Hospital service quality and its effects on patient satisfaction and behavioural intention

Muslim Amin and Siti Zahora Nasharuddin

International Business School, Universiti Teknologi Malaysia (UTM-IBS), Kuala Lumpur, Malaysia

Abstract

Purpose – The purpose of this study is to investigate hospital service quality and its effect on patient satisfaction and behavioural intention.

Design/methodology/approach – A convenience sampling technique was used in this study. A total of 350 questionnaires were distributed and 216 were returned (61.7 per cent response rate).

Findings – The results confirm that the five dimensions – admission, medical service, overall service, discharge and social responsibility – are a distinct construct for hospital service quality. Each dimension has a significant relationship with hospital service quality. The findings of this study indicate that the establishment of higher levels of hospital service quality will lead customers to have a high level of satisfaction and behavioural intention.

Research limitations/implications – This research examined the concept of hospital service quality, patient satisfaction and behavioural intention from the perspective of patients. However, this study did not explore the perspective of service providers. This is a limitation in as much as it only considers the patients' view, which might be different from the providers' view.

Practical implications – The results indicate that managers should use the perceived service quality and customer satisfaction as mechanisms for exit strategy that will increase loyalty among the present customers.

Originality/value – This study will enable hospitals to have a better understanding of the effects of service quality, which will lead to patient satisfaction and behavioural intention in order to build long-term relationships with their patients.

Keywords Hospital service quality, Patient satisfaction, Behavioural intention, Hospitals, Patients

Paper type Research paper

Introduction

In recent years, there has been increasing interest in hospital services, as standards of living have changed and there is a demand for better medical care to improve lifestyles. Improving the quality of medical care services has become a primary concern for patients, and, in order to provide better service to patients, service quality has become increasingly important for hospitals in respect of satisfying and retaining patients (Alhashem *et al.*, 2011; Arasli *et al.*, 2008). For example, Meehan *et al.* (2002) highlighted that understanding inpatients evaluation of hospital service quality performance will improve the existing health care system outcome and enhance service quality, consequently, the number of satisfied inpatients increases and patients will continue to visit their hospitals (Arasli *et al.*, 2008). In addition, patients who value the relationships are more likely to stay loyal to their hospital (Kessler and Mylod, 2011). However, hospitals that fail to understand the importance of delivering service quality and customer satisfaction may be inviting a possible loss of patients (Andaleeb, 1998;

Padma *et al.*, 2010). In this situation, customer satisfaction has been regarded as a fundamental determinant in maintaining long-term customer behaviour (Oliver, 1980; Zeithaml *et al.*, 1996; Anthanassopoulos *et al.*, 2001). In other words, the more satisfied customers are the greater the customer retention (Anderson and Sullivan, 1993; Fornell, 1992), and willingness to recommend (Zeithaml *et al.*, 1996). Moreover, patients are becoming more open to competitive advances and more familiar with health care services, and, thus, service quality alone may not be sufficient to ensure a long-term relationship between the patients and the hospital (Gaur *et al.*, 2011). To ensure patients have a long-term commitment to the hospital, many hospitals look beyond satisfaction to developing loyalty in order to reduce the perceived risk of using the service (Ranaweera and Prabhu, 2003). Customer satisfaction is seen as being a critical factor of considerable importance in the process of building and maintaining relationships in medical services (Aagja and Garg, 2010; Gaur *et al.*, 2011).Thus, enhancing behavioural intention should be a key driver for hospitals in maintaining a long-term relationship with their patients. Therefore, this study attempts to investigate hospital service quality and its effects on patient satisfaction and behavioural intention. This would enable hospitals to have a better understanding of the effects of service quality, which will lead to patient satisfaction and behavioural intention in order to build long-term relationships with their patients.

