SERVICE QUALITY, CUSTOMER SATISFACTION AND LOYALTY TOWARDS JKR MALAYSIA

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This research is dedicated to JKR Malaysia.
PREFACE

Service quality is known as a one of the important element to survive and compete in a global environment. From the perspective of client, there is a desire for a better quality services. From the perspective of the service provider, there is a need to continuously improve their service to make sure their existence relevant and important.

This research aims is to achieve a better understanding of the extent to which service quality permeates JKR and what is the perception of their customer towards the department. Since, no empirical study has specifically examined the mediating effect of customer satisfaction on the relationships of service quality and customer loyalty in the technical service provider context, the objective of this study is to examine such relationships from the perceptions of JKR customer. Specifically, this paper will examine the relationship between JKR service quality and customer satisfaction and the relationship between customer satisfaction and customer loyalty.

Chapter one will discuss on the background of JKR Malaysia and the objective of the research and the limitations encountered during the investigation of this research.

Chapter Two describes about various reviews on past literatures which discussed about service quality, client satisfaction and client loyalty and their relationship.
Chapter Three discuss about JKR Malaysia as a case study on where they are now, what they trying to achieve, which direction they are heading to, when they anticipate to achieve their ambition and why they trying to achieve the aim.

Chapter four explains how the research methodology, the development of the hypotheses, data collections and the types of data analysis have been carried out to make sure all the data are reliable and the findings is valid.

Chapter five explains how the computations of the findings on the analyses. This chapter will emphasize on relationship of the variables whether there is any significant differences between client expectation and their perceptions of service quality offered by technical service provider. Furthermore, the examination are carried out to see whether the customer satisfaction construct mediate the service quality and customer loyalty relationship in the technical service provider context.

Chapter Six will discuss in detail on the findings in chapter four. Various issues of service quality, client satisfaction and client loyalty will be discussed and elaborated further.

Chapter Seven will conclude and recommend the findings. The findings of the research are expected to give guidance to JKR in prioritized their service. This findings is not only applicable to JKR, it might also applicable to the technical service provider in private sector.
The aim of this research was to examining the relationship between JKR service quality, customer satisfaction and customer loyalty. The significance of this research is intended to help JKR Malaysia to establish the service offered and identified what are the important aspects of training needed by employee in satisfying and keeping the customer loyalty.

All questionnaires were base on walk in interview. 106 samples were collected from different departments in various ministries and agencies all over Malaysia.

Cronbach’s Alpha test was carried out to test the reliability of each construct. Then Paired \( t \)-test test was carried out to compare the means of expectations and perceptions of SERVQUAL dimensions to see whether or not there are significance difference between customer expectation and customer perception.

Regressions Test was used to test the effect of Customer Satisfaction on Customer Loyalty. In addition to that, Hierarchical Regression Model test was used to test the mediating effect of customer satisfaction on the relationship between service quality and customer loyalty. Finally, One Way Anova test was used to find out what are the demographic aspect that impact Customer Satisfaction and Customer Loyalty.
Overall findings from this study suggest there were significant relationship in between Service Quality, Customer Satisfaction and Customer Loyalty. The findings also suggest that there were discrepancies in customer expectation and customer perception from within the dimensions of Service Quality.

Specifically, there was significant relationship between satisfaction and service quality. The regression test also found that there was a positive direction, moderate relationship and significant relationship in between customer satisfaction on customer loyalty. Further test using hierarchical regression has found out, customer satisfaction has mediates the relationship of service quality towards customer loyalty.

In conclusion, the results suggest JKR Malaysia to focus more effort in improving their service quality especially on the aspect of reliability. Based on the test result, reliability has not only proven to be the most important dimension in customer expectation, it was also found that reliability have the biggest gap of customer perception.

Because of the limitation of the resources, the study’s scope has limited to study particularly in the areas of service quality offered by JKR Malaysia with the absence of technical quality. Therefore the study might not reflect the technical quality or functional quality that JKR Malaysia has also offered which might also influence the customer satisfaction and customer loyalty in other context.
For future research, it would be beneficial if users could be categorized into various segments based on the individual SERVQUAL scores. These segments could then be analyzed by the relative importance of the five dimensions in influencing service quality. In this manner, JKR Malaysia would be able to target specific quality programs of these segments and monitor the success or failure of the program by surveying these respondents again.
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CHAPTER 1: INTRODUCTION

1.1 JKR Malaysia’s Background

Jabatan Kerja Raya (JKR) Malaysia which was originally called Public Works Department was formed in 1872. The main role of JKR Malaysia for all these years is to be a technical advisor to the Malaysian government in delivering the implementation of developmental projects and maintaining of Malaysian infrastructure assets.

Structurally, JKR Malaysia has extensive and accessible network of offices at the Headquarters, states and districts to serve twenty three ministries and numerous departments, authorities and states.

JKR Malaysia has over 30,000 personnel comprise of technical and non technical staff. Of the 15,000 technical staff, more than 2,500 are professionals consisting of civil, mechanical and electrical engineers, architects, quantity surveyors, and others. Currently, JKR Malaysia has 17 PhD and 135 Master’s Degree holders in various fields that support their core businesses. The details numbers of the professional’s staffs are as below:

Table 1.1: Numbers of Professional’s Staffs According To Discipline

<table>
<thead>
<tr>
<th></th>
<th>Electrical Engineer</th>
<th>Mechanical Engineer</th>
<th>Civil Engineer</th>
<th>Architect</th>
<th>Quantity Surveyor</th>
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<tr>
<td></td>
<td>257</td>
<td>265</td>
<td>1442</td>
<td>283</td>
<td>340</td>
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</table>
1.2 Problem Statement

1.2.1 JKR Malaysia’s Rivals

Despite of having such a huge structure, big amount of staff and glorious history of over 100 years in existences, JKR Malaysia is still struggling in meeting the high demands of their customers. As a result, the government started to introduce project management consultants in 1990s and ministries and government agencies started to have their own technical departments. Consequently, the role of JKR Malaysia in delivering national infrastructure related services was threatened.

To date, there are several ministries which self execute most of their projects. The ministries include Ministry of Education, Ministry of Defense and Ministry of Home Affairs. On the other hands there are also thousands of projects in various ministries and government agencies that have been outsourced to project management consultants.

Although, most of their projects were also having problems, the existence of the internal technical department under the ministry and the existence of project management consultants still become rivalry to JKR Malaysia.

Knowing about the competition faces by JKR Malaysia, Prof. Dato’ Sri’ Ir. Dr. Judin Abdul Karim, current Director General of JKR Malaysia has developed JKR Strategic Framework 2007-2020 in May 2007. The idea of having this Strategic Framework was to
improve the quality of service which finally hopes to meet customer satisfaction. The
detail of the Strategic Framework will be explained in later topic, JKR Malaysia as a
Case Study.

Although JKR Malaysia is facing a very though competition, the role of JKR Malaysia in
developing and managing the national infrastructure must continuously remain relevant.
If they fail to play their role as a leader in the construction industry, it is not impossible to
see JKR Malaysia being dispersed and absorbed into other ministry as one small
technical department like what has happen to Ministry of Entrepreneur and Cooperative
Development.

1.2.2 What Has Been Done to Increase Service Quality and Customer Satisfaction
So Far?

In order to make sure that the role of JKR Malaysia in developing the country still
relevant, JKR Malaysia has come out with JKR Strategic Framework in 2007 to smooth
down their delivery processes. Unfortunately, the focus of the strategic framework seems
like more on solving the technical matter rather than solving the service quality issues
and the very basic need of what their customers really expect (We will discuss this
further in later topic, JKR Malaysia: as a case study).

Therefore, the main purpose of this study is to achieve a better understanding of the
extent to which service quality permeates JKR and what is the perception of their
customers towards the department. In addition to that, this study is also to examine the mediating effect of customer satisfaction on the relationships of service quality and customer loyalty in the technical service provider context. To date, there is not much research been conducts to study what are the main important dimension for Technical Service Provider, especially in the public sector context.

This study is dedicated to fill in a new dimension of technical service specifically in the context of JKR Malaysia which is now aiming to be world class service provider and centre of excellence in asset management, project management and engineering services.

1.3 Research Questions

1. What are the main Service Quality dimension and their prioritization in the perception of JKR Customer?
2. Is there any significance difference between customer expectation and their perceptions of service quality offered by JKR, based on the dimension of tangible, reliability responsiveness, assurance and empathy?
3. Is there any significance relationship between service quality provided by JKR and customer satisfaction?
4. What are the relationships between Service Quality, Customer Satisfaction and Customer Loyalty?
1.4 Objective of the Research

The objectives of the research are to:

1. To define the attributes of JKR quality services from the customer perspective.

2. To identify the Service Quality dimension and their prioritization.

3. To determine the strength of the relationship between service quality construct and customer satisfaction.

4. To determine whether customer satisfaction mediates the relationship between service quality and customer loyalty.

1.5 Significance of the Research

This research will enhance the further understanding on the Service Quality of JKR Malaysia. It will also identify the most important dimension in Service Quality. The significance of this research is intended to help JKR Malaysia to improve the service offered and identify training requirements needed by their employee.
1.6 Scope of The Study

In general JKR Malaysia provides three types of core services to their customers. The three core services are asset management, project management and technical consultancy services. For the purpose of this study, the research will only cover the JKR Malaysia services at the headquarters’ level which were project management and consultancy services only. Specifically, the study was only covers the building infrastructure projects which are categorized under construction industry.

For the purpose of this research, the study will focus particularly in the areas of service quality offered by JKR Malaysia (the detail explanations on why the SERVQUAL being chosen will be explained later in the Discussion topic). Therefore it might not reflect the technical quality or functional quality that JKR Malaysia has offered which might also influence customer satisfaction and customer loyalty in other context.

