SUCCESS FACTORS OF IT OUTSOURCING IN THAILAND

SUPAPORN KUPIMAI

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY PROGRAM IN BUSINESS ADMINISTRATION
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Program	Business Administration
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December ๙ , 2014

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ABSTRACT

This study aimed to investigate factors that had an effect on IT outsourcing success and client satisfaction in Thailand. The factors comprised of service quality, vendor capability, and relationship quality. Two hundred and thirty two samples were collected by questionnaires from those whose role was managing IT outsourcing in the companies listed on the Stock Exchange of Thailand. The questionnaire with five-level rating scales was adopted as the research instrument. Data were statistically analyzed by means of Confirmatory Factor Analysis and Structural Equation Modeling.

The results indicated that IT outsourcing success was affected by service quality and relationship quality, while client satisfaction was affected by vendor capability. Moreover, vendor capability had an indirect impact on IT outsourcing success through client satisfaction and client satisfaction had a direct impact on IT outsourcing success. This implied that the two factors; service quality and relationship quality, were adequate to describe the characteristics of IT outsourcing success in Thailand, while the other factor, vendor capability, was sufficient to describe the client satisfaction. Client satisfaction was an important factor for IT outsourcing success.

The findings of this study led to understand the IT outsourcing success of the companies listed on the Stock Exchange of Thailand as follows. Knowledge and experience of vendor employee were important for the quality of service. Communication with completion, accuracy, reliability and in a timely manner was required for relationship quality. The ability of vendor to manage good relationship with client was necessity for client satisfaction. In addition, client satisfaction was an essential part of IT outsourcing success as it pushed vendors to satisfy users by increasing their service value.

Keywords: IT outsourcing success, service quality, vendor capability, relationship quality, client satisfaction

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Table of Contents

Page

Table of Contents (Continued)

Page

List of Tables

List of Tables

Page

List of Figures

Page

List of Abbreviations

IT	Information Technology
SET	The Stock Exchange of Thailand
SET	Social Exchange Theory
TCE	Transaction Cost Economic
RBV	Resource-Based View
CIO	Chief Information Officer
CFA	Confirmatory factor analysis
SEM	Structural equation model
AMOS	Analysis of Moment Structures

CHAPTER 1

INTRODUCTION

1.1 Background and Statement of the Problem

Since Information Technology (IT) outsourcing conceptual was established in 1963, it had received a numerous discussion that became a possible business solution that many IT managers try to use that to remain competitive in contemporary business and dynamic technologies (Mui, 2003). IT outsourcing is defined as a process of delegation of IT activities to external IT vendors, who can do it more efficiently, faster, cheaper and better (Tayauova, 2012). IT outsourcing is a major contemporary strategic decision, the benefit has become a generally accepted option for satisfying organizational IT needs (Goles, 2003). Despite many reasons driven IT to outsourced, the growth of IT outsourcing can be attributed into two primary phenomena, a focus on core competencies, and insufficient of IT value. The mangers believed that sustainable competitive advantage of firms can only be accomplished through a focus on core competencies. First, the core business activities were selected while outsourcing the rest. IT function has been viewed as a part of non-core business while external vendor has economies of scale and advantage technological to provide IT services more effectively than an internal IT function. Second, Though IT is viewed an as essential to the functioning of the organization, its cost needs to be minimized. Outsourcing will help meet the IT needs of the organization less expensively (Hirschheim, Heinzl, & Dibbern, 2006).

Although the firms wildly accepted that the purposes of outsourcing are to more focus own core activities, access to experienced, reduce cost, gain flexibility and improve firm performance (Tayauova, 2012), there are still some real problems that can obstruct the benefits from outsourcing. Some of the obstructions and risks are hidden costs in the contract, loss of in-house expertise, negative impact on employee morale, and security of data (Mui, 2003). The success of IT outsourcing is becoming a dilemma for many organizations. In general, the success of outsourcing is defined to the overall benefit that firms gained from outsourced, strategic benefit, economic benefit and technological benefits (Qi and Chau, 2012b). Only satisfaction is used to determine IT outsourcing success that normally indicates the level of satisfaction of client with the vendor (Swar, Moon, & Rhee, 2010).

IT outsourcing can be recognized and growing in practice but few reported success by organizations (Han, Lee, & Seo, 2008). The interactions between client and vendor often exceed an agreements, rules, and exceptions; they also relied on invisible factors that difficulty incorporated into a contract. Many studies have been investigated effective factors of success by examining numerous contextual variables (Han et al. 2008). A number of models were developed for building and supporting the success of IT outsourcing, Vendor capability, relationship quality, and service quality were considered (Mohamed, et al, 2007; Chakrabarty et al. 2007; Han et al. 2008; Goles and Chin 2005; Swar et al 2010; Goles, 2003; Goles , 2006; Lee et al., 2009; Han, et al., 2013). However, the success factors of IT Outsourcing has been mostly studied in foreign countries, only few studies have been investigated in Thailand, Some factors that presented in the past may not match Thailand current business environment. As IT

outsourcing development in Thailand has been growth and increasingly complex with different desires and agenda of firm client and IT outsourcing provider, IT outsourcing research in Thailand has not been investigated intensively. Therefore, firm executives may have lack of knowledge on how to choose the right IT outsourcing providers and how to cope with the outsourcing relationship.

In the dissertation, the success factors of IT outsourcing in Thailand business environment will be proposed. Especially, the research aims the companies listed on The Stock Exchange of Thailand by examining the service quality factors, the vendor capability factors, and the relationship quality factors.

1.2 Purpose of the Study

In recent years, Thailand industry and academic has been paid more attention to IT outsourcing. Complete understanding of the factors affecting IT outsourcing success is a must. Based on the successful factors of IT outsourcing is presented by foreign researchers may not be matching with current Thailand's business environment. This study aims to investigate the successful factors of IT outsourcing in Thailand. The factors including, service quality, vendor capability, and relationship quality will be examined how it is effect to IT outsourcing success and client satisfaction.

There are three objectives of this study.

1. To examine the effects of service quality, vendor capability, relationship quality on IT outsourcing success.

2. To examine the effects of service quality, vendor capability, relationship quality on client satisfaction.

3. To examine the effects of client satisfaction on IT outsourcing success.

1.3 Research Questions and Hypotheses

Research Question

The research questions are as followed: The study aims to answer the following questions:

1. Are there any effects of service quality, vendor capability, relationship quality on IT outsourcing success?

2. Are there any effects of service quality, vendor capability, relationship quality on client satisfaction?

3. Is there any effect of client satisfaction on IT outsourcing success?

Hypothesis

This study considers the three important factors (service quality, vendor capability, relationship quality), which is believed to influence on the IT outsourcing success and client satisfaction. According to literature review and theories relate on IT outsourcing success and client satisfaction, the hypotheses can be generated as following:

1. Service quality directly influences on IT outsourcing success and client satisfaction.

The transaction costs economics (TCE) provides more opportunities to estimate the role of transaction costs for economic performance. This shows that perception of transaction costs is extremely important for better understanding of any empirical phenomenon related to business. Outsourcings have become one of the strategies used by business companies to manage their IT. IT outsourcing is buying of IT services from a vendor (Vasiliauskienė, 2011). Then, the vendor with high service quality is always selected by client. The concept of service quality also incorporates factors such as satisfaction, behavioral intention, and customer complaints (You, Lee, and Tseng, 2011). Service quality is the core standard of customer service. Service quality refers to the service expectations that the services received from the providers and assess the effectiveness of the service (Parasuraman,Zeithaml, & Berry, 1985). The tool is called "SERVQUAL" which was developed by Parasuraman et al., (1985). It is well-known as an instrument used to measure satisfaction of the service quality. It consists of five dimension which are tangible, reliability, assurance, empathy, and responsiveness. This main concept here is to understand the effect of service quality on IT outsourcing success and client satisfaction. Prior research indicated that the service quality has an important influence on IT outsourcing success (Hussin, Ismail, Suhaimi, & Karim, 2006; Mohamed et al., 2007). Also the service quality has an important influence on user satisfaction (Chakrabarty et al., 2007). These imperatives provide the foundation for two hypotheses:

H1: There is a positive effect of service quality on IT outsourcing success.

H2: There is a positive effect of service quality on client satisfaction.

2. Vendor capability directly influences on IT outsourcing success and client

satisfaction.

Resources-base view is used to explain vendor capability. Utilizing a resource-based involves the insufficient capability of resource of the firms. In the competitive environment, the transition is quickly and unanticipated changed. In these situations firms must be able to rapid obtain, eliminate, and integrate resources to remain competitive. Researchers found that the firms prefer to gain them from an external source rather than develop them in-house (Goles, 2003). The vendor capability is effective source to acquire the capability need. Prior research indicated that the vendor capability is significant factors in IT outsourcing success (Lee et al., 2009, Han, Lee, Chun, & Seo, 2013). Also vendor capability was related to customer satisfaction (Goles, 2003). These imperatives provide the foundation for two hypotheses:

H3: There is a positive effect of vendor capability on IT outsourcing success.

H4: There is a positive effect of vendor capability on client satisfaction.

3. Relationship quality directly influences on IT outsourcing Success and client satisfaction.

Social exchange theory is used to explain relationship quality. Social exchange theory focuses on the social relations among the parties that shape the exchange of resources and benefits (Gottschalk amd Solli-Sæther, 2006). Relationship quality refers to the interaction between vendor and client which involves the characteristics and process of the exchange behaviors (Qi and Chau, 2012b). The relationship quality assumption as a partner will perform an action resulting in positive outcomes and not hire in unexpected behavior (Han, et al., 2008). The prior research indicated that the relationship quality has impacted IT outsourcing success (Qi & Chau,

2012a; Swar et al., 2012). And the relationship quality has shown to influence client satisfaction (Chakrabarty et al., 2007). These imperatives provide the foundation for two hypotheses:

H5: There is a positive effect of relationship quality on IT outsourcing success.

H6: There is a positive effect of relationship quality on client satisfaction.

4. Client satisfaction directly influences on IT outsourcing success.

Client satisfaction is a result of the fulfillment of client needs. It is an assessment from clients that a product or service provides a "pleasurable level of consumption-related fulfillment" (Song and Wong, 2009). IT outsourcing leads to important changes in the management processes of the IT organization. For example, while IT managers have always had the responsibility for ensuring that users within their organization maintain a high degree of satisfaction (Sengupta and Zviran, 1997). Client satisfaction is the key deliverable to success of fulfilling contractual obligation (Olanrele, Ahmed, and Olatomiwa, 2013). Therefore client satisfaction plays a significant role in defining IT outsourcing success. This imperative provides the foundation for hypotheses:

H7: There is a positive effect of client satisfaction on IT outsourcing success.

1.4 Theoretical Perspective

Due to the previous literature review, IT outsourcing researches can be classified into three groups, a strategic management, economic, or social theoretical outlook. The main theories used are the Transaction Cost Economic (TCE), Resource Based View (RVB), and Social Exchange Theory (SET) with descriptions as follow.

Firstly, the resource-based view theory is adopted as foundation to investigate firm strategic management. The theory considered the resources of the firm as the foundation for its strategy, and view outsourcing as a means to acquire and allocate valuable IT resources (Goles and Chin, 2005: 48). Secondly, the transaction cost economics theory is applied to explain economic perspective of IT outsourcing. To frame the question of whether or not to outsource IT functions in terms of monitoring costs, transaction costs, and asset specificity (Goles and Chin, 2005: 48). Thirdly, Social Exchange theory is used to understand social perspective when outsourcing, it argues that the economic and strategic management approaches neglect aspects of outsourcing that go beyond the decision of it and what to outsource, and how to structure the contract. The social perspective is differentiated from the previous two by its underlying assume that there are shared nature and a unity of interests between the parties that influence their interaction, leading to considerations of trust, equality, and cooperation that are not found in the other perspectives. This group of studies examines the harmony between client and vendors in an attempt to understand the formation, ongoing interaction, and dissolution of outsourcing relationships (Goles and Chin, 2005: 48).

Transaction Cost Economic (TCE) used to explain why firms exist and how firm boundaries are determined. TCE has been extended to identify the economic issue of contractual relationships among the business, based on the cost of establishing relationships or governance structures associated with outsourcing decisions (Watjatrakul, 2005).

Resource Based View (RVB) refers to the firm as a handle of resources that

are acquired and distributed in order to achieve imperative objectives. Resources are defined as production factors owned or controlled by the firm that enable it to performance particular task (Golse, 2003).

Social Exchange Theory (SET) used to explain the exchange relationship as consisting of transferring of resources between two or more personal. SET was initially developed to examine interpersonal exchanges that were not purely economic, but has been extended importantly to the study of inter- organizational exchange. In the inter-organizational context, SET focuses not only on the social process of give-and-take, but also aims to understand the behavior of each actor contributing to the exchange under social structures (Qi and Chau, 2012).

1.5 Conceptual Framework

The purpose of this study was to investigate the effects of service quality, vendor capability, and relationship quality on IT outsourcing success and client satisfaction. The conceptual framework for this study drawn from the empirical previous evidence, service quality with five dimensions which are; tangible, reliability, assurance, empathy, and responsiveness based on (Parasuraman et al., 1985; Mohamed et al., 2007; Chakrabarty et al., 2007); vendor capability with three dimensions which are; personal capability, methodology capability, and management capability (Goles, 2003; Lee et al., 2009; Han, et al., 2013); relationship quality with five dimensions which are; communication, cultural compatibility, information sharing, conflict handling, and collaborative participation (Swar et al., 2012; Qi and Chau, 2012b); IT outsourcing success with three dimensions which are; strategic benefit, economic

benefit, and technological benefit (Han et al., 2008; Swar et al., 2012; Qi, and Chau, 2012b); and client satisfaction (Goles, 2003; Chakrabarty, et al., 2007). The conceptual framework of the study as illustrated in Figure 1.1

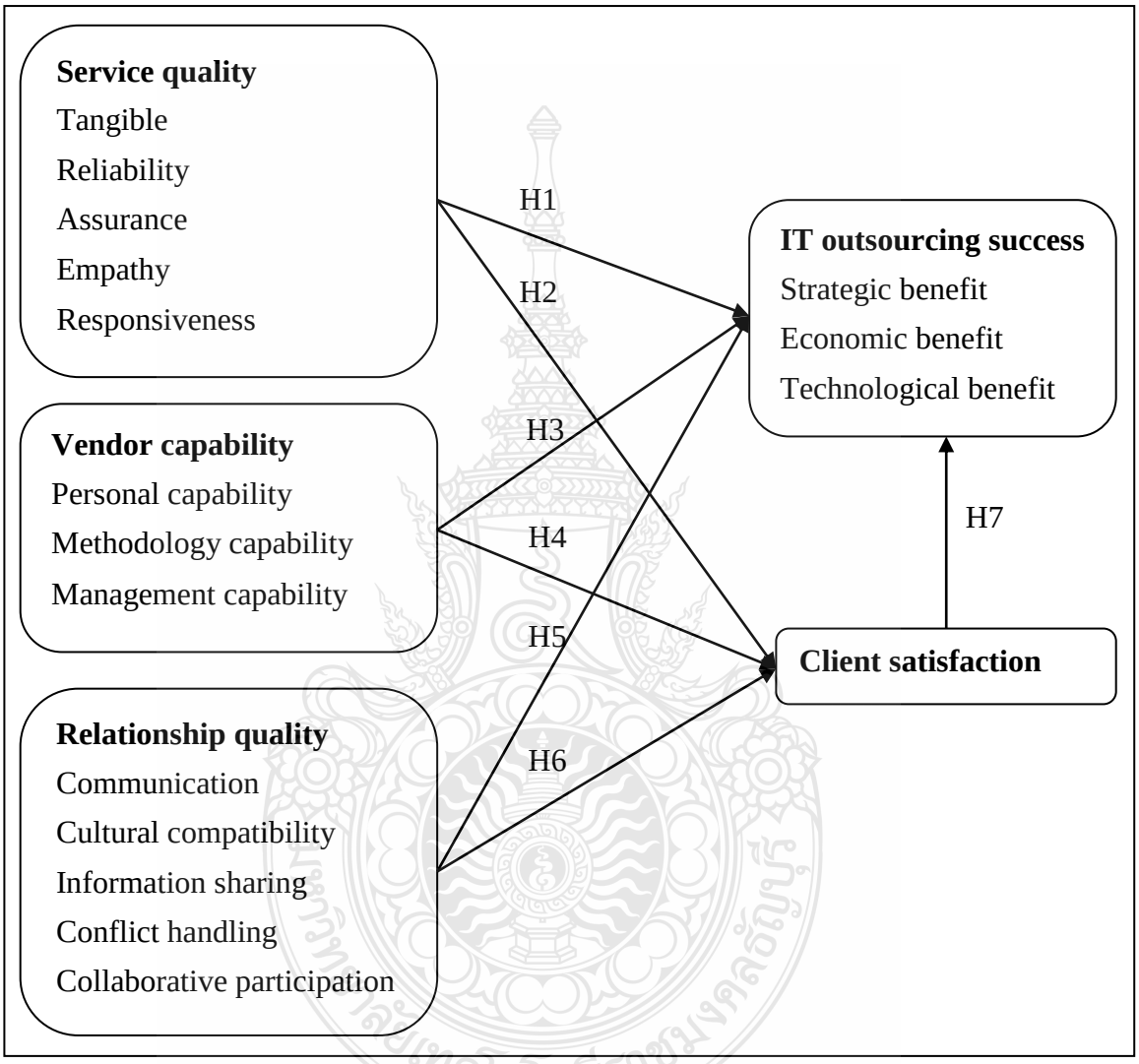


Figure 1.1 Conceptual Framework of the Study

According to the conceptual framework, the effective variables can be explained as followed:

1. Service quality, vendor quality, relationship quality effects on IT outsourcing success.

2. Service quality, vendor quality, relationship quality effects on client satisfaction.

3. Client satisfaction effects on IT outsourcing success.

1.6 Definition of Terms

In order to understand the terminology that used in this study the research defined the terminology as follows:

- Outsourcing refers to the organizations or firms that assign their work or functions to the external providers. The employer will determine the directions and control of all parts from policy to practice in all stages of the contract.
- IT outsourcing refers to organizations delivery IT Activities service to external parties.
- Vendor refers to the outside agency that can manage the IT operations and some or all the organizations to the level of service fees and time agreed in the contract.
- Client refers to the Companies listed on the Stock Exchange of Thailand.
- Information Technology (IT) refers to diverse techniques that are used to manage the information data (e.g. communications data, search data, the display data, and so forth) that aims to provide the management of the information very fast, easy, and effectiveness.

- Service quality refers to the service expectations that the services received from the providers and assess the effectiveness of the service (Parasuraman et al., 1985). The service quality can be evaluated by five dimensions as the following:
    - Tangibles refers to physical accommodates tools and appearance of employees of vendor.
    - Reliability refers to competency to fulfill the promised service dependably and correctly.
    - Assurance refers to the expertness and politeness of the employees of a vendor that their capability promotes trust and confidence.
    - Empathy refers to the vendor contributes individualized attention to its clients.
    - Responsiveness refers to vendor who wishes to attend customer and prompt service.
- Vendor capability refers to the capability to which a vendor firm effectively recognizes, responds, and handles client needs and market demands. The factor of vendor capability in this study was classified into three major areas, personnel capability, methodological capability, and management capability.
    - Personnel capability refers to the ability that staffs of a vendor were contained responsible for covering contractual obligations. The personnel capability, including the IT knowledge and personal skills to provide effective IT services in outsourcing contracts (Han et al., 2013).

- Methodology capability refers to the vendor activities that are sufficient for the consistent distribution of solutions to client problems through standardized outsourcing processes and systematic problem solving.
- Management capability refers to the vendor activities that help assure client expectations for reducing project uncertainty. Some of activities of management such as: informing the status of progressing projects, encouraging the participant knowledge, and giving valuable comments.