Hospital service quality

Over the last 25 years, research on service quality has grown extensively and substantively. The service quality model gained a lot of attention after the controversial findings of Parasuraman *et al.* (PZB) in 1985. The model looked at service quality as a comparison differentiation between the customer perception and expectation of the service and the actual performance of the service received by the customer provided by the company at a certain period of time (Parasuraman *et al.*, 1985). Furthermore, Parasuraman *et al.* (1985, 1988) explained that service quality is based on five dimensions (tangible, reliability, responsiveness, assurance, and empathy). The SERVQUAL model has provided a comprehensive conceptualisation of service quality with an instrument to measure perceived service quality, and provide more diagnostics and practical implications than were previously thought possible (Parasuraman *et al.*, 1991, 1994; Angur *et al.*, 1999).

Until today, numerous researchers have developed service quality concepts across industries and countries (Aagja and Garg, 2010; Arasli *et al.*, 2005, 2008; Angur *et al.*, 1999; Bhat and Malik, 2007; Dabholkar *et al.*, 1996; Jabnoun and Chacker, 2003; Karatape *et al.*, 2005; Lim and Tang, 2000; Newman, 2001). In a developing country, Duggirala *et al.* (2008) found that hospital service quality consists of seven dimensions (personnel quality, infrastructure, administrative process, process of clinical care, safety, overall experience of medical care, and social responsibility). Meanwhile, Aagja and Garg (2010) developed public hospital service quality (PubHosQual) based on five dimensions: admission, medical service, overall service, discharge process, and social responsibility. In a developed country, Otani and Kurz (2004) found that admission process, physician care, nursing care, compassion to family and friends, pleasantness of surroundings, and discharge process were dimensions to measure hospital service quality in the USA. In an Asian country, Butt and Cyril de Run (2010), and Sohail (2003) tested the SERVQUAL scale for measuring health care service quality, and they

found that five dimensions existed to measure hospital service quality (tangibles, reliability, responsiveness, assurance, and empathy).

Generally, hospital service quality perception is based on patient judgment of the services provided by the hospital, for example, the relationship between the patients and nurse, doctor and staff (Martinez Fuentes, 1999). Chahal and Kumari (2010) suggest that patients base their perception of health care service quality on three dimensions: physical environment (comprising ambient condition, social factor and tangibles), interaction quality (comprising attitude and behaviour, expertise and process quality), and outcome quality (comprising waiting time, patient satisfaction and loyalty). Meanwhile, Arasli *et al.* (2008) identified six service quality dimensions in public and private hospitals: empathy; giving priority to the inpatient needs; relationship between staff and patients; professionalism; food and the physical environment. Additionally, Brady and Cronin (2001) defined interaction quality, physical environment quality, and outcome quality as dimensions to measure service quality in the health care sector. Furthermore, Brady and Cronin (2001) explained that those three dimensions lead to service quality perceptions. In this context, interpersonal interaction between patients and services has the greatest impact on service quality perceptions. The patients' experience with hospital services, and the relationship between patients and the hospital are mainly influenced by functional and technical quality dimensions (Gronroos, 1984, Brady *et al.*, 2006; Orava and Tuominen, 2002). For example, Trumble *et al.* (2006) explained that patients are able to evaluate the doctors and nurses skills when they are dealing with the patients. The patients' ability to understand and their perception of the hospital services outcomes significantly influence the overall patients evaluation experiences (Cronin and Taylor, 1994; Lytle and Mokwa, 1992; Marley *et al.*, 2004; Trumble *et al.*, 2006; Zineldin, 2006).These results confirm that the patient and doctor relationship is greatly influenced by the interaction behaviour of service providers (doctors) and boost patients confidence in their doctors (Gaur *et al.*, 2011). Similarly, Gill and White (2009) highlighted that compliance with medical advice and treatment is significantly related to the perceived quality and health outcome (Sandoval *et al.*, 2006).

Although patient perception of the service quality level significantly influences the choice of hospital, it is not easy for a patient to understand the level of service quality provided due to a hospital being a complex area that is unique in all its characteristics and which involves many dimensions to evaluate service quality (Arasli *et al.*, 2008; Hariharan *et al.*, 2004; Hoel and Saether, 2003). For example, Eleuch (2011) highlighted that patients lack the knowledge and skill to properly judge medical service quality for the technical aspects of services, such as surgeon's skills or practitioner's diagnostics. Patients are more adequately qualified to measure functional quality dimensions, such as lab cleanliness, than technical quality aspects (Bakar *et al.*, 2008). In this sense, patients' evaluation of the quality of hospital services refers to the interaction between patients and doctors, and this interaction will develop the confidence of the patients in the quality of the medical services provided by a hospital (Suki *et al.*, 2011).

