THE EFFECTS OF PERCEIVED SERVICE QUALITY ON PATIENT SATISFACTION AND BEHAVIORAL COMPLIANCE AT A MULTI-SPECIALITY PUBLIC HOSPITAL IN STATE OF PAHANG

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ABSTRACT

The quality of health care service is always at the forefront of professional, political, concern stakeholders, and managerial attention. However, the key dimensions contributing to health care service quality not been fully understood. Many studies have been conducted to measure health care service quality, but most of them in developed countries, especially in Europe and the USA; the results may not be applied to the Malaysian context due to difference in culture, environment, and facilities accessibility. Although, the health care service quality research in developing countries is growing nonetheless, the study is not widespread in Malaysia. Only few empirical studies on healthcare service quality from Malaysia can be identified published in journals and the findings are inconsistent. Thus, to fill this knowledge gap, this study developed a service quality model for health care service by framing the association of service quality antecedents, perceived service quality, patient satisfaction, and behavioral compliance. To validate the research model and test the proposed research hypotheses, the study used a quantitative approach as a research paradigm, cross-sectional design as a survey method, combination of cluster and convenience sampling as a sampling technique and partial least square structural equation modeling (PLS-SEM) as a data analysis technique. The findings of the study show that health care service quality is a context-specific and multi-dimensional constructs. Given the high power achieved from the analysis, this thesis has significant theoretical and practical contributions. Theoretically, the study extends service quality research by reconstructing the model as a reflective, multi-dimensional constructs and evaluating the impacts of antecedent constructs on perceived service quality, patient satisfaction and behavioral compliance in the context of health care service in Malaysia. Methodologically, the study validates that PLS-SEM is suitable to estimate the parameters of a multi-dimensional constructs. Practically, the study provides hospital management with a health care service quality model for conducting integrated analysis and design of service delivery systems. Overall, the study makes a significant contribution to healthcare organizations, better health outcomes for patients and better quality of life for the community.

ABSTRAK

Isu kualiti dalam aspek perkhidmatan penjagaan kesihatan sentiasa mendapat perhatian golongan profesional, ahli politik, pihak-pihak yang berkepentingan serta pihak pengurusan. Walau bagaimanapun, elemen utama yang menyumbang kepada kualiti dalam aspek perkhidmatan penjagaan kesihatan masih belum terokai sepenuhnya. Sungguhpun terdapat banyak kajian yang telah dijalankan untuk mengukur tahap kualiti dalam perkhidmatan penjagaan kesihatan, namun kajian-kajian tersebut kebanyakannya dilaksanakan di negara-negara maju terutamanya di Eropah dan Amerika Syarikat. Oleh yang demikian itu, hasilan kajian tersebut mungkin tidak dapat dirumuskan serupa dengan Malaysia, iaitu dalam konteks sebuah negara membangun. Perbezaan dapatan kajian ini disebabkan oleh perbezaan budaya, persekitaran, dan akses kepada kemudahan. Kajian tentang kualiti dalam aspek perkhidmatan penjagaan kesihatan didapati berkembang dengan pesat di negara-negara membangun, namun kajian yang serupa sangat terhad di Malaysia. Bilangan penerbitan jurnal yang berkaitan dengan kajian kualiti dalam perkhidmatan penjagaan kesihatan dari Malaysia adalah sangat sedikit, malah dapatan kajian juga didapati tidak konsisten. Oleh itu, untuk mengisi jurang ilmu, kajian ini akan dilakukan dengan membina sebuah model kajian yang menghubungkan anteseden kualiti perkhidmatan bagi perkhidmatan penjagaan kesihatan dengan persepsi kualiti perkhidmatan, kepuasan pesakit dan pematuhan tingkah laku. Kajian ini mengunakan paradigma kuantitatif dengan reka-bentuk kajian rentas sebagai kaedah tinjauan, gabungan kaedah persampelan kluster dan persampelan mudah sebagai teknik persampelan serta “partial least square structural equation modelling” (PLS-SEM) sebagai teknik analisis data untuk mengesahkan model kajian seterusnya menguji hipotesis kajian yang dicadangkan. Dapatan kajian ini menunjukkan bahawa kualiti perkhidmatan penjagaan kesihatan adalah bersifat konteks-spesifik serta konstruk berbilang dimensi. Tesis ini mempunyai sumbangan dari perspektif teoretikal dan praktikal yang signifikan berdasarkan kepada kuasa penjelasan yang tinggi. Berdasarkan perspektif teori, kajian ini telah memperkembangkan bidang kajian kualiti perkhidmatan melalui pembangunan semula model kajian dalam bentuk reflektif, pembentukan konstruk kajian pelbagai dimensi seterusnya menilai impak konstruk anteseden terhadap konstruk kualiti perkhidmatan, konstruk kepuasan pesakit dan pematuhan tingkah laku dalam konteks perkhidmatan penjagaan kesihatan di Malaysia. Berdasarkan sudut metodologi pula, dapatan kajian mengesahkan bahawa teknik analisis PLS-SEM adalah sesuai untuk menganggar parameter konstruk kajian yang bersifat pelbagai dimensi. Secara praktikal, kajian ini membantu pengurusan hospital dalam menganalisis secara bersepadu dan mereka bentuk sistem penyampaian perkhidmatan dengan menggunakan model kajian kualiti perkhidmatan yang telah dibangunkan. Secara keseluruhan, kajian ini telah memberikan sumbangan penting kepada organisasi penjagaan kesihatan, kesihatan yang lebih baik untuk pesakit dan kualiti hidup yang lebih baik untuk masyarakat.