The respondents of the research was categorized to those customers who subscribe the services directly and those who are engaging JKR Malaysia as their technical service provider for their projects. Other stakeholder such as contractors, supplier, consultants or perhaps the end users it self (which also received JKR Malaysia services indirectly) are not included in this study. Therefore the result will only reflect purely base on JKR Malaysia’s customer who subscribed the JKR Malaysia services directly.
CHAPTER 2: LITERATURE REVIEW

2.1 Definition of Service Quality

To understand what Service Quality is, we need to understand what is Quality and its concept as a whole. Understanding the term “Quality” will reveal that the concept has been defined in many different ways and with different emphasis by the various quality gurus and writers on the subject. Quality is an elusive and indistinct construct. Often mistaken for imprecise adjective like “goodness, or luxury, or shininess, or weight” (Crosby 1979), quality and its requirements are not easily articulated by consumers (Takeuchi and Quelch 1983). Explication and measurement of quality also present problems for researchers (Monroe and Krishnan 1983), who often bypass definitions and use unidimensional self report and measures to capture the concept (Jacoby, Olson and Handdock 1973; McConnell 1968; Shapiro 1972).

Most of the efforts in defining and measuring quality are coming from the goods sector. According to the prevailing Japanese philosophy, quality is “zero defects – doing it right the first time”. Garvin (1983) measures quality by counting the incidence of “internal” failures (those observed before a product leaves the factory) and “external” failures (those incurred in the field after a unit has been installed). Crosby (1979) defines quality as “conformance to requirement”. Requirement must be clearly stated so that they cannot be misunderstood. Measurements are then taken continually to determine conformance to
those requirements. The non-conformance detected is the absence of quality. Quality problems become non-conformance problems, and quality becomes definable.

Research has demonstrated the strategic benefits of quality in contributing to market share and return on investment (e.g., Anderson and Zeithaml 1984; Philips, Chang, and Buzzell 1983) as well as lowering manufacturing costs and improving productivity (Garvin 1983). The search for quality is arguably the most important consumer trend of the 1980s (Rabin 1983) as consumers are now demanding higher quality in products than ever before (Leonard and Sasser 1982, Takeuchi and Queleh 1983).

However, understanding of quality in goods and its importance is not sufficient to understand service quality. Four well documented characteristics of services – intangibility, heterogeneity, perishability and inseparability – must be acknowledged for a full understanding of service quality (Parasuraman, Zeithaml and Berry 1985).

**Intangibility**

Services are activities or benefits or benefits that are essentially intangible, cannot be prefabricated in advance and do not involve ownership of the title (York, 1993). They may include the traditional personal assistance service, for instance, baby-sitter, gardener etc. The fix-it service such as mechanic, repairman, etc. and finally the value added service as the least tangible of all (Cotter, 1993). Most services are intangible (Bateson 1977,Berry 1980, Lovelock 1981, Shostak 1977). Because they are performances rather than objects, precise manufacturing specifications concerning uniform quality can rarely
be set. Most services cannot be counted, measured, inventoried, tested and verified in advance of sale to assure quality (Parasuraman, Zeithaml and Berry 1985). Because service is not an object but a phenomenon, it is difficult for customers to evaluate the quality of services as they evaluate physical goods. Because of intangibility, the firm may find it difficult to understand how consumers perceive their services and evaluate service quality (Zeithaml 1981).

**Heterogeneity**

Services, especially those with high labor content, are heterogeneous; their performance often varies from producer to producer, from customer to customer, and from day to day (Parasuraman, Zeithaml and Berry 1985). Consistency of behavior from service personnel (ie. uniform quality) is difficult to assure (Booms and Bitner 1981) because what the firm intends to deliver may be entirely different from what customer receives.

**Inseparability**

Production and consumption of many services are inseparable (Carmen and Langeared 1980, Gronroos 1978, Regan 1963, Upah 1980). Services involve simultaneous production and consumption. Inseparability implies that service is simultaneously produced and consumed while physical goods are first produced, then sold and finally consumed. Inseparability of production and consumption often forces the involvement of the customer in the production process. Inseparability also means that the producer and the vendor often compromise one economic entity (York 1993). In labor intensive services for example, quality occurs during service delivery, usually in an interaction
between the client and the contact person from the service firm (Lehtinen and Lehtinen 1982). In this situation, the customer input becomes critical to the quality of service performance.

Perishability

The inseparability of production and consumption in turn results in an inability to store service capability. Perishability means that services cannot be produced in advance, inventoried and later made available for sale. Services are performance that cannot be stored (Zeithaml, 1998). It is often difficult to adequately match up with demand and supply such as those corrective maintenance works, for instance, heating and cooling repairs.

In conclusion, base on the examination of those writing and other literature reviews on services (Gronroos 1982; Lehtinen and Lehtinen 1982; Lewis and Booms 1983; Saser, Olsen, and Wyckoff 1978) Parasuraman, Zeithaml and Berry in 1985 suggest three attributes of service quality:

- Service quality is more difficult for the consumer to evaluate than goods quality.
- Service quality perceptions result from a comparison of consumer expectations with actual service performance.
- Quality evaluations are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery.
2.2 The Conceptualization of Service Quality

Although the concept of service quality have been studied by many researchers for several decades, there is no consensus about the conceptualization of service quality (Cronin and Taylor, 1982) as different researchers has focused on different aspect of service quality. Reeves and Bednar (1994), note that there is no universal, parsimonious or all encompassing definition or model quality. Clearly, as Robinson (1999) concludes that “It is apparent that there is a little consensus of opinion and much disagreement about how to measure service quality”

Despite of all the debates, many researchers were traditionally agreed and accepted that service quality is a comparison between expectations with perceptions of performance. Perceived quality is the consumer’s judgment about an entity’s overall excellence or superiority (Zeithaml 1987). It is clearly differs from objective quality (as define by few researcher, for example, Garvin (1983) and Hjorth-Anderson (1984)).

Bitner and Hubbert (1984) defined quality as the consumer’s overall impression of the relative inferiority/ superiority of a firm by comparing the service user expectations with actual performance (Groonroos, 1984; Lewis and Booms, 1983). Lewis and Mitchell, (1990); Dotchin and Oakland, (1994); Asubonteng, P.,McCleary, K.J. and Swan, (1996); Wisniewski and Donnelly (1996) defines service quality as the extent to which a service meets customer’s needs or expectations. Customer expectations are beliefs about service
delivery that function as standard or reference points against which performance is judged (Zeithaml and Bitner, 2003).

2.3 Customer Satisfaction

Customer satisfaction is a complex construct. It has been defined in various ways (Besterfield, 1994; Barsky, 1995; Kanji and Moura, 2002; Fecikova, 2004). Recently, researchers have argued that there is a distinction between customer satisfaction as related to tangible products and as related to service experiences. This distinction is due to the inherent intangibility and perishability of services, as well as the inability to separate production and consumption. Hence, customer satisfaction with services and with goods may derive from, and may be influenced by, different factors and therefore should be treated as separate and distinct (Veloutsou et al., 2005).

According to the previous literature, research for this model supports the conceptualization of perceived quality as a separate construct, distinct from satisfaction (Bitner & Hubbert, 1994). Moreover, many authors make it a point to highlight that service quality and satisfaction are distinct constructs (Bitner, 1990; Bitner and Hubbert, 1994; Boulding et al., 1993; Parasuraman et al., 1988; Taylor and Baker, 1994). Oliver (1980) identified satisfaction and dissatisfaction in terms of the disconfirmation of consumers’ expectation. A positive disconfirmation leads to customer satisfaction and a negative disconfirmation leads to customer dissatisfaction. Peter and Olson (1994) argued
that the amount of dissatisfaction is dependent on the extent of disconfirmation and the consumer’s level of involvement with the product and the problem solving process.

The Expectations Disconfirmation Model has been dominant model in satisfaction research. The model has consumers using pre-consumption expectations in a comparison with post-consumption experiences of a product/service to form an attitude of satisfaction or dissatisfaction toward the product/service (Churchill and Surprenant, 1982; Oliver, 1980, 1981; Oliver and DeSarbo, 1988; Tse and Wilton, 1988; Yi, 1990). The expectancy disconfirmation paradigm in process theory provides the grounding for the vast majority of satisfaction studies and encompasses four constructs:

1. expectations;
2. performance;
3. disconfirmation; and
4. satisfaction.

Disconfirmation arises from discrepancies between prior expectations and actual performance. There are three possibilities: zero disconfirmation can result when a product performs as expected; positive disconfirmation can occur when the product performs better than expected; and negative disconfirmation when the product performs below expectations and dissatisfaction sets in (Churchill and Surprenant, 1982; Oliver, 1980, 1981; Oliver and DeSarbo, 1988; Tse and Wilton, 1988; Yi, 1990). Service feature, or the product of service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under- or over-fulfillment (Oliver, 1997).
A comparison of the satisfaction model with the Gaps model indicates that the most salient feature is that the latter leaves out the issue of disconfirmation and seeks to represent an entire psychological process by an operationalisation that involves the simple subtraction of expectations from perceptions. However, perhaps the most notable distinction is that the basis of comparison for each construct is different. “Satisfaction is the consumer’s fulfillment response. It is a judgment that a product or firm to provide, while expectations in service satisfaction refer to what customers believe ‘will’ happen (Bitner, 1990; Parasuraman et al., 1988; Boulding et al., 1993).

A number of other distinctions are often made between satisfaction and quality. First, while the original five dimensions of SERVQUAL are fairly specific, those for satisfaction are broader and can result from a wider set of factors. Second, satisfaction assessments require customer experience, while quality does not (Bolton and Drew, 1991b; Boulding et al., 1993; Cronin and Taylor, 1994; Oliver, 1980, 1993; Parasuraman et al., 1988).

Operationally, satisfaction is similar to an attitude, as it can be assessed as the sum of the satisfactions with the various attributes of the product or service (Churchill and Surprenant, 1982). However, while attitude is a pre-decision construct, satisfaction is a post decision experience construct (LaTour and Peat, 1979).

Furthermore, it highlights the construct of a “global” level of satisfaction (the overall service satisfaction) in contrast to the construct of a component level of satisfaction (the
Yi (1990) mentioned that customer’s satisfaction is influenced by two factors which is experiences and expectations with service performance.