Furthermore, in adopting service quality effectively in the hospital industry, management is required to clearly understand the nature of service quality and how to implement and adjust it in the context of hospital culture. Although the SERVQUAL dimensions have been validated in a western context, it is likely that the cultural differences of consumers will influence its applicability. Karatape *et al.* (2005) suggested

that service quality measures developed in one culture might capture service quality sentiments in another culture. Although, there is a difference between government hospital, local private hospital, and foreign hospital, they are nonetheless competing in the same market in terms of offering complementary products and services for patients (Taner and Antony, 2006). Therefore, this study provides useful insights for academics and researchers in implementing the SERVQUAL model in a hospital perspective.

Patient satisfaction

Customer satisfaction is meeting the customer expectations of products and services by comparing with the perceived performance. If the perceived performance matches customer expectations of services, they are satisfied. If it does not, they are dissatisfied (Oliver, 1997; Zeithaml and Bitner, 2000). The disconfirmation theory postulates that disconfirmation is the primary determinant of consumer satisfaction. This disconfirmation model is the most popular satisfaction model used across industry (Oliver, 1997; Patterson, 2000; Wirtz and Lee, 2003; Wirtz and Mattila, 2001). This implies that satisfaction reflects the degree to which a consumer believes that the possession and use of a service evoke positive feelings based on the disconfirmation paradigm in process theory. Nevertheless, this perception of disconfirmation is likely to be minimal since performance remains within acceptable or tolerable ranges (Kim *et al.*, 2008; Wirtz and Mattila, 2001; Zeithaml *et al.*, 1993). For example, Linder-Pelz (1982) suggested that patient satisfaction was mediated by a patient's personal beliefs and values about a hospital and their previous expectations about the hospital. In the health care industry, the discrepancy and transgression theories explain that the patients' orientations and the provider conditions were different, and that if these orientations and conditions were matched with the patients expectations, then the patients would be satisfied, but if not, then the patients would be dissatisfied (Fox and Storms, 1981; Gill and White, 2009). Therefore, in the hospital industry, patients' satisfaction plays an important role in measuring the quality of care and continuing their services (Grogan *et al.*, 2000).

Previous research has identified various factors that determine customer satisfaction in the hospital industry and the differences in how consumers perceive services across countries and cultures that cannot be generalised. For example, Urden (2002) highlighted that patients satisfaction are a cognitive approach, emotionally affected, and a patient's subjective perception. Furthermore, Crowe *et al.* (2002) pointed out that the interpersonal relationships between the patients and health care provider is the most important determinant of customer satisfaction (Gill and White, 2009). Similarly, the quality of the relationship between patients and doctors has a considerable impact on the patient satisfaction measure (Alhashem *et al.*, 2011; Mercer *et al.*, 2008; Moret *et al.*, 2008). In this context, patient satisfaction is defined as the judgment made by patients on their expectations for care services that have been met or not in respect of both technical and interpersonal care (Campbell *et al.*, 2000; Esch *et al.*, 2008). Thus, a hospital's ability to deliver these benefits on an ongoing basis will influence the patients' level of satisfaction.

Behavioural intention

Numerous scholars have investigated the various definitions of behavioural intention (Caruana, 2002; Jacoby and Chestnut, 1978). For example, Zeithaml *et al.* (1996) defined