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LIST OF SYMBOLS

α	Cronbach's Alpha
β	Path Coefficient
D	Omission Distance
E	Sum of Square Prediction Error
f^2	The Effect Size
k	Number of Exogenous Construct
i	Row Element
j	Column Element
N	Number of Indicator
O	Sum of Square Error
R^2	Coefficient of Determination
Q^2	Predictive Relevance
q^2	Predictive Relevance Effect Size
t	Statistic Result of t-test
p	Significance Level
ρ_c	Composite Reliability
$\sum$	Summation
λ_i	The loading of Indicator i
ε_i	The Measurement Error of Indicator i
$\text{var}(\varepsilon_{ij})$	Variance of Error of Indicator i and j
σ_i^2	The Variance of Indicator i
σ_t^2	The Variance of the Sum of All the Assigned Indicators
$<$	Is less than
$>$	Is greater than

LIST OF ABBREVIATIONS

ADM	Administrative Procedure
AMOS	Analysis of Moment Structures
AVE	Average Variance Extracted
BC	Behavioral Compliance
CBSEM	Covariance Based Structural Equation Modeling
CFA	Confirmatory Factor Analysis
CMV	Common Method Variance
CR	Composite Reliability
EFA	Exploratory Factor Analysis
EM	Expectation Maximization
GoF	Global Fit Index
INF	Infrastructure
INT	Interaction
KMV	Kaiser-Meyer-Olkin
LISREL	Linear Structural Relationships
MAR	Missing At Random
MCAR	Missing Completely At Random
MC	Medical Care
NC	Nursing Care
PLS-SEM	Partial Least Square Structural Equation Modeling
PS	Patient Satisfaction
PSQ	Perceived Service Quality
SEM	Structural Equation Modeling
SPSS	Statistical Package for Social Science
VAF	Variance Accounted For
VIF	Variance Inflation Factor

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

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1.2 BACKGROUND OF THE STUDY

Meeting quality needs of society are one of the priorities of any growing organization. Normally, the organizations place high priority on delighting their customers. They are constantly trying to improve performance by introducing an excellent quality to consumers. The quality is achieved by meeting the customer's expectation in a way that the customer's perception of the experience exceeds the expectation (Parasuraman, Berry and Zeithaml, 1985). Thus, satisfied customers perceived the quality of product or service that they experience is superior. Accordingly satisfied customer is the outcome of customers having good experiences (Kim et al., 2008). Ott and van Dijk (2005) and Guenzi and Pelloni (2004) asserted that customer satisfaction is an important indicator of the performance of an organization. In an effort to improve the performance, an organization set a standard of quality to be delivered to consumers, since quality became as a competitive weapon with which to compete in the marketplace or to gain acceptance from stakeholders. In the public sector, quality is one of the main objectives to be achieved; one of the means to achieve the objective is customer oriented approach which strengthens the delivery of product or service quality

and ultimately customer satisfaction (Agus, Barker, and Kandampully, 2007). The consequence of poor quality is dissatisfied customers, which might opt to buy good or service from another company; or in the case of public organizations, lower quality may invite unnecessary reaction from the general public and politicians.

Service organization needs more interaction with customers as compare to manufacturing organizations. Customers look and experience on the way service providers deliver the service and at the end evaluate it. Quality is the customers' perception of the value of the service delivered. Thus, in service organization service quality is an important indicator and a mean to achieve customer satisfaction. A study by Choi, Lee, Kim, and Lee (2005) supported that excellent service quality can link customer needs to satisfy. If customers are satisfied with service quality, they will develop positive behavioral intentions, such as return again or may recommend the organization to their friends and family (Grönroos, 1998). According to Butt and de Run (2010), service excellence will benefit everyone; customers, employees, management, stakeholders, society, and in the end the country wins.