Two additional issues that need to be clarified when researching customer satisfaction in services is whether satisfaction is conceptualized as facet (attribute specific) or as overall (aggregate); and whether it is viewed as transaction-specific (encounter satisfaction) or as cumulative (satisfaction over time) (Hoest and Knie-Andersen, 2004).

However, according to Levesque and McDougall (1996) satisfaction is conceptualized as an overall, customer attitude towards a service provider. Similarly, Andreassen and Lindestad (1998) claimed that customer satisfaction is the accumulated experience of a customer’s purchase and consumption experiences. It was therefore, client satisfaction construct in this paper will be measured through overall satisfaction toward the services.

### 2.4 Service Loyalty

The research of loyalty construct has evolved over the time. Earlier, the focus of loyalty construct was primarily on product-related or with respect to tangible goods which focused on brand loyalty (Cunningham, 1956; Day, 1969; Kostecki, 1994; Tucker, 1964).

Cunningham (1956) defined brand loyalty as “the proportion of purchases of a household devoted to the brand it purchased most often”. Later, Cunningham (1961) has broadened
the spectrum into store as opposed to brand loyalty by using the same measures with brand loyalty.

Over the years the spectrum has widen into other type of loyalty such as vendor loyalty. Gremler and Brown (1996) extend the concept of loyalty to intangible products. Dick and Basu (1994) viewed service quality as a key antecedent. However, there are a number of reasons why findings in the field of product loyalty cannot be generalised to service loyalty (Keaveney, 1995; Gremler and Brown, 1996). Service loyalty is more dependent on the development of interpersonal relationships as opposed to loyalty with tangible products (Macintosh and Lockshin, 1998), for person-to-person interactions form an essential element in the marketing of services (Czepiel and Gilmore, 1987; Surprenant and Solomon, 1987; Crosby et al., 1990; Czepiel, 1990).

Furthermore, the influence of perceived risk is greater in the case of services, as customer loyalty may act as a barrier to customer switching behaviour (Zeithaml, 1981; Klemperer, 1987; Guiltinan, 1989). Indeed, it has been demonstrated that loyalty is more prevalent among service customers than among customers of tangible products (Snyder, 1986). In the services context, intangible attributes such as reliability and confidence may play a major role in building or maintaining loyalty (Dick and Basu, 1994).

As most research originated from the field of packaged consumer goods (Jacoby and Chestnut, 1978), a strong emphasis has been on behavioural measures. In a services
context, loyalty is frequently defined as observed behaviour (Liljander and Strandvik, 1995).

However, behavioural measures, such as repeat purchasing and purchasing sequence, have been criticised for a lack of a conceptual basis and for having a narrow, i.e. outcome focused view of what is in fact a dynamic process (Day, 1969).

However, with regards to behavioral measures, recent research in loyalty behavior has shown that loyalty is fairly consistent over time (DeKimpe et al., 1998). Therefore, the behavioural approach to loyalty may not yield a comprehensive insight into the underlying reasons for loyalty (Josee Bloemer, Ko De Ruyter and Martin 1998), instead it is a consumer's disposition in terms of preferences or intentions that plays an important role in determining loyalty (Jain et al., 1987; Bloemer and Kasper, 1995).

Researchers also suggest that, repeat purchasing behaviour may not even be based on a preferential disposition but on various bonds that act as switching barriers to consumers (Storbacka et al., 1994; Liljander and Strandvik, 1995). During the past decades, therefore, customer loyalty has also been approached as an attitudinal construct (Biong, 1993; Hallowell, 1996). This is reflected, for instance, in the willingness to recommend a service provider to other consumers (Selnes, 1993).

A further approach other than behavioral and attitudinal approach in more recent years is also a cognitive side to customer loyalty (Lee and Zeiss, 1980). In this sense, customer
Loyalty is frequently operationalised as the product or service that first comes to mind when making a purchase decision (Newman and Werbel, 1973; Bellenger et al., 1976; Dwyer et al., 1987) the product or service that is a customer's first choice among alternatives (Ostrowski et al., 1993) or price tolerance (Anderson, 1996; Fornell et al., 1996).

Gremlar and Brown (1996) also categorized service loyalty into three specific components namely: the purchase, attitude and cognition. They also define service loyalty as:

The degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider, and considers using only this provider when a need for this service exists (Gremler and Brown, 1996)

It's, therefore, the operationalisation of service loyalty would have to consider behavioural, attitudinal and cognitive aspects in the development of a composite index. (Josee Bloemer, Ko De Ruyter and Martin 1998)
CHAPTER 3: JKR MALAYSIA AS A CASE STUDY

3.1 JKR Malaysia Vision

JKR Malaysia is aiming to be a world class service provider and centre of excellence in asset management, project management and engineering services for the development of nation’s infrastructure through creative and innovative human capital and state-of-the technology.

3.2 Role of JKR Malaysia in Achieving National Mission (Vision 2020)

JKR Malaysia role is to develop and deliver the national infrastructure in each of the five year Malaysia Planning (refer Ninth Malaysia Plan for specific objective) in concurrent with National Mission (Vision 2020) agenda (refer Appendix 1). As a technical advisor to the Malaysian government which contribute directly in building national infrastructure JKR Malaysia has set their mission programmed by:

- Standardizing their processes and systems to deliver consistent outcomes.
- Provide effective and innovative asset and project management.
- Strengthen their existing engineering competencies.
- Develop their human capital and new competencies.
- Upholding integrity in delivering their services.
- Build harmonious relationships with the community.
- Take a good care of the environment in delivering their services.
3.3 National Mission (Vision 2020).

Wawasan 2020 or Vision 2020 is a Malaysian ideal introduced by the former prime minister of Malaysia, Tun Dr. Mahathir Mohamad during the tabling of the Sixth Malaysia Plan in 1991. The objective of the vision is to shift the current nation into Developed country by 2020. The target is to develop the country in terms of national unity and social cohesion, in terms of our economy, in terms of social justice, political stability, system of government, quality of life, social and spiritual values, national pride and confidence.

By the year 2020, Malaysia should be a united nation, with a confident Malaysian society, infused by strong moral and ethical values, living in a society that is democratic, liberal and tolerant, caring, economically just and equitable, progressive and prosperous, and in full possession of an economy that is competitive, dynamic, robust and resilient.

Under the development of the vision, Malaysia has identified nine central strategic challenges that will be confronted us from the moment of our birth as an independent nation.

The first of these is the challenges of establishing a united Malaysian nation with a sense of common and shared destiny. This must be a nation at peace with itself, territorially and ethnically integrated, living in harmony and full and fair partnership, made up of one 'Bangsa Malaysia' with political loyalty and dedication to the nation.
The second is the challenge of creating a psychologically liberated, secure, and developed Malaysian Society with faith and confidence in itself, justifiably proud of what it is, of what it has accomplished, robust enough to face all manner of adversity. This Malaysian Society must be distinguished by the pursuit of excellence, fully aware of all its potentials, psychologically subservient to none, and respected by the peoples of other nations.

The third challenge is to fostering and developing a mature democratic society, practising a form of mature consensual, community-oriented Malaysian democracy that can be a model for many developing countries.

The fourth is the challenge of establishing a fully moral and ethical society, whose citizens are strong in religious and spiritual values and imbued with the highest of ethical standards.

The fifth challenge that we have always faced is the challenge of establishing a matured, liberal and tolerant society in which Malaysians of all colours and creeds are free to practise and profess their customs, cultures and religious beliefs and yet feeling that they belong to one nation.

The sixth is the challenge of establishing a scientific and progressive society, a society that is innovative and forward-looking, one that is not only a consumer of technology but also a contributor to the scientific and technological civilisation of the future.
The seventh challenge is the challenge of establishing a fully caring society and a caring culture, a social system in which society will come before self, in which the welfare of the people will revolve not around the state or the individual but around a strong and resilient family system.

The eighth is the challenge of ensuring an economically just society. This is a society in which there is a fair and equitable distribution of the wealth of the nation, in which there is full partnership in economic progress. Such a society cannot be in place so long as there is the identification of race with economic function, and the identification of economic backwardness with race.

The ninth challenge is the challenge of establishing a prosperous society, with an economy that is fully competitive, dynamic, robust and resilient.

3.4 Ninth Malaysia Plan

Under the Ninth Malaysian Plan, current government has identified five thrusts with specific programmes to deliver the outcomes needed for the achievement of Vision 2020.

- To move the economy up the value chain
- To raise the capacity for knowledge and innovation and nurture first class mentality
- To address persistent socio-economic inequalities constructively and productively.
- To improve the standard and sustainability of quality life
- To strengthen the institutional and implementation capacity

Therefore, as one of the government agencies that have been given mandate to develop national infrastructure, JKR Malaysia involved directly in implementing and delivering the above outcomes.

3.5 What Has Been Done to Increase Service Quality so Far?

In order to successfully implementing these vision 2020 programs especially Ninth Malaysia Plan, JKR Malaysia under the new Director General Prof. Dato’ Sri’ Ir. Dr. Judin Abdul Karim has roll out JKR strategic Framework 2007 – 2020 in may 2007. The main purpose of rolling out this strategic framework is to maneuver the department into the right direction to successfully implementing vision 2020.

The main focus of this strategic framework is to meet customer’s satisfaction by:

- Understanding and being sensitive to their needs
- Being friendly and helpful to them
- Listening attentively to what they say
- Being responsive to changes in their needs
By meeting the customer expectation, JKR Malaysia is hoping to be, a performance oriented organization focusing on achieving customer desired outcomes.

### 3.6 Eight (8) Strategic Themes in JKR Strategic Framework

With the commitment vowed in the strategic framework, JKR Malaysia has thought and focused on 8 strategic themes which they think can lead to customers satisfaction. The 8 strategic themes are:

1. **Delighting customer**
   To be strategic partners to their customers by increasing their involvement into JKR Malaysia services process.

2. **Optimizing Asset Value**
   To develop new delivery system in asset management system, in order to ensure all physical assets continue to deliver the desired outcomes with efficient use of short and long term resources.