behavioural intention as a signal of whether customers will remain or exit the relationship with the service provider. Furthermore, Zeithaml *et al.* (1996) identified two dimensions to measure behavioural intention – favourable and unfavourable. Favourable intentions means the customers will convey a positive word of mouth, repurchase intention, and loyalty (Ladhari, 2009; Zeithaml *et al.*, 1996), while, unfavourable behavioural intention tends to spread a negative word of mouth and conveys their negative experiences to other customers (Caruana, 2002; Lewis, 1991; Newman, 2001), and intention to switch to competitors (Anthanassopoulos *et al.*, 2001). In this sense, the relationship focuses on the average customer who comes back to buy, and continues to buy until it creates a positive attitude on the company products and services. Loyalty is defined here as – "a deeply held commitment to re-buy or re-patronize a preferred product/service consistently in the future" (Oliver, 1997). Repurchase intention is defined – as a customer will maintain the relationship with their services provider (Zeithaml *et al.*, 1996). Meanwhile, word-of-mouth communications is defined – as a customer will inform about the positive experience relationship to their friends, relatives, and others (Donio *et al.*, 2006; Host and Knie-Andersen, 2004; Zeithaml *et al.*, 1996). In the hospital context, patients satisfied with the hospital are more likely to recommend their treatment to other patients (Finkelstein *et al.*, 1999). For example, Kessler and Mylod (2011) pointed out that patient satisfaction significantly influenced end-of-life patients' intention to return to a hospital. If a patient is highly satisfied with admissions, discharge and other processes it will lead to patients returning to the hospital (Kessler and Mylod, 2011). In Asian culture, as Ndubusi and Ling (2005) pointed out, friends, neighbours and family members have great influence on prospective customers when it comes to making decisions to patronize a services institution, and patients really depend on the personal recommendation from family and friends (Owusu-Frimpong *et al.*, 2010).

Hypotheses development
Service quality and patient satisfaction
The effects of service quality on customer satisfaction have been studied in many fields (Amin and Isa, 2008; Caruana, 2002), and have become a controversial issue in marketing literature. Some researchers and academics viewed that service quality is an antecedent of customer satisfaction (Parasuraman *et al.*, 1985, 1988, 1991; McDougall and Levesque, 1994). In the hospital industry, Naidu (2009) found that the relationship between health care quality and patient satisfaction is significant. A patient is satisfied when hospital service quality matches with their expectations and requirements, consequently, the greater the patient satisfaction (Chahal and Kumari, 2010). However, patients have their rights and choice, and if they are not satisfied with their hospital, they have the opportunity to switch to another hospital (Kessler and Mylod, 2011). Furthermore, there is no consensus concerning the relationship between service quality and patient satisfaction in the hospital industry, as numerous researchers in the healthcare industry are more focussed on measuring technical and functional quality rather than patient satisfaction (Bell, 2004; Gill and White, 2009), and patient satisfaction continues to be measured as a proxy for the patient's assessment of service quality (Turris, 2005). Thus, it is proposed that:

   H1. Hospital service quality has a significant relationship with patient satisfaction

Patient satisfaction and behavioural intention
Kessler and Mylod (2011) investigated how patient satisfaction affects the propensity to return to hospital. The results showed that there is a statistically significant link between satisfaction and loyalty. Although, overall, the satisfaction effect is relatively small, contentment with a certain hospitalisation experience may be important. In the hospital industry, for example, Chahal and Kumari (2010) explained that service quality leads to patient satisfaction and patient loyalty. Additionally, Gaur *et al.* (2011) found a significant relationship between patient satisfaction and loyalty. These findings suggest that when a patient enhances their confidence it will improve the relationship satisfaction with their doctors, and, simultaneously, increase patient loyalty. Consequently, Garman *et al.* (2004) point out that the relationship between patient satisfaction and doctors significantly increases the likelihood of the patient returning to the hospital for treatment. In this sense, patients often develop an attitude towards purchasing behaviour based on past experience (Caruana, 2002; de Matos *et al.*, 2009; Fornell *et al.*, 1996), and which leads to loyalty (Amin *et al.*, 2011; Kessler and Mylod, 2011; Wirtz *et al.*, 2007). Similarly, Eleuch (2011) highlighted that in the healthcare industry, loyalty is affected by technical attributes and the patient's first impression of the staff and services setting. Indeed, the most commonly applied for behavioural intention starts from the well-established notion that when patients are highly satisfied with a hospital, they continue dealing with the hospital, and send positive messages to other people. Therefore, the interaction between patients and service provider is one of the main factors in determining patient loyalty, thus the hypothesis is developed as follows:

H2. Patient satisfaction has a significant relationship with behavioural intention.