Hospital is an organization that provides a service. It is a complex service organization; it is "a true people-based service industry" (Rose, Uli, Abdul, and Ng, 2004); and it involves a high degree of intangibility, inseparability of production and consumption, highly interaction between customer and service provider, and is taking place at the same time (Grönroos, 1998; Reeves and Bednar, 1994; Parasuraman et al. 1985). Health care service provided by the hospital is the service most customers required but may not want. However, in order to receive the service, customers (patients) have to be present in the service process and the successful delivery of health care service requires a patient's cooperation both during and after the encounter. For example, the patient needs to answer the doctor's question honestly during the first encounter and follow the advice afterwards. In most cases, patients cannot demand the medical care that they require especially in public hospitals. The patients have to depend and trust the expert judgement of the service providers. Thus, the hospital can ultimately influence the life and death of an individual. Therefore, attention on hospital service quality has been viewed as very important (Dagger, Sweeney and Johnson, 2007).

In Malaysia, public hospitals are organised into national hospitals, state hospitals, and district hospitals. Hospital Kuala Lumpur is the main national hospital

and state hospitals are the main hospitals situated in the capital city of each of the 13 states in the country. The district hospitals are smaller than the state hospitals and situated in each district in Malaysia. The implementation of quality management in Malaysian public hospitals has been starting in 1980 by the Ministry of Health (MOH) in an effort to increase efficiency and to control excessive waste; the effort has been welcome by the employees of MOH hospitals (Noor Hazilah, 2009). In the study, however, Noor Hazilah (2009) found that national hospital and state hospitals are lower in their quality management practice as compare to district hospitals.

Improving service quality in hospital can improve the hospital performance (Ramsaran-Fowdar, 2004). This situation is illustrated by the patient's health condition getting better and he/she satisfies. Patient satisfaction is related to how the patient perceives the quality of service. In addition, the healthcare industry has restructured its service delivery system in order to survive in competitive environment resulting from the maturation of the industry (Greenhalgh et al., 2009; Ferlie and Shortell, 2001). Changes in the healthcare industry have given healthcare service providers the ongoing challenge of giving quality care to patients while maintaining lower cost (Eiriz and Figueiredo, 2005; Cudney, 2002). Increased competition has also forced health care organizations to give more attention on service quality (Zineldin, 2006; Rivers and Glover, 2008).

Healthcare services differ in specific ways to other service sectors. The most important of those differences is that patients often find evaluating health care providers difficult, both during and after treatment. This problem related to the fact that health care services comprise of certain characteristics that patients may find it difficult to evaluate the service process because they lack the necessary knowledge and skills to make the necessary judgments, and are compelled to trust the providers (Hausman, 2004). In fact, it is difficult for patients to evaluate the technical quality of medical service because most of the patients do not possess the technical knowledge (Kang and James, 2004), for example, the patient cannot evaluate medical procedure conducted by a doctor to diagnose his or her disease. Patients tend to assess the quality of service by their impressions of service functional quality (Kang and James, 2004), such as, they observe and evaluate how doctors and nurses communicate with them. Thus, what was practiced before; the patients were left out of the process in determining what quality of service care they should receive due to the inability to evaluate the technical quality of

the service. And the health care providers used to make decisions they consider being the best interest of their patient, often without taking consideration of patient view or consulting them (Ward, Rolland, and Patterson, 2005). However, the change in the industrial structure and with the informed patient, involvement of patient in determining service quality is getting accepted (Ward et al., 2005; Duggirala, Rajendran, and Anantharaman, 2008).

In order to improve the current level of service, quality must be defined and measured since service quality is an elusive and distinctive construct. The unique characteristic of the service is intangible, variable, and inseparable (Berry and Bendapudi, 2007). The health care services' users are the patients themselves. That is, health care services are intangible and its production and consumption occur simultaneously require patient involvement in the process (Strawderman and Koubek, 2006). According to Kara et al. (2005) in health care sector intangible factors are the most significant ones in determining the service quality. Campbell, Roland, and Buetow (2000) suggest that quality of care is a concept that is attached to individual patient and defined quality of care as "whether an individual can access the health structures and processes of care which they need and whether the care received is effective". Therefore, in defining and measuring the level of quality in healthcare industry, perspective of patient must be evaluated (Karassavidou, Glaveli, and Papadopoulos, 2009; Papanikolaou and Ntani, 2008).