3. **Performance Measurement and Reporting**
   To continuously improve the customer expectation with perceptions of performance gaps by introducing balance scorecard into JKR delivery system.
4. Develop Best Professional in the Industry
To continuously improved the workforce by developing strategic competencies development system.

5. Standardize Business Process
To provide consistent and reliable services by standardized their work processes and skills.

6. Earned Value
To establish a project progress evaluation system anchored to schedule performance.

7. Leveraging on ICT
To streamline their business process, and communication system, through the use of ICT, thus improving our effectiveness and efficiency.

8. Effective Implementation of Malaysian 5 Year-Plan
To ensure all projects meeting customers needs by implementing the right methodologies.

Figure 3.6 shows the interconnected relationship between one strategic themes to each other. As we can see in the figure, delighting customer is the main aim of the whole strategy map. By implementing all the 8 themes JKR Malaysia is hoping to achieved the customer satisfaction.
Figure 3.6

Interconnected Relationship between the 8 Strategic Themes

3.7 What Has Been Done to Increase Customer Satisfaction So Far?

- Established JKR call centre for customer and the public
- Created awareness on Customer Service Improvement Plan (CSIP) among our staff with the introduction of CSIP in JKR Senior Officers Conference in May 2007.
- Made customer service as one of the subjects covered in the induction course for new staff intakes starting in 2007.
- Introduced the importance of soft skills for project managers in 2006.
- Developed SMS-DAPAT complaint management system for roads.
- Developed the machine accident reporting system through the internet
- Developed JKR Disaster Risk Management System through the internet (Laman Web Bencana JKR)

As what can be seen above, it was obvious that all the achievements so far are more towards ad-hoc solution. The objective of meeting customer requirement is clear, but the main question of what are their customers expectation in JKR Malaysia never been studied. As can be seen in the Strategic Framework above, most of the effort (achieving the 5 year plan goal, optimizing asset value, standardize business processes, develop best professional in the industry, performance measurement, leveraging ICT and earned value) will only cover dimension of reliability, other dimension such as tangibility, empathy or probably responsiveness and assurance may or may not be address at all. Therefore, this study will try to find out what is actually JKR Malaysia customers expect for.
CHAPTER 4: RESEARCH METHODOLOGY

4.1 Theoretical Framework

To assess the current service quality by JKR Malaysia, I adopted the service quality dimensions of Parasuraman et al. (1991) which are Tangibility, Reliability, Responsiveness, Assurance and Empathy. I postulate the relationship between JKR Malaysia service quality, customer satisfaction and customer loyalty and contend that customer satisfaction mediates the dependent variable, customer loyalty.

Figure 4.1 shows the conceptual structure of the study. The framework illustrates the following basic sequence: JKR Malaysia service quality leads to customer satisfaction, which in turn leads to customer loyalty.

Figure 4.1

Theoretical Framework

Independent Variables Mediating Variables Dependent Variables

<table>
<thead>
<tr>
<th>JKR Malaysia Service Quality</th>
<th>Customer Satisfaction</th>
<th>Customer Loyalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Tangible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Reliability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Responsiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Assurance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Empathy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.2 Hypotheses

4.2.1 The Discrepancy between Customer Expectation and Their Perceptions of Service Delivered

(Smith and Houstan 1982) claimed that satisfaction with services is related to confirmation or disconfirmation of expectations. They base their research on the disconfirmation paradigm, which maintains that satisfaction is related to the size and direction of the disconfirmation experience where disconfirmation is related to the person’s initial expectations (Churchill and Suprenaut 1982). Brookes (1995) concurred that, expectancy disconfirmation theory is the dominant model for measuring customer satisfaction which is determined by the confirmation or disconfirmation of expectations with perceptions of the perceived performance on various service items (Danaher and Haddrell, 1996).

Previous studies also provide evidence of differences between expectation and perceptions of service quality (Parasuraman et al., 1994). (Lewis and Mitchell, 1990) defined service quality as the difference between customer expectations of service and perceived service. In additions, (Lewis and Boos, 1983) also concur that Service quality is a measure of how well the service level delivered matches customer expectations. Based on the literature review above, my first hypothesis is as follows:
**H1:** There is a significant difference between customer expectation and their perceptions of service quality offered by JKR

Specifically, my hypotheses are:

H1a. There is a significant difference between customer expectations and their perception of service quality based on the dimension of tangibles.

H1b. There is a significant difference between customer expectations and their perception of service quality based on the dimension of reliability.

H1c. There is a significant difference between customer expectations and their perception of service quality based on the dimension of responsiveness.

H1d. There is a significant difference between customer expectations and their perception of service quality based on the dimension of assurance.

H1e. There is a significant difference between customer expectations and their perception of service quality based on the dimension of empathy.
4.2.2 The Relationship between Service Quality and Customer Satisfaction

Satisfaction can be considered at two levels: the transaction or encounter level and overall satisfaction (Bitner and Hubbert, 1994). Initially, Cronin and Taylor (1992) hypothesised that satisfaction is an antecedent of service quality. However, their research with a multi-industry sample showed, in a LISREL analysis, an opposite relationship. Quality appears to be only one of the service factors contributing to the customer's satisfaction judgements (Cronin and Taylor, 1992). Spreng and Mackoy (1996), who test a modified version of a model proposed by Oliver (1993) that sought to integrate the satisfaction and service quality literature, also provide support for service quality as being an antecedent to satisfaction. More recently, this relationship has also been confirmed from a study in a health-care setting by Deruyter et al. (1997), who also show that service quality should be treated as an antecedent of service satisfaction.

Iacobucci et al. (1995) conclude that the key difference between service quality and customer satisfaction is that quality relates to managerial delivery of the service while satisfaction reflects customers' experiences with that service. They argue that quality improvements that are not based on customer needs will not lead to improved customer satisfaction.

Similar to Dick and Basu (1994), Anderson and Fornell (1994), Iacobucci et al. (1995), and Rust and Oliver (1994), "quality is one dimension on which satisfaction is based") we view service quality as an antecedent to satisfaction. Bolton and Drew (1994, p. 176)
point out, customer satisfaction depends on preexisting or contemporaneous attitudes about service quality." Bitner et al. (1994) and Anderson et al. (1994) also point to this link by suggesting that improved service quality will result in a satisfied customer and suggest that to a large extent this relationship is intuitive. Therefore, my second hypothesis is as follows:

**H2: There is a significant relationship between service quality provided by JKR Malaysia and customer satisfaction.**

### 4.2.3 The Relationship between Customer Satisfaction and Customer Loyalty

Overall satisfaction with an experience does lead to customer loyalty. Barden and Teel (1983) argue that customer satisfaction is important to the marketer because “it is generally assumed to be significant determinant of repeat sales, positive word of mouth and consumer loyalty”. Similarly, Bloemer and Poiesz (1993) have argued that “satisfaction can be thought of as an important determinant of brand loyalty”.

Anderson and Fornell (1994) point out that customer loyalty is determined to a large extent by customer satisfaction. Boulding et al. (1993) found a positive relationship between service qualities and repurchase intentions and willingness to recommend. Bloemer et al. (1998) also found a positive relationship between perceived service quality and preference loyalty and price indifference loyalty.
Based on Coyne (1989), there are two critical thresholds affecting the link between satisfaction and loyalty. On the high side, when satisfaction reaches a certain level, loyalty increases dramatically; at the same time, when satisfaction declined to a certain point, loyalty dropped equally dramatically (Oliva et al., 1992; Bowen & Chen, 2001).

Fornell (1992) argues that high customer satisfaction will result in increased loyalty for the firm and that customers will be less prone to overtures from competition. However, the ability of customer satisfaction scores to predict such loyalty has not been adequately demonstrated (Higgins, 1997). Fornell et al. (1996) also offer some evidence of the linkage between customer satisfaction and loyalty. Anderson and Fornell (1994) point out that customer loyalty is determined to a large extent by customer satisfaction. Satisfaction is thus viewed as an antecedent of relative attitude because without satisfaction consumers will not hold a favorable attitude towards a brand as compared to other alternatives available (Dick and Basu, 1994).

**H3: There is a positive relationship between customer satisfaction and customer loyalty.**

**4.2.4 The Effect of Service Quality and the Mediating Role of Customer Satisfaction towards Customer Loyalty**

It is evident that satisfaction often plays a mediating role between perceptions of quality levels and the creation of behavioural intentions (Cronin et al., 2000; Cronin and Taylor,
The notion of “mediating” a relationship presupposes the existence of a third variable between a dependent variable and an independent one (Baron and Kenny, 1986).

Numerous studies have established relationships between service quality and loyalty, hypothesising an indirect effect (e.g. Andreassen and Lindestad, 1998; Ostrowski et al., 1993; Patterson and Spreng, 1997; Pritchard and Howard, 1997) mediated by satisfaction.

Rust and Zahorik (1993) and Storbacka et al. (1994) studied the impact of service quality on satisfaction, and satisfaction on customer loyalty. They found service quality to be positively correlated with satisfaction that will lead to increased purchase (loyalty). Ishak, Hasnah, Daing and Salmi (2006) also found client satisfaction construct mediate the relationship of service quality and client loyalty. Thus, the study hypothesizes that:

**H4: Customer satisfaction mediates the relationship of JKR service quality and customer loyalty.**
4.3 Methodology

4.3.1 Sample and Data Collection

Samples of this study were obtained from JKR clients databases. Each of them are managers or technical advisors who act as an agent for their ministries or agencies. They also play a role in engaging JKR services.

The completion of these questionnaires was entirely on voluntary basis and responses were anonymous.

Cover letter was attached with the questionnaire explaining the objectives of the research which was attempted to improve JKR Services to encourage them to participate in the study. The response rate is quite high. Of the 250 questionnaires distributed, 106 questionnaires were return back.