Data collection process
A convenience sampling technique was used in this study. The population or sampling unit was patients who received inpatient services from a public or private hospital and have been discharged. Both public and private hospitals were approached for permission to conduct the survey at their premises, and were informed that the survey would not disturb the patients. The patients were politely approached and the purpose of the study was explained. The respondents were selected based on the criteria that they being admitted as in-patients at least one day of inpatient services. This will be determined by the question in the demographic profile in which a respondent has to choose the length of stay in the ward. The questionnaires were written in both Malay and the English language to ensure the clarity of the questionnaires.

Currently, there are 209 private hospitals and 130 public hospitals in Malaysia. A total of 38 private and 12 public hospitals are located within the Klang Valley, Malaysia. The Klang Valley was chosen as part of this study because there are three prominent cities situated in this area – Kuala Lumpur, Putrajaya and Shah Alam. The total population of the Klang Valley is about 7 million, which is 25 per cent of the total population of Malaysia. The selection of both public and private hospitals is to obtain equal data from the perspective of Malaysia. The differences between public and private hospital are in the provision of healthcare services, bed capacity and total of the number of medical specialist offered (Ministry of Health Malaysia, 2012). The majority of the public hospitals offered the same services including clinical services, support services, inpatient services, outpatient services, emergency and accident services and

other related services. Most of the public hospitals have classified the ward services by using a class classification – first class, second class and third class. Similarly, the majority of private healthcare offers the same services – inpatient services, outpatient service, accident and emergency and consultants' clinics. Meanwhile, private hospitals offer different classes of ward depending on the patient's request. The wards have been classified as VIP Suite, Executive Deluxe, Deluxe Private, Semi Private (two bedded), four bedded, incubator and nursery. Two public and two private hospitals were selected based on accessibility.

A total of 350 questionnaires were distributed and 216 were returned (61.7 per cent response rate). The sample characteristics include 98 patients of public hospitals and 118 patients of private hospitals. Females account for 72.2 and males 27.8 per cent of the patients of public and private hospitals.

The instrument

A seven-point Likert Scale was used to measure between the three categories of structures – hospital service quality, patient satisfaction and behavioural intention. Four dimensions for hospital service quality (admission, medical services, overall services and discharge), as proposed by Aagja and Garg (2010), Carman (1990), and Padma *et al.* (2010) were adapted and incorporated in this study. The social responsibility dimension was incorporated in this study, as proposed by Sureshchandar *et al.* (2002). Thus, the social responsibility dimension is a very important feature to be measured in the hospital service, especially for public hospitals. A scale ranging from "1" strongly disagree to "7" strongly agree was used to measure hospital service quality and behavioural intention. To avoid the issues of conceptual and psychometric properties raised by Babakus and Boller (1992), and Cronin and Taylor (1992), by using different scores, and to be more efficient, the researchers only had to measure the perception of quality (Dabholkar *et al.*, 1996; Yavas *et al.*, 2004). Meanwhile, five items for measuring behavioural intention were adapted from Gaur *et al.* (2011), Li *et al.* (2011), and Zeithaml *et al.* (1996). Studies on customer satisfaction within the hospital industry measured the construct with multi-item measures (Chahal and Kumari, 2010; Li *et al.*, 2011; and Wu *et al.*, 2008) that identified how satisfied a patient felt with doctors, nurses, and indoor services provided by both private and public hospitals. In addition, a seven-point scale ranging from "1 = very unsatisfied" to "7 = very satisfied" was used to measure the customer satisfaction.

The history of hospital relationships

Based on the survey, 51 patients (23.6 per cent) had been admitted to hospital for the first time. Most of the patients were admitted for the second time (48.6 per cent) and one patient had been admitted more than five times (0.5 per cent). Table I show the times of patient's admission in the hospital.

