AN EXAMINATION OF CUSTOMER SATISFACTION IN AN OUTSOURCING RELATIONSHIP USING KANO'S THEORY OF ATTRACTIVE QUALITY (IN MALAYSIAN SME INDUSTRY)

By

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A dissertation submitted to the
Department of Internet Engineering and Computer Science,
Faculty of Engineering and Science,
Universiti Tunku Abdul Rahman,
in partial fulfilment of the requirements for the degree of
Master of Information Systems
July 2013

ABSTRACT

AN EXAMINATION OF CUSTOMER SATISFACTON IN AN OUTSOURCING RELATIONSHIP USING KANO'S THEORY OF ATTRACTIVE QUALITY (IN MALAYSIAN SME INDUSTRY)

Song Hooi Min

This research intends to study the effect of solution quality on customer satisfaction in IT outsourcing environment in Malaysian SME Industry. It intends to examine different attributes of solution quality that are salient to customers. The Kano's Theory of Attractive Quality was used as the underlying theoretical foundation. This research proposed a solution quality model which combines the dimensions of product and solution qualities. The research was conducted based on the conceptual framework drawn integrating Kano's with the product and service quality attributes. Field survey of 145 client companies had been carried out to test the existence of statistical associations between various factors and the level of consultant engagement success. The results of data analysis had shown that Kano's Theory is not only applicable to product based business but also applicable in IT outsourcing environment. The results of this research also help the vendors to utilize the limited resource to achieve higher customer satisfaction and maintaining a successful long term relationship with their clients.

ACKNOWLEDGEMENTS

It is my pleasure to thank the many people who made this research a reality. I would like to express my deep and sincere gratitude to all of you who have provided me with encouragement, assistance, and support to complete this research.

I am deeply indebted to my supervisors Dr Siew Pei Hwa, Dr. Wong Siew Fan (currently attached to Sunway University) and Dr. Khor Siak Wang from whose help, stimulating suggestions and encouragement has helped me in all the time of writing this research. Their wide knowledge has been of great value for me in doing this research.

I wish to extend my warmest thanks to Vendor Alfa, who provided a full support on this research by providing list of customer to be survey. Kindness of Vendor Alfa has made this research a success. I also would like to thank all my peers for this master studies who always helped each other by sharing information and precious opinions. Last but not least, I would like to give my special thanks to my mother, whose patient love enabled me to complete this work. Although she pass away in the mid of this research study, but her love and spirit always be with me which gave me the strongest encouragements all time.

FACULTY OF ENGINEERING AND SCIENCE

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Date: 17th July 2013

SUBMISSION OF DISSERTATION

It is hereby certified that **SONG HOOI MIN** (ID No: **08UCB08082**) has completed this dissertation entitled "**AN EXAMINATION OF CUSTOMER SATISFACTION IN AN OUTSOURCING RELATIONSHIP USING KANO'S THEORY OF ATTRACTIVE QUALITY (IN MALAYSIAN SME INDUSTRY)**" under the supervision of Dr. Siew Pei Hwa (Supervisor) from the Department of Multimedia Design & Animation, Faculty of Creative Industries, and Dr. Khor Siak Wang (Co-Supervisor) from the Department of Information Systems, Faculty of Information and Communication Technology.

I understand that University will upload softcopy of my dissertation in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

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APPROVAL SHEET

This dissertation entitled "**AN EXAMINATION OF CUSTOMER SATISFACTION IN AN OUTSOURCING RELATIONSHIP USING KANO'S THEORY OF ATTRACTIVE QUALITY (IN MALAYSIAN SME INDUSTRY)**" was prepared by SONG HOOI MIN and submitted as partial fulfilment of the requirements for the degree of Master of Information Systems at Universiti Tunku Abdul Rahman.

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I **SONG HOOI MIN**, hereby declare that the dissertation is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UTAR or other institutions.

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LIST OF ABBREVIATIONS

AHP	Analytic Hierarchy Process
A	Attractive Quality
CMM	Capability Maturity Model
CMMI	Capability Maturity Model Integration
CS	Customer Satisfaction
I	Indifferent Quality
ICT	Information and Communication Technology
IT	Information Technology
ITO	Information Technology Outsourcing
KPI	Key Performance Indicator
M	Must-be Quality
MRS	Manufacturing (including agro-based) and Manufacturing-Related Services
O	One-dimensional Quality
Q	Questionable Quality
R	Reverse Quality
ROI	Return on Investment
SERVQUAL	Service Quality
SMEs	Small and Medium Enterprises
VOI	Value on Investment

CHAPTER 1

INTRODUCTION

1.1 Introduction

Since gaining popularity in the late 1980s, the IT outsourcing market has continued to grow and has captured a large market share. In 2012 survey, 60 percent respondents agreed that it's a waste to have in-house information technology team, increased from 38 percent in 2010 (Fathers 2012). Global outsourcing market is predicted to generate 325 billion USD by 2013 (Qi and Chau 2012), IT outsourcing appears to be a lucrative business for vendors. However, as IT outsourcing strategy moves beyond national boundaries, competition among vendors become stiffer. To ensure contract continuation, vendors strive very hard to provide the best quality of products and services so that they will meet customer expectation (Wong 2011) and retain customer satisfaction (Auh and Johnson 2005).

Lofgren and Witell (2008) stated that many past studies show that customer satisfcation remains low. According to a recent survey (Computer Economics 2012), only 19% of customers have positive experience with outsourcing services. Wilson and Brown (2008) noted that 60% of the clients

are satisfied with their current vendors whereas Parker (2011) claimed that and up to 50% outsourcing relationships end up with failure.

On top of the problems on stiff competition and low customer satisfaction, vendors also face the issue of limited resources and capabilities. Sustainable competitiveness and long-term profit of an organization depend not only on attracting new customers, but also on retaining existing customers (Auh and Johnson 2005). With ever-demanding and changing customer requirements, how should vendors allocate their resources to meet these needs. A review of the literature shows while there were studies (Das et al., 1999; Chakrabarty et al., 2008) that identify the dimensions of product/ service quality in IT outsourcing.

Kano's theory of attractive quality is widely used in manufacturing literature. It has been applied extensively in product-based business. In this research, Kano's theory has been adopted to apply in the IT outsourcing, which is service-based business. Through the Kano's theory, IT outsourcing vendors can be prioritised the specific product/ service quality that affected customer satisfaction. Watson (2003) stated that Kano's theory of attractive quality has been applied in different areas such as strategic thinking, business planning, and product development to provide guidance with respect to innovation, competitiveness, and product compliance.

The major objective of this research is to understand customer satisfaction in the IT outsourcing environment using Kano's theory of attractive quality. It aims to help Malaysian IT vendors in small and medium enterprises (SMEs) to stay competitive by understanding customers' demand and needs, hence reaching or exceeding client satisfaction and expectation.

1.2 Research Motivations

In IT outsourcing, customer satisfaction is very important to contract continuation and maintenance of long term relationships. A successful outsourcing relationship will be one that clients stick with for many years (Lee 2008). However, customer satisfaction remains low in IT outsourcing. A recent outsourcing industry report stated that there is only 33% of clients satisfy with their offshore outsourcing vendors (Wilson and Brown 2008). Wilson and Brown added, in general outsourcing satisfaction, which include near shore, same shore, and offshore, there is only 61% of clients are satisfied with their vendors. Furthermore, a survey on 130 CIOs showed that more than 42% of customers use three or more outsourcing vendors, while only 22% are sticking with one (Patton 2007).

From a study which was conducted from mid-September to early October 2005 among 607 members of Techtel Enterprise IT Panel and other

companies, which included Accenture, ACS, BearingPoint, Cap Gemini, CSC, Cognizant Technologies, Dell Services, EDS, Fujitsu, HP Professional Services, IBM Global Services, InfoSys Technologies, Oracle Services, Tata Consultancy Services (TCS), SAIC, Satyam, Unisys, and WiPro Limited, only 11% of clients see their primary IT outsourcing vendor as highly differentiated or unique one (Weissman and Dugan 2005). Weissman and Dugan added that the client loyalty is very low as only 38% of customers expect to be with their primary IT outsourcing vendor in three years' time.

Besides, according to the Gartner survey that was conducted among almost 200 executives from midsize and large companies in Western Europe, it reported that 80% of outsourcing relationships were renegotiated during the lifetime of contract. Meantime, 50% of the survey respondents claimed that the major reason which led to the renegotiation is the lacking of flexibility (Computer Economics 2012).

Furthermore, through literature reviews, it is found that with low customer satisfaction, low customer loyalty, and high contract termination and renegotiation rate, it is an evident that vendors are facing great challenges in fulfilling and satisfying their customers. Since customer satisfaction is highly associated with the vendor performance (Yoon and Im 2008), it is imperative for vendors to really understand the factors that would improve their customer satisfaction**.**

There are several reasons why focusing on customer satisfaction is more important now than before. Here are three of the reasons:

i. The first reason is the increasing number of mature and informed buyers. Customers nowadays focus more on Value on Investment (VOI) rather than simply Return on Investment (ROI) (Hopfner 2007). They are looking for additional intangible benefits from IT outsourcing. They want IT outsourcing to help enhance their business outcomes (Stamford 2008).

ii. The second reason is the trend of moving from mega deals to multi sourcing method where outsourcing contracts are being split into smaller portions and allocated to different vendors (Overby 2012). The average of monetary value of an outsourcing contract has dropped from 360 million USD in year 2000 to 100 million USD in 2011 (IT Business Edge and Allied Digital Services 2011). These statistics show that clients today are more careful in selecting vendors.

iii. The third reason is the increasing number of vendors in the market. This presents customers with more choices to choose from. The number of vendors has increased nearly 16 times from about 306 vendors in 2004 to about 4893 vendors in 2008 (Brown 2008). Such significant increase in the number of vendors also indicates that the competition between vendors is

becoming stiffer. As clients have more choices of selecting suitable vendors, it is important for vendors to show how they are different from their competitors.

From the discussion above, it is evident that managing customer satisfaction is an important task for vendors if they want to maintain their competitiveness in the market. Only through meeting or exceeding customer satisfaction will vendors be able to improve customer loyalty and attract new customers. Satisfying customers is a long journey and an expensive investment. Customer satisfaction capability development costs with management cost of value retention are expected to be at 10 to 12 percent of the total revenue by 2010 (Rust 2008). However, such investment will give a fruitful payback in the long term.

The review of existing literature on the customer satisfaction in IT outsourcing showed that most studies focused on measuring customer satisfaction using key performance indicator (KPI). Other methods of evaluation included analytic hierarchy process (AHP) (Yoon and Im 2005), Q-sort technique (Yoon and Im, 2008), SERVQUAL (Parasuraman et al., 1988; Das et al., 1999), and Malcolm Baldrige criteria for performance excellence (Ford and Evans 2000). However these measurements alone are not comprehensive enough to evaluate the overall customers' satisfaction in the context of IT outsourcing (Yoon and Im 2008). In Kano's theory, it gives a

more comprehensive view which categorises the quality attributes into four groups. In these four groups, vendors are able to maintain the basic need of their clients, optionally provide more desired attributes and even surprising the clients with wow factors. The Kano's theory is further discussed in chapter 2.

Moreover, previous research (e.g. Fornell 1992; Bojei and Alwie 2010) had touched on the issue of relationship between vendors and customers as a factor that would influence customer satisfaction. However, through the literature reviews, it can be said that none of the studies had combined both the evaluation method and relationship factor into one comprehensive model to examine the interplay between those factors. Also, there are no studies examining the customers' perceptions on the importance of each attribute in the evaluation methods (e.g. AHP, Q-sort, or SERVQUAL) and relationship factor that matter to customers. It is the intention of this research to fulfil these two research gaps.

1.3 Research Objectives

With low customer satisfaction, low retention rate and strong competition among vendors, it calls a need to understand what the customers satisfy the most and hence lead to loyalty and successful long term

outsourcing relationship. Therefore, this research aims to find out factors that made an outsourcing contract a success through a proposed solution quality model which combines the dimensions of product quality and solution quality. In regard to this, three main research objectives were formulated as presented in the subsequent paragraphs.

First, this research develops a solution quality model to examine how the attributes in solution quality affect customer satisfaction. This model also helps to identify the attributes of solution quality that are significantly contributed to customers' satisfaction using Kano's theory of attractive quality as the underlying theoretical foundation. The Kano's theory of attractive quality classifies the customer satisfaction attributes into Must-Be, Attractive, One-Dimensional, Reverse and Indifferent. This may help vendors to achieve higher customer satisfaction through priorities attributes to be achieved with the limited resources constraints.

Second, the Kano's theory of attractive quality has been widely used in manufacturing and service industries (Lofgren and Witell 2008). However, through literature reviews, it is found that the theory has not been applied to the context of IT outsourcing. By applying the theory to this research study, it is hoped that new insights can be obtained to help vendors to better understand clients' satisfaction on the outsourcing services they receive and examine which attributes of the services are important to them. The

perceptions of clients towards the important of each of the attributes are assessed using the survey approach. Through this way, vendors are able to focus resources on areas that their clients think is essential.

Thirdly, from the academic perspective, the application of Kano's theory of attractive quality in IT outsourcing introduces a different perspective in examining the issue of customer satisfaction. Such perspective complements existing understanding of customer satisfaction in IT outsourcing. Not only that, this perspective introduces a method of ranking as well as differentiating the attributes are important to customers from those that are not. This ranking and differentiation method is new to the IT outsourcing literature. Furthermore, this is also an attempt to examine how customers' perceptions toward the important for each of the attributes in the evaluation method and relationship factor that matter to customers and hence close the gap between the two.

1.4 Research Overview

A survey research method using questionnaire was used in the research. This method has the advantage of reaching a larger sample (Gable 1994). Considering the fact that a client may outsource different IT activities to one vendor and a client may also outsource different IT activities to different

vendors, the level of analysis adopted in this phase was at the contractual level. The participants of the research (i.e., clients) were surveyed on the extent to which they were satisfied with their individual outsourcing contracts.

1.5 Dissertation Structure

Chapter 2 introduces to the IT outsourcing literature and reviews existing research on customer satisfaction in the IT outsourcing environment form both the physical and psychological perspectives. Then, it identifies the research gaps which led to the proposed research model of customer satisfaction in IT outsourcing environment. Kano's model and the theory of attractive quality will also be introduced to serve as the theoretical foundation in this research. Chapter 3 presents the research methodology used in the research. The survey method was used to collect data. Questionnaire is designed based on Kano's model.