Service quality is a priority for any hospital. Hospital management must realize the need for continuous quality improvement. Thus, measuring health care quality is critical in order to accomplish continuous improvements in the hospitals. It is through this proactive approach to improvement they will be able to provide the highest level of quality healthcare. Accordingly, in today's strong competitive business and informed and higher expectation stakeholder environment require a health care provider to build strong service quality to satisfy their customers (Lei and Jolibert, 2012). An increased focus on quality in health service delivery and a shift toward more patient needs has instituted the practice of patient satisfaction measurement. Patient satisfaction is a significant factor in determining the patient's well being and hence must be included when evaluating healthcare service provision. Furthermore, researchers have shown that when measuring a health care service quality, the assessment of patient satisfaction is a reliable indicator (Duggirala et al., 2008; Sitzia and Wood, 1998). Conversely, patient

satisfaction information as an indicator of service quality delivered is frequently included as an important attribute in health care planning and evaluation (Chan and Chau, 2005; Lin and Kelly, 1995). As such, patient satisfaction is a factor should be given priority by healthcare organization in order to survive in a highly competitive environment (Rivers and Glover, 2008).

In the marketing literature, consumer perception of, and satisfaction with, service quality will affect intentions and actual future use of the service (Dabholkar, Shepherd, and Thorpe, 2000; Cronin, Brady, and Hult, 2000). When customers are satisfied, the higher will be a chance of their positive behavioral intentions toward the service provider (e.g., Ahmed, 2011). However, lower customer satisfaction with service quality will weaken their behavioral intentions to service provider (Mittal, 1998). Li, Huang, and Yang, (2011) suggested that behavioral intentions of a patient are a direct result of patient satisfaction with service quality deliver by the hospital. Favorable behavioral intentions will cause demand for repeat services, positive word of mouth, and consumer loyalty (Kessler and Mylod, 2011). In summary, the hospital service quality is an important parameter to achieve better outcomes for patients and reflects the overall hospital performance. It is, therefore, this study is focused on hospital service quality in relation to patient satisfaction and behavioral compliance.

1.3 PROBLEM STATEMENT

The nature of health care service supposed to be patient-focused, which require health care providers to become more responsive to patients' need. The excellent care in health care requires the providers not only to deliver care on aspects of technical quality, but also on aspects of functional quality care such as communication, empathy, trust, and responsiveness. In that relation, patients require carefully coordinated care services and support, which, in the hospital setting, involved several members of the multidisciplinary team of providers (Bodenheimer, Chen and Bennett, 2009), specifically doctors, pharmacists, nurses, physiotherapists, occupational therapists, radiologists, and medical laboratory technologists. It would seem, therefore, that the qualified healthcare workers are needed in order to provide better service quality. The possibility of one doctor for 600 people has become an important aspect of targeted

healthcare standard in Malaysia as set by the World Health Organization (Business Monitor International, 2011).

The hospital and health care organization's workforce is composed of many disciplines, but typically nurses make up the majority of employees in hospital settings. The healthcare industry has experienced nursing shortage, in varying degrees, in most geographic areas of the United States and in most settings since 1998 (Shields and Ward, 2001; Seago, Spetz, Alvarado, Keane, et al. 2006). Subsequently, Malaysia is not without challenges. Malaysia experience similar situation whereby there is still a shortage of staff nurses and others health care workers. According to the former Health Minister Datuk Dr Chua Soi Lek, Malaysia is still short of 90,000 staff nurses and would need 174,000 of them by 2020 to achieve the population ratio of 1:200 (New Straits Times, 2006, March 10). Ministry of Health Malaysia (2011) reported that the public health care sector has been experiencing shortages of nurses and difficult in replacement and retention of nurses especially in rural area. As a result, higher patient to nurse ratio will cause dissatisfaction among nurses; unhappy nurse contributes to lower quality of care and eventually reduce patient satisfaction (McHugh et al., 2011). Shortage of nurses and allied health workers will definitely affect daily operation of hospitals and ultimately affects the service quality deliver (Shields and Ward, 2001).