4.4 Measures

4.4.1 Items to measure Service Quality (SERVQUAL)

Although there are few models that have been used by researchers to assess service quality like SERVPERF (Cronin and Taylor; 1992) and Non-Difference (Brown, 1993), base on the conceptualization of Service Quality elaborated above, SERVQUAL which
developed by Parasuraman et al. (1991) was chosen to measure service quality in this study. Although there has been no general agreement on the measurement of the concept, majority of the work to date has attempted to use SERVQUAL (Parasuraman et al., 1991) methodology in an effort to measure service quality (e.g. Brooks et al., 1999; Chaston, 1994; Edvardsson et al., 1997; Lings and Brooks, 1998; Reynoso and Moore, 1995; Young and Varble, 1997; Sahney et al. 2004).

The SERVQUAL instrument is accepted as standard for assessing various dimensions in service quality (Buttle, 1994). It is a concise multiple-item scale with good reliability and validity that researcher can use to better understand the service expectations and perceptions of consumers and, as a result, improve service (Parasuraman et al., 1988).

SERVQUAL was also chosen because it is valuable when it is used periodically to track the service quality trends, and when it is used in conjunction with other forms of service quality measurement (Parasuraman et al., 1985).

There are five service quality dimension identified by Parasuraman et al. (1988). All these five dimensions are measured with 22 multiple items. Each of the dimensions measure as follow:

- **Tangibles**: Physical facilities, equipment, and appearance of personnel
- **Reliability**: Ability to perform the promised service dependably accurately
- **Responsiveness**: Willingness to help customer and provide prompt service
- **Assurance**: Knowledge and courtesy of employees and their ability to inspire
trust and confidence
Empathy : Caring, individualized attention the firm provides its customer

SERVQUAL provides a basic skeleton through its expectations/perceptions format encompassing statements for each of the five service quality dimensions. The skeleton can be adapted accordingly to fit the characteristic or specific research needs of a particular organization.

In general, SERVQUAL has a variety of potential applications. It can help a wide range of service and retailing organizations in assessing consumer expectations about and perceptions of service quality. It can also help in pinpointing areas requiring managerial attention and action to improve service quality. (Parasuraman et al., 1988)

For the purpose of this study, the SERVQUAL will be measured using seven-point Likert scale (1-strongly disagree to 7-strongly agree).

**4.4.2 Item to measure Customer Satisfaction**

Operationally, satisfaction is similar to an attitude, as it can be assessed as the sum of the satisfactions with the various attributes of the product or service (Churchill and Surprenant, 1982). However, while attitude is a pre-decision construct, satisfaction is a postdecision experience construct (LaTour and Peat, 1979). Satisfaction can be
considered at two levels: the transaction or encounter level and overall satisfaction (Bitner and Hubbert, 1994).

However, according to Levesque and McDougall (1996) satisfaction is conceptualized as an overall, customer attitude towards a service provider. Similarly, Andreassen and Lindestad (1998) claimed that customer satisfaction is the accumulated experience of a customer’s purchase and consumption experiences. It was therefore, client satisfaction construct in this paper will be measured through overall satisfaction toward the services.

Therefore in this study, customer satisfaction constructs were measured through overall satisfaction of customer on the department and their service offered (Bitner, 1990; Bolton; Drew, 1991).

4.4.3 Items to Measure Service Loyalty

Josee Bloemer, Ko De Ruyter and Martin (1998) suggest that operationalisation of service loyalty would consider behavioural, attitudinal and cognitive aspects in the development of a composite index. Whereas, Gremlar and Brown (1996) categorized service loyalty into three specific components namely: the purchase, attitude and cognition. They also define service loyalty as:

The degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider,
and considers using only this provider when a need for this service exists (Gremler and Brown, 1996)

Therefore, Service Loyalty measure in this study was measured through behavioral, attitudinal and cognitive aspects. 12 items developed by (Gremler and Brown 1996) using seven-point Likert scale (1-strongly disagree to 7- strongly agree) were used to measure Service Loyalty.

4.5 Data Analysis

All statistical analyses were carried out using SPSS statistical computer package, Version 14. The analyses examined in the study include:

1. Frequency analysis – to analyze the pattern of respondent’s background
2. Cronbach Alpha – to view reliability of the measurement
3. Descriptive analysis – to analyze what are the perceptions of customers toward the service quality provide by JKR Malaysia and how the service quality variables react to satisfaction and loyalty.
4. Regression – to analyze how much service quality dimension explain satisfaction and satisfaction explain loyalty
5. Hierarchical Regression - to analyze whether satisfaction mediates the relationship of JKR service quality and customer loyalty.
6. One Way Anova – to see which part of demographic plays have significant role in achieving satisfaction and loyalty
CHAPTER 5: RESEARCH FINDINGS

5.1 Frequency Analysis

All Respondents for the present study were 106 individuals working in different ministries and government agencies throughout Malaysia. From these individuals 56 respondents were female while 50 other respondents were male. Of the subjects, 15.1% represented by the age of 20-24 years old, 28.3 percent from 25-29 years old, 20.8 percent from 30-34 years old, while 13.2 percent were from the age of 35-39 years old. On the other hand, respondents by the age 40-45 and 45 years old and above carry the same weight of 11.3 percent respectively. 66.0 percent of the respondents were married while 34.0 percent of the respondents are still single.

About 66.0 percent of the respondents have Degree in various fields. 18.9 percent of the respondents have Diploma, 11.3 percent completed their Sijil Peperiksaan Malaysia and about 3.8 percent of the respondents have Master /PhD.

Of the subjects, 71.8 percent of the respondents hold the position of Executive and above and more than half of the respondents have subscribed services from JKR Malaysia for more than 2 years. Table 5.1 displayed in detail the Demographic Data.
### Table 5.1 Table of Demographic Data (Frequency and Percentage)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) 20-24</td>
<td>16</td>
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</tr>
<tr>
<td>2) 25-29</td>
<td>30</td>
<td>28.3</td>
</tr>
<tr>
<td>3) 30-34</td>
<td>22</td>
<td>20.8</td>
</tr>
<tr>
<td>4) 35-39</td>
<td>14</td>
<td>13.2</td>
</tr>
<tr>
<td>5) 40-44</td>
<td>12</td>
<td>11.3</td>
</tr>
<tr>
<td>6) 45-Above</td>
<td>12</td>
<td>11.3</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Male</td>
<td>50</td>
<td>47.2</td>
</tr>
<tr>
<td>2) Female</td>
<td>56</td>
<td>52.8</td>
</tr>
<tr>
<td><strong>Education Level</strong></td>
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<td></td>
</tr>
<tr>
<td>1) SPM</td>
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<td>11.3</td>
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<td>2) Diploma</td>
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<td>4) PhD</td>
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<td>3.8</td>
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<td><strong>Marital Status</strong></td>
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</tr>
<tr>
<td>1) Single</td>
<td>36</td>
<td>34</td>
</tr>
<tr>
<td>2) Married</td>
<td>70</td>
<td>66</td>
</tr>
<tr>
<td><strong>Position</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Clerk</td>
<td>22</td>
<td>20.8</td>
</tr>
<tr>
<td>2) Assistant</td>
<td>8</td>
<td>7.5</td>
</tr>
<tr>
<td>3) Executive</td>
<td>46</td>
<td>43.4</td>
</tr>
<tr>
<td>4) Senior Executive</td>
<td>26</td>
<td>24.5</td>
</tr>
<tr>
<td>5) Manager</td>
<td>4</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>Experience With JKR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) &lt;1/2 years</td>
<td>8</td>
<td>7.5</td>
</tr>
<tr>
<td>2) &lt;1 years</td>
<td>14</td>
<td>13.2</td>
</tr>
<tr>
<td>3) &lt;2 years</td>
<td>28</td>
<td>26.4</td>
</tr>
<tr>
<td>4) &gt;2 years</td>
<td>56</td>
<td>52.8</td>
</tr>
</tbody>
</table>
5.2 Reliability Analysis Results

To measure the consistency of the scale, Cronbach’s alpha was used as a measure of reliability. The reliability scores for all variable extracted were high. The lowest range of Cronbach’s alpha for SERVQUAL was 0.84 for dimension of tangible and the highest was 0.96 for dimension of tangible. Nunally (1967) suggested that a modest reliability range for SERVQUAL instrument of between 0.5 and 0.6 would suffice. Therefore the result of Cronbach’s alpha of service quality dimension values fulfills the minimum requirement level of reliability.

On the other hand, the Cronbach’s alpha for satisfaction and loyalty were 0.96 and 0.95 which were also relatively high and exceeded the acceptable cutting off point of 0.70 (Nunally, 1978). Thus, all items are reliable and acceptable. Table 5.2 displays the cronbach’s alpha score for all items measures.

Table 5.2 : Cronbach’s Alpha Scores

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number of items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibility</td>
<td>8</td>
<td>0.840</td>
</tr>
<tr>
<td>Reliability</td>
<td>10</td>
<td>0.877</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>8</td>
<td>0.854</td>
</tr>
<tr>
<td>Assurance</td>
<td>8</td>
<td>0.925</td>
</tr>
<tr>
<td>Empathy</td>
<td>10</td>
<td>0.916</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>4</td>
<td>0.958</td>
</tr>
<tr>
<td>Customer Loyalty</td>
<td>12</td>
<td>0.950</td>
</tr>
</tbody>
</table>
5.3 Descriptive Analysis

Standard Deviations were noticed to be small (ranging from 0.80 to 1.28) which represents that the data are well dispersed and closely distributed to the mean. Whereas mean seems to be more various (from 3.60 to 4.99). Table 5.3 illustrates the findings.