Chapter 4 presents the research findings that are obtained through analyzing the data using Kano's analysis method. The data collection was done using survey questionnaire Chapter 5 wraps up the discussion of the research. It provides the overall conclusions from the research outcomes and research contributions. Besides, limitations of this research and recommendations for future research avenues are dub curved.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter discusses a series of literature reviews covering the following topics:

- IT outsourcing in global market
- IT outsourcing Malaysia
- IT outsourcing definition
- IT outsourcing success
- Quality overview
- Theory of attractive quality and Kano model
- Small and medium enterprises in Malaysia
- Related studies

2.2 IT Outsourcing in Global Market

In today business world, especially in the Information Technology sector, the term “outsourcing” is becoming a common topic. The term

"outsourcing" was being introduced around 1980s, the early days of Information Technology Outsourcing (Berkman 2001). At the beginning, the main reason for companies to outsource is to reduce cost. This is because in 1980s, United States was caught in the grip of stagflation (sluggish economic growth (stagnation) combined with simultaneous jumps in inflation and unemployment) (Article Admin 2003).

Client chooses to outsource for many reasons, at the beginning, the main reason for companies to outsource is to reduce cost. However, as the outsourcing market grows, cost is no longer the main focus. Outsourcing today is no longer driven by cost. Client nowadays is looking for quality products or services at a reasonable price but not the cheapest with lower quality. Not surprisingly, the cost is no longer the main concern to the outsourcing buyers. Outsourcing buyers today concern more in vertical capability and experience.

Another reason is to focus on their core business (Berkman 2001). Outsourcing become famous when there is a huge success of Kodak outsourcing (Polilli 1989). Today, outsourcing plays a significant role in today business world where outsourcing nowadays is viewed as one of the strategic weapons for organization to keep compatible in the rapid changing business environment. Outsourcing has become a business-critical process, taking

various forms, such as total outsourcing, selective outsourcing and limited contracting (Mikhailov and Tsvetinov 2005).

2.3 IT Outsourcing in Malaysia

Malaysian companies nowadays are seriously looking at IT outsourcing in order to help them to enhance business processes and increase competitive advantage (Hussin et al., 2006; Tan et al., 2009). According to MarketResearch.com (2012), the willingness of Malaysian companies' to pay for IT outsourcing services is high, especially in the manufacturing, healthcare, and government sectors, as well as banking and insurance industry.

In Malaysia, banking and finance sectors are the major and active players in IT outsourcing industry. The first bank that outsource their IT function is Bumiputra Commerce Bank (BCB), with a USD 250 million 10 years contract with Electronic Data Services (EDS - a global IT service provider) in 1999 (Cheong 2003). Cheong added that other major IT outsourcing contracts in Malaysian companies include: Maybank with RM1.3 billion deal, Malaysia Airline System Bhd (MAS) with RM 440 million deal, and Permodalan Nasional Bhd (PNB) with RM32 million deal.

For the Malaysian public sector, it has started to experience a swingeing start with outsourcing, mainly motivated by Malaysia's strategic framework or known as National IT Agenda (NITA) formulated in 1996 and the Multimedia Super Corridor (MSC) (Hussin et al., 2006). Cheong (2003) stated that among early Malaysian government's large-scale systems integration projects were for Malaysian Postal Office and Amanah Saham Nasional Berhad for Permodalan Nasional Berhad (PNB). Other IT outsourcing projects of public sector includes the Malaysian Smart Schools which was awarded to Telekom Malaysia Consortium (EDS Release 1999), and the Generic Office Environment (GOE) project which was awarded to Electronic Data Services (EDS) Malaysia.

2.4 IT Outsourcing Definition

The *Oxford Dictionary of Business and Management* (2009), outsourcing is defined as "The buying in of components, sub-assemblies, finished products and services from outside suppliers rather than by supplying them internally." Outsourcing can also be defined as the function which used to perform internally being moved out to perform by third parties (Tajdini and Nazari 2012).

According to Loh and Venkatraman (1992) and Dibbern et al. (2004), information technology outsourcing (ITO) is a strategy of engaging external vendors to provide information technology (IT) services for a period of time and for a fee. IT services are referred to as the IT products that delivered and provision of an IT department (Hussin et al., 2006). The goal of employing such a strategy is to meet internal IT needs (Balaji and Brown 2005) and focus on the core business (Tajdini and Nazari 2012).

From the time ITO was first popularized by the success of Eastman Kodak's outsourcing venture in 1989 (Loh and Venkatraman 1992), ITO has grown dramatically (Levina and Ross 2003; Qi and Chau 2012). Global outsourcing market is predicted to generate 325 billion USD by 2013 (Qi and Chau 2012). According to Asia's top 100 users of IT, more than half of the organizations choose to outsource their projects (MIS Asia 2006; Computer Economics 2012).

2.4.1 Types of IT Outsourcing

ITO can be further divided into total outsourcing and selective outsourcing.

2.4.1.1 Total outsourcing

Total outsourcing shifts IT assets, leases, staff, and management responsibility to provide IT services from internal IT department to the vendors, which represents at least 80 percent of the IT budget (Lacity et al., 1996; Overby 2012). For example, a company outsource the entire department or business function to a third party service provider such as IT department.

2.4.1.2 Selective outsourcing

Selective outsourcing allocates selected IT activities with vendor; at the same time providing IT services internally from 20 percent to 80 percent (typically 24 percent) of the IT budget (Larcity et al., 1996; Overby 2012). Major characteristic of selective outsourcing is short term contracts less than five years for specific activities (Larcity et al., 1996). For example a company may have an IT department that handles daily queries and support for all employees and choose to outsource network maintenance to a third party service provider. As compare to total outsourcing and total insourcing, selective outsourcing contracts often attain higher cost savings (Lacity and Willcocks 1998; Computer Economics 2012).

2.4.2 ITO Services

ITO services or activities are divided into three major categories, which include: infrastructure building, application development, and consultancy services (Brown and Wilson 2006). With the increase in the number of organizations that outsource their activities, the outsourcing market, especially in the area of ITO shows high potential in terms of growth and contribution to global economy. Table 2.1 shows the percentage of organization that outsourced each function.

Table 2.1: Current outsourcing buyers and functions

Functions	Percentage of All Current Outsourcing Buyers
Purchasing, Procurement, Spend Management, Payables	83.4%
Compliance, Finance Accounting (FAO)	75.2%
Technology (ITO)	51.3%
Legal Services (LPO)	44.8%
Bundled ITO BPO	44.5%
Research, Development, Innovation (KPO)	43.7%
Document Services (DPO)	28.3%
Lead Generation, Marketing and Sales (MSO)	14.6%
Back Office, General Admin (BPO)	14.3%
Facilities Management	13.0%
Engineering (ESO)	8.4%
Learning, Training, Recruitment and Human Resources (HRO)	6.7%

Note: The percentages are not rounded to 100% as a buyer may outsource more than one function.

Source: Wilson and Brown (2008, p. 15)

2.5 IT Outsourcing Success

IT outsourcing success is always a predominant justification to information system outsourcing research (Lacity and Hirschheim 1993). Outsourcing success is defined as the satisfaction with benefit gained by organizations as the result of an outsourcing contract (Grover et al., 1996, p. 102). Lee and Kim (2003) defined outsourcing success as "the level of fitness between the service receiver requirements and outsourcing outcomes delivered by the service provider" (p. 268). In addition, Lacity and Willcocks (2001) judged outsourcing as successful when "the outcome of the sourcing decisions met expectation".

Although, there are different definitions of IT outsourcing success, however, there are three commonly cited strategies in attaining optimal IT outsourcing success regardless of the purpose of outsourcing (Lee and Kim 2003). The three major motivators for outsourcing success include promised of strategic, economics and technological benefit (Hussin et al., 2006) as follows:

- **Strategic benefit** is defined as "the ability of a firm to focus on its core business by outsourcing routine IT activities" (Lacity et al., 1998).
- **Economic benefit** refers to "the ability of a firm to use expertise and economies of scale in human and technological

resources of the service provider and to manage its cost structure through unambiguous contractual arrangement" (Bryson and Ngwenyama 2000).

- **Technological benefit** is referred to as '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' (Lacity and Willcocks 1998; Aubert et al., 1999).

2.6 Quality Overview

Customers nowadays are more informative sophisticated (Wilson and Brown 2008), as such product quality is increasingly important to retain and attract new customers (Auh and Johnson 2005). Before going into the definition of product quality, we need to understand what it meant by "quality".

According to *The Merriam-Webster Dictionary*, quality means the "degree of excellence"; where in business environment, quality is always being used to differential the position in market place. In the existing literature, quality is the issue that heavily studied by these four disciplines of scholars, they include philosophy, economics, marketing, and operational management. Each stream of the scholars defined quality differently. These end up having a

number of contended view points and each of them work on different analytical framework and their own terminology (Garvin 1984a).

Garvin (1984b) had classified the different views in the definition of quality into the following five approaches:

i. **The transcendent approach:** Transcendent view means the extent to which a product provided by vendor is constitutionally good in nature which is absolute and universally recognizable. In transcendent view, good quality attributes are inheritable. This view proposed that quality cannot be precisely measure and analyzed, it is through the judgment by accumulated experiences.

ii. **The product-based approach:** Product-based view is inherited from the economic point of view. It is the extent to which a product provided by vendor is containing a large amount of desire attributes by the client and it is highly depend on the materials used to produce the product. In this view, product quality is a measurable variable where product quality is positively related to price.

iii. **The user-based approach:** User-based view means the extent to which a product provided by vendor fit the user demand. This view is highly subjective based on the personal standpoint of quality. The end-user opinions are influential in

product design and development processes. In product development, demand of the majority is taking into consideration while demand of minority is being ignored.

iv. **The manufacturing-based approach:** Manufacturing-based view means the extent to which a product provided by vendor is produced according to the original design, meeting all requirements stated. The major concern of this view is the engineering, production, and industrial practices. The more deviation from the original model (original design is considered perfect) will indicate reduction in quality.

v. **Value-based approach:** Value-based view means the extent to which a product provided by vendor is best fit the actual usage of the user with a reasonable price. This view promoted "affordable excellence"; however, it is still lack of clear definition.

Table 2.2 summarizes Garvin's definitions of quality (1984b) based on the five approaches as described above. This research adopts his definitions into the ITO context.

Table 2.2: Definitions of quality based on the five approaches proposed by Garvin

Approach	Definition	Source (cited in Garvin 1984b)
Transcendent	"Quality is neither mind nor matter, but a third entity independent of the two… even though Quality cannot be defined, you know what it is."	Pirsig, R.M., *Zen and the Art of Motorcycle Maintenance*, p. 185, 213
	"… a condition of excellence implying fine quality as distinct from poor quality…Quality is achieving or reaching for the highest standard as against being satisfied with the sloppy or fraudulent."	Tuchman, B.W., 1980, "The Decline of Quality", *New York times Magazine*, 2 November 1980, p. 38
Product-based	"Differences in quality amount to differences in the quantity of some desired ingredient or attribute."	Abbolt, L. "Quality and Competition", p. 128-127
	"Quality refers to the amounts of the unpriced attributes contained in each unit of the priced attribute."	Leffler, K.B. December 1982, "Ambiguous Changes in Product Quality," *American Economic Review*, p. 956
User-based	"Quality consists of the capacity to satisfy wants…"	Edwards, C.D., October 1968, "The Meaning of quality," *Quality Progress*, p. 37
	"Quality is the degree to which a specific product satisfies the wants of a specific consumer."	Gilmore, H.L., June 1974, "Product Conformance Cost." *Quality Progress*, p. 16
	"Quality is any aspect of a product, including the services included in the contract of sales, which influences the demand curve."	Dorlman, R. and Sleiner, P.O. December 1954, "Optimal Advertising and Optimal Quality", *American Economic Review*, p. 831
	"In the final analysis of the marketplace, the quality of a product depends on how well it fits patterns of consumer preferences."	Kuenn, A.A. and Day, R.L., November-December 1962, "Strategy of Product quality," *Harvard Business Review*, p. 101

Table 2.2: Definitions of quality based on the five approaches proposed by Garvin (Continued)

Approach	Definition	Source (cited in Garvin 1984b)
User-based (Continued)	"Quality consists of the extent to which a specimen [a product-brand-model-seller combination] possesses the service characteristics you desire."	Maynes, E.S., "The Concept and Measurement of Product Quality," in Household Production and Consumption, p. 542
Manufacturing-based	"Quality [means] conformance to requirements."	Crosby, P.B. *Quality is Free*, p. 15
	"Quality is the degree to which a specific product conforms to a design or specification."	Gilmore, June 1974. p. 16
Value-based	"Quality is the degree of excellence at an acceptable price and the control of variability at an acceptable cost."	Broh, R.A., 1982, *Managing Quality for Higher Profits*, p. 3
	"Quality means best for certain customer conditions. These conditions are (a) the actual use and (b) the selling price of the product."	Feigenbaum, A.V. *Total Quality Control*, p. 1

Source: Adapted from Garvin (1984b, p. 26)

2.6.1 Product Quality

From the definitions of quality based on the five approaches as depicted in Table 2.2, Garvin (1984b) had identified eight dimensions of product quality as below and is visualized in Figure 2.1:

- **Performance:** Performance refers to the major functions of a product.

- **Features:** Feature is those secondary characteristics that supplement the product's basic function. Features can be something unique that other competitors do not have.
- **Reliability:** Reliability shows the chances of a product in the absence of within a period of time (Garvin 1984b). Reliability can also means the ability to perform the promised service dependably and accurately (Parasuraman et al., 1988)
- **Conformance:** Conformance is to which extent the final product match to the original product design and performance.
- **Durability:** Durability is used to measure product lifetime in term of economic and technical view.
- **Serviceability:** Serviceability can be defined as "the velocity, ability and competency to repair.
- **Aesthetics:** Aesthetic is used to measure the physical appearance of a product.
- **Perceived Quality:** Perceived quality is the subjective evaluation towards a product such as images, advertising, or brand names.

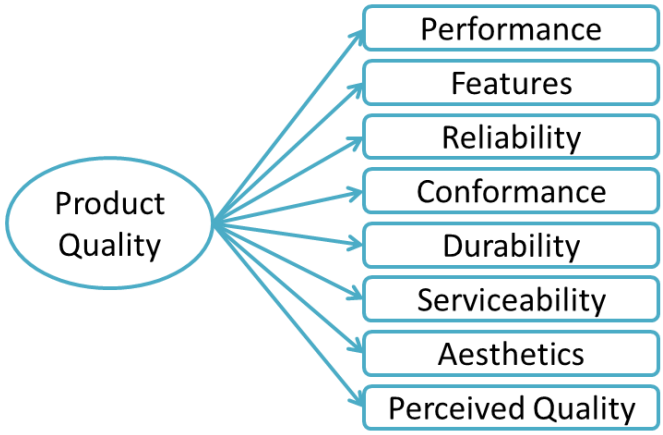

Figure 2.1: Eight product quality dimensions proposed by Garvin

2.6.2 Solution Quality

The product quality dimensions as discussed in previous section are initially used to measure a physical product quality. Some of the dimensions are not suitable in the ITO contract. In ITO environment, the "product" provided by vendor is usually an architecture component beyond the product (Das et al., 1999) such as software development and consultancy service. Solution quality refers to extent to which products and services provided by vendors help to solve client problems and or improve client business needs (Whyte et al., 1997). ITO vendors are providing solution to clients to facilitate the business processes. It measures the performance of the solution (Das et al., 1999).