- Relationship quality refers to the association between IT vendor and client companies, which hold the characteristics and process of the exchange behaviors (Qi and Chau, 2012b). The relationship quality factors in this study, including communication, cultural compatibility, information sharing, conflict handling and collaborative participation that explain as follows:
  - Communication refers to a proactive formal and informal sharing or exchange of relevant and timely data between partnerships.
  - Cultural compatibility refers to the boundary to which the parties can live together with beliefs on values, behaviors, goals and policies that are importance or unimportance, appropriate or inappropriate and right or wrong.
  - Information sharing refers to the degree to which knowledge and experience are transferred.

- Conflict handling refers to the level of incompatibility of activities, share of resources and goals between parties. The way that the parties handle the conflicts can result in either productive or destructive nature of relationship between the parties.
- Collaborative participation refers to an achievement on the part of both parties to create required modifications by partners participate, providing a mechanism for negotiating and agreeing upon mutual benefits, and for making normal objective (Mao, Lee, & Deng, 2008).

- IT outsourcing success refers to the overall organizational advantage gained from IT outsourcing (Qi and Chau, 2012a). In most outsourcing cases, outsourcing objectives relate to strategic, economic and technological benefits (Swar et al., 2010).
  - Strategic benefit refers to the production of an identity or the status to the organization to create a competitive advantage or adding the value to each organization. It is the core of an organization that provides the competitive advantages in the long run.
  - Economic benefit refers to the creation of economic value added that is measured for the performance throughout the organization.
  - Technological benefit refers to increase the capability to access the latest technologies, to reduce the risk of the new technology used.
- Client satisfaction refers to the comparison to the value of goods or services up to the anticipations that are expected to meet. If the values are as

expected, it will be satisfied. If that does not meet the expectations that were not satisfied (Sheth, Mittal, & Newman, 1999).

1.7 Limitation of the Study

The study is limited by data accessibility and data collection. In the aspect of data accessibility, this study investigates only the client perspective of the companies listed on the Stock Exchange of Thailand. The vendor perspective is not included within this study. Because, it not sure to identify the vendor which is servicing in the specific area. If the vendor is offshore, it is difficultly to collect data. Limit on data collection can be seen as the problem of the study. The record of IT outsourcing activity of the companies listed on the Stock Exchange of Thailand not presented before then the population of the study is not clear. The questionnaires were distributed to the respondents in the IT department. Only not over a half was return.

1.8 Scope of the study

The scope of this study can be described in terms of its specific area focused in the study and specific population of the study. The specific area of this study focuses on companies current listed on Stock Exchange of Thailand in May, 2013. The specific population under the study is the person (head of department, middle management, chief executive, or others) of the organization who is responsibility in IT outsourcing activity.

1.9 Organization of the Study

This research consists of five chapters. Chapter one covers on background statement of the problem, purpose of the study, research question and hypothesis, conceptual framework, definition of term, limitation of the study, scope of the study, and organization of the Study. Chapter two reviews the literature that related with introduction, IT outsourcing phenomenon, theory related IT outsourcing, IT outsourcing success, factor related IT outsourcing success, research model, and structural equation model. Chapter three covers on Introduction, theoretical framework, research design, and methodology. Chapter four presents introduction, demographic data, descriptive statistic, preliminary analysis, normal distribution testing, homoscedasticity testing, linearity testing, multicollinearlity testing, Structural Equation Modeling analysis, and hypotheses testing. Chapter five composes conclusion, discussion of Finding, implication for practice and future research.

CHAPTER 2

RREVIEW OF THE LITERATURE

2.1 Introduction

In this chapter, relevant literatures are reviewed: IT outsourcing phenomenon, theory related IT outsourcing, IT outsourcing success, client satisfaction, factors related IT Outsourcing success, and structural equation model.

2.2 IT Outsourcing Phenomenon

Business has fall in critical situations when its competitive environment is under rapid and unpredictable change. To remain competitive advantage and to maintain market share, firm must able to quickly response changing conditions (Simmonds and Gilmour, 2005). In these situations firms must be able to quickly acquire, dispose of, and integrate resources to remain competitive (Gole, 2003). Many firms were belief that information technology (IT) is a tool used for enhancing the business performance (Fan, Suo, & Feng, 2012). However, the acquisition of IT requires high cost investments and takes the time to implement. Therefore, IT outsourcing is an alternate selected for this demand. IT outsourcing has been widely accepted by various organizations for more than five decades. It has been used as an instrument that allows organizations transfer IT services to external. Fundamental of IT outsourcing is accepted, while IT service is transferred to external, accountability will be firmed by the client organization. It is confirmed that the risks are managed and there is continued delivery of value from the external (Mui, 2003).

IT outsourcing is defined as a process of delivering of IT activities to an external IT provider, who can manage it more efficiently, faster, cheaper, and better (Tayauova, 2012). IT outsourcing concept is just a definite term for an old concept. In the mid-1960s, firm's operating activities turned to computer service. While computer service bureaus ran a variety of programs that were both customized and general-purpose, and the individual firm had to change its operations to the standard options in the package purchased. The service bureau generally dictated the technology the client used and its pace of change, and most of these customers were mostly small and medium-sized firms. Third party technology was accepted, to obtain contracts automated supports. One instance of a provider is Perot's Electronic Data Systems (EDS) which manage information processing services for Frito-Lay and Blue Cross in 1963. Other outsourcing options such as the use of contract programmers, timeshare and purchase of packaged software have also been widely used (Mui, 2003, Sparrow, 2003).

An early form of outsourcing typically deals with single-system contracts comprising a small portion of the IT budget (Mui, 2003). IT Outsourcing became very popular in 1990s after the success obtained by Eastman Kodak with the externalization of IT function to IBM, DEC (Claver, Gonzalez, Gasco, & Llopis, 2002). IT outsourcing has continually growing up to span multiple systems and represents an important transfer of assets, leases and staff to a vendor that now assumes profit and loss responsibility (Mui, 2003).

IT outsourcing has become to a strategic management in the sought for global competitiveness. Business organizations decide to transfer IT services to vendor firms not only because of the cost-related advantages, outsourcing of knowledge-intensive

work also takes place in the organizational areas of core competency like to apply research & development. The rationale behind outsourcing of knowledge services is to form alliances to take advantage of, or to add value by using, the mature practices of outsourcing partners and to benefit from the complementary skills of outsourcing vendors (Alexandrova, 2012).

2.2.1 Type of IT outsourcing

Many types of IT outsourcing were classified, generally it can be sorted by percentage of IT budget based on the proportion of outsourcing of IT budget that was sorted into two major types: total-outsourcing, and selective outsourcing (Solli-Sæther and Gottschalk, 2010).

Total-outsourcing: Total outsourcing refers to an organization decision to transfer 80% or more of the IT budget for IT assets, operated by third parties.

Selective outsourcing: Selective outsourcing refers to an organization decision to transfer least 20% but not more than 80% of the IT budget for IT assets, operated by third parties.

Furthermore, the major types of outsourcing can be classified by different arrangements such as a term of the outsourcing contract, purpose of outsourcing, or nature of the contract, etc.

Onshore or Domestic outsourcing: the situation when the client organization is being outsourced by the vendor organization located in the same country (Chakrabarty et al., 2007).

Nearshore outsourcing: the situation when it is outsourcing to low wage countries with a similar business culture and language (e.g., America, Canada).

Offshore outsourcing: the situation when the client organization is being outsourced by a vendor organization located in different countries.

Global sourcing: the situation when it is outsourcing to the locations of one or more service providers in several countries (Wijers and Verhoef, 2009).

Multi-sourcing: the situation when the outsourcer enters into individual contracts with several service providers at the same time.

Single sourcing: the situation when it is outsourcing to one service provider, who assumes full responsibility for performing the outsourced services.

Value-added outsourcing: the situation when the outsourcing agreements aim at uniting the strengths of each other to market their IT products and services.

2.2.2 Type of services in IT outsourcing

In the business environment, organization's functional operation needs to be supported by IT. There are several of activities generated in IT department that are associated with acquisition, development, implementation and management of these technologies. Within the IT outsourcing marketplace, there is variety of IT activities that can be outsourced (Mui, 2003). For examples; application development and maintenance; infrastructure management; help desk; data center management; systems integration; research and development; managed security; and cloud computing (SET, 2013)

2.2.3 Benefits of IT outsourcing

In the public markets, the growth of outsourcing markets is strong business motivations. Drivers behind this growth varied. Most used outsourcing for either strategic or tactical reasons. Firm are looking for ways to offer modern products or

services without excessive costs or delays by gaining or retaining competitive advantage that using IT outsourcing in strategic decision. A strategy by forming an alliance or a partnership with an outside firm may reduce the risks of a new system. The tactical advantages offered by outsourcing to firms striving to cut costs include the economies of scale that occurred when mass producing good results in lower average cost, and primacy of focus on core businesses (Mui, 2003). The option for outsourcing usually arises due to least one of the reasons which are; cost reduction containment; improving quality of IT service; improved IT Flexibility; access to scarce IT skills; improved business flexibility; focus on core business; reduced administration time; high and flexible service level agreements; access to best of breed technologies; faster time-to-market; ability to more quickly leverage innovative platforms (SAVVIS, 2013; Paparwekorn, Madan, Malisuwan, & Kaewphanuekrungsiet, 2013)

2.2.4 Risks of IT outsourcing

IT outsourcing has been extensively accepted by various Organizations, This is because IT outsourcing has many potential benefits, cost saving, and improved efficiency, increased flexibility. However, IT outsourcing also entails the risk that may lead to undesirable consequences, e.g., costly contractual amendments, shirking and opportunistic bargaining, and disclosure of commercial secrets and fraud. According to Fan et al., (2012) explore the risk factors of IT outsourcing success as follows.

Technological indivisibility: Since much of information technology is not divisible, trying to divide it into parts for different vendors can be problematical.

Possibility of weak management: New type of IT outsourcing management may be more difficult. Weak management could increase costs and lead to conflict and dissatisfaction.

Cultural fit: Poor cultural fit may damage the outsourcing relationships between client and vendor and lead to the dispute between them.

Requirements instability: Future direction and requirements of the client may change in the process of IT outsourcing operation.

Coordination between client and vendor: Effective coordination between client and vendor could facilitate the favorable cooperation in the process of IT outsourcing operation.

Reliability of selected vendors: Unreliable vendor may influence the schedule and quality of IT outsourcing operation.

Uncertainty about the legal environment: Legal environment is the external condition for IT outsourcing. The uncertain legal environment could influence IT outsourcing operation.

Technological complexity: Technological complexity may influence the schedule of IT outsourcing operation and the quality of task accomplishment.

2.2.5 Review of literature related IT outsourcing in Thailand

Watjatrakul (2005) studied Information System sourcing decision comparative transaction cost theory (TCE) and the resource-based view (RBV). The study investigates contexts where sourcing is made decisions by the concepts of asset specificity and uncertainty from TCE, and the strategic resources from RBV. The research found that the sourcing decisions are explained by TCE better than the RBV.

When the two theories made conflict, in specially, a high-specificity asset has a majority influence on sourcing decisions. It overrides the effects of uncertainty on sourcing decisions while a non-strategic resource has no influence on sourcing decisions.

Paisittanand, and Olson (2006) studied the use of Monte Carlo simulation for evaluation of financial risk of an IT project selection decision on IT outsourcing in the credit card business. The results found that a major Thai bank considered the opportunity to expand credit card operations through IT outsourcing.

Sangroengrob and Techachaicherdchoo (2010) investigated the effect of employee's satisfaction, organization commitment and work commitment to turnover intention of IT outsourcing company in Thailand. The results found that turnover intention were not impacted by job satisfaction and organizational commitment, but has effected on work commitment.

Paparwekorn et al., (2013) studied the Factors That Motivate the Used of IT Outsourcing in Thailand. The research framework consists of four factors, which are core business, technology, expertise, reliability and quality, and reduce cost. They play as important aspect to motivate firms external IT to outsource. The results found that all factors have positive influence on IT outsourcing.

Ongwattanasirikul, Malisuwan, & Madan, (2013) studied Risk Analysis of IT Outsourcing Case Study on Public Companies in Thailand. A conceptual framework is presented and tested to reveal the relationship between IT outsourcing risk factors and negative outcomes that occur from IT outsourcing. The result concluded that four risk factors "Measurement problem", "Lack of expertise of vendor with outsourced activity", "Uncertainty", and "Interdependence of activities", are significant predictors

of negative outcomes in Thailand. The other risk factors which are “Lack of expertise of client with outsourced activity”, “Lack of expertise of client with outsourcing contract”, “Lack of expertise of vendor with outsourcing contract”, “Asset specificity”, and “Small number of vendors” do not have a significant relationship with negative outcomes.

In summary, according to Watjatrakul (2005) study transaction cost theory (TCE) and the resource-based view (RBV) for IT outsourcing sourcing decision maker in Thailand. The finding indicated TCE is used to explain sourcing decision maker better than the RBV. The decisive factors for IT outsourcing were firm needed to focus on core business, technology, expertise, reliability and quality and cost saving (Paparwekorn, 2013). While the study of Paisittanand (2006) found that a majority of Thai bank considered to expand credit card operations through IT outsourcing. Sangroengrob and Techachaicherdchoo (2010) studied employee turnover intention of IT outsourcing company in Thailand. The result found that job satisfaction and organizational commitment have no effect on their turnover intention, except only work commitment that effect on their turnover intention decision. Also Ongwattanasirikul et al (2013) found that four risk factors “Measurement problem”, “Lack of expertise of vendor with outsourced activity”, “Uncertainty”, and “Interdependence of activities”, are significant predictors of negative outcomes in Thailand. The success factors of IT outsourcing in Thailand have no study yet. Then it is motivated to study in this research.

2.3 Theory related IT outsourcing

2.3.1 Transaction Cost Economic Theory

The concept of transaction costs was introduced to study of the firm and market organization by Coase (1937). Transaction Cost Economics (TCE) was developed by Williamson (1975) assumes that transactions are influenced by production economics, and organizations. The profitable is the most efficient mechanism for transactions. The fundamental of the TCE theory is the concept: make-or-buy that the firm decision to keep business activity internal organization or delivery to outsource. The market prices alone are not the main actors in the decision while a firm tries to determine whether to outsource or to produce goods or services on in-house. The mechanism of this decision, firms balancing between the production costs ("make" decision) and the transaction costs associated with outsourcing ("buy" decision). In essence, from the TCE viewpoint, the main purpose of a firm is to be economical on the transaction costs through the selection of proper governance structures for managing its transactions (Javalgi, Dixit, & Scherer, 2009).

2.3.2 Resource-Based View Theory

The Resource-Based View (RBV) proposes that the basic focus of any strategy is to increase the value-creation potential of firm resources. The potential for value-creation is grounded on absolute conditions, such as resource attributes and their availability. The firm resources can be categorized into three groups. Firstly, there are tangible resources that incorporate technology, plant and equipment, location, access to raw materials, and related physical resources. Secondly, the firm requires human resources that incorporate training, expertise, judgment, intelligence, relationships,

insights and knowledge of an employee. Finally, there are organizational/social resources that incorporate reporting structures, formal and informal planning processes, administrative and management systems, and relationships among groups within the firm and between a firm and its situation (Javalgi et al., 2009). The RBV will be interested, where the competitive advantage situation is rapid and unpredictable changed. Firms prefer to acquire to requisite capabilities forms alliances and partnerships, as opposed to developing the capabilities internally. This leads to significant capabilities from RBV (Goles, 2003). The firms believe that the RBV will be provided to maximize long-run profits through utilizing and improving resources for competitive advantage (Javalgi et al., 2009).

2.3.3 Social Exchange Theory

Social Exchange Theory was originally created to investigate interpersonal exchanges that are not only economic. Several sociologists are responsible for the early evolution of this theory. These theorists view people's social behavior in terms of exchanges of resources. The need for social exchange is generated by the insufficiency of resources, motivating parties to employ one another to achieve valuable inputs. Social exchange can be viewed as an ongoing reciprocal process in which activities are accidental on rewarding reactions from others. There are important differences between social exchanges and economic exchanges. Social exchanges may or may not cover border benefits with objective economic value. The benefits from social exchanges often are not contracted clearly and it is voluntary to provide benefits. As a result, exchange parties are uncertain whether they will receive benefits. Thus social exchange theory focuses on the social relations among the parties that shape the exchange of

resources and benefits. While its origins are at the individual level, social exchange theory has been extended to organizational and inter-organizational levels (Gottschalk amd Solli-Sæther, 2006). Social Exchange Theory can be categorized into three types. Firstly of Social Exchange Theory's category is call "negotiated transaction". A negotiated transaction concerns mutually potential contributions to the exchange, with both contributions concerning within some social process. Secondly of Social Exchange Theory, category involves the parties, but separately operated contributions, only one party is likely upon the others. An altruistic action is the beginning of the process. Finally of Social Exchange Theory's category has been called "incorporation". Incorporation is based on a special form of exchange in win-win benefit. The basis of the IT outsourcing was concerned with the first category of Social Exchange Theory (a negotiated transaction) and the third category of Social Exchange Theory (an incorporation relation) (Sun, Lin, & Sun, 2002). Therefore, this study used the constructs of Social Exchange Theory to develop the research model of IT outsourcing success.

2.4 IT outsourcing success

IT Outsourcing success was generally analyzed from strategic, technological, and economic perspectives (Han et al., 2008; Swar et al., 2012; Qi, and Chau, 2012b).

Strategic benefits: The ability of a firm to focus on its core business, outsource routine IT activities so that it can focus on strategic uses of IT, and enhance IT competence and expertise through contractual arrangements with an outsourcer.

Economic benefits: The ability of a firm to utilize expertise and economies of scale in human and technological resources of the service provider and to manage its cost structure through unambiguous contractual arrangements.

Technological benefits: The ability of a firm to gain access to leading-edge IT and to avoid the risk of technological obsolescence that results from dynamic changes in IT.

2.5 Client satisfaction

According to IT outsourcing success refers to the overall organizational advantage gained from IT outsourcing strategy. Satisfaction is one as a common tool used to measure of success in IT outsourcing (Swar et al., 2012, Qi and Chau, 2012). Satisfaction is the level of a person's felt state resulting from comparing a product's perceived performance (or outcome) in relation to the person's expectations. Thus, the satisfaction level is a function of the difference between perceived performance and expectations. A customer could experience one of three broad levels of satisfaction: If the performance falls short of his expectations, the customer is dissatisfied. If the performance matches his expectations, the customer is satisfied. If the performance exceeds his expectations, the client is delighted. Delight creates an emotional affinity with the brand; not just a rational preference and this creates higher client loyalty (Govindarajan, 2007). Satisfaction with output quality is defined as a client's perception of the extent to which an IT vendor contributed to enhance the quality of output information. Output quality has been considered a critical factor in measuring the success of information systems in general and of outsourcing arrangements in particular

(Goo, Kishore, Nam, Rao, & Song, 2007). According to Chakrabarty et al.,(2007) has examined outsourcing success in terms of user satisfaction and found a positive relationship between observed variables and satisfaction.

2.6 Factors related IT outsourcing

Prior researches have explored factors that influence IT outsourcing success (Hussin et al., 2006). Table 2.1 presents the factors related IT outsourcing success.

Table 2.1 Factors related IT outsourcing success

Author	Methodology	Construct	Hypothesis
Lee, (2001)	Qualitative	Knowledge sharing	Supported
		Partnership quality	Supported
Goles, (2003)	Qualitative	Vendor capability	Supported
Landrum and	Qualitative	System quality	Supported
Prybutok, (2004)		Information quality	Supported
		Service quality	Supported
Hussin et al.,	Qualitative	Service quality	Supported
(2006)		Partnership quality	Supported
		IT outsourcing arrangements	Not Supported
Chakrabarty et al.,	Qualitative	Service quality	Supported
(2007)		Relationship quality	Supported
Mohamed, et al.,	Qualitative	Service quality	Supported
(2007)		Relationship quality	Not Supported
Lee et al., (2009)	Qualitative	Client's IT capability	Supported
		Vendor competence	Supported
Ojo, (2010)	Qualitative	Service quality	Supported
Qi & Chau,	Qualitative	Relationship dimension	Supported
(2012a)		Contract dimension	Supported
Swar et al., (2012)	Qualitative	Relationship quality	Supported
Han et al., (2013)	Qualitative	Client IT capability	Supported
		Vendor IT capability	Supported

Table 2.1 presents service quality, relationship quality, and vendor capability are often used to determine IT outsourcing success. The client firm's IT capability not

recognized in this field because the subject aims to client only, the client firm's IT capability will be assessed by the vendor's project managers to elicit a neutral and unbiased dataset (Han et al., 2008).