In Malaysia, the government operates a national health care service program financed through taxation, and each citizen is entitled to receive free health care service. However, health care service functioning is relatively low in Malaysia compared to other countries. Indeed, the number of doctors and nurses employed per 100,000 populations in Malaysia is significantly below that is found in countries with better levels of health (Central Intelligent Agency, undated). At the end of 2008, for instance, there were 25,102 doctors in Malaysia representing one doctor for every 1,105 inhabitants. The problem is coupled with the number of doctors registered has declined over the years since these professionals prefer to work overseas or with a private sector where they are better remunerated (Ministry of Health, 2011; The Star, April 21, 2010, Noor Hazilah, 2009). According to Ministry of Health (2011) and a report in Business Monitor International (2011) public healthcare sector in Malaysia is suffering from the chronic shortage of qualified doctors and other medical personnel. Given the doctor shortage, the government allows public doctors to practice privately as part of its staff retention strategy (Ministry of Health, 2011; Edwards, 2004). Thus, heavy workload

leads to stress among doctors (Abdul Aziz, 2004), this will effects service quality and patient satisfaction. Additionally, there is a serious demoralization problem among hospital employees resulting from burdensome workload, poor remuneration, low working life quality, inability to take initiatives and poor leadership (Walton, 1973; Albion et al., 2008). In Malaysia, a study conducted by Pillay et al. (2011) on hospital waiting time found that on average, patients have to wait for more than two hours from registration to getting the prescription slip, however, their contact with medical personnel is only on average 15 minutes. This situation contributed to lower healthcare service quality from perception of patients.

The lower healthcare service quality also reported in the USA, Weingart et al. (2006) in their study reported that service quality deficiencies in a Boston teaching hospital are so common amongst medical inpatients that they appear to be the norm. In fact, lower service qualities are observed in some public hospitals in Malaysia (Ministry of Health, 2011). According to Noor Hazilah (2009) the level of quality management practice in Malaysian tertiary hospitals (State hospitals and Hospital Kuala Lumpur) is lower than district hospitals. This finding was aligned with the finding of a study in Spain; rural hospitals perform better in service quality as compare to urban hospitals (Garcia-Lacalle and Martin, 2010). Thus, these factors show service quality delivery to patients in the public hospital sector is having some problem. Consequently, the public health care system is perceived negatively by the general population and some people prefer private clinics or hospitals. However, they have to bear higher cost, which most of the public could not afford. For some patients, switching providers could create psychological trauma due to dealing with the uncertainty of adjusting to new service providers (De Ruyter, Wetzels, and Bloemer, 1998) and non-compliance of treatment could directly impact on healthcare outcomes (Ovretveit, 2000).

Traditional concepts of health care relationship are based on three main assumptions that professionals (e.g., doctor, nurse, and pharmacist) are the experts in health care services, and the ideal patient is compliant and independent (Piligrimiene and Buciuniene, 2005). Historically the definition and management of healthcare quality have been the responsibility of the service provider and health services have been largely introspective in defining and assessing quality, focusing mainly on the technical components from the provider aspect. As a result, there is comparatively little work investigating patient perceptions of health service quality (Bell, 2004). There has,

however, been some work on clinical governance which has sought to emphasize the importance of the patient perspective but, in general, this work has been based on areas defined by service providers as important rather than on what actually matters to patients (Bell, 2004).

Malaysian wealth has increased tremendously. The increasing prosperity has correspondingly increased in non-communicable diseases in the population due to lifestyle, such as hypertensions, heart diseases, and obesity. According to Business Monitor International (2011) cancer, hypertension and heart diseases are reported in the most deaths and cases of hospitalization in Malaysia, and four out of every ten adults in Malaysia suffer from high blood pressure. This problem has combined with an increase in communicable disease, for example, the number of patients infested by dengue has risen 53% to 38,000 cases in 2010 and Malaysia has around 75,000 HIV-positive patients. The number of patients has increased steadily, while, the number of care providers available has remained almost constant. This situation has resulted in imbalance issue, which is the ratio of patients to the care providers become wider. Thus, the circumstances may contribute to increase in cases of negligence in the public hospital, which has been reported in the local press (Fong, 2004).

The increasing dissatisfaction in health care problem has heightened the need to look at care provider issues such as recruitment, retention, turnover, workplace health and safety issues and their impact on quality patient care. Of the particular interest is the relationship between care providers and quality of patient care. Nonetheless, the study of hospital service quality is not a new field and has been extensively studied all over the world. Considerable efforts have been undertaken by researchers over the last three decades to study the hospital service quality (Ward, Rolland, and Patterson, 2005). Most of the studies have used samples from the developed countries and only a few of the studies from the developing countries (Andaleeb, 2001), such the countries are Mauritius (e.g., Ramsaran-Fowdar, 2008), Cyprus-Turkey (e.g., Arasli, Ekiz, and Katircioglu, 2008), and Egypt (e.g., Mostafa, 2005). Nevertheless, the study of hospital service quality is not widespread in Malaysia. Only few empirical studies on healthcare service quality from Malaysia can be identified published in journals. Among them are four studies identified: Mohd Suki, Lian, and Mohd Suki (2011) study of perceived service quality by using SERVQUAL dimensions in a private healthcare setting in the Klang Valley; Yaacob et al. (2011) conduct a hospital service quality of outpatients at

Hospital Sultan Abdul Halim, Sungai Petani by using SERVQUAL dimension; Manaf and Nooi (2009) study on patient satisfaction as an indicator of service quality in Malaysian public hospitals; and Butt and de Run (2010) used SERVQUAL model to study Malaysian private health service quality. However, the findings are inconsistent; moreover, they utilized different service quality attributes or dimensions in the studies.