Das et al. (1999) suggested that solution quality should also measure the quality of vendors' solution in term of their innovativeness, their effectiveness in solving the business problem, their operating efficiency, the integration of the solution with other systems, and the smoothness of the implementation process.

Furthermore, solution quality should measure the value of the solution to client (Hopfner 2007). It is sometimes operationalized as a "ratio" of quality to price (Anton 1996). The "Value" here is also referred to the intangible benefit when clients look at what additional treasure that vendors can provide to their business (Hopfner 2007). The value of a solution provided by vendors might not generate immediate return on monetary, but it would benefit clients in the long term. More and more organizations are now turning to outsourcing to enhance business outcomes instead of just to control or reduce costs (Stamford 2008). Therefore, it is important for vendors to foresee the value added attribute that they could offer to their clients.

Another well known attribute of solution quality is information quality (Sengupta and Zviran 1997). Information is the output of the solution system provided by vendors. Information quality is the information output performance from services and products of IT outsourcing vendors (Yoon and Im 2008). Information is the meaningful data that would help its users to make decision or might be used as input to another system, therefore the quality of

information is very important. Information should be reliable, relevance, accurate, precision and complete (Baroudi and Orlikowski 1988; Sengupta and Zviran 1997).

All the reviews of literature related to the solution quality are summarized in Figure 2.2.

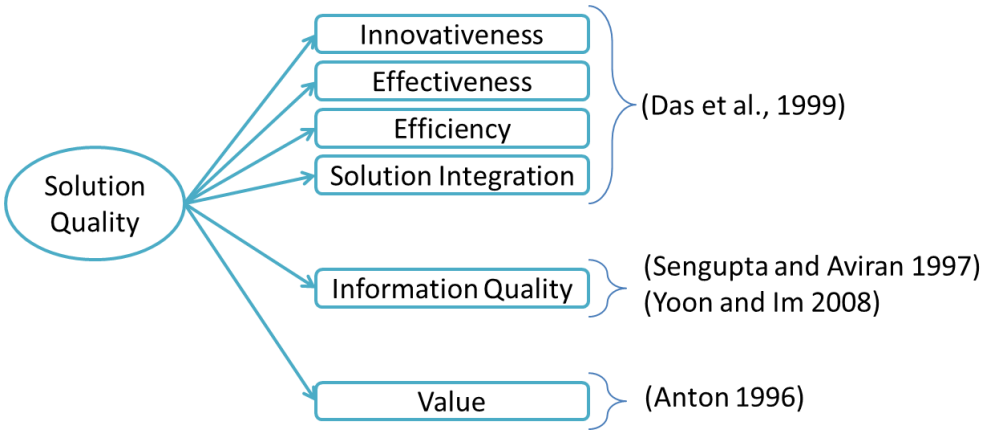

Figure 2.2: Solution quality dimensions suggested in literature review

2.6.3 Implication for the Research

A proposed research model is developed based on the product and solution qualities discussed above. The proposed research model is presented and further discussed in section 3.3.

2.7 Theory of Attractive Quality and Kano Model

The theory of attractive quality explains how the relationship between the degrees of sufficiency of a given quality attributes and customer satisfaction with that quality attribute can be classified into five dimensions of perceived quality (Lofgren and Witell 2008). It does this on the basis of the relationship between the degree of sufficiency of a quality attribute and customer satisfaction with that quality attribute. As it provides insight into which quality attributes fall into which quality dimensions, the theory offer a better understanding of how customers evaluate a product or offering, and thus assists companies to focus on the most important attributes to improve (Gustafsson et al., 1999).

Over the past two decades, the theory of attractive quality has received increasing interest, and has been applied in strategic thinking, business planning, and product development to provide guidance with respect to innovation, competitiveness and product compliance (Watson 2003). From the literature review of 33 papers related to the theory of attractive quality, there is no IT outsourcing customer satisfaction had been studied. However, with more informed clients in the outsourcing industry, IT outsourcing today is moving towards quality driven rather than cost driven (Wilson and Brown 2008), therefore, it is important for vendor to ship to quality focus rather than

cost focus and it is time for vendor to adapt theory of attractive quality into its service to gain better understanding of what would satisfy their client needs.

Apart from theory of attractive quality, Kano (1984) has introduced a model of customer satisfaction. Kano's model is the extension of the theory of attractive quality. Figure 2.3 illustrates an overview of Kano's model of attractive quality, where it posits five dimensions of perceived quality which are (Kano et al., 1984):

- Attractive Quality
- One-Dimensional Quality
- Must-Be Quality
- Indifferent Quality
- Reverse Quality

As can be seen in Figure 2.3, the physical sufficiency of a given quality attribute is displayed on the horizontal axis, whereas the satisfaction with that quality attribute is shown on the vertical axis (Kano et al., 1984). Horizontal axis show the degree of achievement, left side indicate no achievement at all and toward the right hand side is fully achieve the respective quality attributes. Vertical axis reveals the level of satisfaction.

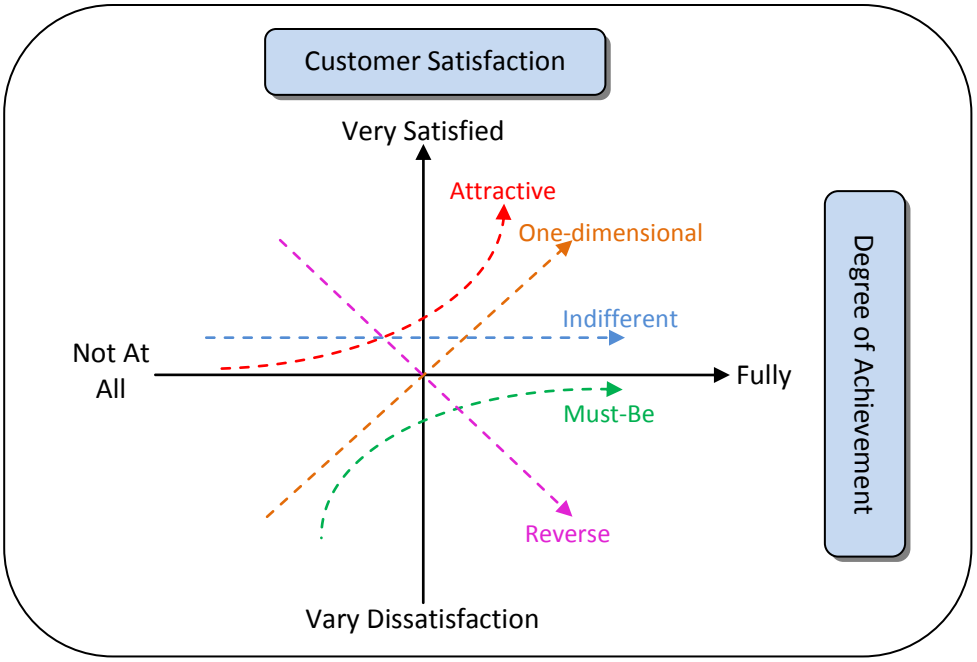

Figure 2.3: Kano's model of quality attributes (Adopted from Kano's model)

Source: Kano et al. (1984)

2.7.1 Attractive Quality

Attractive Quality attributes provide satisfaction when fully achieved but do not cause dissatisfaction when not fulfilled (Kano et al., 1984). These quality attributes are not normally expected and not expected by clients, vendors should take the initiative to show deep affection and caring relationship with clients. They are sometimes referred to as surprise or delight attributes. However, it does not create any dissatisfaction if excitement elements do not exist. Attractive quality can bring prominence satisfaction but

none of the quality attribute will bring permanent satisfaction (Lofgren and Witell 2008).

2.7.2 One-Dimensional Quality

One-Dimensional Quality includes attributes that are positively related to client satisfaction (Yang 2005). One-dimensional quality attributes result in satisfaction when fulfilled and result in dissatisfaction when not fulfilled (Kano et al., 1984). Clients will have greater satisfaction with more fulfilments in one-dimensional element; researchers call it "the-more-the-better" attributes (Lee and Newcomb 1997). For example, contracts stated that vendors should help clients to reduce cost by 20% within one year, by achieving 20% of cost saving is considered the basic element that vendors must achieve. However, if the vendor can help client achieve 20% cost saving in a shorter timeframe or saving more than 20% of the cost, clients will be more satisfy. The more cost saving achieved, the greater the satisfaction.

2.7.3 Must-be Quality

Must-be quality attributes are taken for granted when fulfilled but result in dissatisfaction when not fulfilled (Kano et al., 1984). Must-Be Quality serve as the fundamental criteria where the satisfaction level is very low. However, without these basic elements, satisfaction rate will drop

tremendously. Customer expects these attributes; therefore they view those attributes as basic. Customers are unlikely to tell the company about them when asked about quality attributes; rather they assume that companies understand these fundamentals of product design (Watson 2003). Vendor should be able to discover what are the things that client would take for granted and fulfil their needs.

2.7.4 Indifferent Quality

Indifferent Quality attributes are aspects of a product that are neither good nor bad; consequently, they do not result in customer satisfaction or customer dissatisfaction (Lofgren and Witell 2008).

2.7.5 Reverse Quality

Reverse Quality attributes refer to attributes in which a high degree of achievement results in dissatisfaction (and conversely, a low degree of achievement result in satisfaction) (Lofgren and Witell 2008). For example, some customers prefer the basic model of a product, rather than a more elaborate version (Gustafsson et al., 1999).

2.7.6 Relationships between Quality Attributes

However, quality attributes can change over time which mean that a successful attribute follows a life cycle from being indifferent, to being attractive, to being one-dimensional and, ultimately to being a must-be item (Kano 2001). For example, an attributes might not be interesting which is indifferent to customers when it is first introduced to a market. In the growth phase of a market, an attribute become attractive which makes customers fell satisfied, although they feel neutral if the product does not include this attributes. However, for the customers who frequent use that quality attribute, it is likely to cause dissatisfaction if later that quality attribute disappear (Lofgren and Witell 2008). After frequent use, perception toward that quality attribute might become one-dimensional where satisfaction and dissatisfaction rely on the unity with the degree of achievement of that attribute. Hence, as the value of this one-dimensional attributes becomes accepted by customers, that attributes becomes a must-be attributes (Kano 2001).

2.7.7 Implication for the Research

In this research Kano's model is used to classify the solution quality attributes into must-be, one-dimensional, attractive, indifference and reverse. Details on how to apply this theory in the research are further discussed in chapter 3.

2.8 Small and Medium Enterprises (SMEs) Malaysia

In Malaysia, before the year 2005, there is no official definition of Small and Medium Enterprises (SMEs). On 9 June 2005, the National SME Development Council approves the common definitions of SMEs across economic sectors, to be adopted by all Government Ministries and Agencies involved in SME development, as well as financial institutions (Secretariat to National SME Development Council 2005). The definitions of SMEs are based on two criteria, namely the number of employees and the annual sales turnover. The definitions are then applied in the following three sectors:

- **Primary agriculture:** A small and medium enterprise in primary agriculture is an enterprise with full-time employees not exceeding 50 or annual sales turnover not exceeding RM 5 million.
- **Manufacturing (including agro-based) and Manufacturing-Related Services (MRS):** A small and medium enterprise in manufacturing (including agro-based) and MRS is an enterprise with full-time employees not exceeding 150 or with annual sales turnover not exceeding RM 25 million.
- **Services:** A small and medium enterprise in services is an enterprise with full-time employees not exceeding 50 or annual sales turnover not exceeding RM 5 million.

Table 2.3 summarises the approved definitions of SMEs based on the number of full-time employees and annual sales turnover.

Table 2.3: Definitions of SMEs according to sector and size

Size \ Sector		Primary Agriculture	Manufacturing (including Agro-Based) and MRS	Service Sector (including ICT)
Micro	No of Employees	< 5	< 5	< 5
	Annual Turnover	< RM 200,000	< RM 250,000	< RM 200,000
Small	No of Employees	5 – 19	5 – 50	5 – 19
	Annual Turnover	RM 200,000 – RM 1 million	RM 250,000 – RM 10 million	RM 200,000 – RM 1 million
Medium	No of Employees	20 – 50	51 – 150	20 – 50
	Annual Turnover	RM 1 million – RM 5 million	RM 10 million – RM 25 million	RM 1 million – RM 5 million

Source: Secretariat to National SME Development Council (2005)

2.8.1 Implication for the Research

In this research, the target of research focuses on small and medium enterprises in manufacturing and services sector. Micro enterprises are eliminated due to low annual turnover and limited employees. Primary agriculture industry also excluded from this study as the usage of IT in primary agriculture industry is very limited.

2.9 Related Studies

Since the theory introduced in 1984, it has obtained wide exposure in both academics and practitioners over the last two decades (Yang 2005). Over the time, the theory of attractive quality has extended its application to various spaces in businesses to provide guidance for innovation, competitiveness, and product compliance (Lofgren and Witell 2008).

According to the overview of Kano's theory application, Lofgren and Witell (2008) summarize the researches done in past two decades with the empirical context. From the overview, the empirical context include: bank services, cable television, packaging, e-services, skis, tourist satisfaction, manufacturing and etc. However, IT outsourcing is not in the list of empirical context. Based on the exposure on literature review so far, there is no IT outsourcing research adopted Kano's theory of attractive quality.

2.10 Conclusions

This chapter has covered the literature review in IT outsourcing globally and locally. The product and solution quality are introduced which will turn into the research model in the following chapter. Kano's theory of attractive quality and its application has also been presented in this chapter. The research method using Kano model is further discussed in next chapter.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents an overview on how this research was carried out. It discusses the research gap, the research model, research instrument, the participants, data collection procedures, and data analysis.

3.2 Research Gap

IT outsourcing successes are always measured by using the key performance indicator (KPI) following the industry standard such as Capability Maturity Model (CMM) and Capability Maturity Model Integration (CMMI) (Frank and Hans 1999). Those KPI are usually measurable and based on initial drive of the outsourcing contract or the KPI which are prefixed in the industry standard. Solution quality is usually measured in this way. Furthermore, KPI alone is not comprehensive enough in evaluating the overall customer-oriented satisfaction in the context of IT outsourcing (Yoon and Im 2008). This is because KPIs are mostly considered the physical aspect that measures the physical state or extent of the specific attributes, such as how

many percent of cost saved and performance achieved. Clients and vendors may not view KPIs from similar perspective.