2.6.1 Service quality

A service is a performance provided by one party to another. Although the process may be related to physical product, the performance is temporary, often intangible in nature (Loveelock and Wirtz, 2004). Whenever the service can be served client expected with meet or over requirement that is a service quality. Service quality was often found difficult to evaluate, it was always measured by satisfaction. A SERVQUAL scale is well-known as an instrument used to measure satisfaction of the service quality, developed by Parasuraman et al., (1985). It has been adopted successfully measuring of IT service quality in the IT field, consists of tangibility, reliability, responsiveness, empathy and assurance (Landrum and Prybutok 2004; Lee and Kozar, 2006; chakrabarty et al., 2007).

Tangibility: Tangibles refer to physical facilities, equipment, personnel, and communication materials (Lee and Kozar, 2006).

Responsiveness: Responsiveness refers to the willingness and ability of the vendor to render prompt service to meet the need of client (Suki and Suki, 2013).

Reliability: Reliability refers to the degree of the service delivered by vendor in relation to the standard of expectations delivering to client dependably and accurately and dependably (Suki and Suki, 2013).

Empathy: Empathy refers to the norm of caring, individualized attention to clients including, access, communication, and understanding the client (Ojo, 2010).

Assurance: Assurance refers to the knowledge and courtesy of technical and their ability to lead confidence and trust including, competence, courtesy, credibility and security (Ojo, 2010).

Service quality has been shown to result in valuable benefits, such as increased profit level, cost savings, and market share increases, to firms (chakrabarty et al., 2007). It has been regarded as the prospect to achieve strategic benefits, like improved customer retaining rates and gaining competitive edge (Akhtar, Hunjra, Akbar, Rehman, & Niazi, 2011). Thus Service quality factor will be considered in this research.

2.6.2 Vendor capability

As outsourcing markets grow and the practice of outsourcing matures, most firms increasingly believe that outsourcing vendors will eventually deliver value in the long term. However, variations in outsourcing outcomes call for an in-depth investigation on how vendors can create value for clients in IT outsourcing. Generally, vendors have different predispositions and resources, thus resulting in varied outcomes even in similar outsourcing projects. This concept is called vendor capability. IT outsourcing achieves performance excellence by capturing the IT competencies and resources of vendors (Han, et al., 2013). Existing literature uses variety of constructs to determine the vendor's capabilities, which includes technical capability, business understanding, and relationship management (Goles, 2003), personnel capability, methodology, and client management (Lee et al., 2009; Han, et al., 2013). To understand better, the constructs were explained below.

Table 2.2 Sub-construct of vendor capability and IT outsourcing success

Author	Sub-construct of vendor capability	Finding
Goles, (2003)	Technical capability	Supported
	Business understanding	Not supported
	Relationship management capability	Supported
Lee et al., (2009)	Personnel capability	Supported
	Methodology capability	Supported
	Client management capability	Supported
Han et al., (2013)	Personnel capability	Supported
	Methodology capability	Supported
	Client management capability	Supported

Table 2.2 presents the sub-construct of vendor capability, technical capability or personnel capability, methodology capability, and relationship management capability or client management capability were related to IT outsourcing success.

Personnel capability: Personnel capability or technical capability reinforces the quality of IT outsourcing results by ensuring that staff members are held accountable for meeting contractual obligations. Thus, personnel capability includes the IT knowledge, ability, and skills of personnel to provide effective IT services (Han, et al., 2013). Previous studies support the importance of relationship of personnel capability and IT outsourcing success (Goles, 2003; Lee et al., 2009; Han et al., 2013).

Methodology capability: Methodology capability of vendors is necessary for the consistent delivery of solutions to client problems through standardized outsourcing processes and systematic problem solving. This methodology can also improve the

quality of client–vendor relationship by defining and standardizing best practices that lead to significant operational improvements and efficiencies in outsourcing projects (Han, et al., 2013). Prior study, Methodology is found to have a relationship with IT outsourcing success (Lee et al., 2009; Han et al., 2013).

Client management: Client management or relationship management that a capability helps establish proper customer expectations for reducing project uncertainty by sharing the status of ongoing projects, promoting the understanding of participant roles, and providing valuable comments and feedback, thereby gaining more value from outsourcing projects. Collectively, these three sub-dimensions complement one another and form the overall vendor IT capability in outsourcing services (Han et al., 2013). Prior study, Management is found to have a significant positive correlation with IT outsourcing success (Goles, 2003; Lee et al., 2009; Han et al., 2013).

Business understanding: Business understanding, defined as the extent to which the vendor understands the wants, needs, constraints, and behaviors of the customer, is now a vital aspect of the outsourcing arrangement (Goles, 2003).The prior study showed the vendor's understanding of the customer's business was unconsidered to be significant contribution to IT quality. Thus the business understanding factor is not considered in this study.

Therefore, in this study recognizes personnel capability, methodology capability, and management capability as the variables that comprised the vendor capabilities.

2.6.3 Relationship quality

Relationship quality refers to the perception of client for enterprises to realize their expectations and requirements. (Xi-feng, Rong, & Shi-zhong, 2011). It can be seen as the level connection to fulfill the desires of the client affiliated with that relationship (Hennig-Thurau amd Klee, 1997), and plays a significant role in the outcome of the outsourcing arrangement (Goles and Chin, 2005). It can be considered as a Meta assembles composed of several key constituents reflecting the general environment of relationships between parties (Hennig-Thurau, Gwinner & Gremler, 2002). According to Goles and chin (2005) the attributes necessary for successful relationship include; commitment, consensus, cultural compatibility, flexibility, and interdependence. When these attributes has been in an associate partnering, the partnering businesses recognize their interdependence and are ensured to work towards a good relationship (Tuten amd Urban, 2001). Despite various researches of empirical investigation, there have been some benefit contributions from a number of authors. However, these authors employed a diversity of different constructs that are not always clearly determined or separated from each other (Naude and Buttle 2000). Some of useful factors presents as table 2.3.

Table 2.3 Factors of relationship quality of IT outsourcing success

Factors	Authors									
	Xi-feng et al., (2011)	Blumenberg et al., (2008)	Goles and Chin, (2005)	Chakrabarty et al., (2007)	Qi and Chau, (2012b)	Hussin et al., (2006)	Beimborn et al., (2009)	Mao et al., (2008)	Han et al, (2008)	Swar et al, (2012)
Trust	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Commitment	✓	✓	✓	✓	✓	✓	✓		✓	✓
Communication	✓	✓	✓	✓	✓		✓	✓	✓	✓
Conflict	✓	✓	✓			✓	✓			✓
Collaborative participation, Inter-firm adaptation, Consensus		✓	✓				✓	✓	✓	
Information sharing						✓		✓	✓	✓
Cooperation			✓							✓
Mutual understanding		✓					✓			✓
Culture			✓	✓						✓
Confidentiality										✓
Flexibility, Congruence	✓	✓	✓							✓
Knowledge sharing					✓	✓				
Independent			✓	✓						
Coordination, Interdependent	✓		✓							
Integration			✓							
Influence		✓								
Forbearance		✓								

Table 2.3 showed trust, commitment, and communication were frequently used by construction of relationship quality. According to Social Exchange Theory (SET) trust, and commitment is the core of SET (Qi and Chu, 2012b). Prior study showed trust and commitment building different of sub-constructs that presents as table 2.4.

Table 2.4 Sub-construct and construct of relationship quality category by trust and commitment

Authors	Constructs	Sub-constructs	Finding
Swar et al., (2012)	Trust	Communication	Correlated
		Culture	Correlated
		Confidentiality maintaining	Not correlated
		Flexibility	Not correlated
		Information sharing	Correlated
		Conflict handling	Correlated
Mao et al., 2008	Trust	Information sharing	Correlated
		Communication	Correlated
		Inter-firm adaptation	Correlated
Han et al., 2008.	Trust	Information sharing	Correlated
		Communication	Correlated
		Collaborative participation	Correlated
Han et al., 2008	Commitment	Information sharing	Correlated
		Communication	Correlated
		Collaborative participation	Correlated

Table 2.4 Trust and commitment were the major constructed of relationship quality given by social exchange theory.

Trust: Trust proposes that a partner will be performed an action resulting in positive outcomes and not engage in unexpected behavior (Han et al, 2008). Trust is the most important "key" variable in relational exchange (Lambe, Wittmann, & Spekman, 2001). SET proposes that as the interactions increase and the size of the transactions increase, the value of the rewards one received increases by trust, Trust importantly assists in accomplishing the objectivity of the exchange parties (Swar et al., 2010). Communication, culture, information sharing and conflict handling were sub-constructs of trust; these were significantly correlation with trust. Also an Inter - firm adaptation or collaborative participation was significantly correlated with trust (Mao et al., 2008; Han et al., 2008).

Commitment: commitment is a mutual belief that an ongoing relationship with a partner is important enough to partnership (Han et al., 2008). Information sharing, communication, and collaborative participation were relative significantly correlated with commitment, and commitment had relative significantly correlated with IT outsourcing success (Han et al., 2008).

In this study recognizes communication capability, culture compatibility, information sharing, conflict handling, and collaborative participation as the constructs of the relationship quality. To understand better threes factors explained below.

Communication: Communication is the status of the efficiency and effectiveness of information exchange between partners (Blumenberg et al., 2008). Strength communication keeps partners better informed and makes them more confident

in the relationship and more willing to keep it alive. Communication capability is an antecedent of trust and an important trust building mechanism in IT Outsourcing (Mao et al, 2008). Existing studies consider communication capability is found to have a significant interaction effect on the relationship quality (Swar et al., 2010).

Cultural compatibility: Cultural compatibility refers to the closeness of behavior patterns, values and norms within a partnership (Blumenberg et al., 2008). Cultural compatibility is the extent to which the parties can coexist with each other's beliefs about what values, behaviors, goals, and policies are important or unimportant, appropriate or inappropriate, and right or wrong. Cultural incompatibility can be a major stumbling block for inter organizational relationships in general, and outsourcing relationships in particular (Goles and Chin, 2005). But the relationship between organizations with compatible cultures are more likely to be successful than the organizations with incompatible cultures (Pothukuchi, Damanpour, Choi, Chen, & Park, 2002). Existing studies consider cultural compatibility capability is found to be statistically significant with relationship quality (Swar et al., 2010).

Information sharing: Information sharing this involves the range and depth of information exchanged between partners: a trust-based relationship in which both client and vendor are intimately coupled. Trust results from frequent and relevant information exchange; inter-group exchange generates trust, and eventually facilitates more effective interaction and a better relationship (Mao et al., 2008). Partnerships can create a competitive advantage through the strategic sharing of organizations' key information. Many researchers report that closer relationships result from more frequent and relevant information exchanges among high-performance partners (Lee and Kim,

1999). Information sharing capabilities of organizations also helps to understand each other well and cooperate better. To reach a mutual understanding too parties create and share information with each other (Swar et al., 2010). Existing studies consider Information sharing is found to have a significant positive correlation with relationship quality in IT Outsourcing context (Lee and Kim, 1999), where cultural compatibility has been identified as a major precursor of relationship quality.

Conflict handling: Conflict is the overall degree of disagreement with the partner over the objective, roles, procedures, and execution of the contract. Conflict in an outsourcing arrangement is especially problematic, given the complexity of technology, the degree of detail in many contracts, and the sometimes disparate objective of the parties (Goles and Chin, 2005). Handling conflict effectively strengthens the relationship between the parties. The way the organization handles the conflicts can result in either productive or destructive nature of relationship between the parties. Harmonious resolution of the conflict increases the trust among the parties and helps them to cooperate and understand each other resulting in better relationship quality in IT outsourcing arrangements (Swar et al., 2010).

Collaborative participation: Collaborative participation defined as the extent to which there is an effort on the part of both parties to create required modifications by partners participate, providing a mechanism for negotiating and agreeing upon mutual benefits, and for making normal objective (Mao et al., 2008). Collaborative participation allows partners to establish mutual expectations and specifications of cooperative effort. Therefore, it plays a significant role in enhancing the sustainability of their relationship over time. Moreover, effective working interactions are marked by

collaborative actions directed at mutual objectives, thereby leading to higher relationship intensity (Han et al., 2008).

2.7 Research Model

The research model was extended form the Goles model (2003) which developed the model for study the vendor capabilities and outsourcing success: A resource-based view. Goles (2003) had an idea that the quality of the outsourced systems and functions are reflected by vendor's capabilities. Based on the resource-based view, capabilities become especially critical in situations where the competitive environment is subject to prompt and unpredictable change, in these situations client has to be able to quickly achieve, distribute, and integrate resources to remain competitive. Under conditions of environmental turbulence and uncertainty, firms prefer to gain access to requisite capabilities through another firm, as opposed to developing the capabilities internally or directly acquiring them from other sources. The insufficient resources will be fulfilled by vendor capabilities (Goles, 2003). Figure 2.1 presents Goles model (2003).

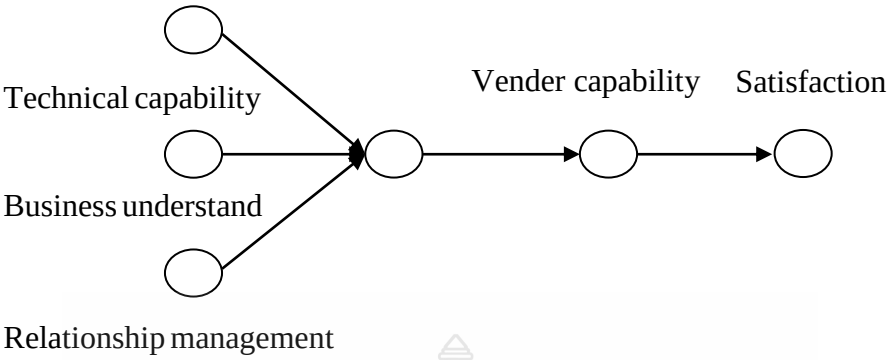


Figure 2.1 Goles model (2003)

Source: Vendor capabilities and outsourcing success: A resource-based view. Wirtschaftsinformatik 45(2), 199–206.

Goles (2003) studied the vendor capability factors that consist of technical capability (amount of technical proficiency for any outsourcing arrangement IT capability), understanding of the client's business (understands of wants, needs, constraints, and behaviors of the client), and its ability to manage the interactive relationship (the ability to communicated, and managed relationship between client and vendor). The quality is evaluated by the vendor performance that meets or exceeds the client's expectations; outsourced success is evaluated by client satisfaction. The results showed a significant connection between the vendor capabilities and the quality of the IT function which in turn was related to client satisfaction.

In social viewpoint, satisfaction is a common tool to measure the success of IT outsourcing research that usually exhibits the level of client's satisfaction with the vendor (Swar et al., 2010). Satisfaction is the level of a person's felt state resulting from comparison a product's appreciated performance and the person's expectations. Thus,

the satisfaction level is a function of the difference between perceived performance and expectations (Govindarajan, 2007).

The gap of Goles (2003)'s model is IT Outsourcing success which was studied only in terms of client satisfaction. Prior research proposed that the benefit of IT outsourcing success can be categorized into three groups by economic view, strategic benefit, technological benefit, and economic benefit (Goles and Chin, 2005; Han et al., 2008; Swar et al., 2010; Qi, and Chau, 2012a; Qi, and Chau, 2012b). Therefore in this study, to fulfill the Goles's model gap the benefit in terms of economic view will be added to the research model.

According to the review of literature, service quality and relationship quality were the important factors that led to consider of IT Outsourcing success (Chackrabaty et al., 2007; Mohamed et al., 2007; Goles and chin 2005; Swar et al., 2010). And these factors have not yet been studied by researchers in Thailand. Then in this study, service quality and relationship quality will be added to the research model. The research model presents as figure 2.2.

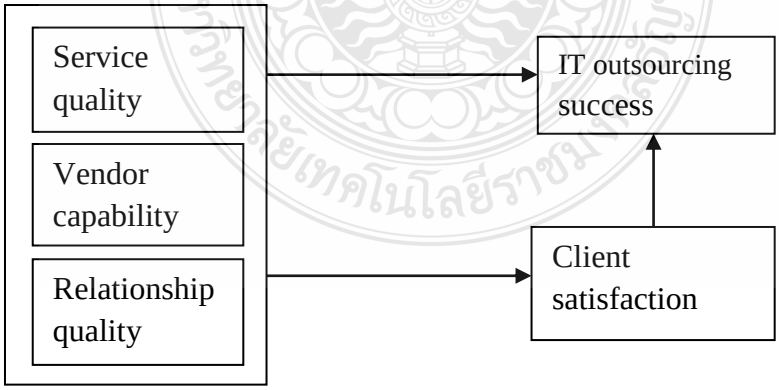


Figure 2.2 research model of IT outsourcing success in Thailand

The research model of IT outsourcing success in Thailand is classified into five parts, service quality, vendor capabilities, relationship quality, IT outsourcing success and client Satisfaction.

2.8 Structural Equation Models

The Structural Equation Model or SEM models have very favorite in the social science and behavioral science due possibly to its generality and flexibility. The interest in SEM modeling is an integration of factor analysis and regression or path analysis. In advances there is a combination estimation technique, basic model, such as measurement model, and path model, into a general covariance structure of SEM analysis. The latent factors are attained by the theoretical constructs that the relationships between the factors are estimated by regression or path coefficients. The covariance among the observed variables is implied by structural equation model, which provides the alternative name covariance structure modeling. However, the modeling structures of observed variables are limited by no means (Hox and Bechger, 2007; Lei and Wu, 2007). In common usage, the model used in this study is referred to as AMOS model, but it should be noted that AMOS is one of the many statistical software familiar to work with SEM such as, CALIS/TCALIS of SAS/STAT, EQS, IISREI, Mplus, Mx, RAMONA of SYSTAT, and SEPATH of STATISTICA (Kline, 2011). SEM can be seen as easy or requires minimal conceptual understanding which is supported by widely statistical software. A review of literates found that IT outsourcing researches were performed using a structural equation modeling (SEM) technique as the table 2.5 below.

Table 2.5 presents a review of IT outsourcing research with SEM technique

Authors	Studies	Research technique
Goles, (2003)	Vendor capabilities and IT outsourcing success	SEM
Goles and Chin, (2005)	The relationship between customers and their service providers in IT outsourcing.	SEM
Mohamed, et al., (2006)	Perceived service quality, relationship quality, and IT outsourcing Success.	SEM
Chakrabarty et al., (2007)	The understanding service quality and Relationship quality in IS outsourcing.	SEM
Mao et al., (2008)	Vendors' perspective on trust and control in offshore IS outsourcing.	SEM
Han et al., (2008)	The impact of a firm's capability on IT outsourcing success.	SEM
Xi-feng et. al., (2011)	The relationship quality in IT outsourcing.	SEM
Swar et al., (2010)	The relationship quality for IS/IT outsourcing success.	SEM
Qi & Chau, (2012a)	Relationship and contract issues of IT outsourcing.	SEM
Han et al., (2013)	Complement between client and vendor IT capabilities in IT outsourcing.	SEM
Lee, (2001)	The relationship between knowledge sharing and outsourcing success.	Correlation
Landrum & Prybutok, (2004)	A service quality and success model for the information service industry.	Regression
Hussin et al., (2006)	Factors Influencing IT outsourcing success in Malaysian organizations	Regression
Lee et al., (2009)	Client IT capability and vendor competence fits on outsourcing success	Regression
Ojo, (2010)	The relationship between service quality and customer satisfaction in the telecommunication I ndustry	Regression

SEM has become a popular multivariate approach in a relatively short period of time. Researchers are attracted to SEM because it provides a conceptually appealing way to test theory. If a researcher can express a theory in terms of relationships among measured variables and latent constructs then SEM will assess how well the theory fits reality as represented by data. The procedures of SEM were performed by six stags which are; defining individual constructs, developing the overall measurement model, designing a study to produce empirical results, assessing the measurement model validity, specifying the structural model, and Assessing structural model validity (Hair, Black, Babin, and Anderson, 2010).