Table 5.3: Descriptive Analysis

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibility</td>
<td>4.9858</td>
<td>0.80425</td>
</tr>
<tr>
<td>Reliability</td>
<td>4.9151</td>
<td>0.87905</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>3.5165</td>
<td>0.99104</td>
</tr>
<tr>
<td>Assurance</td>
<td>5.1344</td>
<td>0.90167</td>
</tr>
<tr>
<td>Empathy</td>
<td>3.5943</td>
<td>1.07834</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>4.5991</td>
<td>1.27740</td>
</tr>
<tr>
<td>Customer Loyalty</td>
<td>4.9403</td>
<td>1.01410</td>
</tr>
</tbody>
</table>

n = 106

5.4 SERVQUAL

Paired t-test was used to compare the means of expectations and perceptions for the SERQUAL dimensions. These service quality gaps were calculated by subtracting respondents expectations from their perceptions (P-E). A negative service quality gap indicates respondents expectations are greater than their perceptions while a positive service quality gap indicates respondents perceptions exceed their expectations. Table 5.5 and Tables 5.6 present the results.
Table 5.4 SERVQUAL Means Score by Ranking

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Perception (P)</th>
<th>Expectation (E)</th>
<th>Ranking (P)</th>
<th>Ranking (E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibles</td>
<td>4.7406</td>
<td>5.2311</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Reliability</td>
<td>4.5019</td>
<td>5.3283</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>3.5425</td>
<td>3.4906</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Assurance</td>
<td>5.0425</td>
<td>5.2264</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Empathy</td>
<td>3.5509</td>
<td>3.6377</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

5.5 SERVQUAL Gap

As can be seen in table 5.6, the overall SERVQUAL score for the JKR Malaysia was -0.31. The negative value indicates that the performance of the JKR Malaysia was not meeting the expectations of their clients. The results in the table indicate that the reliability dimension has the greatest service gap of -0.83 followed by the tangible dimension. The smallest service gap of -0.08 was the empathy dimension. However, the positive service gap score of 0.05 for the responsiveness dimension suggest that JKR Malaysia meet the expectations of their clients.

The negative sign of the t-values for all variables except responsiveness indicate expectations to be higher than perceptions. i.e. respondents dissatisfaction on all the four dimensions except responsiveness. Thus:
Table 5.5 SERVQUAL Gap

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Perception (P)</th>
<th>Expectation (E)</th>
<th>SERVQUAL Gap</th>
<th>t-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibles</td>
<td>4.7406</td>
<td>5.2311</td>
<td>-0.4905</td>
<td>-4.749</td>
<td>Dissatisfied</td>
</tr>
<tr>
<td>Reliability</td>
<td>4.5019</td>
<td>5.3283</td>
<td>-0.8264</td>
<td>-6.841</td>
<td>Dissatisfied</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>3.5425</td>
<td>3.4906</td>
<td>0.0519</td>
<td>0.518</td>
<td>Satisfied</td>
</tr>
<tr>
<td>Assurance</td>
<td>5.0425</td>
<td>5.2264</td>
<td>-0.1839</td>
<td>-3.840</td>
<td>Dissatisfied</td>
</tr>
<tr>
<td>Empathy</td>
<td>3.5509</td>
<td>3.6377</td>
<td>-0.0868</td>
<td>-1.498</td>
<td>Dissatisfied</td>
</tr>
<tr>
<td>Overall</td>
<td>4.2757</td>
<td>4.5828</td>
<td>-0.3071</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Gap = perceptions – expectations. * significant at 0.05 level

Findings:

H1a is accepted
H1b is accepted
H1c is rejected
H1d is accepted
H1e is accepted

5.6 Regression Analysis

5.6.1 Service Quality of JKR Malaysia and Customer Satisfaction

The results of the relationship between service quality and customer satisfaction can be seen in Table 5.6.1
Table 5.6.1: Regression Analysis Results (SERVQUAL and Customer Satisfaction)

<table>
<thead>
<tr>
<th>Mediating Variable (Customer Satisfaction)</th>
<th>R Square</th>
<th>Beta</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Quality</td>
<td>0.82</td>
<td>0.286</td>
<td>3.047</td>
<td>0.00</td>
</tr>
</tbody>
</table>

As can be seen in tables 5.6.1, Since sig-t (0.003) is lower than a (0.05), therefore, there is a significant relationship between service quality and customer satisfaction at 0.05 level of significance. Thus:

Findings:

H2 is accepted

5.6.2 Customer Satisfaction and Customer Loyalty

Table 5.6.2 shows the detail of regression result for customer satisfaction and customer loyalty. As can be seen in the Table 5.6.2, sig-t (0.00) was lower than α (0.05), it explains that there is a significant relationship between customer satisfaction and customer loyalty at 0.05 level of significance. The positive significant coefficient suggest higher customer satisfaction on JKR Malaysia service quality and the higher the customer loyalty to the JKR Malaysia. Thus:
Table 5.6.2: Regression Analysis Results (Customer Satisfaction and Loyalty)

<table>
<thead>
<tr>
<th></th>
<th>Dependent Variable (Customer Loyalty)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R Square</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>0.513</td>
</tr>
</tbody>
</table>

Finding:

H3 is accepted.

5.7 Hierarchical Regression Analysis

5.7.1 Service Quality of JKR Malaysia, Customer Satisfaction and Customer Loyalty

Customer satisfaction may be considered as a mediator to the extent to which it carries the influences of JKR Malaysia service quality to customer loyalty. Baron and Kenny (1986) argued that mediating effect exists under the following conditions:

- The independent variable (service quality of JKR Malaysia) is significantly associated with the mediator (customer satisfaction).
- The independent variable (service quality of JKR Malaysia) is significantly associated with the dependent variable (customer loyalty) in the absence of the mediator (customer satisfaction).
- The mediator variable (customer satisfaction) is significantly associated with the dependent variable (customer loyalty).
• When the independent variable (service quality of JKR Malaysia) and the mediator variable (customer satisfaction) are controlled, a previously significant relationship between the independent variable and dependent variable is no longer significant or it is significantly decreased.

Hierarchical regression model was used to test the mediating effect of customer satisfaction on the relationship between JKR Malaysia service quality and customer loyalty. Four regression models were tested in this study. The first model treats customer loyalty as the dependent variable and customer satisfaction as the independent variable. The second model treats customer satisfaction as the dependent variable and the five JKR Malaysia quality dimensions as the independent variables. The third model treats customer loyalty as the dependent variable and the JKR Malaysia service qualities as the independent variables.

The fourth model treats customer loyalty as the dependent variable and both JKR Malaysia service quality dimensions and customer satisfaction as the independent variables. Table 5.7 demonstrates the mediating effect of customer satisfaction on the relationship between JKR Malaysia service quality and customer loyalty.

Since sig-t (0.00) is lower than a (0.05), there is a significant relationship between service quality and customer loyalty with customer satisfaction as mediating factor at 0.05 level of significance.
Table 5.7: Hierarchical Regression Results of Service Quality of JKR, Customer Satisfaction and Customer Loyalty (N=106)

<table>
<thead>
<tr>
<th></th>
<th>Dependent Variable (Customer Loyalty)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R Square</td>
</tr>
<tr>
<td>Service Quality</td>
<td>0.097</td>
</tr>
<tr>
<td>Service Quality and Satisfaction</td>
<td>0.525</td>
</tr>
</tbody>
</table>
CHAPTER 6: DISCUSSIONS

6.1 Why SERVQUAL?

The study will explain further on how the study scope being defined and why SERVQUAL was chosen to measure service quality of JKR Malaysia. In general JKR Malaysia provides three types of core services to their customer. The three core services that JKR Malaysia provides to their customer are asset management, project management and technical consultancy services. Since the study cover project management and consultancy services only, therefore the services were fall under the construction industry.

6.2 Technical Quality and Service Quality

Determining quality in construction is a complex issue. In general, quality can be defined through two approaches: conformance to requirements and customer satisfaction. The major concern in the conformance to requirements approach is how well the constructed facility conforms to design specifications. However the limitation of this approach is customers may not know or care about how well the product and/or service conforms to internal specifications. Where as the strengths of this approach are that measuring quality is relatively straightforward and easy and should lead to increased efficiency on the part of the organization.
On the other hand, the customer satisfaction approach defines quality as the extent to which a product or service meets and/or exceeds a customer’s expectations. The strength of this approach compared to the quality approach is that it captures what is important for the customers rather than establishes standards based on management judgments that may or may not be accurate. The weaknesses of this approach are that measuring customers’ expectations is a difficult task and the fact that a customer’s short-term and long-term evaluations may differ (Reeves and Bednar 1994).

The relationship between customer satisfaction and quality can be explored further by using Grönroos’ (1984, 2000) quality dimensions. In his work, Grönroos determines the technical quality is what the customer is left with when the service production process and its buyer-seller interactions are over. Customers can often measure this dimension relatively objectively because of its technical nature. The service quality dimension is another quality dimension, which has also been used in the literature as a functional or process quality of the process. The customer is also influenced by how he receives the service and how he experiences the simultaneous production and consumption process.

The distinction between product quality and process/service quality has also been noticed in the construction industry by Arditi and Gunaydin (1997). They found that product quality refers to achieving quality in the materials, equipments and technology that go into the building of a structure, whereas process/service quality refers to achieving quality in the way the project is organized and managed. According to Winch and
associates (1998) the problem with the existing literature on construction is that it concentrates on the problems of producers instead of providing value for the customer.

According to Torbica and Stroh (2001), a quality improvement effort will lead to a higher product and service quality, which will lead to improved customer satisfaction. Al-Momani (2000) examined service quality in construction delivered by contractors and the project owner’s expectations using the service quality gap as his analysis tool. He found that contractors pay very little attention to the owners (customers) satisfaction, and that this contributes to poor performance.

6.3 Focus Area of the Study

Based on the limitations of the study’s scope and the literature review above, therefore this research will only focused particularly in the areas of service quality offered by JKR Malaysia only. Therefore it might not reflect the technical quality or functional quality that JKR Malaysia has also offered which might influence customer satisfaction and customer loyalty in other context.

The research is only focus on customer who subscribes the services directly, without involved the other stakeholder such as contractors, supplier, consultants or perhaps the end users it self. Therefore the result will only reflect purely JKR Malaysia’s customer views on JKR Malaysia services.
6.4 The Prioritization of Service Quality Dimension

One of the main objectives of the study is to identify the prioritization of the JKR Malaysia Service Quality dimension. Once the priority has been identified and more clear, the department can plan and allocate their resources according to the priority.