In additional, the literature over decade of research in IT outsourcing, it is surprise that the success factors are still under-researched (Hui and Beath, 2002; Dibbern et al., 2004). Supporting to this view, Lee et al. (2004) suggested that the IT outsourcing success attributes need further development: "As outsourcing grows in complexity, researchers need to develop more sophisticated metrics to assess the success of outsourcing ventures" (p. 115).

In Malaysia, despite the widespread IT outsourcing practice both in the private and public sectors, research on this IT outsourcing success was not extensive (Hussin et al., 2006; Tan et al., 2009). This calls for the need to take a different yet comprehensive perspective of reevaluating customer satisfaction. One prominent perspective borrowed from literature in manufacturing (products based) is this concept of quality. Quality is the underlying condition to achieve customer satisfaction (Fornell 1992). However, Ting and Chen (2002) claimed that very few research have been carried out to examine various quality attributes such as product or solution quality and its effects on customer satisfaction.

Furthermore, in ITO environment there is lack of a comprehensive quality dimensions that can be used to measure the solution quality. The

product quality dimensions introduced by Garvin (1984) are not fully applicable to ITO environment. However, some dimensions in the solution quality are too abstract to measure (Ting and Chen 2002). This research will propose a solution quality model which combines the dimensions of product quality and solution quality, which is further described in next section.

3.3 Research Model

From the eight dimension of the product quality as describe in section 2.6.1, all the products quality dimensions proposed by Garvin (1984b) are included in this research except the durability dimension that measures the product lifetime. This is due to the difficulty in measuring the durability dimension in ITO. In ITO environment, the solutions that vendors usually provide are application and services. When it come to the application and services, it is very difficult to determine the lifetime compare to physical product. The lifetime of an outsourcing contract is highly depending on the management.

Furthermore, for the six dimensions of the solution quality which has been described in depth in section 2.6.2, only the solution integration has been selected as one of the dimensions in this research. Based on the study of the solution quality, it is found that the innovativeness is too abstract to measure.

Besides, the effectiveness, efficiency and information are related to performance. Effectiveness and efficiency are the measurement for performance. Information is the output of the system which also the output from performance. Therefore it is conflicted with performance. Hence, these three dimensions also being dropped from this research. In addition, the value dimension in solution quality is eliminated as well. This is because there is still lack of clear definition for value-based view. Value definition may be different from one person to another.

With the overview of product quality and solution quality as has been described in chapter 2, eight dimensions to form the solution quality for this research have been identified. The research model for this research is then constructed as shown in Figure 3.1.

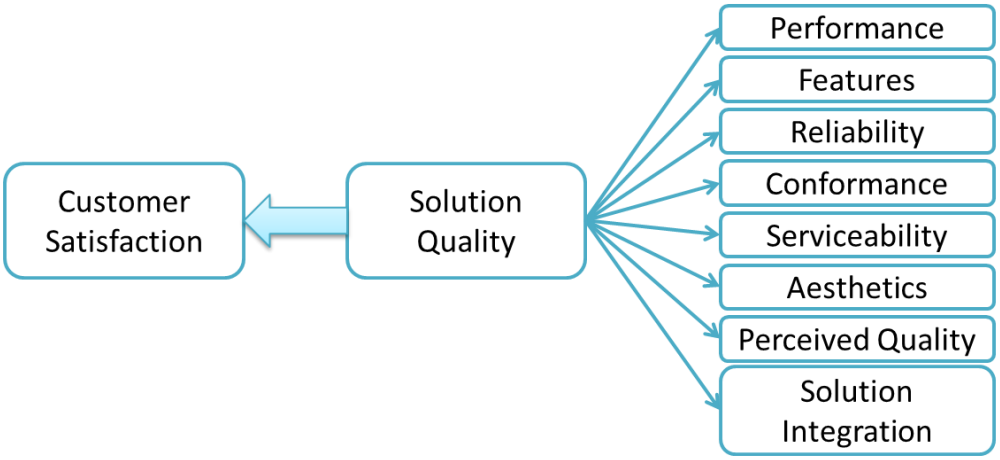

Figure 3.1: Research model for this research

As can be seen in Figure 3.1, there are eight dimensions of solution quality as follows

- **Performance:** Performance means the extent to which a product provided by vendor is having the primary operating function which meet the fundamental operational characteristics of that particular product.
- **Feature:** Feature means the extent to which a product provided by vendor is having the unique functions compare to other competitors.
- **Reliability:** Reliability means the extent to which a product provided by vendor is demonstrated the likelihood of a failure will occur in a given time frame.
- **Conformance:** Conformance means the extent to which a product provided by vendor is no deviation from the original design. Both internal and external functions are taken into consideration.
- **Serviceability:** Serviceability means the extent to which a product provided by vendor is able to maintain or renew from time to time. This is to ensure the product can be function smoothly.
- **Aesthetic:** Aesthetic means the extent to which a product provided by vendor is attractive in term of the physical appearance. It is highly subjective.

- **Perceived quality:** Perceived quality means the extent to which a product provided by vendor is match with the product information that the customer have in mind. It is also highly subjective and customer intention to compare with other brand.
- **Solution integration:** Solution integration means the extent to which a solution provided by vendor able to work with existing or other department system.

3.4 Data Collection Method

This research intended to study the effect of solution quality on customer satisfaction in the ITO environment. It also examined different attributes of solution quality that are salient to customers. The Kano's theory of attractive quality (which has been discusses in detail in section 2.7) was used as the underlying theoretical foundation.

To examine the eight dimensions of solution quality using Kano's theory of attractive quality, the questionnaire survey method was used. A survey is a means of "gathering information about the characteristics, actions, or opinions of a large group of people, referred to as a population" (Pinsonneault and Kraemer 1993). The survey method was used to identify the

factors that are most demanded or contribute the most to customer satisfaction in IT outsourcing environment.

The main way of collecting surveyed data was by asking people with a set of structured and predefined questions. The survey questions were constructed based on the contractual and relationship form quality perspective. In view of the fact which a client may outsource different IT activities to different vendors, the level of analysis adopted in this phase was at the contractual level. This means the participants (i.e., clients) were surveyed on the extent to which they are satisfied with their individual outsourcing contracts.

3.5 Research Instrument

In this research, the questionnaire (see Appendix A) was developed based on the Kano's questionnaire design. Kano's questionnaire helped to determine the relationship between client's satisfaction and the attributes.

The Kano's questionnaire was constructed using a pair of functional and dysfunctional question. Functional questions ask customer how they feel if an attribute is present, whereas dysfunctional questions ask customer how

they feel if an attribute is absent. Each attributes contains a few pairs of questions as revealed in Table 3.1.

Table 3.1: An example of functional and dysfunctional questions formed in the Kano's questionnaire

Functional Question	Is able to address the business problem faced?	1. I like it this way. 2. I am expecting it to be that way. 3. I am neutral. 4. I can accept it to be that way. 5. I dislike it that way.
Dysfunctional Question	Is not able to address the business problem faced?	1. I like it this way. 2. I am expecting it to be that way. 3. I am neutral. 4. I can accept it to be that way. 5. I dislike it that way.

After constructing the questionnaire, an expert review of the questionnaire was conducted. It was reviewed by two industry experts, a faculty member, and a postgraduate student. They went through all the questions and give recommendations based on their opinions. Several amendments were made based on the opinions gathered.

3.6 Research Samples

250 customers from the small and medium size enterprises (SMEs) in Klang Valley area had been identified as the samples of this survey. However, they were 150 customers agreed to participate in this survey.

3.7 Data Collection Procedure

Before the survey was conducted, appointments with the participants were made to arrange for face-to-face survey sessions. All the participants were informed that the survey session took around 45 minutes. During each survey session, a brief introduction of the research was given to each participant, followed by the detail explanation of the questions in questionnaires. Participants were asked to answer the questionnaire on the spot.

3.8 Data Analysis Method

Data collected was then being evaluated in three steps as shown in Figure 3.2. These three steps in the evaluation process are as below:

- **Step 1:** The rating of each pair of functional and dysfunctional questions was matched to the evaluation table as shown in Table 3.2. The result of each dimension was recorded into the result table. This step was repeated for each pair of questions in each survey. The results were than recorded into an Excel file.
- **Step 2:** The result table was then sum up to the total for each category. The summary result was then use to analyse and categorize the quality attributes into customer satisfaction

categories. There were five categories of satisfaction, which are: Must-be, One-dimensional, Attractive, Reverse, and Indifferent. The result obtained in step 1 should not fall into questionable category as it indicates that the result is not reliable.

- **Step 3:** Interpret and analyse the results from the result table.

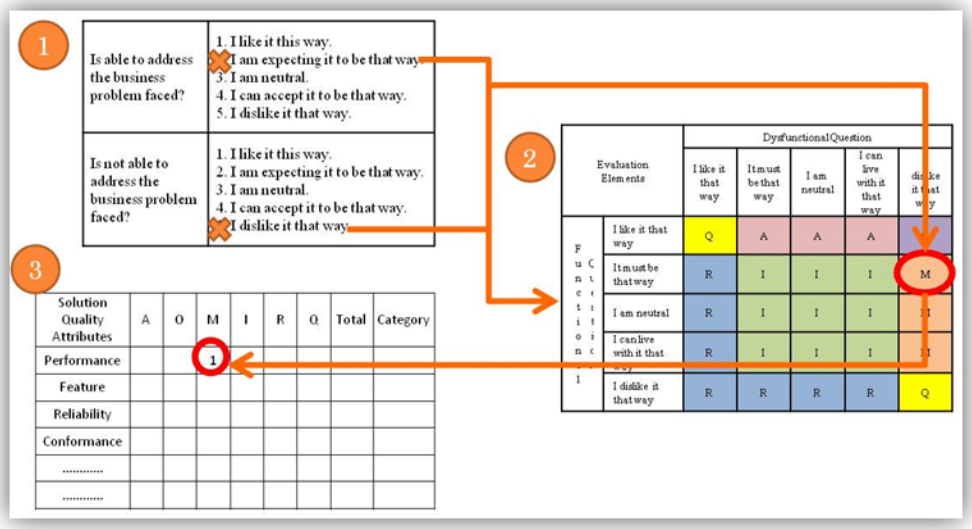

Figure 3.2: The evaluation process

Table 3.2: Evaluation Table

Solution Quality Attributes		Dysfunctional Question				
		I like it that way	It must be that way	I am neutral	I can live with it that way	I dislike it that way
Functional Question	I like it that way	Q	A	A	A	O
	It must be that way	R	Q	I	I	M
	I am neutral	R	I	I	I	M
	I can live with it that way	R	I	I	Q	M
	I dislike it that way	R	R	R	R	Q

Note:

M – Must be O – One-dimensional A – Attractive
I – Indifferent R– Reverse Q – Questionable

3.9 Conclusions

In this chapter, we have discussed the research methodology using in this research. From the research gap found, a research model is developed to address the gaps. The research model includes 8 attributes to be examined through survey method. Kano questionnaire is used to conduct the survey. The data collected is than going through the evaluation process. The information obtains will than use to analyst and interprets in next chapter.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

The chapter reports the outcomes of the evaluation actions. The results of data analysis are divided into two sections as follows:

i. The results of demographic analysis

ii. The results of data analysis for the data collected from the survey questionnaire which was constructed based on Kano's questionnaire design.

4.2 The Results of Demographic Analysis

The results of the demographic analysis give an overview of background data of the participants participated in this research. Overall, 150 survey questionnaires were collected. However, only 145 of the questionnaires were usable without any missing values. As described in chapter3, the survey was conducted among the customers from the SMEs in Klang Valley area. The subsequent paragraphs present the results of the

demographic analysis which include the following background data: Job position, industry, number of employees, number of IT employees, annual turnover, number of outsourcing contracts, and so forth.

4.2.1 Respondents' Background Data: Job Position

97% of the 145 respondents were from managerial level (i.e. business owner, CEO and manager). The findings in Figure 4.1 show that 49 or 34% of the respondents were business owners; they were the decision makers for the outsourcing contracts.

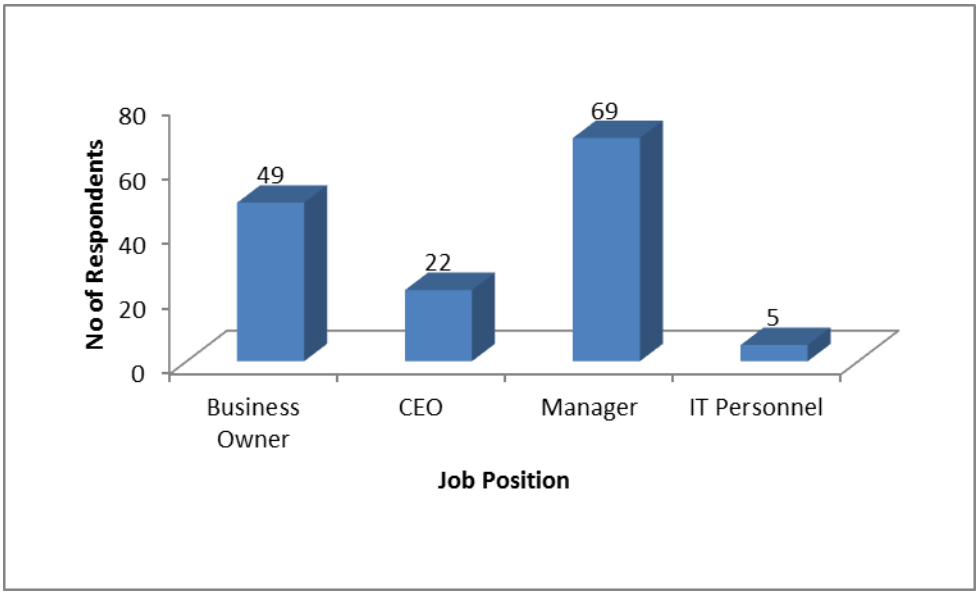

Figure 4.1: Respondents' background data – Job position

4.2.2 Respondents' Background Data: Industry

The 145 respondents came from 12 different industries. Majority of the respondents (26% or 37 respondents) were from the retail or wholesaler industry. It followed by machinery and equipment industries (13% or 23 of the respondents). There was only one respondent from financial intermediaries and furniture industry respectively (see Figure 4.2).