Defining individual constructs, this process begins with a good theoretical definition of the construct involved. This definition provide for selecting or designing individual indicator items. Scale items and scale type was selected in this process.

Developing the overall measurement model; in this stage, to include each latent construct in the model. The indicator items are identified and assigned to latent constructs.

Designing a study to produce empirical results; in this stage, to specify basic model in terms of constructs and measured indicators. The adequacy sample sizes, select the estimate method, and missing data approach were assessed.

Assessing the measurement model validity; the validity of construct model was assessed by establishing acceptable level of good- of fit measurement and finding specific evidence of construct validity.

Specifying the structural model; in this stage involves specifying the structural model by assign relationship form one construct to another based on the proposed theoretical model.

Assessing structural model validity; this stage involves an effort to test the validity of structural model and it corresponding hypothesized theoretical relationship.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presented research methodology that was applied to the study of the success factors of IT outsourcing in Thailand. The chapter consisted of three key components: model/theoretical framework, research design, and methodology.

3.2 Model/ Theoretical Framework

The theoretical foundation of study are transaction cost economic, resource-based view, and social exchange theory.

The transaction costs economics (TCE) provides more opportunities to estimate the role of transaction costs for economic performance. This shows that perception of transaction costs is extremely important for better understanding of any empirical phenomenon related to business. IT outsourcing is buying of IT services from a vendor (Vasiliauskiene, 2011). Then, the vendor with high service quality is always selected by client. The concept of service quality also incorporates factors such as satisfaction, behavioral intention, and customer complaints (You et al., 2011). The instrument used to assess service quality is called SERVQUAL developed by Parasuraman, et al., (1985).

This study measures the service quality that consists of five dimensions which are; tangible, reliability, assurance, empathy, and responsiveness (Parasuraman et al.,

1985; Mohamed et al., 2007; Chakrabarty et al., 2007). The service quality model was illustrated in Figure 3.1 below.

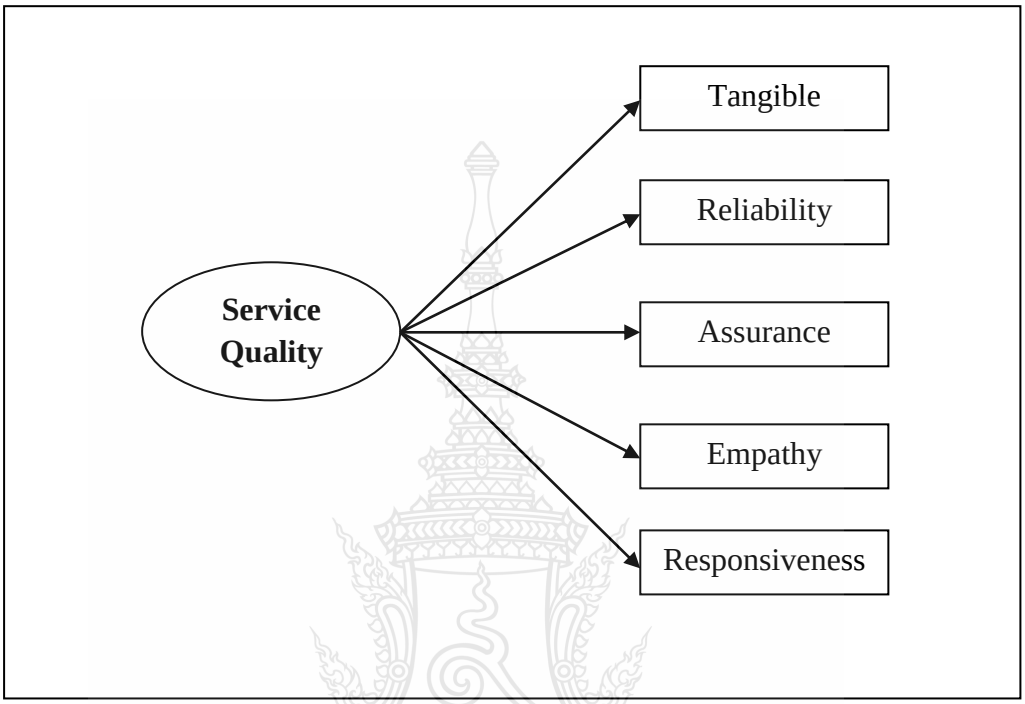


Figure 3.1 Service Quality Model

The resource-based view (RBV) operates under the assumptions that firm resources are heterogeneous and immobile. The resources that a firm requires to develop and implement its strategies are distributed across individual firms. Utility of a resource-based view beginning with the firm's existing base of resources and capabilities are assessed and compared it to anticipated needs. If it is determined that new or complimentary resources and capabilities are required, the firm may decide to acquire them from a vendor rather than develop them in-house (Goles, 2003). For IT outsourcing business, vendor capability is one of the most critical organizational

abilities for improving IT outsourcing service performance, and IT outsourcing can achieve the best performance by capturing the IT capabilities and resources of vendors (Han et al., 2013).

This study measures the vendor capability that consists of five dimensions which are; personal capability, methodology capability, and management capability (Goles, 2003; Lee et al., 2009; Han, et al., 2013). The vendor capability model was illustrated in Figure 3.2 below.

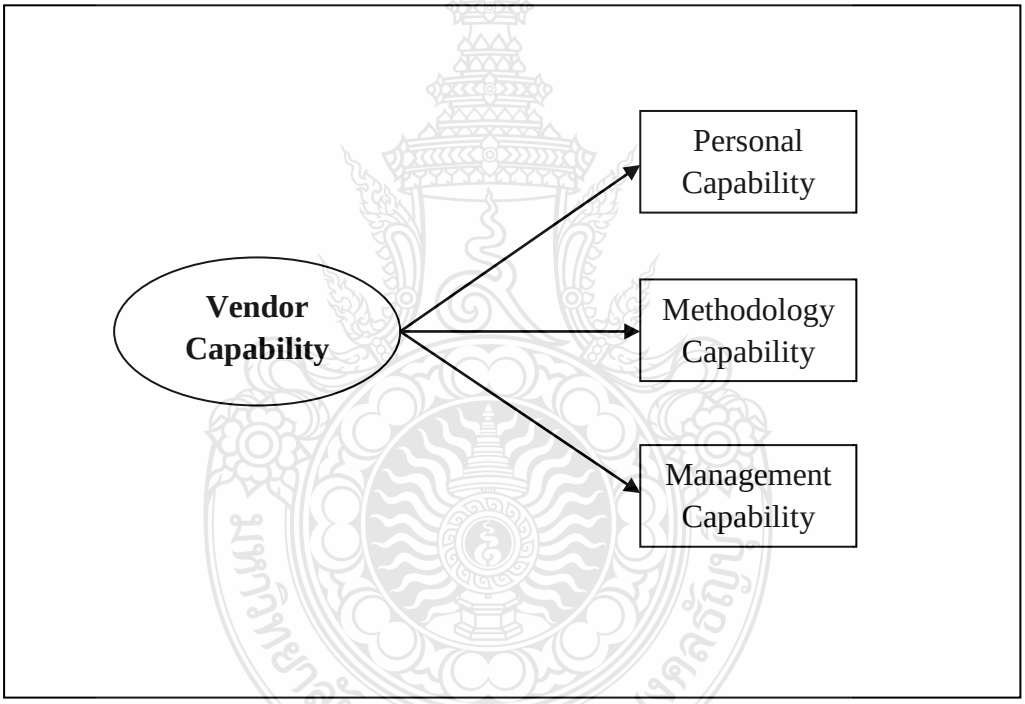


Figure 3.2 Vendor Capability Model

Social exchange theory (SET) is used to describe the interpersonal exchanges of the parties that were not purely economic but has been extended meaningfully to the study of inter organizational social exchange (Qi & Chau, 2012b). The basic assumption of SET is that parties enter into and maintain relationships with the

expectation that doing will be rewarded (Lambe et al., 2001). The relationship between the client and the vendor is one of the ways to create values in outsourcing, it plays a critical role in the success or failure of the outsourcing arrangement (Swar, at al., 2012). Relationship quality refers to the interaction between vendor and client which involves the characteristics and process of the exchange behaviors (Qi and Chau, 2012b). The relationship quality assumption as a partner will perform an action resulting in positive outcomes and not hire in unexpected behavior (Han, et al., 2008).

This study measures the relationship quality that consists of five dimensions which are; communication, cultural compatibility, information sharing, conflict handling, and collaborative participation (Swar et al., 2012; Qi and Chau, 2012b). The relationship quality model was illustrated in Figure 3.3 below.

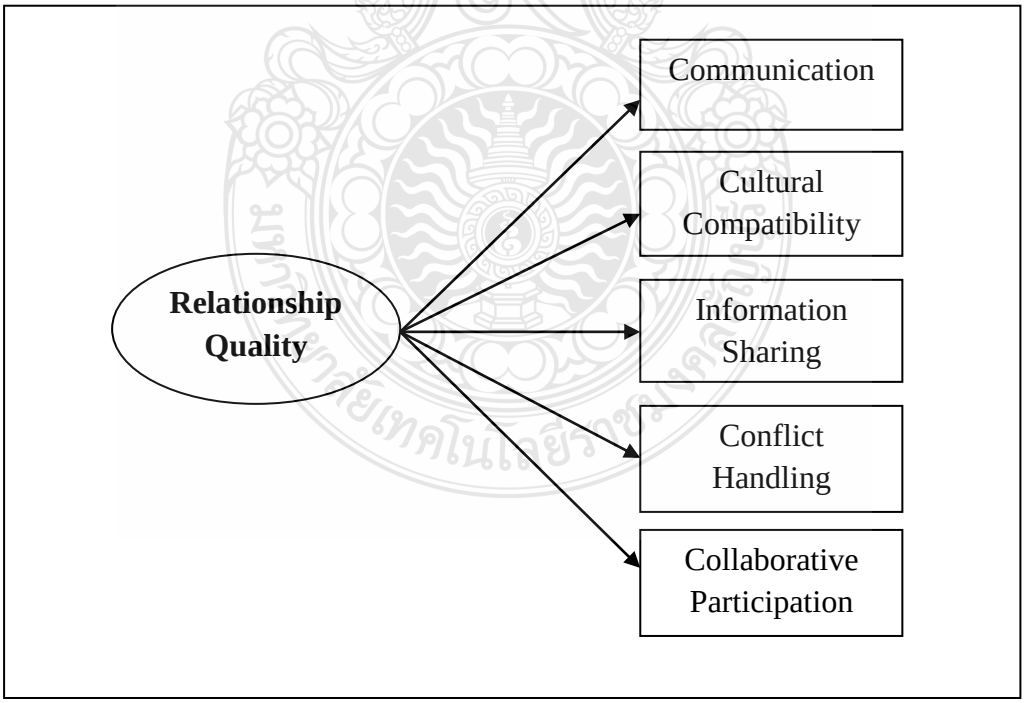


Figure 3.3 Relationship Quality Model

IT outsourcing success is defined by the degree to which predefined objectives are realized. In most outsourcing cases, outsourcing objectives are related to strategic benefit, economic benefit and technological benefit (Han et al., 2008; Swar et al., 2012; Qi, and Chau, 2012b). The IT outsourcing success model was illustrated in Figure 3.4 below.

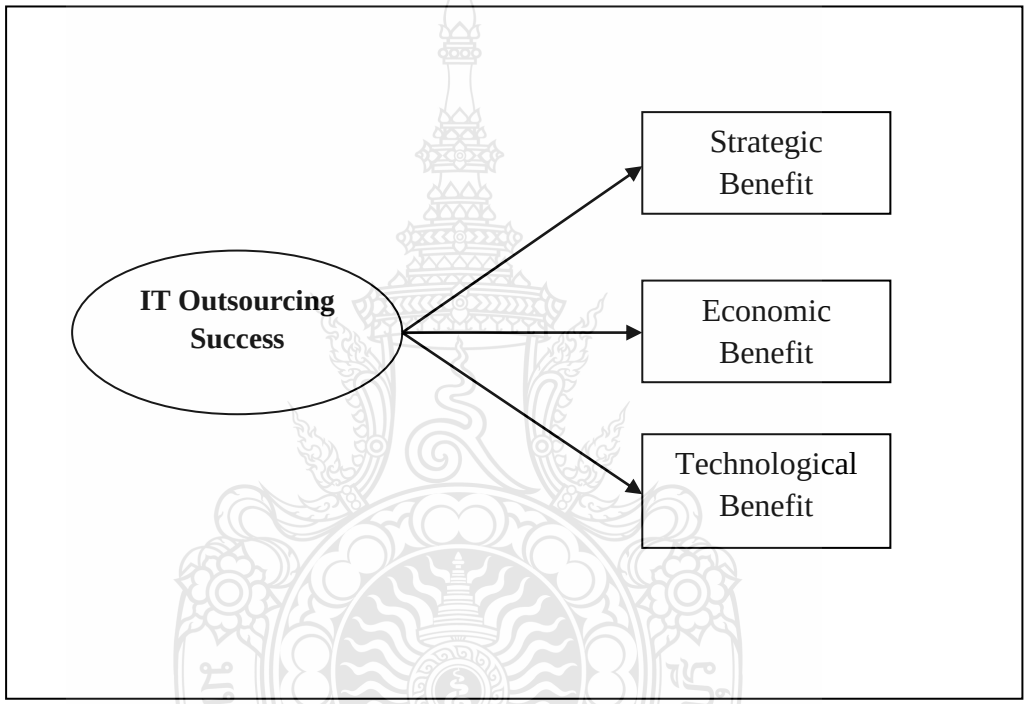


Figure 3.4 IT outsourcing success Model

Client satisfaction is the level of a person's felt state resulting from comparing a product's perceived performance (or outcome) in relation to the person's expectations (Govindarajan, 2007). Satisfaction is a common measure of success in IT outsourcing research that generally represents the degree of client's satisfaction with the vendor (Swar et al., 2012; Qi and Chau, 2012b). Many researchers considered satisfaction as a

one of a tool used to measure of performance in IT outsourcing (Chakrabarty et al., 2007; Swar et al., 2012; Qi and Chau, 2012a).

According to the theories related IT outsourcing and overall concepts that presented in the previous sections. The theoretical framework of success factor of IT outsourcing in Thailand is proposed in Figure 3.5 below.

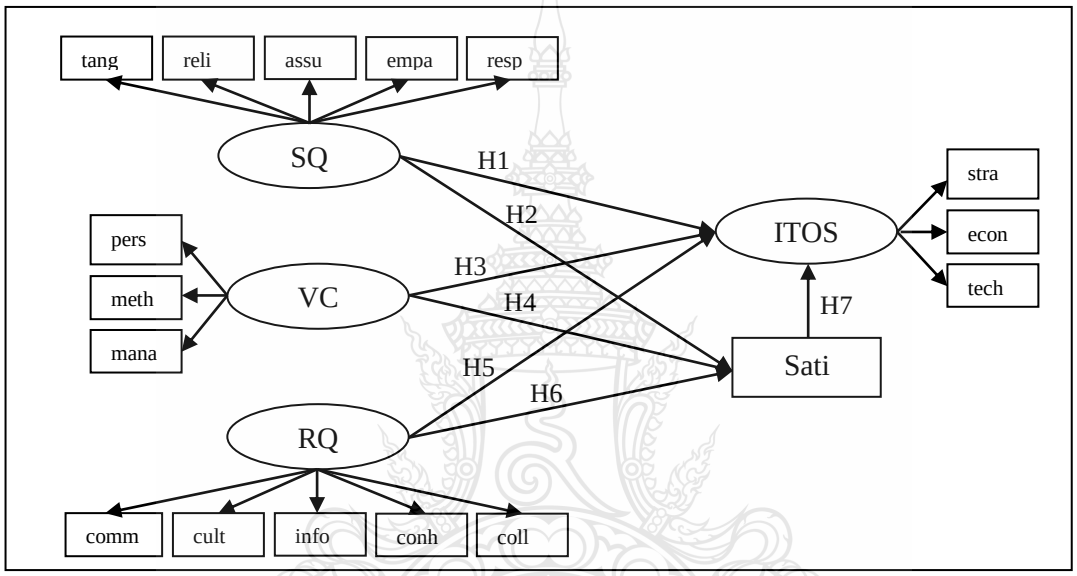


Figure 3.5 Theoretical Framework of the study

Table 3.1 variables of the model constructs

Exogenous variables	Endogenous Variable
Service quality (SQ)	**Client satisfaction (sati)**
Tang = Tangible	**IT outsourcing success (ITOS)**
reli = Reliability	stra = Strategic benefit
assu = Assurance	econ = Economic benefit
empa = Empathy	tech = Technological benefit
resp = Responsiveness	
Vendor capability (VC)	
pers = Personal capability	
meth = Methodology	
mana = Management	
Relationship quality (RQ)	
comm = Communication	
cult = Cultural compatibility	
info = Information sharing	
conh = Conflict handling	
coll = Collaborative participation	

3.3 Research Design

This research is a survey research. The data was surveyed from a sample at one specific point in time and is designed in the form of quantitative method, a questionnaire is developed as instrument used to survey for targeting population.

3.4 Methodology

3.4.1 Population and Sample Size

Population in this study focused on who was responsibility for arrangement of IT outsourcing in the companies listed on the stock exchange of Thailand of all 566 companies (SET, 2012). The determination of sample size for data analyses is based on the structural equation modeling. The suggestion of sample size should be 100 or more in the case where the model is small construct, as a general rule the acceptable sample size should be ten times of the observed variables (Hair et al., 2010). Since this research contains the total of 17 observed variables, the sample size of this research should be at least 17x10 = 170. The expected sample classified by Industry category was shown as table 3.2.

Table 3.2 Expected sample classified by industry category

No.	Industry category	Number of members	Estimated samples
1.	Agro & food industry	41	12
2.	Consumer products	38	11
3.	Financials	28	8
4.	Industrials	58	17
5.	Property & Construction	86	26
6.	Resources	80	24
7.	Services	39	12
8.	Technology	121	36
9.	MAI industry	75	24
	Total	566	170

3.4.2 Data Gathering

The stratified random sampling technique was used to select samples from each companies listed on the Stock Exchange of Thailand by assuming that responsibility of IT function in each organization represented stratum and samples were selected randomly from each stratum.

The first step of data collection process was investigating the responsibility on IT function and addressing of the companies listed on the Stock Exchange of Thailand from annual reports and 56-1 report of the companies, and then asking for permission to collect data from the related managers. After the permission was granted, questionnaires were provided by running code, reply addressing and stamp attaching. Then, the questionnaires were distributed by mailed to the samples. The purpose of the questionnaire was explained in the questionnaire itself. A follow-up was made two weeks by phone after the initial mailing. None respondent were called beginning in the fourth weeks. After the completed questionnaires were returned, they were coded to computer for analysis.

Population in this study focused on who was responsibility for arrangement of IT outsourcing in the companies listed on the Stock Exchange of Thailand of all 566 companies (SET, 2012). According to the determinants of sample sizes in this study, they were at least 170. In practice, 566 questionnaires were distributed to respondent where 232 of them were returned which accounted for 40.99 percent of response rate. This response rate of around 20 percent is considered satisfactory, given by Powell, 1992. The 232 sample sizes would be adequate for this study. The completed

questionnaires were collected between February1, 2012 until May31, 2012 period. The number of data collected was shown as table 3.3.