In this study, the findings were found supporting the previous evidence in public service literature. Reliability rated as the most important dimension to JKR Malaysia customer based on the mean of expectation (5.3). The result was consistent with the findings of Parasuraman et al. (1991), Mik Wisniewski (2001), Alexandria and Adrienne (2001). Therefore, the findings suggest JKR Malaysia to focus their effort in increasing their performance by fulfilling their promises and perform their service accurately and dependently.

On the other hand, tangible and assurance caries the same mean of 5.2 rated as the second important dimension in the view of JKR Malaysia customers. The finding was not something new because tangible is always fluctuating depending on the nature of the service context (Mik Wisniewski 2001), whereas assurance was found as one of the important dimensions that the customer’s stressed at. The high rated of the tangible and assurance dimensions could be due to the fact that the technical service provider office should look more proper and well equipped to build confidence in their customers. The JKR Malaysia customer is also expecting JKR Malaysia personnel to have knowledge
and courtesy in dealing with them. Strategically, the main aim of both dimensions is actually to convey trust and confidence in the eyes of their customers.

Empathy rated as the fourth important dimension in JKR Malaysia service quality with mean of 3.6. This could simply mean JKR Malaysia customers also need a caring and individualized attention although the dimension is not as important as the reliability, tangibility and assurance.

Surprisingly, responsiveness rated as the lesser important to JKR Malaysia customers with mean of 3.5. The findings suggest two possibilities. First possibility, JKR Malaysia customers can work independently with minimum help or second possibility, JKR Malaysia customers have predetermined idea of the slowness performance of the technical service provider especially in Malaysian companies/ government agencies context.

Potentially, the findings have identified which dimensions of service quality that JKR Malaysia customers stressed at. In next topic, we will discuss further on which dimensions have biggest discrepancies in customer expectation and customer perception. With that, we will then compare the findings with the finding above so that we can identify clearly, which dimension that JKR Malaysia needs to focus and allocates their resources at.
6.5 The concept of Service Quality. (Discrepancies in customer expectation and customer perception)

Overall findings suggest that there are discrepancies in customer expectation and customer perception from within the dimensions of Service Quality with the gap of -0.3. The biggest gap among the five dimensions of Service Quality was reliability which has gap of –0.8. This is followed by tangible -0.5, assurance -0.2 and empathy -0.1. Surprisingly, the study found out there was one dimension with positive gap. The dimension was responsiveness with the positive gap of 0.05. Coincidently, the results were consistent with what respondents had ranked in the prioritization dimension earlier. The overall SERVQUAL score gap of -0.3, indicated that the performances of the JKR Malaysia do not meet the expectation of their customers.

This findings support the evidences of Service Quality concept developed by Parasuraman et. al (1985) (Lewis and Mitchell, 1990; Dotchin and Oakland, 1994a; Asubonteng et al., 1996; Wisniewski and Donnelly, 1996) there are discrepancies in between customer expectations of service and perceived service. If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman et al., Lewis and Mitchell, 1990).

Although JKR Malaysia customers were relatively willing to continue their business relationship with the JKR Malaysia, their expectations are higher than their perceptions
for the dimensions of reliability, tangibility, assurance and empathy dimensions. This indicates some levels of dissatisfaction.

If we compare the above findings with the prioritization of dimension earlier, the findings revealed that reliability not only rank as the most important dimension to JKR Malaysia customer, but the gap between customer expectation and customer perception was also the highest. This means, JKR Malaysia must focus their strategy to out form their reliability by concentrating and allocating their resources to fulfill their promises accurately and dependably strategically.

As far as the ranking of SERVQUAL dimension and SERVQUAL Gap is concern, the appearance of physical facilities, equipment, personnel knowledge and courtesy of the employee are the second aspect that JKR Malaysia need to stress at. Therefore, a part from having nice offices with updates equipment and facilities, JKR Malaysia need to develop and groom their towering personality to meet the customer expectation. Having a nice office with non competent staff or having a competent staff with outdated equipment and facilities still can’t fulfill the customer expectation. The main point of having such a good offices and personnel are to build confidence in the heart of the customer.

Being caring with individualized service may not be the main strategic focus of JKR Malaysia at the moment. However, the effort to minimize the gap might not be left out. Although the gap is quite small, JKR Malaysia needs to have special training on how to please their customers. But the effort can be done in on going processes.
Although the findings suggest positive SERVQUAL gap for responsiveness but the gap is quite small. Therefore, JKR Malaysia needs to revisit their service and see whether the service is up to the international level. This is because the expectation of the JKR Malaysia customer is relatively low. Maybe this is why they have positive gap for responsive dimension. Or perhaps the findings was referring to Malaysian public sector as the benchmark or other possibility, the customer have preconceived idea of how slow the JKR Malaysia service was.

6.6 The Significant Relationship of Service Quality Dimension on Satisfaction

The findings suggest that there was a positive significant relationship between the combinations of all service quality dimensions on customer satisfaction. Specifically, there was a significant relationship between service quality and customer satisfaction at 0.05 level of significance.

Initially, the results support the findings by Cronin and Taylor which hypothesized that satisfaction is an antecedent of service quality. However, their research with a multi-industry sample showed, in a LISREL analysis, an opposite relationship. Quality appears to be only one of the service factors contributing to the customer's satisfaction judgements (Cronin and Taylor, 1992). Spreng and Mackoy (1996), who test a modified version of a model proposed by Oliver (1993) that sought to integrate the satisfaction and service quality literature, also provide support for service quality as being an antecedent to satisfaction. More recently, this relationship has also been confirmed from a study in a
health-care setting by Deruyter et al. (1997), who also show that service quality should be treated as an antecedent of service satisfaction.

Therefore, quality-improvement initiatives by the management should not just focus on improving customer satisfaction but also target on improving the customer perceptions of overall service quality by taking the above variables (reliability, tangibility, assurance, responsiveness and empathy) into consideration. In other words the service providers should try to continuously improve both service quality and customer satisfaction. In this era of intense competition, satisfying customers may not be sufficient. The veritable gains of a quality revolution come only from delight, which again to a very great extent depends on the customer’s perceptions of overall service quality.

6.7 Significant Relationship of Customer Satisfaction on Customer Loyalty

The study was also found that customer satisfaction plays an important role in enhancing customer loyalty. The result found out there was a positive direction, moderate relationship and significant relationship (sig-F 0.00 is lower than 0.05) between customer satisfaction on customer loyalty.

These results verified the nonlinear and asymmetric relationship between customer satisfaction and customer loyalty. Based on Coyne (1989), there are two critical thresholds affecting the link between satisfaction and loyalty. On the high side, when satisfaction reaches a certain level, loyalty increases dramatically; at the same time, when
satisfaction declined to a certain point, loyalty dropped equally dramatically (Oliva et al., 1992).

Bearden and Tell (1983) argue that customer satisfaction is important to the marketer because “it is generally assumed to be a significant determinant of repeat sales, positive word of mouth and consumer loyalty”. Similarly, Bloemer and Poiesz (1989) have also argued that “satisfaction can be thought of as an important determinant of brand loyalty”. Selnes (!993) argues that it is satisfaction with a brand that leads to customer loyalty. This view is also supported by Dick and Basu (1994). LaBarbera and Mazursky (1983) show empirically that brand loyal customers had a lower probability to switch brands due to higher levels of satisfaction. Furthermore the results of this study were consistent with Stauss and Neuhaus (1997).

Therefore JKR Malaysia should not only focus their effort to improve their Service Quality, but they also need to revisit their service and think how to satisfy their customers.

### 6.8 Mediating Role of Customer Satisfaction

Baron and Kenny (1986) argued that mediating effect exists under the following conditions:

- The independent variable (service quality of JKR Malaysia) is significantly associated with the mediator (customer satisfaction).
• The independent variable (service quality of JKR Malaysia) is significantly associated with the dependent variable (customer loyalty) in the absence of the mediator (customer satisfaction).

• The mediator variable (customer satisfaction) is significantly associated with the dependent variable (customer loyalty).

• When the independent variable (service quality of JKR Malaysia) and the mediator variable (customer satisfaction) are controlled, a previously significant relationship between the independent variable and dependent variable is no longer significant or it is significantly decreased.

Hierarchical regression model with four regression models were tested in this study to test the mediating effect of customer satisfaction on the relationship between JKR Malaysia service quality and customer loyalty. The first model treats customer satisfaction as the dependent variable and the five JKR Malaysia quality dimensions as the independent variables. The second model treats customer loyalty as the dependent variable and customer satisfaction as the independent variable. The third model treats customer loyalty as the dependent variable and the JKR Malaysia service qualities as the independent variables.

The fourth model treats customer loyalty as the dependent variable and both JKR Malaysia service quality dimensions and customer satisfaction as the independent variables. Please refer Table 5.7 to demonstrate the mediating effect of customer satisfaction.
satisfaction on the relationship between JKR Malaysia service quality and customer loyalty.

Applying Baron and Kenny’s (1986) interpretation, it can be seen that customer satisfaction mediates the relationship of service quality towards customer loyalty.

Therefore, the results supported the study by Rust and Zahorik (1993) and Storbacka et al. (1994) which studied the impact of service quality on satisfaction, and satisfaction on customer loyalty. They found service quality to be positively correlated with satisfaction that will lead to increased purchase (loyalty). In short, they argued that a satisfied customer tends to be more loyal to the firm than dissatisfied customers.

In conclusion, the combination of service quality dimensions such as reliability, tangibility, assurance, responsiveness and empathy have positive significant relationships with variables of satisfaction and loyalty (sig-F is lower than 0.05). The findings suggest, if the JKR Malaysia customer satisfied with the service quality offered by them, their customer will be more likely to be more loyal to them.

In short, JKR Malaysia not only to improve their service quality, but they must also look at how to satisfied their customer to retain their customer loyalty.
6.9 Demographic Impact on Service Quality, Satisfaction and Loyalty

Table 6.9 shows the detail of One Way ANOVA result of demographic impact on Customer Satisfaction and Customer Loyalty.