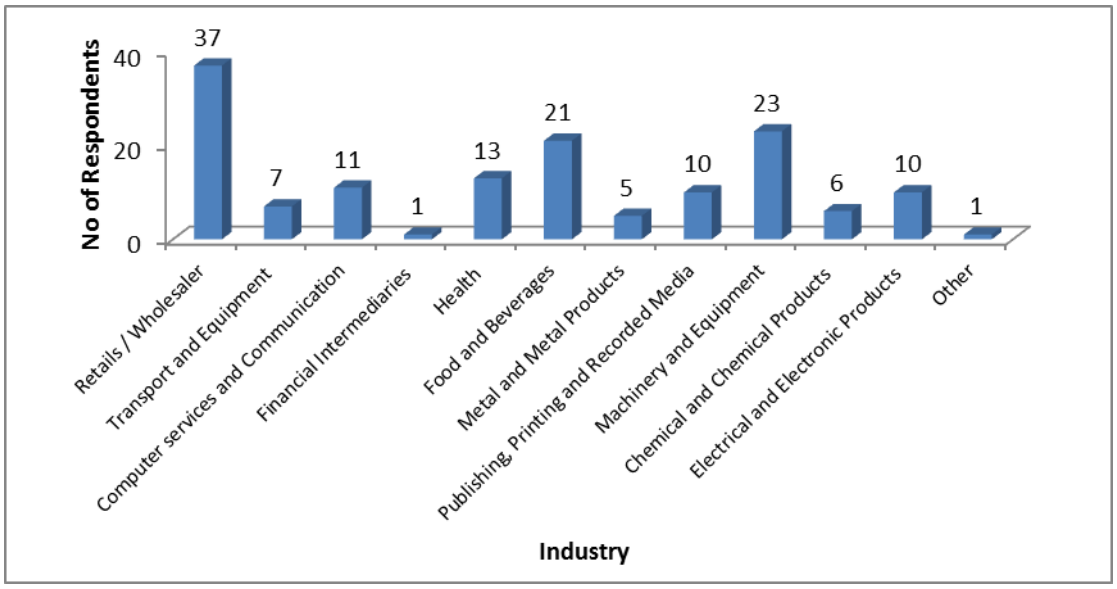

Figure 4.2: Respondents' background data – Industry

4.2.3 Respondents' Background Data: Number of employees

All the 145 respondents were from small and medium enterprise (SME). The number of employees in respondents' company was within 5 to 80 employees. It fulfilled the definition of SME in Malaysia as defined in

section 2.7. Figure 4.3 shows the number of employees in the respondents' company.

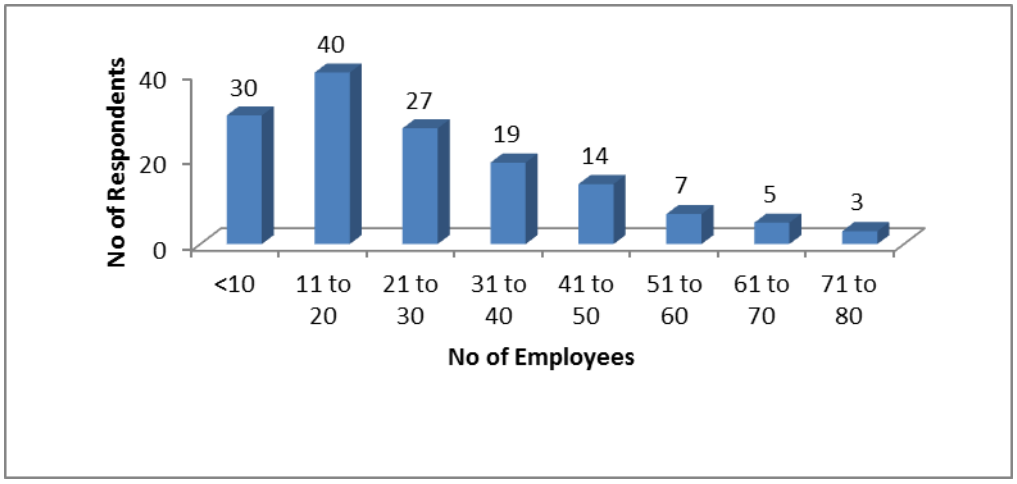

Figure 4.3: Respondents' background data – Number of employees in respondents' company

4.2.4 Respondents' Background Data: Number of IT Employees

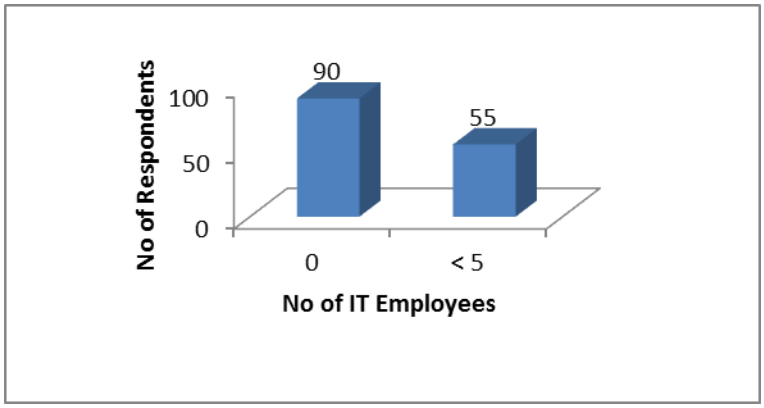

Figure 4.4: Respondents' background data – Number of IT employees in respondents' company

As can be seen in Figure 4.4, 90 or 62% of the respondents' company do not have any IT employees. All the IT activities are outsourced and

maintained by the vendor. Meantime, 55 or 38% of the respondents' company have less than 5 IT employees. This shows that the company in SME does not have much emphasis in IT.

4.2.5 Respondents' Background Data: Annual Turnover

Majority of annual turnover in the respondents' company (46 or 32% of the respondents) were from RM250k to RM1 million (see Figure 4.5). All of them also fulfilled the criteria of SME in Malaysia.

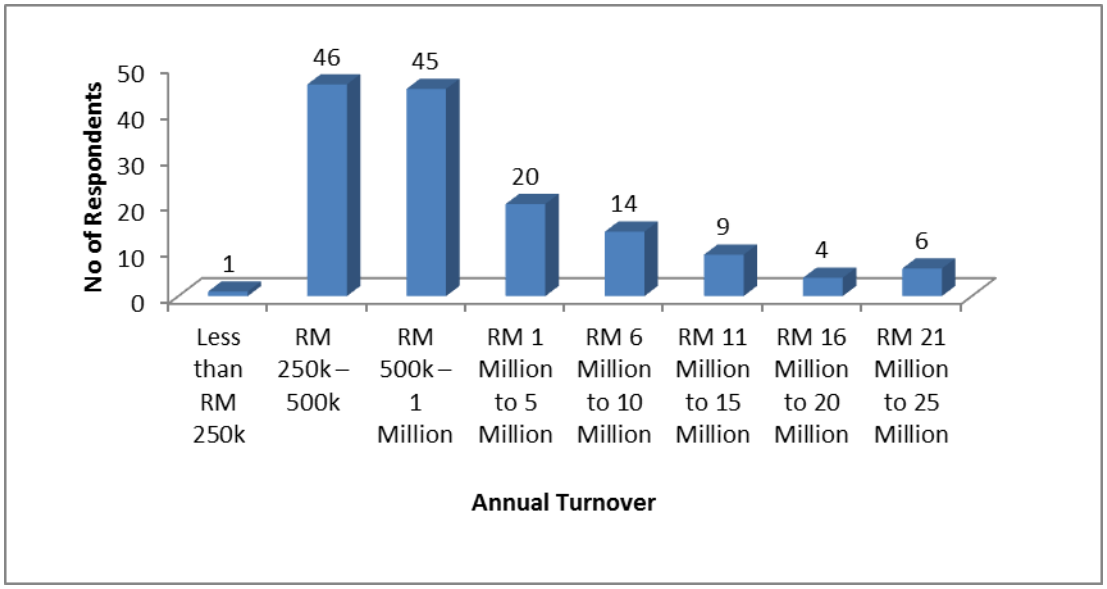

Figure 4.5: Respondents' background data – Annual turnover in respondents' company

4.2.6 Respondents' Background Data: Number of Outsourcing contracts

In Figure 4.6, the results showed that only a small number the respondents (8 or 6% of the respondents) have 5 to 6 contracts in hand. The results also indicated that majority of the respondents (92 or 63% of the respondents) currently have only 1 to 2 outsourcing contracts, whereas 45 or 31% of them have 3 to 4 contracts in hand. In average, every respondent owns 2 outsourcing contracts.

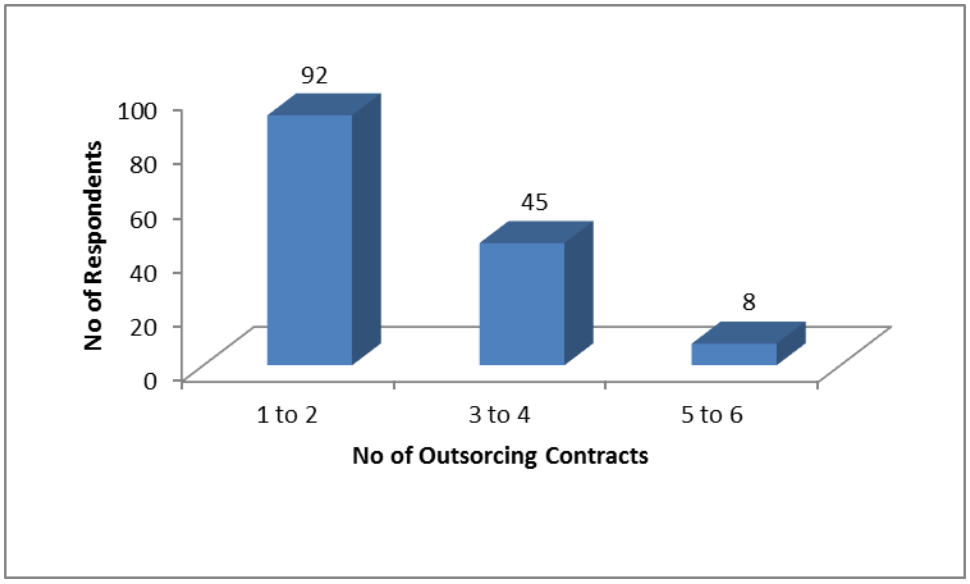

Figure 4.6: Respondents' background data – Number of outsourcing contracts

4.2.7 Respondents' Background Data: Number of Outsourcing contracts Total Value of Outsourced Contracts

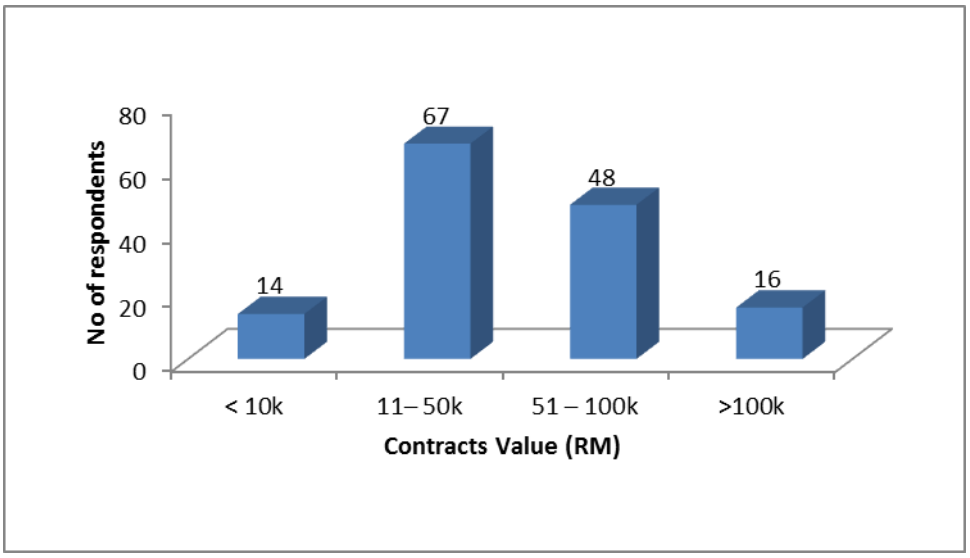

Figure 4.7: Respondents' background data – Total value of outsourced contracts

The findings in Figure 4.7 reveals that there were 67 or 46% of the respondents have the total contract value of RM11 to 50k, 16 or 11% of them have more than RM100k contracts. Only 14 or 10% of respondents having contracts that less than RM10k.

4.2.8 Respondents' Background Data: Contract Value used to Answer the survey

About 62% of the respondents use a RM 5 to 10k outsourcing contract to answer this survey. Only 1% of them is using contract that less than RM 5k. Figure 4.8 show the contract value used to answer the survey.

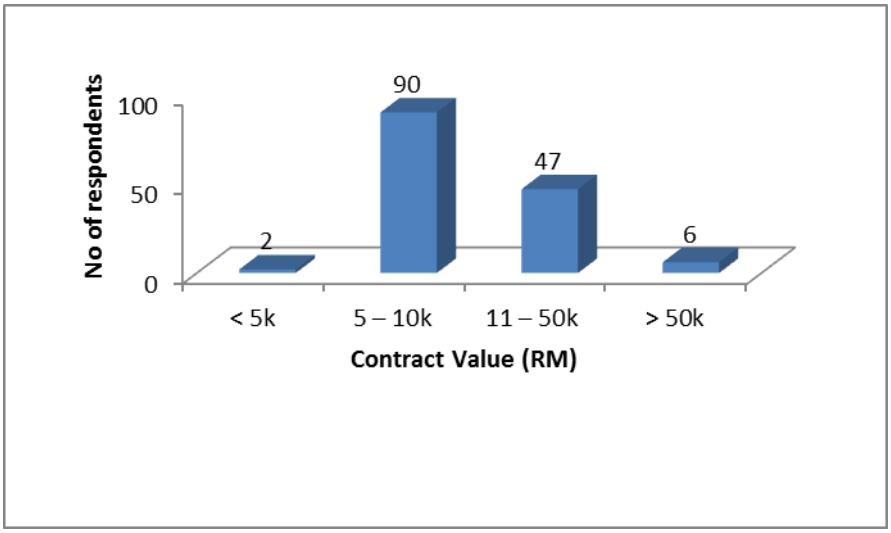

Figure 4.8: Respondents' background data – Contract value used to answer the survey

4.2.9 Respondents' Background Data: Duration of Contract used to Answer the Survey

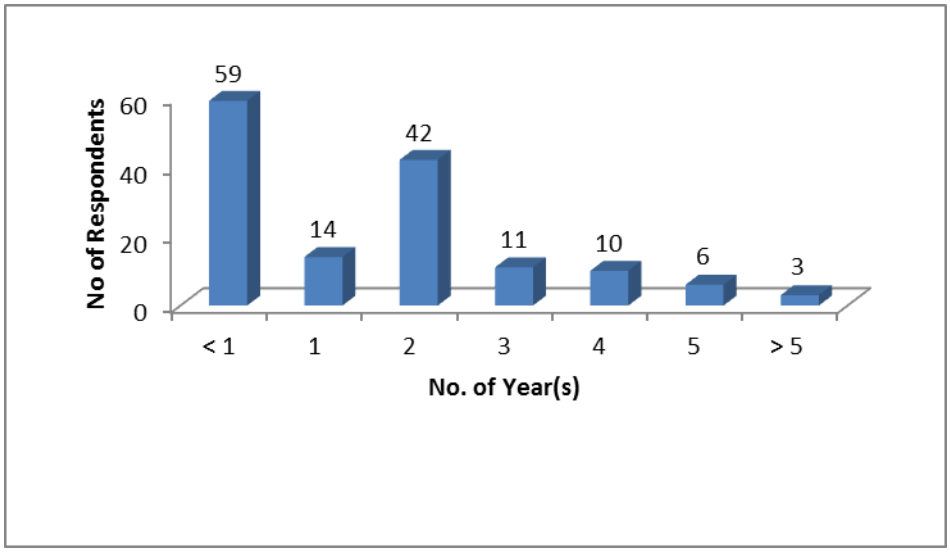

Figure 4.9: Respondents' background data – Duration of contract used to answer the survey

About 41% of the respondents use less than one year outsourcing contract to answer this survey. They are considering new customers. Figure 4.9 show the duration of contract used to answer the survey.

