The respondents were questioned on the competitiveness in the global market, value chain compatibility, core competencies, quality as well as cost, time, knowledge arbitrage and finally the degree of risk control provided by outsourcing strategies. The questions were designed based on the academic research framework on disintegration, location and externalization advantages by Ben L. Kedia and Debmalya Mukherjee (2009) and a study by Monica Belcourt (2006) on outsourcing benefits and risks.

2. Costs (Independent Variable)

The 10 questions relating to the cost factors/aspects of offshore outsourcing were primarily designed to gauge the response on cost efficiency, cost savings, lean practices, hidden costs and strategic expansion due to costs benefits. The questions were designed based on the transaction cost economies (TCE) framework in existing academic literatures (also known as the transaction cost theory) and a study on Outsourcing congruence with competitive priorities: Impact on supply chain and firm performance by James R. Kroes and Soumen Ghosh (2010).

3. Quality (Independent Variable)

The 10 questions relating to the quality factor/aspects of offshore outsourcing were designed to gauge the response in terms of customer satisfaction level, Service Level Agreements, quality of output and reputational impact of the respective organizations involved in outsourcing practices. The questions were designed based on various existing academic literatures on quality benefits from outsourcing practices as well as a specific study by Rajan Varadarajan (2009) titled Outsourcing: Think more expansively and a study on Outsourcing congruence with competitive priorities: Impact on supply chain and firm performance by James R. Kroes and Soumen Ghosh (2010).

4. Human Capital (Independent Variable)

The 10 questions relating to the human capital factor/aspects of offshore outsourcing primarily focused to gauge the respondents view on labour arbitrage, productivity level, skills/multi-skilling, attrition and retention. The questions were designed based on the resource based view (RBV) framework discussed across many existing literatures.

5. Flexibility (Independent Variable)

The 10 questions relating to the flexibility aspects of offshore outsourcing focused on adapting to organizational and environmentally driven changes such as supply chain, structure, technology and competition, among others. The questions were designed based on the study on Outsourcing congruence with competitive priorities: Impact on supply chain and firm performance by James R. Kroes and Soumen Ghosh (2010).

6. Innovation (Independent Variable)

The 10 questions on innovation aspects of offshore outsourcing were designed to gauge the response in terms of the ability of the respective organizations' capabilities in staying constantly innovative and creative in areas such as process, procedure and performance, among others. The questions were designed based on studies by Gottfredson et al. (2005) and Leonard-Barton (1992).

7. Risk (Moderating Variable)

The 10 questions related to the risk aspects of offshore outsourcing focused on capturing the respondents view on risk control and management as well as its impact on business related activities. The questions were designed based studies by Monica Belcourt (2006) on Outsourcing benefits and risks, Sean M. Handley and W.C. Benton Jr. (2009) on Unlocking the business outsourcing process model and finally

Cecily A. Raiborn, Janet B. Butler and Marc F. Massoud (2009) on Outsourcing support functions: Identifying and managing the good, the bad and the ugly.

4.7.4 Measurement Scales

The questionnaire contained scales to measure the constructs that were depicted in the conceptual framework. The questions (with the exception of the demographic questions) were captured on a 7 point Likert scale of 0 to 6, whereby 0 - Not Applicable, 1 – Strongly Disagree, 2 – Disagree, 3 – Somewhat Agree, 4 – Somewhat Agree, 5 – Agree and 6 – Strongly Agree. The respondents were not given an option of neither disagree/agree to avoid central tendency biasness from the respondents' perspective which would somewhat distort the research findings and/or not provide a conclusive response to test out the hypotheses.

The Likert scale was adopted as it is a psychometric response scale which is most commonly used in questionnaire design and named after its founder, Rensis Likert, who published a report detailing it use and methodology (Likert, 1932). The respondents are required to specify their degree of agreement or disagreement to various statements detailed in the questionnaire.

The 7 point Likert scale used in this study is depicted in illustration 1 below.

Illustration 1: Representation of the Likert Scale

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	Not Applicable
1	**2**	**3**	**4**	**5**	**6**	**0**

The numerical values of '1', '2' and '3' are regarded as a negative perspective that reflects degree of disagreement with the corresponding statement while the numerical values of '4', '5' and '6' are regarded as a positive perspective that reflects the degree of agreement with the corresponding statements in the questionnaire. The numeric scale '0' indicates that the corresponding statements are not applicable to the respondents. A detailed description of the scales is depicted below in Illustration 2.

Illustration 2: Scale Codes and Description

Scale Codes	Scale Description
0	Not Applicable Indicates that the statement is not related to the respondent
1 Negative	Strongly Disagree Indicates that the statement is highly unfavorable and/or the dimension is not present at all. This is the highest degree of disagreement

2 Negative	Disagree Indicates that the statement is unfavorable and/or the dimension is not present. The degree of disagreement is moderate and/or less intense
3 Negative	Somewhat Disagree Indicates that the statement is less unfavorable and/or the dimension is not present to a certain degree. This is the lowest degree of disagreement
4 Positive	Somewhat Agree Indicates that the statement is less favorable and/or the dimension is present to a certain/lower degree. This is the lowest degree of agreement
5 Positive	Agree Indicates that the statement is favorable and/or the dimension is present. The degree of agreement is moderate and/or less intense
6 Positive	Strongly Agree Indicates that the statement is highly favorable and/or the dimension is clearly present. This is the highest degree of agreement

The questionnaire was tested with 10 respondents prior to distribution. A copy of the questionnaire is enclosed as Appendix A.

4.7.5 Data Collection and Analyses Procedure

The questionnaire was distributed by electronic mail (e-mail), faxes and personal hand delivery methods to both Malaysians and non-Malaysians residing in other countries (who form part of the Clients). Each of the questionnaires included a cover letter detailing the purpose of the study. The respondents were requested to return the survey forms without any personal details attached such as name or address to ensure that the anonymity of the respondents and/or their respective organization is maintained.

200 questionnaires were distributed to employees involved in outsourcing practices who were part of the management and non-management level in order to obtain a balanced view. The respondents were a mixture of employees from Malaysia and United Kingdom representing Vendors and Clients from multinational corporations (MNC), public listed companies as well as small medium enterprises (SME). There were representation from various industries such as banking, information technology, retail, education, hospitality, insurance and manufacturing. Out of 200 questionnaires that were distributed, only 175 responded (88% response rate) out of which only **150** were used to perform the statistical analysis upon testing for normality of data.

Upon validation of the responses that was received, the data was captured into the statistical package (SPSS Version 16.0) for further statistical analyses to be conducted. The SPSS is a statistical package for social sciences which is used to generate various

analyses for decision making as well as to effectively present results using a variety of reporting methods.

The following analyses were conducted to dissect the data as well as conclude comprehensible results and findings to test the hypotheses.

1. Descriptive Analyses
2. Normality Test
3. Reliability test using Cronbach Alpha
4. Correlation Coefficient
5. Multiple Regression