Table 3.3 Number of data collected

No.	Industry category	Number of questionnaire delivered	Number of questionnaire returned
1.	Agro & food industry	41	24
2.	Consumer products	38	16
3.	Financials	28	12
4.	Industrials	58	34
5.	Property & Construction	86	28
6.	Resources	80	22
7.	Services	39	12
8.	Technology	121	44
9.	MAI industry	75	40
	Total	566	232

Test for response bias: Because of the questionnaire was a tool used for collecting the research data, the bias may be occurring by respondents. This research has designed methodology to prevent and detect respondent bias in social and non-quality data bias. The social bias is errors that come from respondent who answer to show their good behavior. To prevent social bias, the questionnaire designed by avoiding content that affect respondents' feeling impairment. The returned questionnaires were canceled if all answers were the same or not intended to answer with non-quality data bias. Thus, these questionnaires were not used for research data.

3.4.3 Operational Definitions

For the mutual understanding of this study, the following definitions are provided to clarify the terms used in this paper.

Exogenous variables (Independent Variable): service quality, vendor capability, and relationship quality.

Service quality refers to the service expectations that the services received from the providers and assess the effectiveness of the service. Service quality consists of five dimensions:

- Tangibles refers to physical accommodates tools and appearance of employees of vendor.

- Reliability refers to competency to fulfill the promised service dependably and correctly.

- Assurance refers to the expertness and politeness of the employees of a vendor that their capability promotes trust and confidence.

- Empathy refers to the vendor contributes individualized attention to its clients.

- Responsiveness refers to vendor who wishes to attend customer and prompt service.

Vendor capability refers to the capability to which a vendor firm effectively recognizes, responds, and handles client needs and market demands. Vendor capability consists of three dimensions:

- Personnel capability refers to the ability that staffs of a vendor were contained responsible for covering contractual obligations.

- Methodology capability refers to the vendor activities that are sufficient for the consistent distribution of solutions to client problems through standardized outsourcing processes and systematic problem solving.

- Management capability refers to the vendor activities that help assure client expectations for reducing project uncertainty.

Relationship quality refers to the association between IT vendor and client companies, which hold the characteristics and process of the exchange behaviors. Relationship quality consists of five dimensions:

- Communication refers to a proactive formal and informal sharing or exchange of relevant and timely data between partnerships.

- Cultural compatibility refers to the boundary to which the parties can live together with beliefs on values, behaviors, goals and policies that are importance or unimportance, appropriate or inappropriate and right or wrong.

- Information sharing refers to the degree to which knowledge and experience are transferred.

- Conflict handling refers to the level of incompatibility of activities, share of resources and goals between parties. The way that the parties handle the conflicts can result in either productive or destructive nature of relationship between the parties.

- Collaborative participation refers to an achievement on the part of both parties to create required modifications by partners participate, providing a mechanism for negotiating and agreeing upon mutual benefits, and for making normal objective.

Endogenous Variable (dependent Variable): IT outsourcing success, and client satisfaction.

IT outsourcing success refers to the overall organizational advantage gained from IT outsourcing. IT outsourcing success consists of five dimensions:

-Strategic benefit refers to the production of an identity or the status to the organization to create a competitive advantage or adding the value to each organization.

- Economic benefit refers to the creation of economic value added that is measured for the performance throughout the organization.

- Technological benefit refers to increase the capability to access the latest technologies, and to reduce the risk of the new technology used.

Client satisfaction refers to the comparison to the value of goods or services up to the anticipation that are expected to meet. If the values are as expected, it will be satisfied.

3.4.4 Research Instrumentation

The questionnaire compose of six sub-sections as followed:

Section 1. Demographic factors- respondents were requested to indicate their information of gender, age, level of education, working position, work experience, IT outsourcing experience, type of industrial category, and type of IT outsourcing in used.

Section 2. The service quality- The "SERVQUAL" measuring tool developed by Parasuraman et al., (1985) was used. Service quality were assessed through person who responsibility on IT outsourcing on five factors adapted from Chakabarty et al., (2007) by using a 5-point rating scale ranging from "very unimportant" to "very

important" scoring from 1 to 5 respectively. This questionnaire consists of five components: tangible, reliability, assurance, empathy, and responsiveness.

Section 3. The vendor capability- The questionnaire was adapted from Lee et al., (2009) by using a 5-point rating scale ranging from "very unimportant" to "very important" scoring from 1 to 5 respectively. This questionnaire consists of three components: personal capability, methodology capability, and management capability.

Section 4. The relationship quality- The questionnaire was adapted from Swar et al., (2010) by using a 5-point rating scale ranging from "very unimportant" to "very important" scoring from 1 to 5 respectively. This questionnaire consists of five components: communication, cultural compatibility, information sharing, conflict handling, and collaborative participation.

Section 5. The client satisfaction - The questionnaire was adapted from Goles (2003) by using a 5-point rating scale ranging from "very unimportant" to "very important" scoring from 1 to 5 respectively.

Section 6. The IT outsourcing success- The questionnaire was adapted from Rouse, Corbitt, & Aubert, (2001) by using a 5-point rating scale ranging from "very unimportant" to "very important" scoring from 1 to 5 respectively. This questionnaire consists of three components: strategic benefit, economic benefit, and technological benefit.

3.4.5 Measurement

Likert 5 scale was used to obtain the opinion from the survey questionnaire. The exogenous variables measurement is conducted on three dimensions including service quality, vendor capability, and relationship quality. The measurement of

endogenous variable is conducted on two dimensions including IT outsourcing success, and client satisfaction. The variable and definition is presented as table 3.4.

The likert 5 scale was used to measure the level of opinion survey mean as; 1 = very unimportant, 2 = unimportant, 3 = moderately important, 4 = important, and 5 = very important. The result can be transformed to mathematic mean by range: 5-1/5, = 0.80.

1.00 - 1.80 = very unimportant

1.81 – 2.60 = unimportant

2.61 – 3.40 = moderately important

3.41 – 4.20 = important

4.21 – 5.00 = very important

Table 3.4 Definition and measurement of variables

Variable	Definition	Measurement
Service quality	The degree to which the comparison of the value of services up to the anticipation was expected meet.	Interval variable Likert 5 scale
Vendor capability	The degree to which a capability of vendor was accepted to meet client needs.	Interval variable Likert 5 scale
Relationship quality	The degree to which, an exchange of behaviors between vendor and client was recognized.	Interval variable Likert 5 scale
Client satisfaction	A content emotion results from the appraisal of IT outsourcing.	Interval variable Likert 5 scale
IT outsourcing success	The opinions of the results of overall organizational advantage gained from IT outsourcing.	Interval variable Likert 5 scale

3.4.6 Validity

The quality of the questionnaire was qualified by the content validity method. In additional, five expertise of IT were requested to examine and make comments on the items in the questionnaire. The content validity was rated by levels, -1 = not agree, 0 = partial agree, +1= agree. The score of content validity will be calculated by:

$$IOC = \frac{\sum R}{N}$$

IOC = Index of item objective congruence.

ΣR = Summation score of expertise.

N = Number of expertise.

The IOC of consensus index value is between 0.6 - 1.0 was accepted (Wichadee, 2011). For construct validity, this study was tested by confirmatory factor analysis (CFA) including p-value, factor loading average variance extracted (AVE), and discriminant validity.

3.4.7 Reliability

The reliability testing is a measurement of the questionnaire internal consistency. High reliability shows that internal consistency exists, indicating that measures can represent the same latent construct. Cronbach's Alpha Coefficient (a-Coefficient) was used to measure reliability of the questionnaire. The acceptable level of reliability coefficient is more than 0.70 (Tavakol & Dennick, 2011). For this study, there were five constructs, as shown in the Table 3.5 below.

Table 3-5 Reliability statistic testing

Questionnaire	Cronbach's Alpha
Service quality	0.82
Vendor capability	0.87
Relationship quality	0.96
Client satisfaction	0.87
IT outsourcing success	0.78
Total	**0.87**

From the reliability analysis of the pre-testing, relationship quality has a Cronbach's alpha of .96 with thirteen items. Second, vendor capability with seven items had a Cronbach's alpha of .87, client satisfaction with three items had a Cronbach's alpha of .87, service quality with fifteen items had a Cronbach's alpha of .82, IT outsourcing success with seven items had a Cronbach's alpha of .78. However, all constructs provided high reliability with a Cronbach's alpha that greater than .70.

3.4.8 Pre-test

The questionnaire was pre-tested on respondents similar to those sampled in the main study. The main objective of the pretest was to check its wording and format as well as to measure the reliability of questionnaire. Pre-test of the questionnaires was tried out from 30 IT managers from companies in the Navanakorn industrial zone, Pathumthani province.

A revision of the questionnaire was made based on the result of the pretest and the consultation with statistics professor. Some modification of format and content was made, especially with some wording that was not clearly understood in

order to improve overall of the questionnaire.

3.4.9 Data Processing and Analysis

Demography: The data were processed by coding, and tabulating before analyzing it. Various forms of data analysis were conducted with the quantitative method. The demographic data were presented in from of frequency, percentage.

Variable: Analysis describing the distribution of two variables includes exogenous variables (service quality, vendor capability, and relationship quality) and endogenous variable (IT outsourcing success and Client satisfaction). The data was analyzed in form of mean and standard deviation with an individual construct of each variable.

Correlation Coefficient: The relationship between exogenous variables was analyzed by Pearson's produce moment correlation coefficient technique. The correlation between exogenous variables that represents good relationship should less than 0.85 (Afthanorhan, 2014).

Structural Equation Modeling (SEM): Structural equation modeling explains linear relationships among variables by analyzing correlations or covariance among them. SEM provides estimations of the strength of the relationships between variables. The sequence of analysis begins from the normal distribution testing, reliability testing, multicollinearity, convergent validity, average variance extracted (AVE), discriminant validity, SEM analysis of proposal, and hypothesis testing respectively.

Confirmatory Factor Analysis (CFA): CFA is a type of factor analysis that used to examine the relationships between a set of observed variables and a set of

continuous latent variables. CFA was almost always used to during the process of scale development to examine the latent structure (Brown, 2006). This study CFA is used to verifying the number of underlying dimension of structure model and the pattern of factor relationship indicators.

Hypotheses Testing: Factor analysis and structural equation modeling were utilized. Firstly, a factor analysis was employed to obtain the factors of service quality, vendor capability, relationship quality, client satisfaction, and IT outsourcing success. Secondly, structural equation modeling was used to determine the cause-effect relationships between job service quality, vendor capability, relationship quality, client satisfaction, and IT outsourcing success. This step was called "measurement model". The measurement model validity depends on establishing acceptable level of good-of fit for the measurement model. The good-of fit (GOF) indicate how well the specify model reproduce the observed covariance matrix among indicator items (Hair et al., 2010). First testing of GOF was chi-square statistic (χ^2). According to the standard chi-square test, a small value of χ^2 relative to the degree of freedom indicates a satisfactory fit, while a large value relative to the degree of freedom suggests that the model does not fit to data. The other Fit indices were shown as table 3.6.

Table 3.6 Fit indices and their acceptable thresholds

Fit Index	Acceptable Threshold Levels	Consideration	Reference
p-value (Chi-square Probability Level)	$p > 0.05$	p-value must be higher than 0.05. The higher p value is, the fitter the model is.	Vieira, (2011)
CMIN/df (Relative Chi-square)	< 3	CMIN/df value must less than 3. If its value is closed to 0 (zero), the model is accounted to be fit.	Vieira, (2011)
GFI (Goodness of Fit Index)	> 0.90	GFI value must be higher than 0.90. If its value is closed to 1.00 (one), the more model is accepted to be fit.	Hair et al., (2010)
AGFI (Adjusted Goodness of Fit)	> 0.90	AGFI value must be higher than 0.90	Vieira, (2011)
RMSEA (Root Mean Square Error of Approximation)	< 0.08	RMSEA value must be less than 0.08. If its value is closed to 0.00 (zero), the model is accounted to be fit.	Hooper et al., (2008)
NFI (Normed Fit Index)	> 0.95	NFI value must be higher than 0.95.	Vieira (2011)
CFI (Comparative Fit Index)	> 0.90	CFI value greater than 0.90.	Vieira (2011)

CHAPTER 4

RESEARCH RESULT

4.1 Introduction

This chapter illustrated the results of statistical analysis for the factors of IT outsourcing in Thailand. Here, the structural models were developed after the measurement models have been proven for validity and model fit. The methodology comprise of confirmatory factor analysis (CFA) and structural equation modelling (SEM) for path analysis. The details include the results of the reliability analysis, convergent validity, and discriminant validity to test whether the constructs were appropriate for further analysis. Then, researcher develops models with five main constructs: service quality, vendor capability, relationship quality, client satisfaction, and IT outsourcing success.

4.2 Research Result

4.2.1 Demographic Data

Demographic data includes the characteristic of the respondents and their company, gender, age, education background, position, experience, the experience with IT outsourcing, industry category and the type of IT outsourcing used. The summary data is showed in Table 4.1.

Table 4.1 Demography summary

Demography		Frequency	Percentage
Gender	Male	172	74.14
	Female	60	25.86
Age	25 - 40 years	90	38.79
	41 -55 years	122	52.59
	Over 55 years	20	8.62
Education	Under bachelor's degree	2	0.86
	Bachelor's degree	90	38.79
	Master's degree	134	57.76
	Doctor's degree	6	2.59
Position	Executive	62	26.72
	Middle manager	102	43.97
	Head of department	62	26.72
	Other	6	2.59
Work experience	Less than 1 year	4	1.72
	1-2 years	12	5.17
	3-5 years	38	16.38
	More than 5 years	178	76.73
IT outsourcing experience	Less than 1 year	18	7.76
	1-2 years	26	11.21
	3-5 years	62	26.72
	More than 5 years	126	54.31

The demographic data in this study are summarized in Table 4.1. The research questionnaire respondents consist of 172 male and 60 female. The male respondents indicated were higher than female. The majority of the respondent's age range between 41-55 years old. The majority of the respondent's education was Master's degree. The majority of the respondents' position was middle manager. The majority of the

respondent's work experience was more than five years. The majority of the respondent's IT outsourcing experience was more than five years.

Industry category

The questions asked about industry category and the analysis was shown in Table 4.2 below.

Table 4.2 Descriptive statistics of industry category

		Frequency	Percentage
Industry category	Agro & food industry	24	10.34
	Consumer Products	16	6.90
	Financials	12	5.17
	Industrials	34	14.66
	Property & Construction	28	12.07
	Resources	22	9.48
	Services	12	5.17
	Technology	44	18.97
	MAI industry	40	17.24
	Total	232	100.00

According to Table 4.2, the majority of the industry group of companies was in technology.

Type of IT outsourcing Service

The questions asked about type of IT outsourcing service and the analysis was shown in Table 4.3 below.

Table 4.3 Descriptive statistics of type of IT outsourcing service

		Frequency	Percentage
Type of IT outsourcing service	Application development	124	20.46
	Hardware maintenance	124	20.46
	Telecommunication/Network	108	17.83
	Application maintenance	70	11.55
	IT consulting	60	9.90
	Data center	48	7.92
	Help desk	36	5.94
	End user support	36	5.94
	Total	606	100.00

According to Table 4.3, the majority of the type of IT outsourcing service was application development, and hardware maintenance.

4.2.2 Descriptive Statistic

This research studies factors of IT outsourcing success in Thailand, including IT outsourcing success, client satisfaction, service quality, vendor capability, and relationship quality.

4.2.2.1 IT outsourcing success

The descriptive data shows, minimum, maximum, mean, and standard deviation (S.D.).

Table 4.4 Descriptive statistic of IT outsourcing success

Construct		Min	Max	Mean	S.D.
Strategic benefit	Str_01	2	5	3.84	0.616
	Str_02	2	5	3.77	0.579
	Str_03	1	5	3.05	1.001
	Average total	1	5	3.55	0.562
Economic benefit	Eco_01	1	5	3.13	0.848
	Eco_02	1	5	3.53	0.772
	Average total	1	5	3.33	0.736
Technological benefit	Tec_01	2	5	3.66	0.767
	Tec_02	2	5	3.66	0.800
	Average total	2	5	3.66	0.734
Average grand total		1	5	3.51	0.543

According to Table 4.4, the statistical analysis results indicated that the IT outsourcing success has grand total mean score as 3.51, the highest mean score of construct was technological benefit as 3.66. The strategic benefit has highest mean score, which is 3.84 on str_01. The lowest mean score is 3.05 on str_03. The economic benefit has highest mean score, which is 3.53 on eco_02. The lowest mean score is 3.12 on eco_01. The technological benefit has highest mean score, which is 3.66 (S.D.=0.767) on tec_01; the lowest mean score is 3.66 (S.D. =0.800) on tec_02.

4.2.2.2 Client Satisfaction

The descriptive data shows, minimum, maximum, mean, standard deviation (S.D.).

Table 4.5 Descriptive statistic of client satisfaction

		Min	Max	Mean	S.D.
Client satisfaction	Cli_01	2	5	3.50	0.596
	Cli_02	1	5	3.41	0.644
	Cli_03	1	5	3.45	0.675
Average total		1	5	3.45	0.543

According to Table 4.5, the statistical analysis results indicated that the client satisfaction has total mean score as 3.45, the highest mean score was cli_01 as 3.50. The lowest mean score is 3.41 on cli_03.

4.2.2.3 Service quality

The descriptive data shows, minimum, maximum, mean, and standard deviation (S.D.).

Table 4.6 Descriptive statistic of service quality

Construct		Min	Max	Mean	S.D.
Tangibles	Tan_01	2	5	3.73	0.676
	Tan_02	2	5	3.57	0.711
	Tan_03	2	5	3.49	0.690
	Tan_04	2	5	3.80	0.699
	Average total	2	5	3.65	0.500
Reliability	Rel_01	2	5	3.77	0.876
	Rel_02	2	5	3.90	0.689
	Rel_03	1	5	3.58	0.723
	Average total	1	5	3.75	0.669
Assurance	Ass_01	1	5	3.78	0.681
	Ass_02	2	5	3.86	0.731
	Average total	1	5	3.83	0.622
Empathy	Emp_01	2	5	3.88	0.633
	Emp_02	2	5	3.69	0.749
	Emp_03	2	5	3.80	0.687
	Average total	2	5	3.79	0.579
Responsiveness	Res_01	1	5	3.59	0.822
	Res_02	2	5	4.02	0.631
	Res_03	2	5	3.81	0.720
	Average total	1	5	3.81	0.634
Average grand total		1	5	3.76	0.484

According to Table 4.6, the statistical analysis results indicated that the service quality has grand total mean score as 3.76, the highest mean score of construct was assurance as 3.83. The tangible has highest mean score, which is 3.80 on Tan_04. The lowest mean score is 3.49 on Tan_03. The reliability has highest mean score, which is

3.90 on Rel_02; the lowest mean score is 3.58 on Rel_03. The assurance has highest mean score, which is 3.86 on Ass_02. The lowest mean score is 3.78 on Ass_01. The empathy has highest mean score, which is 3.88 on Emp_01. The lowest mean score is 3.69 on Ass_02. The responsiveness has highest mean score, which are 4.02 on Res_02. The lowest mean score is 3.59 on Res_01.

4.2.2.4 Vendor Capability

The descriptive data shows, minimum, maximum, mean, and standard deviation (S.D.).

Table 4.7 Descriptive statistic of vendor capability

Construct		Min	Max	Mean	S.D.
Personal capability	Per_01	1	5	3.41	0.811
	Per_02	2	5	3.64	0.713
	Per_03	2	5	3.44	0.675
	Average total	1	5	3.49	0.602
Methodology capability	Met_01	2	5	3.64	0.623
	Met_02	2	5	3.61	0.693
	Average total	2	5	3.63	0.595
Management cpability	Man_01	2	5	3.72	0.666
	Man_02	1	5	3.66	0.732
	Average total	1	5	3.69	0.627
Average grand total		1	5	3.60	0.525

According to Table 4.7, the statistical analysis results indicated that the vendor capability has grand total mean score as 3.60, the highest mean score of construct was management capability as 3.69. The personal capability has highest mean score, which is 3.64 on per_02. The lowest mean score is 3.41 on per_01. The methodology

capability has highest mean score, which is 3.64 on met_01. The lowest mean score is 3.61 on met_02. The management capability has highest mean score, which is 3.72 on man_01; the lowest mean score is 3.66 on man_02.