4.2.10 Respondents' Background Data: Number of Outsourcing Contracts Planned in Next One Year

There were 104 or 72% of respondents said they do not plan to outsource any IT activities in next one year. Only 41 or 28% of respondents are planning to outsource 1 to 2 IT activities (see Figure 4.10).

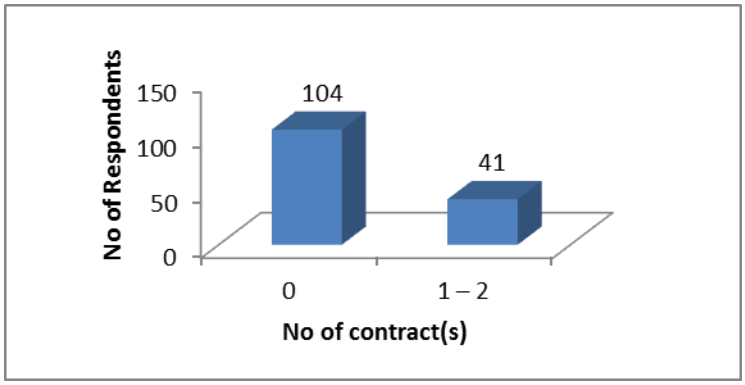

Figure 4.10: Respondents' background data – Number of outsourcing contracts planned for next one year

4.2.11 Respondents' Background Data: Types of IT Activities Outsourced

In this question, the percentage was not rounded up to 100% as multiple choices allowed. As shown in Figure 4.11, 119 or 82% of the respondents outsourced their ERP implementation, followed by 104 or 72% of

them outsourced customizing software or application, and 75 or 52% of them outsourced application maintenance and re-engineering. Most of the respondents who outsourced application maintenance and re-engineering do not have internal IT employees.

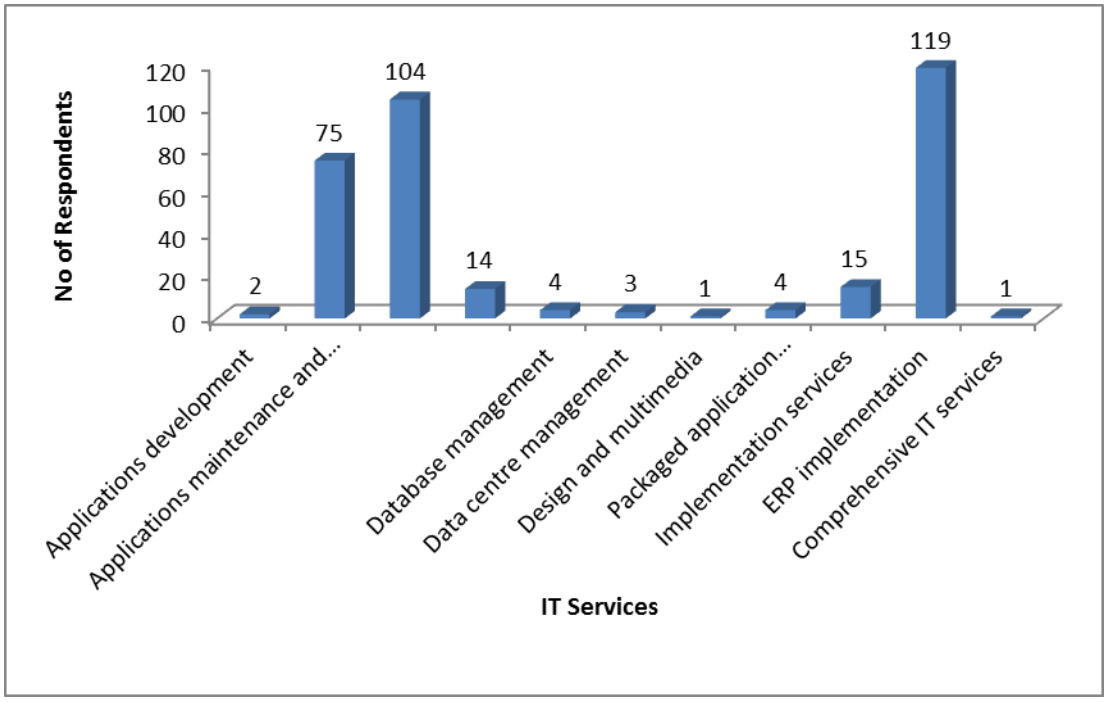

Figure 4.11: Respondents' background data – Type of IT activities outsourced

4.3 The Results of Data Analysis for the Data Collected from the Survey Questionnaire which was Constructed based on Kano's Questionnaire Design

In this session, the findings of data analysis are presented in three dimensions as follows:

- First dimension is the overall results. The overall results depict the current satisfaction level on each of the solution quality attributes.
- Second dimension is looking from the new customers' perspective. The new customers refer to customers who have one year or less experience in an outsourcing contract.
- Third dimension is looking from the old customers' perspective. The old customers refer to customers who have outsourcing experiences for more than one year.

In addition, the combination of second and third dimensions also help to understand the transformation of the solution quality attributes according to Kano's model.

The purpose of analysing data in three dimensions as outlined above help to examine the second part of the Kano's theory (Kano 2001) which stated that:

> Quality attributes can change over time which mean that a successful attribute follows a life cycle from being indifferent, to being attractive, to being one-dimensional and, ultimately to being a must-be item.

4.3.1 Overall Perspective

Based on the data collected, the overall results of the survey are revealed in Table 4.1.

Table 4.1: Results of the survey - Overall perspective

Solution Quality Attributes	Percentage						Total %	Category
	A	O	M	I	R	Q		
Performance	0.02	0.02	**0.94**	0.01	0.00	0.00	**100%**	**M**
Feature	**0.65**	0.27	0.00	0.08	0.00	0.00	**100%**	**A**
Reliability	0.11	0.11	**0.78**	0.00	0.00	0.00	**100%**	**M**
Conformance	0.00	0.00	**1.00**	0.00	0.00	0.00	**100%**	**M**
Serviceability	**0.47**	0.27	0.02	0.22	0.02	0.00	**100%**	**A**
Aesthetics	0.24	0.01	0.01	**0.74**	0.00	0.00	**100%**	**I**
Perceived Quality	**0.55**	0.37	0.00	0.08	0.00	0.00	**100%**	**A**
Solution Integration	0.12	0.29	**0.48**	0.10	0.00	0.00	**100%**	**M**

The results in Table 4.1 shows that the performance, reliability, conformance and solution integration fell under must-be category. Meantime, the feature, serviceability and perceived quality are belonged to the attractive quality. Aesthetics make little or no difference in the customer satisfaction.

However, a more comprehensive interpretation is needed to answer the question how significant is a particular dimension to the customer satisfaction. For instance, feature, serviceability and perceived quality are belonged to the attractive quality, with the realistic constraint, which dimension should the vendor adopt to increase customer satisfaction? The Customer Satisfaction

Coefficient (CS Coefficient) comes into picture. The CS Coefficient tells the satisfaction if the quality exist and the dissatisfaction when it absent (Berger et al., 1993). CS coefficient is the indicator of how strong a present of a quality dimension may influence satisfaction or vice versa (Sauerwein, Bailom, Matzler, and Hinterhuber, 1996). Below is the formula to calculate CS Coefficient by Berger et al., (1993):

$$Extention\ of\ Satisfaction : \frac{A + O}{A + O + M + I}$$

$$Extention\ of\ Dissatisfaction : -\frac{O + M}{A + O + M + I}$$

Using the result in Table 4.1, the CS Coefficient is calculated for each dimension using the formula above. The extension of satisfaction tells the satisfaction level if the quality attribute present. While the extension of dissatisfaction will tells the level of dissatisfaction if the attribute absent.

According to Kano's theory of attractive quality, the ideal score of CS coefficient for attractive quality is (1,0), which means when the attractive quality present, the satisfaction is highly achieved while there is no dissatisfaction while the attractive quality absent. However in real life situation, this would be rare. Hence the definition of attractive quality in term

of CS coefficient will be those which have satisfaction more than 0.5 and dissatisfaction lower than -0.5. In this case, satisfaction rate is higher than dissatisfaction. For one-dimensional quality the satisfaction should be positively related to dissatisfaction. Hence the satisfaction score should be more than 0.5 and dissatisfaction also should be more than -0.5.

Must-be quality present does not bring to high satisfaction; it will be less than 0.5 while it absent, it will cause high dissatisfaction which greater than -0.5. For those which are less than 0.5 satisfaction and less than -0.5 dissatisfaction fall under indifferent categories. For indifferent categories, the score is also positively related, however, look at the satisfaction and dissatisfaction rate it's rather low to be impact on the satisfaction level or vice versa. Table 4.2 summarised the score mention above.

Table 4.2: CS coefficient score range for quality dimension

Quality Dimension	CS Coefficient - Satisfaction	CS Coefficient - Dissatisfaction
Attractive	>0.5	<-0.5
One-Dimensional	>0.5	>-0.5
Must Be	<0.5	>-0.5
Indifferent	<0.5	<-0.5

Based on the results in Table 4.1, if there is only one attractive dimension the vendor can achieve, the CS Coefficient could help in the decision making. Table 4.3 shows the results of CS coefficient.

Table 4.3: CS coefficient results – Overall perspective

Solution Quality Attributes	A	O	M	I	Total	Category	$\frac{A+O}{A+O+M+I}$	$\frac{O+M}{A+O+M+I}$
Performance	0.02	0.02	**0.94**	0.01	1	M	0.05	-0.97
Feature	**0.65**	0.27	0.00	0.08	1	A	0.92	-0.28
Reliability	0.11	0.11	**0.78**	0.00	1	M	0.22	-0.89
Conformance	0.00	0.00	**1.00**	0.00	1	M	0.00	-1.00
Serviceability	**0.47**	0.27	0.02	0.22	1	A	0.75	-0.30
Aesthetics	0.24	0.01	0.01	**0.74**	1	I	0.25	-0.01
Perceived Quality	**0.55**	0.37	0.00	0.08	1	A	0.92	-0.37
Solution Integration	0.12	0.29	**0.48**	0.10	1	M	0.42	-0.77

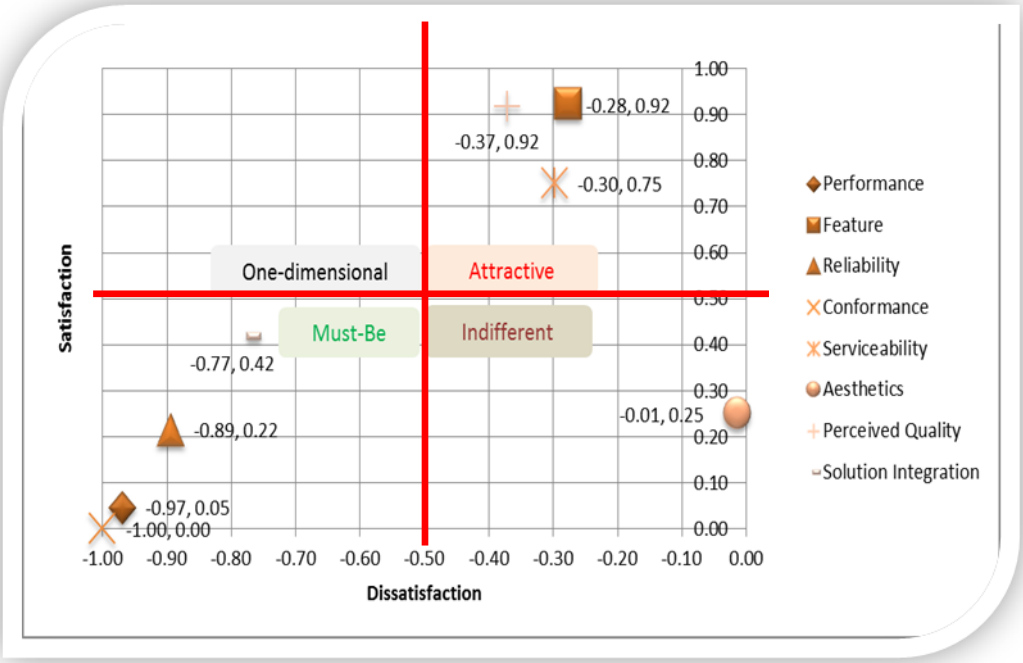

Figure 4.12: CS coefficient graph – Overall perspective

The three attractive qualities and its CS Coefficient are shown in Figure 4.12. Firstly, serviceability can eliminate from the list since the extension of satisfaction is the lowest among the three. Feature and perceived

quality share the same extension of satisfaction which is 0.92. Hence, extension of dissatisfaction needs to take into consideration. Extension of dissatisfaction of feature is -0.28 while perceived quality is -0.37, perceived quality will lead to a higher dissatisfaction level if absent. Therefore here draw a clear conclusion that perceived quality should be priorities among the three attractive qualities. Figure 4.12 shows a clear picture of where these eight dimension play a role in term of customer satisfaction and vice versa.

4.3.2 New Customers' Perspective

Out of 145 survey questionnaires collected, 59 or 41% of the respondents are new customer who have less than one year outsourcing experience (see Figure 4.2.9). Hence, 59 survey questionnaires were analysed separately. Table 4.4 shows the overall results of new customers and Table 4.5 shows the CS coefficient results.