Measurement model

The purpose of a measurement model is to describe how well the observed indicators serve as a measurement instrument for the latent variables. To assess the measurement model, two analyses were conducted. First, a first-order of CFA model for hospital service quality was conducted by using the same data. The first order CFA result showed that the goodness-of fit was moderately satisfied. The results show that

the chi square is significant ($\chi^2 = 343.30$, χ^2/degree of freedom (χ^2/df)) ratio 3.650, $\rho = 0.000$). Meanwhile, the GFI value is 0.83, RMSEA value 0.11, and CFI value 0.94. Accordingly, the second order CFA was run in order to examine the parameter. The measurement model result shows that the goodness-of fit was moderately satisfied. The chi-square shows is significant ($\chi^2 = 347.44$, χ^2/degree of freedom (χ^2/df)) ratio 3.510, $\rho = 0.000$). Meanwhile, the GFI value is 0.83, RMSEA value 0.11, and CFI value 0.94. Table II shows the results of the first order and second order CFA for hospital service quality. Thus, the results show that 16 items of the second-order CFA model of five dimensions fitted the sample data. Similarly, a CFA was employed for patient satisfaction and behavioural intention. The results of CFA show that the goodness-of-fit was moderately satisfied. The chi-square is significant ($\chi^2 = 27.435$, χ^2/degree of freedom (χ^2/df)) ratio 3.43, $\rho = 0.000$). Meanwhile, the GFI value is 0.96, RMSEA value 0.10, and CFI value 0.98.

Table III shows the factor loadings, Cronbach's alpha, average variance extracted (AVE) for hospital service quality, patient satisfaction, and behavioural intention. To test the reliability of hospital service quality, patient satisfaction, and behavioural intention instruments, the Cronbach's alpha coefficient was computed. The coefficient alpha exceeded the minimum standard of 0.70 (Nunnally and Bernstein, 1994), which indicates that it provides a good estimate of internal consistency. The coefficient alpha obtained greatly exceeded the minimum acceptable values 0.88, 0.92, 0.94, 0.96, 0.95 for the hospital service quality dimensions (admission, medical service, overall service, discharge, and social responsibility).

Meanwhile, for patient satisfaction and behavioural intention, the coefficient alpha obtained values that exceed the maximum value suggested (0.95 and 0.96, respectively). The values indicate good reliability of the data set. To assess the convergent validity for each construct, the standardised factor loadings were used to determine the validity of the three constructs (Anderson and Gerbing, 1988). The findings indicate that each factor loading of the reflective indicators ranged from 0.650 to 0.950 and exceeded the recommended level of 0.50. As each factor loading on each

Description	Frequency $n = 216$	Percentage
Times of admission:		
First time	51	23.6
Two times	105	48.6
Three times	43	19.9
Four times	14	6.5
Five times	2	0.9
Five times above	1	0.5

Table I.
Times of admission in the hospital

Variable	GFI	CFI	χ^2/df	RMSEA	Sig.
First-order CFA	0.830	0.940	3.274	0.11	0.000
Second-order CFA	0.840	0.940	3.510	0.11	0.000

Notes: First-order CFA = 16 items; Second-order CFA = 16 items

Table II.
Goodness-of-fit statistics for measurement model of hospital service quality

	Factor loading	SMC	AVE
Admission (Cronbach's alpha = 0.88)			
A1	0.96	0.91	
A2	0.83	0.68	0.81
Medical service (Cronbach's alpha = 0.92)			
MS1	0.82	0.67	
MS2	0.91	0.83	
MS3	0.94	0.89	
MS4	0.81	0.66	0.76
Overall service (Cronbach's alpha = 0.94)			
OS1	0.80	0.65	
OS3	0.82	0.68	
OS4	0.89	0.79	
OS6	0.95	0.90	
OS7	0.89	0.79	0.76
Discharge (Cronbach's alpha = 0.96)			
D2	0.95	0.89	
D3	0.97	0.95	0.92
Social responsibility (Cronbach's alpha = 0.95)			
SR2	0.89	0.79	
SR3	0.93	0.86	
SR4	0.96	0.92	0.86
Patient satisfaction (Cronbach's alpha = 0.95)			
PS2	0.93	0.87	
PS4	0.93	0.87	
PS5	0.93	0.86	0.86
Behavioural intention (Cronbach's alpha = 0.96)			
BI1	0.97	0.94	
BI3	0.93	0.87	
BI4	0.95	0.92	0.90