4.2.2.5 Relationship Quality

The descriptive data shows, minimum, maximum, mean, and standard deviation (S.D.).

Table 4.8 Descriptive statistic of Relationship Quality

Construct		Min	Max	Mean	S.D.
Communication	Com_01	2	5	3.61	0.614
	Com_02	3	5	3.78	0.544
	Com_03	3	5	3.72	0.597
	Com_04	2	5	3.86	0.602
	Average total	2	5	3.74	0.497
Cultural compatibility	Cul_01	2	5	3.59	0.659
	Cul_02	2	5	3.69	0.637
	Cul_03	1	5	3.49	0.624
	Average total	1	5	3.59	0.543
Collaborative participation	Col_01	2	5	3.62	0.740
	Col_02	2	5	3.74	0.673
	Col_03	1	5	3.57	0.792
	Average total	1	5	3.64	0.640
Information sharing	Inf_01	2	5	3.45	0.737
	Inf_02	2	5	3.24	0.807
	Inf_03	1	5	3.64	0.701
	Inf_04	1	5	3.27	0.876
	Average total	1	5	3.40	0.658
Conflict handling	Con_01	2	5	3.55	0.649
	Con_02	2	5	3.60	0.629
	Con_03	1	5	3.46	0.925
	Average total	1	5	3.54	0.601
Average grand total		1	5	3.58	0.484

According to Table 4.8, the statistical analysis results indicated that the relationship quality has grand total mean score as 3.58, the highest mean score of construct was communication as 3.74. The communication has highest mean score,

which is 3.86 on com_04. The lowest mean score is 3.61 on com_01. The cultural compatibility has highest mean score, which are 3.69 on cul_02; the lowest mean score is 3.49 on cul_03. The collaborative participation has highest mean score, which is 3.74 on col_02. The lowest mean score is 3.57 on ass_03. The information sharing has highest mean score, which is 3.64 on inf_03. The lowest mean score is 3.24 on inf_02. The conflict handling has highest mean score, which is 3.60 on con_02. The lowest mean score is 3.54 on con_03.

4.3 Structural Equation Model

4.3.1 Normal Distribution Testing

The structural equation modeling requires all variables should be normal distribution. The multivariate normality was tested in all variables by two indicators including value of skewness and kurtosis. Gao, Mokhtarian, & Johnston, (2008) proposed that the value of skewness should be skewness and kurtosis between -1 to +1 between -3 and +3 to judge the normal distribution. The skewness and kurtosis value were shown as table 4.9.

Table 4.9 Skewness and kurtosis value

Variable	Skewness	Kurtosis
Tangible	0.040	0.065
Reliability	-0.212	-0.394
Assurance	-0.475	0.508
Empathy	-0.098	0.218
Responsiveness	-0.195	-0.205
Personnel capability	0.037	0.196
Methodology capability	0.033	-0.410
Management capability	-0.076	0.107
Communication	0.043	-0.156
Cultural compatibility	0.114	-0.406
Information sharing	-0.030	0.121
Conflict handling	-0.237	-0.309
Collaborative participation	-0.294	0.246
Client satisfaction	-0.501	0.419
Strategic benefit	0.128	-0.109
Economic benefit	-0.078	0.454
Technological benefit	-0.350	-0.065

Table 4.9 shown the skewness values of variables in this study ranged from -0.501 to 0.128, and the kurtosis of variables ranged from -0.410 to 0.508. Thus, it can be concluded that the rule of normal distribution of sample in this study is satisfied.

4.3.2 Reliability Testing

The reliability testing is a measurement for the questionnaire consistency, High reliability shows that consistency exists, indicating that measures con represent the same latent construct. The reliability estimate of .7 or higher shows good reliability. For this study, there were five constructs, as shown in Table 4.10 below.

Table 4.10 Reliability analysis of the questionnaire construct's Cronbach's Alpha

Construct	Cronbach's Coefficient Alpha
Service quality	0.84
Vendor capability	0.84
Relationship quality	0.86
Client satisfaction	0.86
IT outsourcing success	0.87

Table 4.10 presented that reliability analysis of the data collection from 232 respondents. Service quality has a Cronbach's alpha of 0.84 (15 items), vendor capability has a Cronbach's alpha of 0.84 (7 items), relationship quality has a Cronbach's alpha of 0.86 (17 items), client satisfaction has a Cronbach's alpha of 0.86 (3 items), and IT outsourcing success has a Cronbach's alpha of 0.87 (7 items). However, all constructs provided high reliability with a Cronbach's alpha that greater than 0.7.

4.3.3 Multicollinearlity

The structural equation modelling was based on regression analysis; this research must go through multicollinearity testing. The assumption of exogenous variables was tested by statistical tolerance and variance inflation factor (VIF). The results were shown as table 4.11.

Table 4.11 collinearity Statistics

Variable	Collinearity Statistic	
	Tolerance	**VIF**
Tangible	0.486	2.058
Reliability	0.365	2.743
Assurance	0.527	1.896
Empathy	0.306	3.273
Responsiveness	0.307	3.252
Personnel capability	0.369	2.713
Methodology capability	0.398	2.513
Management capability	0.324	3.082
Communication	0.502	1.991
Cultural compatibility	0.642	1.558
Information sharing	0.614	1.629
Conflict handling	0.558	1.792
Collaborative participation	0.442	2.262

The results of tolerance values of the exogenous variables were between 0.306 and 0.642; and 1.558 to 3.273 for VIF. The tolerance should be more than 0.1 or VIF should be less than 10 (VIF = 1/Tolerance) to accept that they have no multicollinearity problems (Hair et al., 2010). Therefore, the value of Tolerance and VIF of this study indicated no multicollinearity problems, and acceptable for SEM analysis.

4.3.4 Discriminant Validity

The discriminant validity testing is a measurement for the observed valuables. The assumption of regression analysis has a limitation that each variable should not be

highly correlated with others. Afthanorhan, (2014) proposed that correlation among variables should less than 0.85. The correlation coefficients were shown as table 4.12.

Table 4.12 Correlation matrix of exogenous variables

	tang	reli	assu	empa	resp	pers	meth	Mana	comm	cult	info	conh	coll
tang	1												
reli	0.452	1											
assu	0.499	0.513	1										
empa	0.387	0.674	0.510	1									
resp	0.423	0.730	0.572	0.722	1								
pers	0.366	0.608	0.377	0.588	0.635	1							
meth	0.584	0.453	0.405	0.457	0.416	0.620	1						
mana	0.474	0.613	0.549	0.732	0.653	0.651	0.579	1					
comm	0.348	0.483	0.490	0.576	0.547	0.526	0.471	0.546	1				
cult	0.353	0.295	0.228	0.306	0.247	0.212	0.271	0.375	0.372	1			
info	0.294	0.297	0.255	0.404	0.283	0.274	0.325	0.384	0.349	0.495	1		
conh	0.516	0.461	0.390	0.430	0.437	0.379	0.441	0.461	0.403	0.393	0.416	1	
coll	0.396	0.573	0.385	0.594	0.518	0.467	0.296	0.486	0.519	0.382	0.476	0.528	1

Note: Correlation is significant at the 0.01 level

The definitions of exogenous variables were shown as following;

tang = Tangible
reli = Reliability
assu = Assurance
empa = Empathy
resp = Responsiveness
pers = Personal capability
meth = Methodology capability
mana = Management capability
comm = Communication
cult = Cultural compatibility
info = Information sharing
conh = Conflict handling
coll = Collaborative participation

According table 4.12, the correlation coefficients for exogenous variables were between 0.212 and 0.732 that not over than 0.85. Thus the exogenous variables were accepted for SEM analysis.

The correlation coefficients for all endogenous variables were shown as table 4.13

Table 4.13 Correlation matrixes of endogenous variables

Endogenous variable	sati	stra	econ	tech
sati	1			
stra	0.650	1		
econ	0.337	0.423	1	
tech	0.533	0.518	0.441	1

Note: Correlation is significant at the 0.01 level

The definitions of endogenous variables were shown as following;

Client Satisfaction (sati)

stra = Strategic benefit

econ = Economic benefit

tech = Technological benefit

According table 4.13, the correlation coefficients for endogenous variables were between 0.337 and 0.650 that not over than 0.85. Thus, the endogenous variables were accepted for SEM analysis.

4.3.5 Convergent Validity

Convergent validity was tested by confirmation factor analysis (CFA). The convergent validity testing will verify that the indicators can represent into latent variable. The measurement was presented by factor loading. The indicators which best

represent into latent variable, factor loading should be more than 0.6 (Haynes et al., 2000).

The result of an exogenous variable testing was presented in Figure 4.1 and Table 4.14.

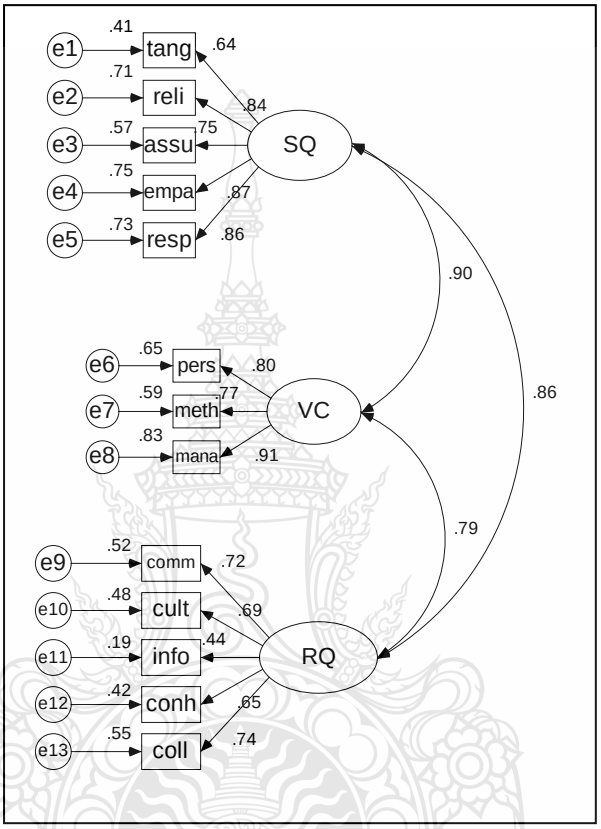


Figure 4.1 confirmation factor analysis (CFA) of the exogenous variable

Table 4-14 factors loading of the exogenous variables

			Factor Loading	S.E.	C.R.	p
resp	<---	SQ	.856			
empa	<---	SQ	.865	.050	18.341	*
assu	<---	SQ	.754	.056	14.627	*
reli	<---	SQ	.843	.060	17.522	*
tang	<---	SQ	.638	.071	11.546	*
mana	<---	VC	.912			
meth	<---	VC	.766	.047	15.703	*
pers	<---	VC	.804	.049	17.100	*
coll	<---	RQ	.738			
conh	<---	RQ	.651	.084	9.905	*
info	<---	RQ	.441	.113	6.678	*
cult	<---	RQ	.690	.089	10.506	*
comm	<---	RQ	.722	.071	10.979	*

* Significant at the level .05

According to table 4.14 the convergent validity testing presented factor loading were between 0.441 and 0.865. However, information sharing (info) variables has factor loading as 0.441 was that was not accepted for SEM. It should be dropped from the SEM construct.

4.3.6 Model tasting

Model was tested by confirmation factor analysis (CFA). The model testing will verify that each of models can represent into structural model. The measurement was presented by good-of- fit criteria.

The model of IT outsourcing success (ITOS) consists of 3 components which are strategic benefit (stra), economic benefit (econ), and technological benefit (tech).

The measurement of model of IT outsourcing success was present as Figure 4.2. And the criteria of model fit of the IT outsourcing success was present as table 4.15.

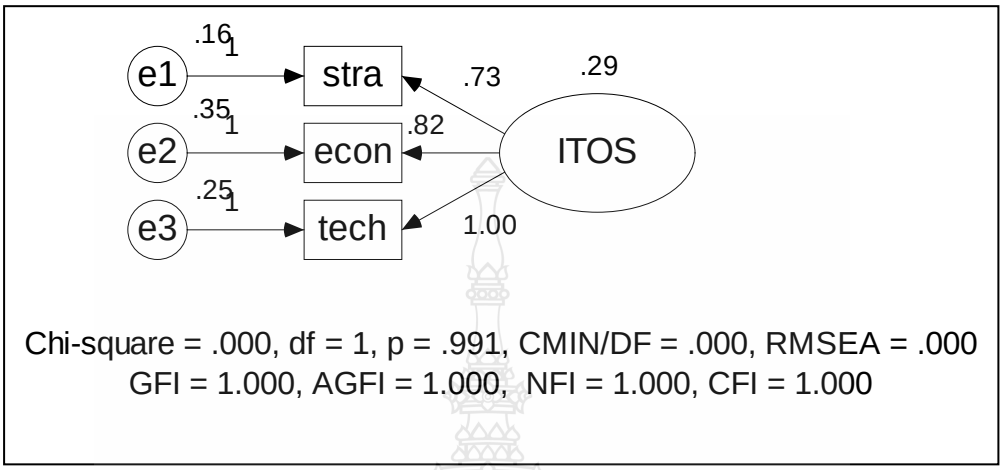


Figure 4.2 confirmation factor analysis (CFA) of IT outsourcing success model

Table 4.15 criteria of model fit of the IT outsourcing success

Model fit criteria	Measurement value	Acceptable level value
Chi- Square	0.000	-
Degree of freedom	1	-
p-value	0.991	P > 0.05
χ^2 /df or CMIN/DF	0.000	< 3
RMSEA	0.000	< 0.08
GFI	1.000	> 0.90
AGFI	1.000	> 0.90
NFI	1.000	> 0.90
CFI	1.000	> 0.90

According to table 4.15, the symptoms of the measurement showed that the chi-square was equal to 0.000, with 1 degrees of freedom, p-value = 0.991, χ^2 /df =

0.000, RMSEA = 0.000, GFI = 1.000, AGFI = 1.000, NIF=1.000, and CIF= 1.000. This finding indicated that the model was fitted through the data.

The model of service quality (SQ) consists of 5 components which are tangible (tang), reliability (reli), responsiveness (resp), assurance (assu), and empaty (empa). The measurement of model of service quality was present as Figure 4.3. And the criterions of model fit of the service quality were present as table 4.16.

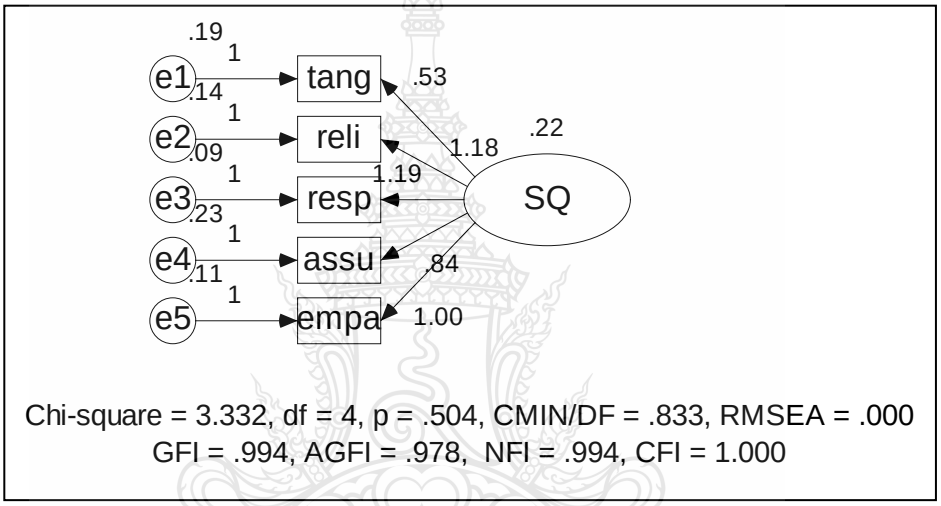


Figure 4-3 confirmation factor analysis (CFA) of the service quality

Table 4.16 criteria of model fit of the service quality

Model fit criteria	Measurement value	Acceptable level value
Chi- Square	3.332	-
Degree of freedom	4	-
p-value	0.504	P > 0.05
χ^2/df or CMIN/DF	0.833	< 3
RMSEA	0.000	< 0.08
GFI	0.994	> 0.90
AGFI	0.978	> 0.90
NFI	0.994	> 0.90
CFI	1.000	> 0.90

The results showed that the chi-square was equal to 3.332, with 4 degrees of freedom, p-value = 0.504, χ^2 /df = 0.833, RMSEA = 0.000, GFI = 0.994, AGFI = 0.978, NFI = 0.994, and CFI = 1.0000. This finding indicated that the model was fitted through the data.

The model of vendor capability (VC) consists of 3 components which are personal capability (pers), methodology capability (meth), and management capability (mana). The measurement of model of vendor capability was present as Figure 4.4. And the criterions of model fit of the vendor capability were present as table 4.17.

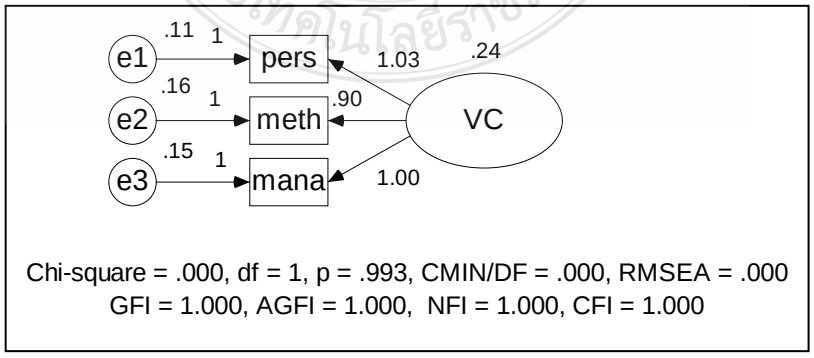


Figure 4.4 confirmation factor analysis (CFA) of the vendor capability

Table 4.17 criteria of model fit of the vendor capability

Model fit criteria	Measurement value	Acceptable level value
Chi- Square	0.000	-
Degree of freedom	1	-
p-value	0.993	P > 0.05
χ^2/df or CMIN/DF	0.000	< 3
RMSEA	0.000	< 0.08
GFI	1.000	> 0.90
AGFI	1.000	> 0.90
NFI	1.000	> 0.90
CFI	1.000	> 0.90

The results showed that the chi-square was equal to 0.000, with 1 degrees of freedom, p-value = 0.993, χ^2 /df = 0.000, RMSEA = 0.000, GFI = 1.000, AGFI = 1.000, NFI=1.000, and CFI= 1.000. This finding indicated that the model was fitted through the data.

The model of relationship quality (RQ) consists of 4 components which are communication (comm), cultural compatibility (cult), collaborative participation (coll),and conflict handling (conh). The measurement of model of relationship quality was present as Figure 4.5. And the criterions of model fit of the relationship quality were present as table 4.18.

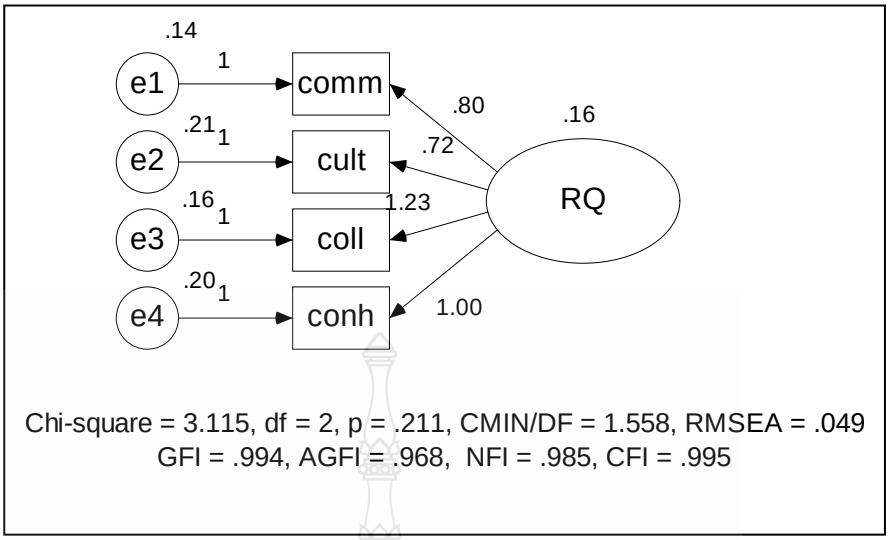


Figure 4.5 confirmation factor analysis (CFA) of the relationship quality

Table 4.18 criteria of model fit of the relationship quality

Model fit criteria	Measurement value	Acceptable level value
Chi- Square	3.115	-
Degree of freedom	2	-
p-value	0.211	P > 0.05
χ^2/df or CMIN/DF	1.558	< 3
RMSEA	0.049	< 0.08
GFI	0.994	> 0.90
AGFI	0.968	> 0.90
NFI	0.985	> 0.90
CFI	0.995	> 0.90

The symptoms of the measurement showed that the chi-square was equal to 3.115, with 2 degrees of freedom, p-value = 0.221, χ^2 /df = 1.558, RMSEA = 0.049, GFI = 0.994, AGFI = 0.968, NFI = 0.985, and CFI = 0.995. This finding indicated that the model fitted the data.