Table 4.4: Result of the survey – New customers' perspective

Service Quality Attributes	Percentage						Total	Category
	A	O	M	I	R	Q		
Performance	0.06	0.06	**0.86**	0.02	0.00	0.00	100%	M
Feature	**0.90**	0.05	0.00	0.05	0.00	0.00	100%	A
Reliability	0.24	0.18	**0.58**	0.00	0.00	0.00	100%	M
Conformance	0.00	0.00	**1.00**	0.00	0.00	0.00	100%	M
Serviceability	**0.54**	0.20	0.02	0.21	0.03	0.00	100%	A
Aesthetics	0.44	0.02	0.01	**0.53**	0.00	0.00	100%	I
Perceived Quality	**0.67**	0.25	0.00	0.08	0.00	0.00	100%	A
Solution Integration	0.03	**0.63**	0.24	0.10	0.00	0.00	100%	O

Table 4.5: CS coefficient results – New customers' perspective

Solution Quality Attributes	A	O	M	I	Total	Category	$\frac{A+O}{A+O+M+I}$	$\frac{O+M}{A+O+M+I}$
Performance	0.06	0.06	**0.86**	0.02	1	M	0.11	-0.92
Feature	**0.90**	0.05	0.00	0.05	1	A	0.94	-0.05
Reliability	0.24	0.18	**0.58**	0.00	1	M	0.42	-0.76
Conformance	0.00	0.00	**1.00**	0.00	1	M	0.00	-1.00
Serviceability	**0.54**	0.20	0.02	0.21	1	A	0.76	-0.23
Aesthetics	0.44	0.02	0.01	**0.53**	1	I	0.46	-0.03
Perceived Quality	**0.67**	0.25	0.00	0.08	1	A	0.92	-0.25
Solution Integration	0.03	**0.63**	0.24	0.10	1	O	0.67	-0.87

For new customers, there were also three attractive qualities and its CS Coefficient results are shown in Figure 4.13. As the same reason with the overall result analysis, serviceability can eliminate. Extension of satisfaction for feature and perceived quality are close to each other; which is 0.94 and 0.92. Hence, in this case, extension of dissatisfaction plays a role here to distinguish which should be applied. Extension of dissatisfaction of feature is -0.05 while perceived quality is -0.25. Perceived quality is having higher dissatisfaction while compare with feature. Hence, the attractive quality which will create a wow factor to increase new customer satisfaction will be perceived quality. Figure 4.13 shows the overview of new customers' perspective on where these eight dimensions play a role in term of customer satisfaction and vice versa.

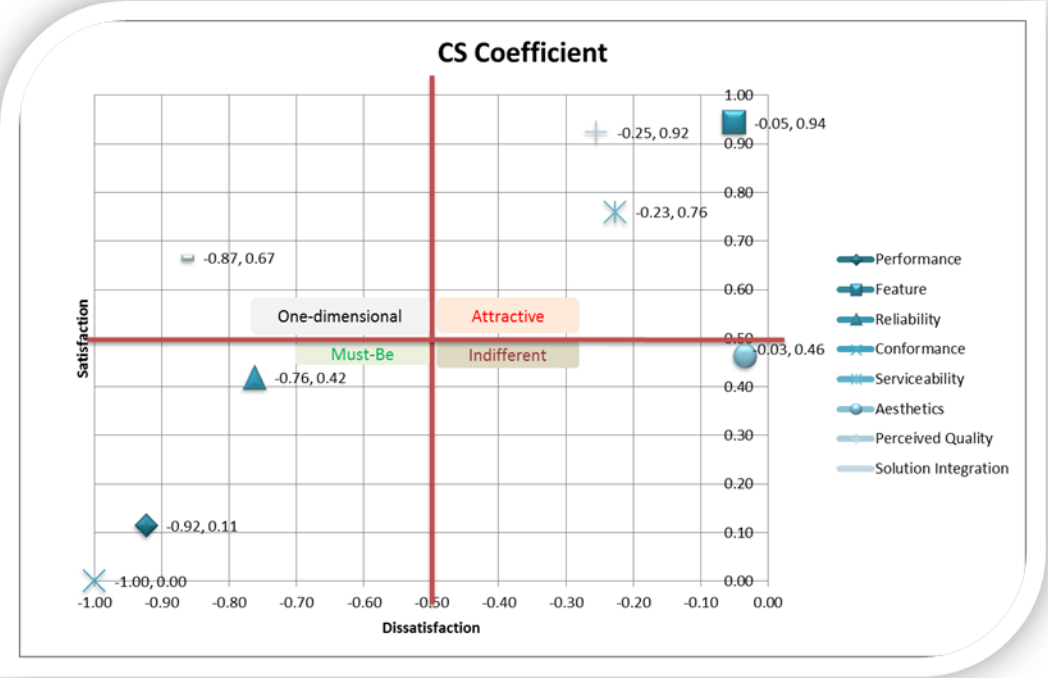

Figure 4.13: CS coefficient graph – New customers' perspective

4.3.3 Old Customers' Perspective

From the data collected, 86 or 59% of the respondents are old customer who have more than one year of outsourcing experiences. Hence, 86 survey questionnaires were analysed. Table 4.6 shows the overall results of the old customers and Table 4.7 shows the CS coefficient results.

Table 4.6: Results of the survey – Old customers' perspective

Service Quality Attributes	Percentage						Total	Category
	A	O	M	I	R	Q		
Performance	0.00	0.00	**1.00**	0.00	0.00	0.00	100%	M
Feature	**0.48**	0.43	0.00	0.09	0.00	0.00	100%	A
Reliability	0.02	0.06	**0.93**	0.00	0.00	0.00	100%	M
Conformance	0.00	0.00	**1.00**	0.00	0.00	0.00	100%	M
Serviceability	**0.42**	0.32	0.02	0.23	0.01	0.00	100%	A
Aesthetics	0.10	0.00	0.00	**0.90**	0.00	0.00	100%	I
Perceived Quality	**0.46**	0.45	0.00	0.09	0.00	0.00	100%	A
Solution Integration	0.19	0.06	**0.65**	0.10	0.00	0.00	100%	M

Table 4.7: CS coefficient results – Old customers' perspective

Solution Quality Attributes	A	O	M	I	Total	Category	$\frac{A+O}{A+O+M+I}$	$\frac{O+M}{A+O+M+I}$
Performance	0.00	0.00	**1.00**	0.00	1	M	0.00	-1.00
Feature	**0.48**	0.43	0.00	0.09	1	A	0.91	-0.43
Reliability	0.02	0.06	**0.93**	0.00	1	M	0.07	-0.98
Conformance	0.00	0.00	**1.00**	0.00	1	M	0.00	-1.00
Serviceability	**0.42**	0.32	0.02	0.23	1	A	0.74	-0.35
Aesthetics	0.10	0.00	0.00	**0.90**	1	I	0.10	0.00
Perceived Quality	**0.46**	0.45	0.00	0.09	1	A	0.91	-0.45
Solution Integration	0.19	0.06	**0.65**	0.10	1	M	0.24	-0.71

For old customer, the results were pretty same with the overall results. One of the reasons could be due to old customer data are more than new customer data. Figure 4.14 shows an overview of old customer perspective on where these eight dimensions play a role in term of customer satisfaction and vice versa.

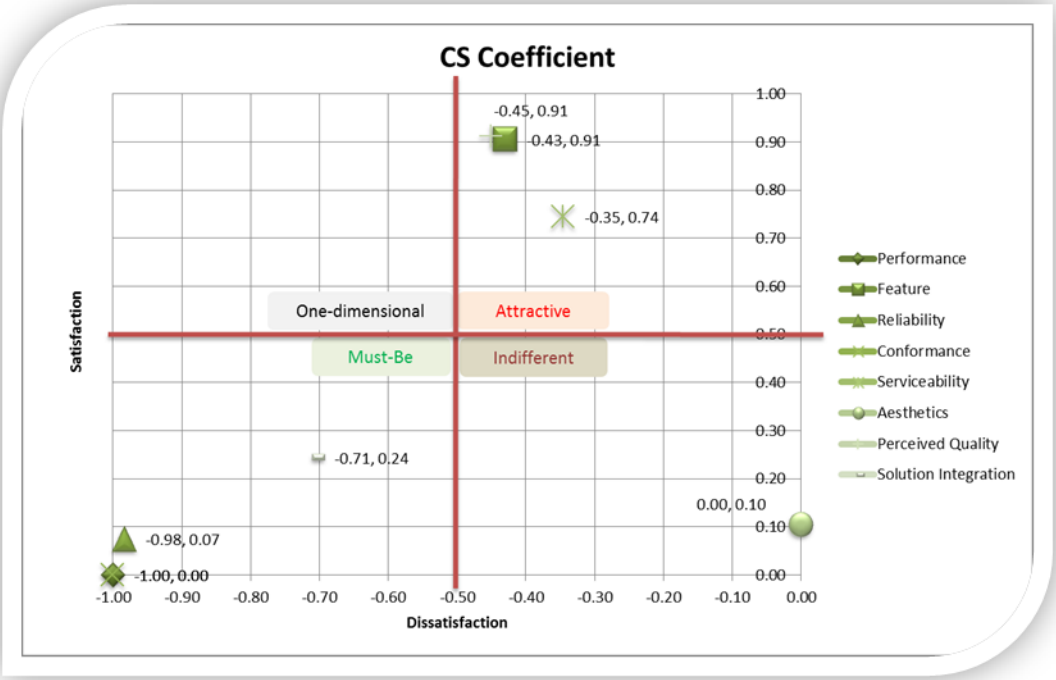

Figure 4.14: CS coefficient graph – Old customers' perspective

4.3.4 Combination View and Analysis

Kano's theory stated that quality attributes can change over time which mean that a successful attribute follows a life cycle from being indifferent, to being attractive, to being one-dimensional and, ultimately to being a must-be item (Kano, 2001). To examine this, both old and new customer CS Coefficient scores are plotted on the same graph. Different colour labelling differentiated them form new and old customers. Old customer plotted in orange colour while new customer plotted in purple colour. Figure 4.15 show the combination of new and old customers' CS coefficient.

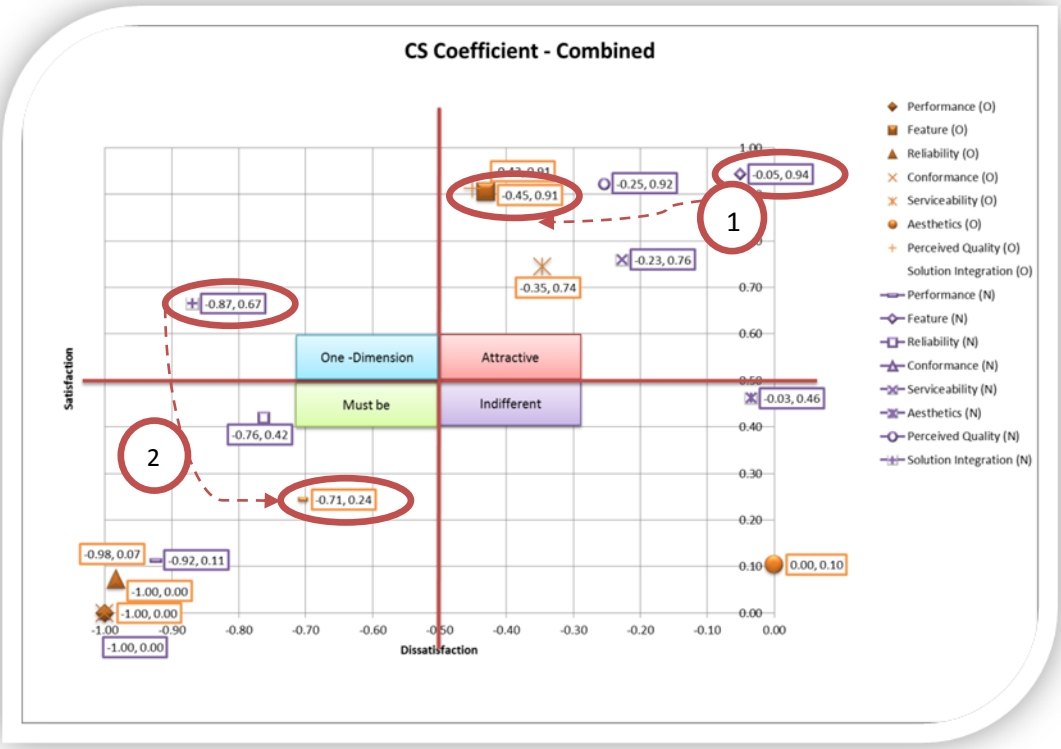

Figure 4.15: CS Coefficient Graph – The Combination of new and old customers' perspective

From Figure 4.15, at the attractive quality category, both new and old customer having three attributes. However notice that the three attributes in orange label (old customer) having the tendency of moving to the left, which is the one dimension category. The most obvious example will be feature, refer to Figure 4.15, label 1. For new customers, the CS coefficient were -0.05, 0.94 while old customers were -0.45, 0.91. The extension of satisfaction is reducing while extension of dissatisfaction is increasing. With this trend

continues, sooner or later, feature will move from attractive quality to one-dimension quality.

Another attribute which prove the theory is solution integration, refer to Figure 4.15, label 2. For new customer, solution integration fell under one-dimension category while for old customer, it fall under must me quality. This has been clearly proved that Kano's theory is also applicable in IT outsourcing.

4.4 Conclusions

From the overall perspective, the result tells that to satisfy the customer, the four attributes, which are: performance, reliability, conformance and solution integration must be achieved to maintain a baseline satisfaction and avoid dissatisfaction. While the wow factors are feature, serviceability and perceived quality. The combination view which plots both new and old customers CS coefficient in the same graph has proved that the quality attributes change over time. It is also follows a life cycle from being indifferent, to being attractive, to being one-dimensional and, ultimately to being a must-be item.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The research motivation, research gaps, research objectives (chapter 1) and literature review of IT outsourcing globally and locally in Malaysia (chapter 2) led to a structured research methodology (chapter 3). The results of demographic analysis and findings (chapter 4) of data analysis obtained in the research have contributed to the conclusions and recommendations for future studies outlined in this final chapter.

This chapter wraps up the discussion of this research encompasses the following topics:

- Overall conclusions of the research outcomes, and
- Limitations and future recommendations.