Hence, this study is conducted based on few premises:

a) Literatures indicate that most of the health care service quality studies were conducted in developed countries (Andaleeb, 2001) and very few of such studies conducting in developing countries including Malaysia (e.g., Ramsaran-Fowdar, 2008; Arasli, Ekiz, and Katircioglu, 2008; Mostafa, 2005). Service quality is culture specific, measures that are developed in one culture may not be applicable in a different cultural setting (Karatepe et al., 2005). Additionally, in health care context according to Ueltschy et al. (2009) patients' perceptions of service quality and satisfaction are strongly influenced by culture. Therefore, further empirical study in healthcare service quality is required to compare the findings of developed countries and developing countries such as Malaysia as suggested by Qin and Prybutok (2013) and it is also can unravel some of the unique nuances associated with healthcare service quality in a developing country context, specifically Malaysia.

b) Dagger, Sweeney and Johnson (2007) strongly suggested testing the relationship between technical qualities of service quality antecedent with perceived service quality. Yet, previous studies on health care service quality have not covered the impact of technical qualities practices on perceived service quality.

c) Although considerable research has been devoted to health care service quality, rather less attention has been paid to examine the effect of service quality antecedents in relation to perceived service quality, patient satisfaction and eventually the effect on behavioral compliance of the patient. These elements were not being integrated together which leave a gap in the study of health care service quality. Hence, in the current study, service quality antecedents that comprised of technical quality and functional quality components were integrated with perceived service quality, patient satisfaction and the subsequent effects on the patient behavioral compliance as suggested by Lin and Hsieh (2011) and Hausman and Mader (2004).

d) The progress of wealth in Malaysia has correspondingly increased in non-communicable diseases, such as hypertensions, heart diseases, obesity, and cancer;

together with the increase in communicable disease such as, dengue fever and Human Immunodeficiency Various (HIV). However, the progress of health care in Malaysia is not encouraging; in fact, lower service qualities are observed in some public hospitals in Malaysia (Ministry of Health, 2011; Noor Hazilah, 2009). Therefore, a study on public health care service quality would be considered necessary in order to gauge the extent of health care providers' ability to further provide quality service.

It would seem, therefore, that further empirical research is needed in order to address the relationships between service quality antecedents and perceived service quality and the mediating effect of patient satisfaction on perceived service quality and behavioral compliance among inpatients in multi-specialty hospitals. This research attempts to fill the gaps that exist in previous researches since the impact of health care service quality in Malaysian context did not get much attention before.

1.4 RESEARCH OBJECTIVES

Generally, the aim of this research is to investigate the relationship among the constructs of the integrated service quality model, that is, the antecedents of service quality, perceived service quality, patient satisfaction and behavioral compliance, and the impact of overall service quality practices on behavioral compliance of patients.

Specifically, this research attempts to achieve the following objectives:

1. To develop the relationship between service quality antecedents (infrastructure, administrative, interaction, medical care, and nursing care) and perceived service quality.
2. To measure the relationship between perceived service quality and patient satisfaction.
3. To measure the relationship between patient satisfaction and behavioral compliance.
4. To measure the relationship between perceived service quality and behavioral compliance.
5. To examine the mediating effects of patient satisfaction on the relationship between perceived service quality and behavioral compliance of patients.

1.5 RESEARCH QUESTIONS

This study will attempt to evaluate the perceived service quality effects on patient satisfaction and compliance behaviors of patients. That is, patient perceptions of health care during his/her stay in hospital will be rationalized with the consequence toward satisfaction and compliance with advices. In an effort to understand the dimensions of service quality, specific question about the relationship of service quality constructs (i.e., service quality antecedents, perceive service quality, patient satisfaction, and compliance behavioral) need to be answered. Thus, this study will address the following main question to interpret the constructs. What are the effects of service quality antecedents to perceive service quality and patient satisfaction, consequently, influence on behavioral compliance of the patients to the health care service? Specifically the questions can be outlined as follows:

1. What is the relationship between service qualities antecedents (infrastructure, interaction, administrative procedure, medical care, and nursing care) and perceived service quality?
2. How is the relationship between perceived service quality with patient satisfaction?
3. What is the relationship between patient satisfactions with behavioral compliance?
4. What is the relationship between perceived service quality with behavioral compliance?
5. Does perceived service quality carry its effect on behavioral compliance through patient satisfaction?