4.3.7 SEM Analysis of a Proposal Model

The structural model was composed of fifteen observed variables, four latent variables which separated into three exogenous variables and two endogenous variables. The exogenous latent variables were service quality, vendor capability, and relationship quality, while the endogenous variables were IT outsourcing success and client satisfaction.

The measurement of model of structural model was present as Figure 4.5. And the criterions of model fit of the structural model were present as table 4.18.

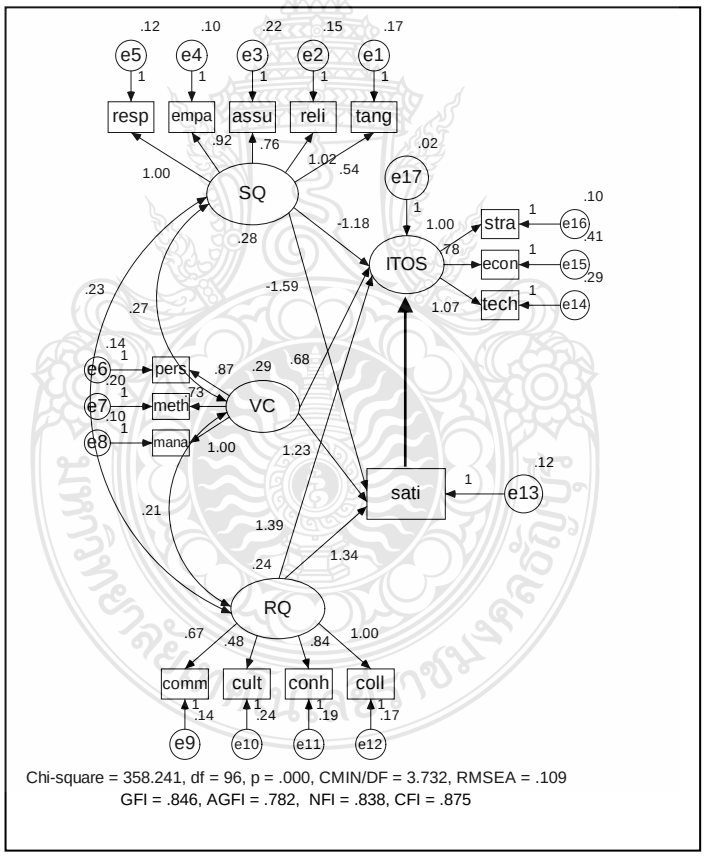


Figure 4.6 Structural equation modeling (SEM) of the structural model

Table 4.19 criteria of model fit of the structural model

Model fit criteria	Measurement value	Acceptable level value
Chi- Square	358.241	-
Degree of freedom	96	-
p-value	0.000	P > 0.05
χ^2/df or CMIN/DF	3.732	< 3
RMSEA	0.109	< 0.08
GFI	0.846	> 0.90
AGFI	0.782	> 0.90
NFI	0.838	> 0.90
CFI	0.875	> 0.90

According to model evaluation guidelines, the goodness of fit statistics was reported, the first chi-square was equal to 358.241, with 96 degrees of freedom, p-value = 0.000, χ^2 /df = 3.732, RMSEA = 0.109, GFI = 0.846, AGFI = 0.782, NFI = 0.838, and CFI = 0.875. This finding indicated that the model was not fitted through the data. Thus, modification indices (M.I.) were required. The modification indices of the structural model showed in figure 4.7 and table 4.20.

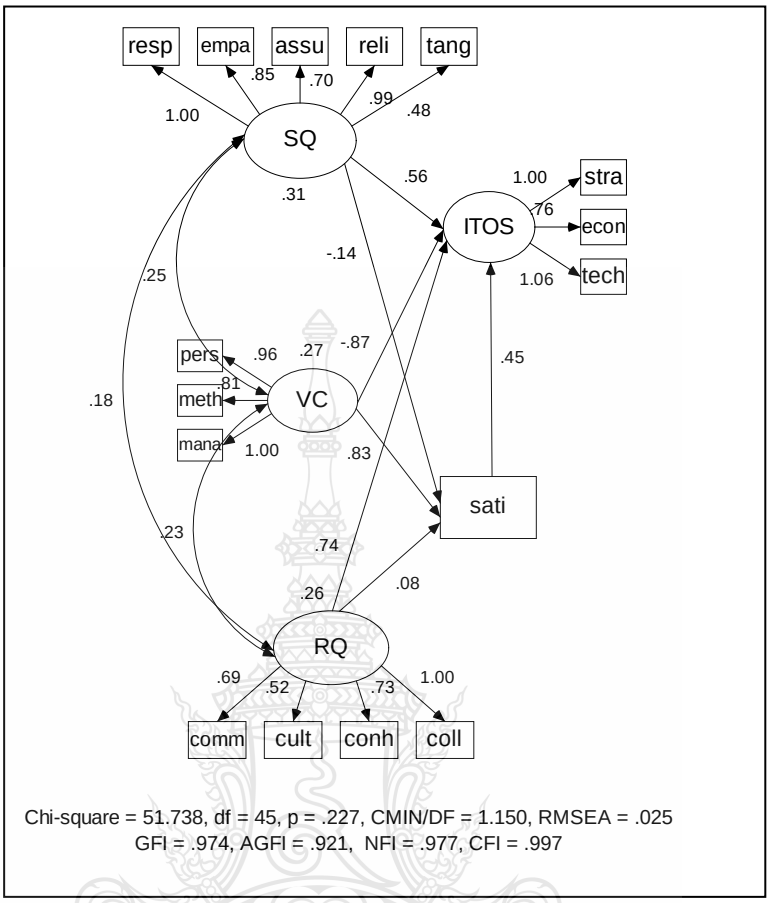


Figure 4.7 structural equation modeling (SEM) of the structural model with modification indices

Table 4.20 Model fit criteria of the structural model with modification indices

Model fit criteria	Initial Value	Modification Value	Acceptable level value
Chi- Square	358.241	51.738	-
Degree of freedom	96	45	-
p-value	0.000	0.227	P > 0.05
χ^2/df or CMIN/DF	3.732	1.150	< 3
RMSEA	0.109	0.025	< 0.08
GFI	0.846	0.974	> 0.90
AGFI	0.782	0.921	> 0.90
NFI	0.838	0.977	> 0.90
CFI	0.875	0.997	> 0.90

After modification the scores for the measurement model of the symptom showed, the chi-square was equal to 51.738, with 45 degrees of freedom, p-value = 0.227, χ^2 /df = 1.150, RMSEA = 0.025, GFI = 0.974, AGFI = 0.921, NFI = 0.977, and CIF= 0.997. This finding indicated that the model was fitted through the data.

4.4 Hypothesis Testing

After the model was evaluated and results were computed in order to use in the hypotheses testing. All the results were used to test and investigate on the effect of service quality, vendor capability, and relationship quality on client satisfaction and IT outsourcing success. And investigate on the effect of client satisfaction on IT outsourcing success. In this study, it has conducted 7 hypotheses (H1, H2, H3, H4, H5, H6, and H7). The standard estimate (β), standard error (S.E.) critical ratio (C.R.) and p-

value of parameter estimate of the factors of outsourcing success in Thailand indicated as table 4.21.

Table 4.21 Standard estimate (β), standard error (S.E.) critical ratio (C.R.) and p-value of parameter estimate of the factors of outsourcing success in Thailand

Path			Standard Estimate	S.E.	C.R.	P
sati	<---	VC	.831	.421	1.972	.049*
sati	<---	RQ	.084	.277	0.305	.761
sati	<---	SQ	-.136	.214	-.634	.526
ITOS	<---	SQ	.563	.271	2.080	.037*
ITOS	<---	VC	-.871	.581	-1.500	.134
ITOS	<---	RQ	.737	.354	2.081	.037*
ITOS	<---	sati	.446	.071	6.264	*

* Significant at level .05

The tested hypothesized model indicated that four proposed parameter estimates, and their direction were significant at p value < .05. There were parameter estimates from vendor capability to client satisfaction ($\beta = 0.831$, $p < .05$), service quality to IT outsourcing success ($\beta = 0.563$, $p < .05$), relationship quality to IT outsourcing success ($\beta = 0.737$, $p < .05$), and client satisfaction to IT outsourcing success ($\beta = 0.446$, $p < .05$).

The total effects, indirect effects, direct effects of the success factors of outsourcing in Thailand presented in table 4.22.

Table 4.22 Total effects, indirect effects, directs effects of factors of IT outsourcing success in Thailand

Causal Variable	Client Satisfaction			IT outsourcing success		
	DE	IE	TE	DE	IE	TE
Service quality	-.136	-	-.136	.563*	-.061	.502*
Vendor capability	.831*	-	.831*	-.871	.371	-.500
Relationship quality	.084	-	.084	.737*	.037	.774*
Client satisfaction	-	-	-	.446*	-	.446*
Coefficient of determinant	R^2 = 0.46			R^2= 0.84		

* Significant at level .05

Note: DE= direct effect, IE= indirect effect, TE= total effect, R^2= squared multiple correlations

The coefficient of the determinant (R^2) showed that, service quality, vendor capability, and relationship quality have an effect on client satisfaction of 46%, and showed that, service quality, vendor quality, relationship quality and client satisfaction have an effect on IT outsourcing success of 84%.

The hypotheses of the initially proposed causal model of the factors of outsourcing success in Thailand were tested and the results were as follows.

H1: Service quality has positive impacted on IT outsourcing success.

An analysis of the relationship between service quality and IT outsourcing success in model has effect on IT outsourcing success in the structural model with modification indices has $\beta = 0.563$, $p<.05$, thus hypothesis H1 was supported.

H2: Service quality has positive impacted on client satisfaction.

An analysis of the relationship between service quality and client satisfaction in model has no effect on IT outsourcing success in the structural model with modification indices has $\beta = -0.136$, $p>.05$, thus hypothesis H_2 was not supported.

H3: Vendor capability has positive impacted on IT outsourcing success.

An analysis of the relationship between vendor capability and IT outsourcing success in model has no effect on IT outsourcing success in the structural model with modification indices has $\beta = -0.8$, $p>.05$, thus hypothesis H3 was not supported.

H4: Vendor capability has positive impacted on client satisfaction.

An analysis of the relationship between vendor capability and client satisfaction in model has effect on IT outsourcing success in the structural model with modification indices has $\beta = 0.831$, $p<.05$, thus hypothesis H4 was supported.

H5: Relationship quality has positive impacted on IT outsourcing success.

An analysis of the relationship between relationship quality and IT outsourcing success in model has effect on IT outsourcing success in the structural model with modification indices has $\beta = 0.737$, $p<.05$, thus hypothesis H5 was supported.

H6: Relationship quality has positive impacted on client satisfaction.

An analysis of the relationship between relationship quality and client satisfaction in model has no effect on IT outsourcing success in the structural model with modification indices has $\beta = 0.084$, $p>.05$, thus hypothesis H6 was not supported.

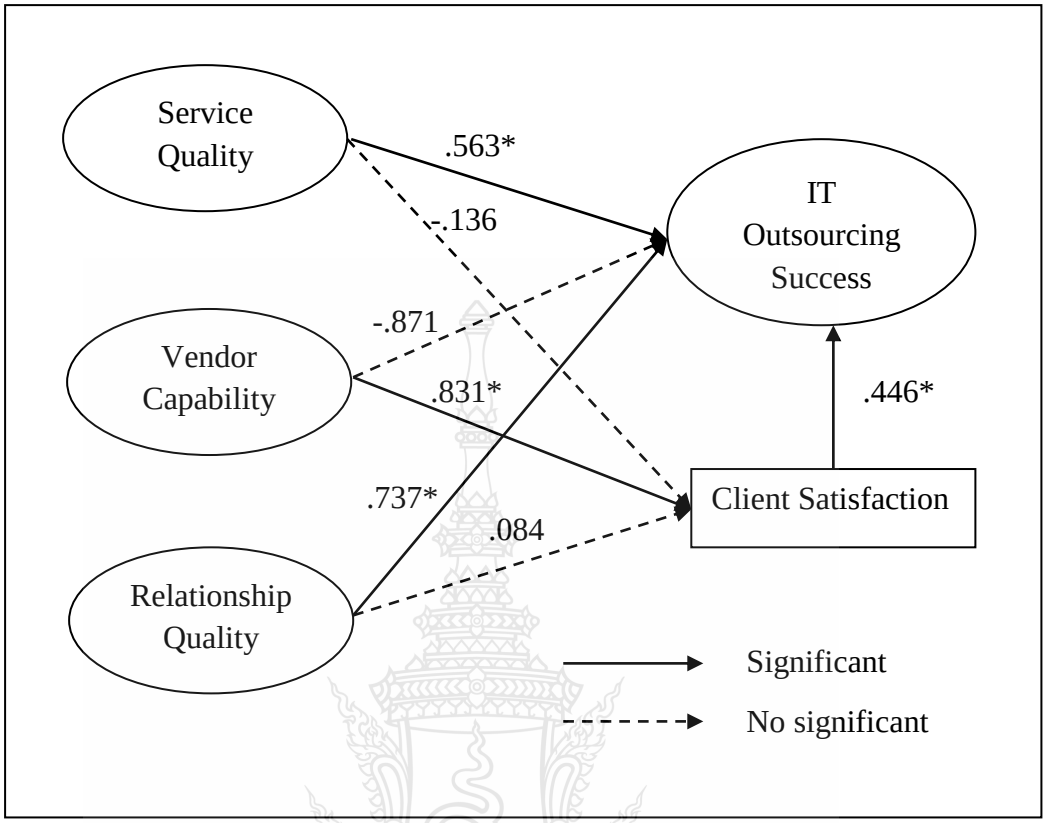
H7: Client satisfaction has positive impacted on IT outsourcing success.

An analysis of the relationship between client satisfaction and IT outsourcing success in the structural model with modification indices has $\beta = 0.446$, $p<.05$, thus hypothesis H7 was supported.

Table 4.23 Summary of hypothesis testing of the factors of IT outsourcing success in Thailand

Hypothesis	Result
H1: Service quality has positive impacted on IT outsourcing success.	Supported
H2: Service quality has positive impacted on client satisfaction.	Not supported
H3: Vendor capability has positive impacted on IT outsourcing success.	Not supported
H4: Vendor capability has positive impacted on client satisfaction.	Supported
H5: Relationship quality has positive impacted on IT outsourcing success.	Supported
H6: Relationship quality has positive impacted on client satisfaction.	Not supported
H7: Client satisfaction has positive impacted on IT outsourcing success.	Supported

The results obtained, as depicted in Table 4.23, revealed that H1, H4, H5 and H7, were found to be significant with the prediction model, However H2, H3, and H6, were not found to be significant. The model research finding showed as Figure 4.8



* Significant at level .05

Figure 4.8 Model of Research Finding

In conclusion, in the study on effect, service quality has affected to IT outsourcing success. Vendor capability has affected to client satisfaction. Relationship quality has affected to IT outsourcing success. Client satisfaction has affected to IT outsourcing success. And vendor capability has affected to IT outsourcing success though client satisfaction.

According to H2, H3, and H6, were not found to be significant. Then the relative strengths of the associations between the individual independent variables and IT Outsourcing success and client Satisfaction were investigated.

The effect of individual independent variables with IT outsourcing success

The working's position was considered to the important factor that related to the IT outsourcing success. There are 4 groups of working' position in the survey question; 1) head of department, 2) middle management, 3) chief executive, and 4) other position. According to Kronawitter, Wentzel. & Papadaki (2013), IT outsourcing can be successfully operated externally by vendors in the long term. The middle management and chief executive have been generally recognized for the important role in the strategic aspects of the firm, and they should better understand the outcome of IT outsourcing than others. Then the result of IT outsourcing success should be assessed by them. Thus to investigated factors that impacted on IT outsourcing success, the demographic data of the middle management and chief executive was queried and analyzed by multiple regression.

Table 4-24 Relationship between service quality (SQ), vendor capability (VC), and relationship quality (RQ

	Unstandardized Coefficients		Standardized Coefficients	t	P
	B	Str.Error	Beta		
(Constant)	0.692	0.336	-	2.061	0.041*
SQ	0.262	0.119	0.223	2.195	0.030*
VC	0.223	0.101	0.221	2.201	0.029*
RQ	0.289	0.121	0.213	2.379	0.019*

R=0. 583, R Square= 0.340, adjust R square= 0.328

* Significant at the level .05

The result revealed that IT outsourcing success was impacted by service quality (SQ), vendor capability (VC), and relationship quality (RQ), thus H1, H3, and H5 were supported.

The effect of individual independent variables with client satisfaction

The experience with IT outsourcing was considered to the important factor that related to the client satisfaction. There are 4 groups of working' experience with IT outsourcing in the survey question; 1) less than 1 year, 2) 1-2 years, 3) 3-5 years, and 4) greater than 5 years. According to Qi and Chau, (2012b), In China, IT outsourcing's problems also exist, cause, IT outsourcing decision makers are short of experience to select and evaluate IT vendors and immature in negotiating contracts, managing contracts and maintaining good relationships with the vendors. Thus to investigated factors that impacted on client satisfaction, the demographic data of the respondent with more than one year experience with IT outsourcing was queried and analyzed by Multiple Regression.

Table 4-25 Relationship between service quality (SQ), vendor capability (VC), and relationship quality (RQ), and client satisfaction

	Unstandardized Coefficients		Standardized Coefficients	t	P
	B	Str.Error	Beta		
(Constant)	0.025	0.293	-	0.084	0.933
SQ	0.302	0.111	0.233	2.719	0.007*
VC	0.375	0.100	0.314	3.757	0.000*
RQ	0.266	0.109	0.180	2.429	0.016*

R=0. 653, R Square= 0.426, adjust R square= 0.418

* Significant at the level .05

The result revealed that client satisfaction was impacted by service quality (SQ), vendor capability (VC), and relationship quality (RQ), thus H2, H4, and H6 were supported.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

This chapter provided a summary of dissertation, defining research methodology and findings, and suggested some possible extensions and future work. The focus of this dissertation was to explore factors impacting the success of IT outsourcing business in Thailand and client satisfaction.

5.1 Conclusions

This dissertation aimed at investigating the effects of service quality, vendor capability, and relationship quality on IT outsourcing success and client satisfaction in Thailand. There were three research questions: (1) Were there any effects of service quality, vendor capability, and relationship quality on IT outsourcing success? (2) Were there any effects of service quality, vendor capability, and relationship quality on client satisfaction?, and (3) Was there any effect of client satisfaction on IT outsourcing success?

The quantitative method was applied to this study using questionnaire as a data-collecting tool. The questionnaire was divided into six parts, consisting of demography, service quality, vendor capability, relationship quality, IT outsourcing success, and client satisfaction.

The service quality, vendor capability, and relationship quality were exogenous variables (independent variables) whereas IT outsourcing success, and client satisfaction were endogenous variables (dependent variables).