Table 6.9: One Way ANOVA Results of Demographic Factor on Customer Satisfaction and Customer Loyalty (N=106)

<table>
<thead>
<tr>
<th>Demographic Factor</th>
<th>Customer Satisfaction (Sig.)</th>
<th>Customer Loyalty (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Gender</td>
<td>0.112</td>
<td>0.026</td>
</tr>
<tr>
<td>Education Level</td>
<td>0.089</td>
<td>0.014</td>
</tr>
<tr>
<td>Marital Status</td>
<td>0.640</td>
<td>0.480</td>
</tr>
<tr>
<td>Position in Organization</td>
<td>0.006</td>
<td>0.001</td>
</tr>
<tr>
<td>Experience with JKR</td>
<td>0.110</td>
<td>0.614</td>
</tr>
</tbody>
</table>

Based on the One Way ANOVA test result above, the findings suggest there is significant different between age and customer satisfaction (sig-F 0.00 is lower than 0.05) and there is significant different between age and loyalty (sig-F 0.00 is lower than 0.05). Therefore, age plays an important role in measuring their level of satisfaction and loyalty. Position in the organization was also categorized as important aspect as age, when the results shows that there is significant different between position and satisfaction (sig-F 0.006 is lower than 0.05) and there is significant different between position and customer loyalty (sig-F 0.001 is lower than 0.05).

In term of gender, there is no significant difference between gender and satisfaction (sig-F 0.112 is higher than 0.05) but there is a significant difference between gender and
customer loyalty (sig-F 0.026 is lower than 0.05). This shows that gender was an influential factor in securing customer loyalty. This also applies to education background, where the results showed there was no significant difference between education background and customer satisfaction (sig-F 0.089 is higher than 0.05) but there is a significant difference between the education background and customer loyalty (sig-F 0.014 is lower than 0.05).

Finally, marital status and work experience were proven to be non-determinants to both satisfaction and customer loyalty. The results has found there was no significant difference between marital status (sig-F 0.640 is higher than 0.05) on satisfaction, the results also found there was no significant difference between marital status (sig-F 0.480 is higher than 0.05) on customer loyalty. Same goes to experience where the results showed there was no significant difference between experience (sig-F 0.110 is higher than 0.05) on satisfaction and there was no significant difference between experience (sig-F 0.614 is higher than 0.05) on customer loyalty.
CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

7.1 Implications

The findings of this study have important implications on the management of quality services provided by JKR Malaysia as perceived by other ministries and government agencies. This study demonstrates the usefulness of the SERVQUAL approach as a good measure of service quality in technical service provider.

Once the attributes of quality services from the customer perspective are more clearly known and understood, the service providers will be in a better position to anticipate clients’ requirement rather than to react to clients’ dissatisfactions. The attribute of reliability has been expected by respondents to be the most important dimension of service quality, followed by tangible, assurance, empathy and responsiveness. The quality gaps of these dimensions are also followed by the most important dimension order. We can deduce from the findings that JKR Malaysia were not able to fulfill the needs of the clients. Although the responsiveness of the JKR Malaysia staff was seen to be only dimensions that met customer’s expectation but in overall, the gap of customer perception is obviously high.

Since not studies have been done in the service quality of technical service provider context, hopefully the findings can contribute some knowledge to the service quality research especially in public services context.
7.2 Recommendations for Future Research

For future research, it would be beneficial if users could be categorized into various segments based on the individual SERVQUAL scores. These segments could then be analyzed by the relative importance of the five dimensions in influencing service quality. In this manner, the researcher would be able to target specific quality programs of these segments and monitor the success or failure of the program by surveying these respondents again.

Since the technical service providers are offering a various type of services (from consultation, project management, maintenance to construction), future studies can also narrowed down to only one aspect of the services. For example, design quality or perhaps project management service quality instead of generalizing to all the services. These segments could then be analyzed by the relative importance of the five dimensions in influencing service quality of those particular services.

With narrowing down the focus area of the study the researcher would be able to target specific quality programs base on the type of services offered. In addition to that, we can also see the pattern of service quality expected in the construction industry.
REFERENCES:


Jacoby, Jacob, Jerry C. Olson and Rafael A. Haddock (1973), “Price, Brand Name and Product Composition Characteristics as Determinants of Perceived Quality”, *Journal of Applied Psychology*, 55 (no. 6), pp 570-579


Appendix 1

JABATAN KERJA RAYA MALAYSIA
PEJABAT KETUA PENGARAH KERJA RAYA
IBU PEJABAT JKR MALAYSIA,
JALAN SULTAN SALAHUDDIN,
50582 KUALA LUMPUR.

Ruj. Kami : (15)dlm. JKR.KPKR:020.060/01 Jld.5
Tarih : /// September 2008

Encik Mohammad Suhainy bin Abdull Rahim
34 B, Jalan Sepakat,
Kampung Melayu Batu 16,
48000 Rawang,
Selangor Darul Ehsan.

Tuan,

KEBENARAN KAJIAN KUALITI PERKHIDMATAN JKR

Dengan hormatnya surat tuan bertarikh 3 September 2008 mengenai perkara di atas adalah dirujuk.


Sekian, terima kasih.

“BERKHIDMAT UNTUK NEGARA”

Saya yang menurut perintah,

(DATO’ IR. HJ. HAMIZAN BIN MOHD INZAN)
Pengarah,
Cawangan Pengurusan Korporat,
b.p. Ketua Pengarah Kerja Raya,
MALAYSIA.
Appendix 2

Questionnaire:
Survey on the service quality of JKR,
customer satisfaction and loyalty towards the department

Dear Sir/Madam,

This survey is conducted as a partial requirement for the completion of the Master of Business Administration, University of Malaya.

The general purpose of this study is to explore the service quality of JKR Malaysia, the level of client satisfaction and their loyalty towards the department.

I would like to invite your participation in this survey by filling up the attached questionnaires. All information will be treated with the strictest confidentiality and only the aggregate data will be analysed. In other words, individuals who respond to this questionnaire will not be identified.

The survey will take approximately 5 - 10 minutes and your participation is very much appreciated.

I would really appreciate if you could return the completed questionnaire to the following email address: mohammadsulnay@yahoo.com.my

Thank you for your valuable assistance in participating in the survey.

Prepared by,
Mohammad Sulnay Abdulla Rahim
Matric No. CGA08082

Supervised by,
Assoc. Prof. Dr. Ghazali Mansor
Faculty of Business & Accountancy, University of Malaya
### Section A: Service Quality

**EXPECTATION VS. PERCEIVED Service Quality**

The following set of statements summarizes your EXPECTATION and your PERCEIVED Service Quality from SCC. For each statement, please indicate to which extent you think it is applied or disagreed. Please mark "5" (or 50%) in one answer. There's a weight of varying answers.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Expectation</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Mostly Disagree</th>
<th>Neutral</th>
<th>Mostly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>SCC has up-to-date equipment</td>
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<td>2.</td>
<td>SCC physical facilities are visually appealing</td>
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<td>3.</td>
<td>SCC employees are well trained and approachable</td>
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<td>4.</td>
<td>SCC physical facilities appearance is in keeping with the type of service</td>
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<td>5.</td>
<td>What would be your response if someone were to question your service</td>
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<td>6.</td>
<td>When there's a problem, SCC is sympathetic and understanding</td>
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<td>7.</td>
<td>SCC is dependable</td>
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<td>8.</td>
<td>SCC provides services on time to promise to do so</td>
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<td>9.</td>
<td>SCC keeps records accurately</td>
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<td>10.</td>
<td>SCC does not offer services outside where services will be performed</td>
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<td>11.</td>
<td>You are not sure what services from SCC provide</td>
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<td>12.</td>
<td>Employees of SCC are not always willing to help you</td>
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<td>13.</td>
<td>Employees of SCC are too busy to respond to customers requests promptly</td>
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<td>14.</td>
<td>You are not satisfied with employees of SCC</td>
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<td>15.</td>
<td>You feel safe in your transactions with SCC employees</td>
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<td>16.</td>
<td>Employees of SCC are polite</td>
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<tr>
<td>Statement</td>
<td>Expectation</td>
<td>Perceived</td>
<td>Performance</td>
<td>Exceptional</td>
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<tr>
<td>1. Employees get adequate support from JER to do their jobs well.</td>
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<td>2. JER does not give you individual attention</td>
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<td>3. Employees of JER do not give you personal attention</td>
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<td>4. Employees of JER do not know what your needs are</td>
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<td>5. JER does not have your best interest at least</td>
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<td>6. JER does not have operating rooms convenient to all their customers</td>
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</table>

**Section I (SATISFACTION)**

The following set of statements describes your SATISFACTION levels towards JER services. For each statement, please indicate to which extent you feel it is agreeable or disagreeable.

Use Yes or No to indicate: There is no right or wrong answer.

### Description

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Mostly Disagree</th>
<th>Neutral</th>
<th>Mostly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>I am fully satisfied with JER</td>
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<td>2.</td>
<td>My expectations for JER are reasonable</td>
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<td>3.</td>
<td>My experience with JER was excellent</td>
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<td>4.</td>
<td>JER has met my expectations so far</td>
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**Section II (LOYALTY)**

The following set of statements describes your LOYALTY towards JER services. For each statement, please indicate to which extent you feel it is agreeable or disagreeable.

Use Yes or No to indicate: There is no right or wrong answer.

### Description

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Mostly Disagree</th>
<th>Neutral</th>
<th>Mostly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I very positively think about JER to other people</td>
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<td>2.</td>
<td>I intend to continue doing business with JER</td>
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<td>3.</td>
<td>I recommend others continue doing business with JER</td>
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<td>4.</td>
<td>I would consider switching away from JER</td>
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<td>5.</td>
<td>I would definitely switch from JER to other technical service provider</td>
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<td>6.</td>
<td>I highly recommend doing business with JER</td>
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<td>7.</td>
<td>I report JER is clearly the best technical service provider to do business with</td>
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<td>8.</td>
<td>I believe JER is a good technical service provider</td>
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</table>
Thank you very much for your assistance in completing this questionnaire. It surely will be of great help to me. With you the very best in your future.