1.6 HYPOTHESES

The following hypotheses will be investigated:

H1a: Infrastructure is positively related to perceived service quality.

H1b: Interaction is positively related to perceived service quality.

H1c: Administrative procedure is positively related to perceived service quality.

H1d: Medical care is positively related to perceived service quality.

CHAPTER 1

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and ultimately customer satisfaction (Agus, Barker, and Kandampully, 2007). The consequence of poor quality is dissatisfied customers, which might opt to buy good or service from another company; or in the case of public organizations, lower quality may invite unnecessary reaction from the general public and politicians.

Service organization needs more interaction with customers as compare to manufacturing organizations. Customers look and experience on the way service providers deliver the service and at the end evaluate it. Quality is the customers' perception of the value of the service delivered. Thus, in service organization service quality is an important indicator and a mean to achieve customer satisfaction. A study by Choi, Lee, Kim, and Lee (2005) supported that excellent service quality can link customer needs to satisfy. If customers are satisfied with service quality, they will develop positive behavioral intentions, such as return again or may recommend the organization to their friends and family (Grönroos, 1998). According to Butt and de Run (2010), service excellence will benefit everyone; customers, employees, management, stakeholders, society, and in the end the country wins.

Hospital is an organization that provides a service. It is a complex service organization; it is "a true people-based service industry" (Rose, Uli, Abdul, and Ng, 2004); and it involves a high degree of intangibility, inseparability of production and consumption, highly interaction between customer and service provider, and is taking place at the same time (Grönroos, 1998; Reeves and Bednar, 1994; Parasuraman et al. 1985). Health care service provided by the hospital is the service most customers required but may not want. However, in order to receive the service, customers (patients) have to be present in the service process and the successful delivery of health care service requires a patient's cooperation both during and after the encounter. For example, the patient needs to answer the doctor's question honestly during the first encounter and follow the advice afterwards. In most cases, patients cannot demand the medical care that they require especially in public hospitals. The patients have to depend and trust the expert judgement of the service providers. Thus, the hospital can ultimately influence the life and death of an individual. Therefore, attention on hospital service quality has been viewed as very important (Dagger, Sweeney and Johnson, 2007).

In Malaysia, public hospitals are organised into national hospitals, state hospitals, and district hospitals. Hospital Kuala Lumpur is the main national hospital

and state hospitals are the main hospitals situated in the capital city of each of the 13 states in the country. The district hospitals are smaller than the state hospitals and situated in each district in Malaysia. The implementation of quality management in Malaysian public hospitals has been starting in 1980 by the Ministry of Health (MOH) in an effort to increase efficiency and to control excessive waste; the effort has been welcome by the employees of MOH hospitals (Noor Hazilah, 2009). In the study, however, Noor Hazilah (2009) found that national hospital and state hospitals are lower in their quality management practice as compare to district hospitals.

Improving service quality in hospital can improve the hospital performance (Ramsaran-Fowdar, 2004). This situation is illustrated by the patient's health condition getting better and he/she satisfies. Patient satisfaction is related to how the patient perceives the quality of service. In addition, the healthcare industry has restructured its service delivery system in order to survive in competitive environment resulting from the maturation of the industry (Greenhalgh et al., 2009; Ferlie and Shortell, 2001). Changes in the healthcare industry have given healthcare service providers the ongoing challenge of giving quality care to patients while maintaining lower cost (Eiriz and Figueiredo, 2005; Cudney, 2002). Increased competition has also forced health care organizations to give more attention on service quality (Zineldin, 2006; Rivers and Glover, 2008).

Healthcare services differ in specific ways to other service sectors. The most important of those differences is that patients often find evaluating health care providers difficult, both during and after treatment. This problem related to the fact that health care services comprise of certain characteristics that patients may find it difficult to evaluate the service process because they lack the necessary knowledge and skills to make the necessary judgments, and are compelled to trust the providers (Hausman, 2004). In fact, it is difficult for patients to evaluate the technical quality of medical service because most of the patients do not possess the technical knowledge (Kang and James, 2004), for example, the patient cannot evaluate medical procedure conducted by a doctor to diagnose his or her disease. Patients tend to assess the quality of service by their impressions of service functional quality (Kang and James, 2004), such as, they observe and evaluate how doctors and nurses communicate with them. Thus, what was practiced before; the patients were left out of the process in determining what quality of service care they should receive due to the inability to evaluate the technical quality of

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

This chapter concentrates on the methodology. It provides a detailed description of the research design, instrumentation, data collection, tools for data analysis and ethical consideration. The chapter also includes a brief explanation of the contextualized relationships among service quality antecedents, perceived service quality, customer satisfaction, and behavioral compliance. To that end, the partial least square structural equation modelling (PLS-SEM) technique used in analyzing the research models was briefly explained.