The seven hypotheses were constructed as follows:

H1: Service quality has a positive impact on IT outsourcing success

H2: Service quality has a positive impact on client satisfaction

H3: Vendor capability has a positive impact on IT outsourcing success

H4: Vendor capability has a positive impact on client satisfaction

H5: Relationship quality has a positive impact on IT outsourcing success

H6: Relationship quality has a positive impact on client satisfaction

H7: Client satisfaction has a positive impact on IT outsourcing success

In this study, population or subjects were described as those who were responsible for an arrangement of IT outsourcing in companies listed on the Stock Exchange of Thailand from the total of 566 companies (SET, 2012). Of those, 232 samples were collected in this study, which was more than the minimum requirement of 170 samples for the Structural Equation Modeling (SEM). Here 566 questionnaires were distributed, and 232 (40.99 %) were returned.

The summary of hypotheses testing indicated that while service quality and relationship quality had an impact on IT outsourcing success, vendor capability had no impact. However, vendor capability had an indirect impact on IT outsourcing success through client satisfaction. Also, there was an effect of vendor capability on client satisfaction.

5.2 Discussion of Findings

A discussion of research findings on each research question was presented below.

5.2.1 Were there any effects of service quality, vendor capability, relationship quality on IT outsourcing success?

H1 indicated that service quality had positively affected on IT outsourcing success with a path coefficient of 0.204. This finding well supported Hussin et al., (2006) who found that IT outsourcing success was influenced by service quality. It also supported Mohamed et al., (2007) who found that perceived service quality was important in explaining outsourcing success. Service quality would help any company improve control over IT expenditure as well as improve IT capability to support the needs of business operations. In particular, this dissertation studied Service quality in all 5 dimensions: tangible, reliability, assurance, empathy, and responsiveness, and found that assurance was the most important from vendor's point of view. Next would be how well vendor's employee performed their job duty based on their knowledge, and how service minded they are, which was characterized as tangible and reliability, respectively. Then, how much helpful vendor's employee was, which was characterized as responsiveness. Next, how well vendor understood their customer's needs and gave individual attention, which was characterized as empathy.

H3 indicated that vendor capability had no direct effect on IT outsourcing success; however, it had an indirect effect on IT outsourcing success through client satisfaction with a path coefficient of 0.371. This finding supported Lee et al., (2009) who found that vendor capability was the most important factor in outsourcing success. This finding also supported Han, et al., (2013) who found that vendor capabilities were significantly associated with outsourcing success. Customer

performance would generally reflect the success level of IT outsourcing in terms of technological benefit such as the availability/ necessity of new technology and new IT skills.

H5 specified that relationship quality had positively affected on IT outsourcing success with a path coefficient of 0.259. This finding supported Hussin et al., (2006) who found that IT outsourcing success was influenced by relationship quality. This finding also supported Swar et al., (2012) who found that IT outsourcing success was determined by relationship quality. The finding also supported Qi and Chau, (2012a) who found that relationship quality was positively affected IT outsourcing success. It also revealed that communication, one of the dimensions of relationship quality, was the most important quality for client. The client required their vendors to communicate with completion, accuracy, reliability, and in a timely manner. Also when any unexpected situation happened, they would expect both parties to re-negotiate due to change in some conditions, and willing to work out a new deal rather than holding each other to the original terms. In particular, this dissertation studied relationship quality in all 5 dimensions: communication, cultural compatibility, information sharing, conflict handling, and collaborative participation, and found that communication was the most important from client's point of view. Client would expect a complete, accurate, reliable, and timely communication. Next, collaborative participation would mean that both parties were willing to accommodate each other or re-negotiate as conditions change as well as willing to work out a new deal than holding each other to the original terms when some unexpected situation arises. Then, cultural compatibility would

refer to both parties accept each other's culture.

5.2.2 Were there any effects of service quality, vendor capability, and relationship quality on client satisfaction?

H4 indicated that vendor capability had directly affected on client satisfaction with a path coefficient of 0.667. The study supported to study of Goles, (2003) and Goles, (2006) who found that the vendor capability as the factors that led to customer satisfaction. This implied that the benefits of IT outsourcing had been to encourage clients to perform their task well if they were satisfied with their vendor. In particular, there were 3 factors affecting client satisfaction: personal capability, methodology capability, and management capability. Personal capability was defined as an ability to deliver service to client with an acceptable satisfactory level such as excellent IT skill set and communication skill. Methodology capability was defined as vendor's potential to deliver service to client such as technology readiness as well as effective workflow. Management capability was defined as vendor's capability to manage IT outsourcing service according to terms and conditions as well as customer relationship management.

5.2.3 Was there any effect of client satisfaction on IT outsourcing success?

H7 indicated that client satisfaction had directly affected on IT outsourcing with a path coefficient of 0.446. This finding supported Song and Wong (2009) which presented that client satisfaction was important in outsourcing success. Generally, client satisfaction was related to fulfilling client's expectation and was a part of IT outsourcing success. There were 2 dimensions of the client satisfaction: satisfaction to IT outsourcing management and satisfaction to vendor. First,

satisfaction to IT outsourcing management was mostly related to strategic benefit. The benefit included an increasing concentration on core business, which would also contribute to economic benefit in terms of a reduction in IT expenditure due to downsizing, implying that training as well as technology upgrading costs would also be reduced. Another benefit was technological benefit. This benefit included the availability of new technology. The second dimension was satisfaction to vendor. Giving measurement to this dimension would mean a competition among vendor was raised, resulting in a success in IT outsourcing.

5.3 Limitation of the Study

Some limitations of the study should have been recognized. First, the questionnaires were used for data collected from companies listed on the Stock Exchange of Thailand. Since this study did not collect the data from other sections in Thailand, the results certainly did not represent all companies in Thailand. However, it should be enough for statistical purposes. Second, this research focused on the specific research population in client organization. The study was not applied to measuring IT outsourcing success from vendor organization's viewpoint. Factors of IT outsourcing success were complication. IT outsourcing would not be accomplished without collaboration of all involved parties. Therefore, future work would include a deeper measurement to study more in detail.

5.4 Contributions of the Study

Theoretical and practical contributions were given in this study.

5.4.1 Theoretical Contribution

One of the most important aspects of the research was its contribution to theory. The theoretical contribution is to explain IT outsourcing success of the companies listed on the Stock Exchange of Thailand. This study indicated that service quality and relationship quality variables affect IT outsourcing success. This finding supported transaction cost theory (TCT) and social exchange theory (SET). The study found that the vendor capability had no relationship with IT outsourcing success. While service quality and relationship quality were keys to IT outsourcing success. This deserved attention because it shown that, for theoretical implication, TCT and SET were sufficient to describe the nature of IT outsourcing business in Thailand. Also there was a relationship between vendor capability and client satisfaction. The finding supported resource-based view theory (RBV). This meant that clients were satisfied with IT support because it helped their business operations.

5.4.2 Practical Contribution

The results of the study would provide benefit to the companies listed on the Stock Exchange of Thailand. The results would assist those companies in better arranging their operational resource in IT outsourcing. The finding would help lead the management team to understand the role of relationship between parties, in which each party had her own character. When they joined a group, individual behavior had to be adapted to accommodate the other's corporate culture. Adapted

corporate cultures were needed to achieve IT outsourcing success. Also, both parties were highly flexible when conditions changed as they were willing to accommodate each other. They resolved the problems when conflict occurred. The process of resolving conflicts between both parties was effective. Most disagreements between both parties were almost always successfully resolved.

5.5 Implication and Future Research

5.5.1 Theoretical Implication

Transaction cost theory (TCT) was quite suitable in explaining this outsourcing business success in terms of competitive advantage. Outsourcing was highly efficient in cost reduction. An organization with lower operational cost would be leaner and was at more competitive. TCT supported outsourcing when the external transaction costs were higher than the internal transaction costs (Gottschalk & Solli-Sæther, 2006:71-76).

In IT outsourcing business, this theory was used to reduce the need for organizations to invest in IT upgrade and reduce the need for an increasing number of transactions. It also helped simplify complex work, improve measurement and support independent transactions (Solli-Sæther & Gottschalk, 2010:59).

Corporate executives were usually looking to expand their business opportunities and increase the IT performance by outsourcing the IT tasks to external experts, rather than performing themselves. Their purpose was to increase the effectiveness of the IT operation as budgetary could be planned as appeared in the contract.

Social exchange theory (SET) explained interpersonal relationships by positing the economic cost in resource exchanged. SET viewed people's social behavior in terms of exchanges of resources that included both tangible (goods, money) and intangible (hospitality, friendliness). The basis of this theory was that when a partner relationship was in a good terms, good response would be expected in return (Gottschalk & Solli-Sæther, 2006:117-119). SET was used to steer towards a win-win outcome. No one party was success, they both would have to win (Solli-Sæther & Gottschalk, 2010:59).

Organizations had established a joint operation to do business together because they wanted potential prospective employee to help increase their competiveness. This could be achieved by eliminating the shortcomings in the operation of the organization and increasing value of IT services to their clients.

Resource-based view theory (RBV) was an approach to achieving competitive advantage that an organization consists of resources needed to run the business. There were two types of resources: tangible and intangible. Tangible resources included land, capital, and factory among many others. Intangible resources included human, employee's learning desire, corporate culture, and teamwork among many others (Gottschalk & Solli-Sæther, 2006:91-93).

In IT outsourcing business, this theory was used for strategic IT planning. Firms must develop short-term and long-term plans taking into account environmental changes to accommodate new ideas and technologies; this was in order to increase their product and service competitiveness (Solli-Sæther & Gottschalk, 2010:59).

Organizations not only had to manage information systems in their own organizations, but also had to concern with internal IT infrastructure and external supply chain. Goal was to provide a more efficient and competitive in the global market. The organization must be able to manage its existing IT system together with bringing in modern technology.

5.5.2 Practical Implication

The result revealed that Transaction Cost Theory (TCT) was an important factor in reducing operational expenses. This was due to lower cost when outsourcing IT to an outside firm. In addition, they would also be able to pre-plan operational expense as budgetary could be planned according to the contract.

The result of the social exchange theory (SET) was very important to increase employee skills, adjust the organization structure, and adapt workplace culture of the organization. To increase flexibility in the workplace, organizations needed to coordinate with their providers of operations and services; this had to reflect the structure and processes of the organization in order to work effectively with those providers. With this result, better, faster, and more diverse services could be achieved. Outsourcing would enable organizations to concentrate on optimizing the core services and expand the other services to meet customer needs.

The result of the resource-based view theory (RBV) was very important in the organization. Organizations could use modern technology to avoid upgrading technology in the enterprise. Moreover, they would have a continuous use of technology, hardware, software, and application from vendors. The benefit was organizations' ability to keep pace with the modern technology as well as to optimize

the operation of the organization.

The success of IT outsourcing company listed on the Stock Exchange of Thailand was achieved because of service quality and relationship quality while vendor capability affected customer satisfaction. Implication from the 3 dimension was give as follows.

First, service quality, IT outsourcing was a means to deliver services from vendor to clients. Since the outsourcing business developed and grew continuously, competition among vendors had increased. They would always try to come with a new business strategy to gain client base; for example, over-commitment. When the project progresses, the vendor would not be able to meet the terms provided or did not meet the target. This would result in the outsourcing delay. So to get the best service quality, clients should consider the quality of the vendor as preliminary. The quality of the vendor could be characterized as modernization of the vendor's technology as well as their technology tools and their employee quality. Site reference would also reveal the vendor's experience. Vendors should also give clients some confidence by making the promise, deliver service integrity, show readiness to serve the clients, and show politeness.

Second, relationship quality, it was a unique expression of each individual. It was not tangible. It was also difficult to measure because it relied on feeling. Communication with completion, accuracy, reliability and in a timely manner was required for relationship quality; this was important as vendor and client's corporate cultures were different. Working together would be well received if they honor each other. This could be achieved by learning and acceptance of each other's culture.

After communication, collaborative participation was next. It should be flexible in case some unexpected events happened. Sometimes, IT outsourcing needed changing conditions. Under this circumstance, each party should accommodate each other by finding new deals together. In addition, both parties should work together to solve problems and draw conclusions if any personnel conflict were to happen.

Third, vendor capability, this was the factor that vendors should take into consideration. The results revealed that clients gave priority to management capability. Effective management of outsourcing arrangement was given the second priority. Therefore, a good management was at the heart of achieving customer satisfaction and much contributed to the success of IT outsourcing.

5.5.3 Future Research

The work presented here could be extended in several directions. First, the analysis model could be applied to test with other groups such as a vendor companies as IT outsourcing had been achieved by collaboration of all parties. Future studies could be more about vendor organization structure. Second, based on the study carried out in this dissertation, specific research population of the companies listed on the Stock Exchange of Thailand consisted of nine industry groups with different attributes. Future research could study some other industry groups that were more concern with IT outsourcing business such as Technology (Information & Communication Technology sector), Financials, and Services. Third, at the forefront of technology, IT services such as data processing center and cloud computing would be one of the success factors to be discussed and considered in the future of IT outsourcing business.

In summary, the future research should be study on (1) the IT outsourcing success of client organization, (2) the success factors of IT outsourcing by focus groups industry and (3) the coming technology such as data processing center or cloud computing.

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APPENDICES

APPENDIX A

Questinnaire

QUESTIONNAIRE

The questionnaire consist of six parts which are, demographic data, service quality, vendor capability, relationship quality, client satisfaction, and IT outsourcing success. The question as following:

Part 1: the questionnaire about general query data. The demographic data were contained of selective choices; please make selection only one choice per item to complete of each items.

1. Gender

❑ 1. Male ❑ 2. Female

5. Age

❑ 1. Under 25 years ❑ 2. 25-40 years

❑ 3. 41-55 years ❑ 4. Over 55 years

6. Education background

❑ 1 Under Bachelor's degree ❑ 2. Bachelor's degree

❑ 3. Master's degree ❑ 4. Doctor's degree

7. Work Position

❑ 1. Eexecutive (Decision and Planning in a high priority organization)

❑ 2. Middle management (Responsibility for administration of the various departments inside the organization)

❑ 3. Head of department (Responsible for overseeing the operation daily work closely with staff and customers)

❑ 4. Other assigned.....

8. Work experience

❑ 1. Less than 1 years ❑ 2. 1-2 years

❑ 3. 3-5 years ❑ 4. Greater than 5 years

9. IT Outsourcing experience

❑ 1. Less than 1 years ❑ 2. 1-2 years

❑ 3. 3-5 years ❑ 4. Greater than 5 years

10. Industrial category

- ❑ 1. Agriculture and Food Industry
- ❑ 2. Consumer products
- ❑ 3. Finance
- ❑ 4. Industrial goods
- ❑ 5. Real Estate and Construction
- ❑ 6. Resource
- ❑ 7. Service
- ❑ 8. Technology
- ❑ 9. MAI industry

11. Type of IT services outsourcing (This item allows to select more than one choice)

- ❑ 1. Application development
- ❑ 2. Hardware maintenance
- ❑ 3. Telecommunication/network
- ❑ 4. Application maintenance
- ❑ 5. IT consulting
- ❑ 6. Data center
- ❑ 7. Help desk
- ❑ 8. End user support
- ❑ 9. Other.....

Part 2 : The questions about service quality. Please marking only one √ on the important level that mean as; 1 = very unimportant, 2 = unimportant, 3 = moderately important, 4 = important, and 5 = very important to complete of each items. The questions were as following.

	Services Quality	Level of important				
		1	2	3	4	5
	Tangibles					
1	The outsourcing vendor had up-to-date hardware and software.					
2	The outsourcing vendor's physical facilities were visually appealing.					
3	The outsourcing vendor employees were consistently courteous.					
4	The appearance of the physical facilities of the outsourcing vendor was in keeping with the kind of services provided.					
	Reliability					
1	When the outsourcing vendor promised to do something by a certain time, they did.					
2	The outsourcing vendor was dependable.					
3	The outsourcing vendor insisted on error-free records.					

Services Quality		Level of important				
		1	2	3	4	5
Responsiveness						
1	The outsourcing vendor told users exactly when services would be performed.					
2	The outsourcing vendor employees were always willing to help users.					
3	The outsourcing vendor employees were never too busy to respond to users' requests.					
Assurance						
1	The outsourcing vendor employees were consistently courteous.					
2	The outsourcing vendor employees had the knowledge to do their job well.					
Empathy						
1	The outsourcing vendor gave users individual attention.					
2	The outsourcing vendor had the users' best interest at heart.					
3	The employees of the outsourcing vendor understood the specific needs of their users.					

Part 3 : The questions about vendor capability. Please marking only one √ on the important level that mean as; 1 = very unimportant, 2 = unimportant, 3 = moderately important, 4 = important, and 5 = very important to complete of each items. The questions were as following.

Vendor Capability		Level of important				
		1	2	3	4	5
Personal capability						
1	The outsourcing vendor has enough staff to deliver the service.					
2	The outsourcing vendor has a staff's experience.					
3	The outsourcing vendor has staff with language skills or communication.					
Methodology capability						
1	The vendor has strong IT capabilities.					
2	The vendor has a high degree of IT competence.					
Management capability						
1	The vendor has good relationship management capabilities.					
2	The vendor has the capability to effectively manage the outsourcing arrangement.					

Part 4 : The questions about relationship quality. Please marking only one √ on the important level that mean as; 1 = very unimportant, 2 = unimportant, 3 = moderately important, 4 = important, and 5 = very important to complete of each items. The questions were as following.

Relationship quality		Level of important				
		1	2	3	4	5
Communication						
1	The communication with our vendor is timely.					
2	The communication with our vendor is accurate.					
3	The communication with our vendor is complete.					
4	The communication with our vendor is credible.					
Cultural Compatibility						
1	Both parties in the relationship have compatible corporate cultures.					
2	Both parties in the relationship accept the other's culture.					
3	Both parties in the relationship have similar processes of problem solving, decision making, and communication.					
Collaborative Participation						
1	Both parties in the relationship are highly flexible when circumstances change.					
2	Both parties in the relationship are willing to accommodate each other as conditions change.					
3	Both parties in the relationship are willing to work out a new deal than hold each other to the original terms when some unexpected situation arises.					
Information Sharing						
1	We and our vendor share each other's own information.					
2	We and our vendor share business knowledge of core business processes.					
3	Information provided by us usefully for our vendor's business execution.					
4	We and our vendor share information regarding business environment and technical change that affect each other's business.					
Conflict Handling						
1	Disagreements between both parties in the relationship are almost always successfully resolved.					
2	The process of resolving conflicts between both parties in the relationship is effective.					
3	Conflict in the relationship is solved jointly with the vendor.					

Part 5 : The questions about client satisfaction. Please marking only one √ on the important level that mean as; 1 = very unimportant, 2 = unimportant, 3 = moderately important, 4 = important, and 5 = very important to complete of each items. The questions were as following.

Client Satisfaction		Level of important				
		1	2	3	4	5
Personal capability						
1	My firm is satisfied with the outsourcing arrangement.					
2	Overall, my organization regards the outsourcing arrangement as satisfactory.					
3	My firm's level of satisfaction with the outsourcing arrangement.					
4	My firm is satisfied with the outsourcing arrangement.					

Part 6 : The questions about IT outsourcing success. Please marking only one √ on the important level that mean as; 1 = very unimportant, 2 = unimportant, 3 = moderately important, 4 = important, and 5 = very important to complete of each items. The questions were as following.

IT outsourcing success		Level of important				
		1	2	3	4	5
Strategic benefit						
1	You organization increase concentration on core business.					
2	You organization improve the capability of IT to support the needs of business operations.					
3	You organization reduce the number of IT staff.					
Economic benefit						
1	You organization reduce IT expenditure.					
2	You organization improve control over IT expenditure.					
Technological benefit						
1	You organization ensure the availability of necessary or new technology.					
2	You organization ensure the availability of necessary or new IT skills.					

Biography

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Declaration

This dissertation contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and beliefs, contains on material previously published or written by any other person, except where due reference has been made.

I give consent to this copy of my dissertation, when deposited in the university library, being available for loan and photocopying.

Supaporn Kupimai

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