5.2 Overall Conclusions of the Research Outcomes

As portrayed in chapter 1, IT outsourcing vendors are facing greater challenges in meeting customer satisfaction in term of solution quality perspective. The major motivations for this research are low customer satisfaction, low customer loyalty, high contract termination and renegotiation rate. Furthermore, the current measurement on customer satisfaction is not comprehensive enough to value the customer satisfaction especially in IT outsourcing environment. Given the research motivation, it led to three research objectives as below:

i. Develop a solution quality model to examine the role of each attribute influencing customer satisfaction.

ii. Applying Kano's theory as the underlying theory on this research. This theory helps to classify the attributes of solution quality.

iii. Introducing a different perspective in examining the issue of customer satisfaction in IT outsourcing.

Overall, the three research objectives formed at the early stage of the research have been achieved. The following paragraphs further discuss the research outcomes.

In chapter 3, a research model of solution quality with eight attributes (Figure 3.1) has been proposed. The solution qualities are identified based on extant literature pertaining to quality. The eight attributes are then be identified their roles in customer satisfaction. This meets the first objective where the solution quality model is defined. A questionnaire was designed based on the eight quality attributes. The questionnaires help to identify the role of each quality attributes towards customers' satisfaction. Kano's theory helps to categorise and classify the quality attributes into five dimensions. From the data analysis as presented in chapter 4, a different perspective on customer satisfaction was introduced.

The overall results of the data analysis on 145 respondents showed that four out of the eight quality attributes fall on must-be category. These four attributes are performance, reliability, conformance and solution integration. This indicated that out of the eight quality attributes, to maintain a baseline customer satisfaction, these four attributes must be fulfilled. Hence, for those vendor under very limited resources would need to fulfil these four attributes, at least. Features, serviceability and perceived quality fall under the category of attractive quality. In order to surprise the customers with the wow factor, these three attributes are what the customer looking for. In this research, aesthetics has little or no difference toward customer satisfaction. However, it's a very potential one to be the attractive quality in future according to Kano's theory (which has been further discussed in chapter 2).

From the new customers (customers with less than a year of outsourcing experience) perspective, performance, reliability and conformance fall under must-be category. Similar to overall perspective, features, serviceability and perceived quality are falling on the attractive quality category. Aesthetics remain the same as indifference. However, solution integration appears to be one-dimensional category.

While from old customers (customers with more than one year of outsourcing experience) perspective, it's pretty same with overall result. This is due to old customers group ratio is larger (59%) as compared to new customers (41%). However, regardless of the ratio of the sample size, the result has proved that Kano's theory is applicable to IT outsourcing environment.

5.3 Limitations and Future Recommendations

In this research, it's only limited to Malaysia's SMEs which is located around Klang Valley area. This is due to budget and time constraint to meet up others customers around Malaysia as face to face survey is conducted. In future research, it's recommended to conduct the research in different geographical area. Wider geographical are coverage helps to gain a more

comprehensive understanding towards what customers demanding for. Larger sample size also helps to gain more objective perspective.

Second, this research is general towards almost all types of IT outsourcing services available to the market. In future research, it's suggested to conduct this research toward a specific IT outsourcing service. For example, only survey the customers who outsourced their IT support function. In this way, it helps vendors to gain a more specific understanding of what satisfy customer the most in a specific service. This understanding would help vendors who provide the specific services increase their competitiveness via improving the attributes which make a different to customers' satisfaction.

Third, this research is conducted across multiples industries that deployed IT outsourcing. The analysis was done with overall client response and further divided into new client versus old client perspective. Due to the limitation of sample data in each industry, the in-depth sub-group analysis is not conducted. To perform the sub-group analysis, the number of the sample size on a particular industry should be increase. In future research, the target study group can be set on specific industry, or collect the survey across industry and with larger sample size on each industry. For example, we can gain a better understanding on what the client in retails industry want by running the analysis on the survey collected in retails industry itself.

Fourth, in this research the five dimensions of Kano's Theory are identified empirically. However, there is no new perspective added to this theory. For future research, it is suggested to expand the theory with additional dimension or any other new recommendations to contribute further to the theory such as expanding the theory with more comprehensive perspective contribute to the academic perspective, and adding value to Kano's theory to be applied to non-product based industry.

Last but not least, this research stressed on the important of good vendor-client relationship achieved by fulfilling the quality attributes. The quality attributes are reflecting on the IT outsourcing solutions. In future research, it is good to study on client-vendor relationship on soft side to examine its influence towards customers' satisfaction. For example, maintaining good relationship with season visit helps to improve customers' satisfaction.

5.4 Conclusions

It is valuable to vendors if they able to understand customer perspective of evaluating the outsourcing services. Vendors would be able to satisfy their clients with focus the limited resources by promote qualities which will increase customer satisfaction and avoid the absent of must be

quality. Through this research, vendor would be able to achieve this objective using the research result. This would help to maintain a successful long term relationship with their client. The strategies that draw from this research for all the vendors would be:

- Must be quality should always be fulfilled,
- One dimensional quality enables vendors to stay competitive, and
- Attractive quality is the key to stand out from the rest.

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Appendix A

Survey Questionnaire

Survey

To have better understanding on client expectation in order to improve the service quality delivered. Hence, this survey aims at understanding the quality of services provided and customer satisfaction towards these services. The survey contains two sections:

1. Information related to quality of IT services provided by our company.
2. Demographic information of your company and your IT outsourcing contracts.

Your participation is invaluable to help us understand the quality of services provided. All your responses are confidential and will be used for quality improvement purposes only.

Note:
Some questions may sound similar. However, please answer all questions as we would need this for statistical validation purposes.

Part 1

To answer the questions in this section, please think of the contracts you currently have with our company. This contract should be the one with the highest monetary value.

For each question below, circle the number to the right that best fits your opinion on the importance of the issue. Use the scale shown below to match your opinion.

1. I like it this way. (Satisfied)
2. I am expecting it to be that way. (It should be in that way)
3. I am neutral. (Nor satisfy or dissatisfy)
4. I can accept it to be that way. (I can tolerate with it)
5. I dislike it that way. (Not satisfy)

Questions		Scale				
Performances						
How do you feel if the solution:						
1.	Is able to address the business problem faced?	1	2	3	4	5
2.	Is not able to address the business problem faced?	1	2	3	4	5
3.	Is able to accomplish the task given?	1	2	3	4	5
4.	Is not able to accomplish the task given?	1	2	3	4	5
5.	Is able to deliver your intended result?	1	2	3	4	5
6.	Is not able to deliver your intended result?	1	2	3	4	5
7.	Is adequate to support your business activities?	1	2	3	4	5
8.	Is not adequate to support your business activities?	1	2	3	4	5
Feature						
How do you feel if the solution:						
1.	Has alternative features compared to the solution provided by competitors?	1	2	3	4	5
2.	Do not have alternative feature compared to the solution provided by competitors	1	2	3	4	5
3.	Has special functions compared to the solution provided by other service providers?	1	2	3	4	5
4.	Do not have any special function compared to the solution provided by other service providers?	1	2	3	4	5
5.	Is tailored to fit your business processes?	1	2	3	4	5

6.	Is not tailored to fit your business processes?	1	2	3	4	5
7.	Is exclusively designed to support your business activities?	1	2	3	4	5
8.	Is not exclusively designed to support your business activities?	1	2	3	4	5
9.	Is innovative in the market?	1	2	3	4	5
10.	Is not innovative in the market?	1	2	3	4	5
11.	Is a pioneer in the market?	1	2	3	4	5
12.	Is not a pioneer in the market?	1	2	3	4	5
Reliability						
How do you feel if the solution:						
1.	Can perform as promised? (without concerning time issue)	1	2	3	4	5
2.	Cannot perform as promised?	1	2	3	4	5
3.	Can perform at the time promised?	1	2	3	4	5
4.	Cannot be perform at the time promised?	1	2	3	4	5
5.	Is dependable?	1	2	3	4	5
6.	Is not dependable?	1	2	3	4	5
7.	Is reliable?	1	2	3	4	5
8.	Is not reliable?	1	2	3	4	5
9.	Comes with efficient recovery service?	1	2	3	4	5
10.	Does not comes with efficient recovery service?	1	2	3	4	5
Conformance						
How do you feel if the solution:						
1.	Achieves the standards agreed by your organization and the vendor?	1	2	3	4	5
2.	Does not achieve the standards agreed by your organization and the vendor?	1	2	3	4	5
3.	Conforms to the specifications set in the contract?	1	2	3	4	5
4.	Does not conform to the specifications set in the contract?	1	2	3	4	5
5.	Matches the requirement established in the contact?	1	2	3	4	5
6.	Does not match the requirement established in the contact?	1	2	3	4	5
7.	Fulfil the contractual agreement?	1	2	3	4	5
8.	Does not fulfil the contractual agreement?	1	2	3	4	5

Serviceability						
How do you feel if the solution:						
1.	Can continue to perform even when part of the entire solution breaks down?	1	2	3	4	5
2.	Cannot continue to perform when part of the entire solution breaks down?	1	2	3	4	5
3.	Is able to restore the data within a specific period of time?	1	2	3	4	5
4.	Is not able to restore the data within a specific period of time?	1	2	3	4	5
5.	Has a recovery process that can be done in a timely manner?	1	2	3	4	5
6.	Does not have a recovery process that can be done in a timely manner?	1	2	3	4	5
7.	Has a regular maintenance service to ensure that it is running in a good condition?	1	2	3	4	5
8.	Does not have any regular maintenance services to ensure that it is running in a good condition?	1	2	3	4	5
Aesthetics						
How do you feel if the solution:						
1.	Contains attractive interface?	1	2	3	4	5
2.	Does not contain attractive interface?	1	2	3	4	5
3.	Has pleasing appearance?	1	2	3	4	5
4.	Does not have pleasing appearance?	1	2	3	4	5
5.	Is being presented in an appealing manner?	1	2	3	4	5
6.	Is not presenting in an appealing manner?	1	2	3	4	5
7.	Has delightful presentation?	1	2	3	4	5
8.	Does not have delightful presentation?	1	2	3	4	5
Perceived Quality						
How do you feel if the solution:						
1.	Is provided by a well established vendor?	1	2	3	4	5
2.	Is not provided by a well established vendor?	1	2	3	4	5
3.	Is being recognized by others within the same industry?	1	2	3	4	5
4.	Is not being recognized by others within the same industry?	1	2	3	4	5
5.	Is developed by a reputable vendor?	1	2	3	4	5
6.	Is not developed by a reputable vendor?	1	2	3	4	5
7.	Is well-known in the market?	1	2	3	4	5
8.	Is not well-known in the market?	1	2	3	4	5

Solution Integration						
How do you feel if the solution:						
1.	Works well with other systems in your organization?	1	2	3	4	5
2.	Does not work well with other systems in your organization?	1	2	3	4	5
3.	Integrate well with other systems in your organization?	1	2	3	4	5
4.	Does not integrate well with other systems in your organization?	1	2	3	4	5
5.	Can fit into existing systems in your organization?	1	2	3	4	5
6.	Cannot fit into existing systems in your organization?	1	2	3	4	5
7.	Can be adapted to current systems in your organization?	1	2	3	4	5
8.	Cannot be adapt to current systems in your organization?	1	2	3	4	5

Part 2: Please tick

1. What is your job title?

- ☐ Business Owner
- ☐ CEO
- ☐ CIO
- ☐ Manager
- ☐ IT Personel
- ☐ Other (Please Specify): ……..

2. Industry:

- ☐ Retails / Wholesaler
- ☐ Transport and Equipment
- ☐ Education
- ☐ Computer services and Communication
- ☐ Financial Intermediaries
- ☐ Health
- ☐ Food and Beverages
- ☐ Metal and Metal Products
- ☐ Publishing, Printing and Recorded Media
- ☐ Machinery and Equipment
- ☐ Chemical and Chemical Products
- ☐ Electrical and Electronic Products
- ☐ Other (Please Specify): ……..

3. a. How many employees are there in your company?

- ☐ Less than 10
- ☐ 11 – 20
- ☐ 21 – 30
- ☐ 31 – 40
- ☐ 41 – 50
- ☐ 51 – 60
- ☐ 61 – 70
- ☐ 71 – 80
- ☐ 81 – 90
- ☐ 91 – 100
- ☐ More than 100

b. How many IT employees are there in your company?

- ☐ Less than 5
- ☐ 5 – 8
- ☐ 8 – 10
- ☐ 10 – 15
- ☐ 16 – 20
- ☐ 21 – 30
- ☐ 31 – 40
- ☐ 41 – 50
- ☐ More than 50

4. a. What is the annual sales turnover for your company in 2008?

- ☐ Less than RM 250k
- ☐ RM 250k – 500k
- ☐ RM 500k – 1 Million
- ☐ RM 1 Million to 5 Million
- ☐ RM 6 Million to 10 Million
- ☐ RM 11 Million to 15 Million
- ☐ RM 16 Million to 20 Million
- ☐ RM 21 Million to 25 Million
- ☐ RM 26 Million to 30 Million
- ☐ RM 31 Million to 35 Million
- ☐ RM 36 Million to 40 Million
- ☐ RM 41 Million to 45 Million
- ☐ RM 46 Million to 50 Million
- ☐ More than RM 50 Million

5. a. In total, how many IT related outsourcing contracts do you have now?

☐ 1 – 2 ☐ 3 – 4 ☐ 5 – 6 ☐ >6

b. In total, how many IT related outsourcing contracts do you have with our company now?

☐ – 2 ☐ – 4 ☐ – 6 ☐ 6

c. In total, how long has your company engaged the services with our company?

☐ Less than 1 year ☐ 2 – 3 years ☐ 4 – 5 years ☐ > 5 years

d. What is the total value of IT related outsourcing contracts in your organization?

☐ Less than 10k ☐ 11– 50k ☐ 51 – 100k ☐ > 100k

6. What is the value for the outsourcing project that you used to answer the questions Part 1?

☐ Less than 5k ☐ 5 – 10k ☐ 11 – 50k ☐ > 50k

7. How long has your company engaged the services of the external IT service provider that you used to answer the questions in Part 1?

☐ Less than 1 year ☐ 1 year ☐ 2 years ☐ 3 years

☐ 4 years ☐ 5 years ☐ More than 5 years

8. How many IT related outsourcing contracts do you plan to have within the next 1year?

☐ 1 – 2 ☐ 3 – 4 ☐ 5 – 6 ☐ >6

9. What kind of IT services that your company outsource now?

☐ Applications development
☐ Applications maintenance and re-engineering
☐ Application services providers
☐ Customized Software / Application
☐ Cyber security and infrastructure support
☐ Database management
☐ Data centre management
☐ Design and multimedia
☐ Packaged application outsourcing
☐ Implementation services
☐ Enterprise storage solutions
☐ ERP implementation
☐ Comprehensive IT services
☐ Flexibility IT strategy and planning
☐ Decision support
☐ Other (Please Specify): ……..