3.2 RESEARCH DESIGN

The study examined the relationship among the latent constructs, which was the impact of perceived service quality and its antecedents on patient satisfaction and behavioral compliance. It also attempted to confirm the mediating effect of patient satisfaction on perceived pervice quality relationship with behavioral compliance. The latent constructs and its indicators were developed to understand patients' perception, experience and feelings towards the hospital service; it was measuring the patient perception toward hospital infrastructure and service provided by doctors, nurses, and other allied healthcare providers.

The research investigated the following hypotheses:

H1a: Infrastructure is positively related to perceived service quality.

H1b: Interaction is positively related to perceived service quality.

H1c: Administrative procedure is positively related to perceived service quality.

H1d: Medical care is positively related to perceived service quality.

H1e: Nursing care is positively related to perceived service quality.

H2: Perceived service quality is positively related to patient satisfaction.

H3: Patient satisfaction is positively related to the behavioral compliance.

H4: Perceived service quality has a direct positive effect on the behavioral compliance.

H5: The impact of perceived service quality on behavioral compliance is mediated by the patient satisfaction.

3.2.1 The Survey Method

Research can be carried out generally by exploration, descriptive or hypothesis testing (Bordens and Abbott, 2011; Sekaran and Bougie, 2010). According to Sekaran and Bougie (2010) hypothesis testing is to describe features or attributes of a relationship, increase the understanding of the relationship as well as to explain the variability of an independent variable (exogenous construct) or to predict results or the performance of the organization. This current study was hypothesis testing as it is in line with the definition given by Sekaran and Bougie (2010), this study describes the nature of the relationship between the antecedents of service quality, perceived service quality, patient satisfaction and behavioral compliance as experienced or perceived by patients.

The study employed a survey design conducted on a cross-sectional basis to answer the research hypotheses. The study conducted at one point in time that was in between 24 February to 10 March, 2014. This study adopted cross-sectional design because it ensures representative sampling and minimum response bias (Dabholkar et al. 2000). Moreover, the cross-sectional data collection method is considered sufficient for this type of study and normally used by many researchers (e.g., Mostafa, 2005; Baalbaki et al., 2008; Abd Manaf, Mohd, and Abdullah, 2012).

The survey method with a structured questionnaire was used to draw out specific information from respondents in a sample of a population (Malhotra, 2009). The survey method has been used by many researchers to collect data for quantitative techniques. Accordingly, survey research is the most popular way of collecting primary data for causal analysis; the survey data are used to assess whether one construct affects another (De Vaus, 2005). For the current study, the constructs include (a) Service quality antecedents (Infrastructure, Interaction, Administrative, Medical Care, and Nursing Care), (b) Perceived service quality, (c) Patient satisfaction, and (d) Behavioral compliance. The survey was also utilized because it is an appropriate method of collecting data from the respondents, and it is a common method of data collection within service quality research (e.g., Andaleed and Millet, 2010; Dagger, Sweeney and Johnson, 2007). Thus, the quantitative data collection method was considered adequate to investigate the perceptions of patients toward hospital service quality and to examine the relationship among the constructs in this study.

Despites the above advantages, the survey method has been criticized because of its dependence on self-reported data and reporting only what the respondent think rather than what they experience (Creswell, 2012). The aim of the survey is to obtain complete and accurate information, as such it needs rigid research design, minimize bias and maximize reliability (Kothari, 2004). Therefore, to achieve this objective only previously tested, reliable and valid scales were used in this research as suggested by de Vaus (2005). Further, to alleviate any response bias, the questionnaire has been translated to the Malay language to ensure that respondents have a solid understanding of the questions.

3.3 INSTRUMENTATION

A comprehensive survey instrument was developed to measure the constructs in the research model. The instrument is a set of questions employed to collect data from the respondents in an effort to obtain information about the constructs in a study. The properly constructed and administered instrument is very important for the success of a survey research. Poorly constructed and administered questionnaires may not accurately reflect the views and opinions of the respondents; and it can make the data collected valueless.