Table III.
Validity and reliability value for hospital service quality, patient satisfaction, and behavioural intention

construct was more than 0.50, the convergent validity for each construct (hospital service quality, patient satisfaction, behavioural intention) was established, thereby providing evidence of construct validity for all the constructs in this study (Anderson and Gerbing, 1988; Hair *et al.*, 2006). In addition, AVE was calculated for assessing discriminant validity for four constructs (Hair *et al.*, 2006), and the AVE ranged from 0.58 to 0.78.

Structural equation modelling (SEM)
A structural model of hospital service quality was conducted to estimate the parameters. The objective of conducting the structure model was designed to test that hospital service quality is a multidimensional construct consisting of five sub-dimensional and each dimension has a positive relationship with hospital service quality. In this model, there were five models from the first-order constructs (admission, medical service, overall service, discharge and social responsibility). The

dimension of admission was measured by two indicators, medical service by four indicators, overall service by five indicators, discharge by two indicators and social responsibility by three indicators. Meanwhile, patient satisfaction was measured by three indicators and behavioural intention with three indicators. The results show that chi square is significant ($\chi^2 = 441.65$, χ^2/degree of freedom (χ^2/df)) ratio 2.34, $\rho = 0.000$). Although, the GFI value of 0.85 did not meet the threshold of 0.90, the value was in the range of the recommended level. The model had a RMSEA value of 0.07, which was below range level and considered satisfactory. The CFI value of 0.96 indicated that the model is satisfactory, since the value is above 0.90. Table IV shows the results, which indicate the acceptable goodness-of-fit model.

Discussions and managerial implications

The purpose of this study is to investigate hospital service quality and its effect on patient satisfaction and behavioural intention. The SEM approach was used to test the constructs framework between hospital service quality, patient satisfaction and behavioural intention. The results confirmed that the five dimensions – admission, medical service, overall service, discharge and social responsibility – are the distinct construct for hospital service quality. Each dimension has a significant relationship with hospital service quality. For hospital service quality, overall service was the key driver of service quality, followed by social responsibility, medical service, discharge, and admission, respectively. Overall service had the highest regression coefficient (0.93). This means that patients are looking for a hospital that provides services, when patients have problems, the hospitals will show a sincere interest in solving them, provide services at the promised time, and offer a wide range of products and services. In other words, patients are more concerned with the overall service dimension than other dimensions as a key factor in establishing relationship with their hospitals.

The results show that hospital service quality has a significant relationship with customer satisfaction, thus, H1 was supported. The findings of this study indicate that the establishment of higher levels of hospital service quality will lead customers to have a high level of satisfaction. In addition to relationships between service quality and customer satisfaction, prior research suggested that service quality has a significant relationship with patient satisfaction (Owusu-Frimpong *et al.*, 2010; Kessler and Mylod, 2011). For example, Padma *et al.* (2010) identified that service quality with a factor of personal quality and clinical care significantly

Description			Estimate	p-values
Admission	←	Service quality	0.790	0.000
Medical service	←	Service quality	0.900	0.000
Overall service	←	Service quality	0.930	0.000
Discharge	←	Service quality	0.896	0.000
Social responsibility	←	Service quality	0.910	0.000
Customer satisfaction	←	Service quality	0.960	0.000
Behavioral intention	←	Customer satisfaction	0.930	0.000

Notes: Significance at the 0.01 level; $\chi^2 = 441.65$; χ^2/df ratio 2.34; GFI = 0.85; CFI = 0.96; RMSEA = 0.07

Table IV.
Standardized regression
for research model

influenced patient satisfaction. Similarly, Li *et al.* (2011) stated that the service quality dimension plays an important role inpatient satisfaction. In such situations, patients have many options to select a specific hospital, which would have a significant relationship with satisfaction.

Meanwhile, *H2* stated that patient satisfaction has significant relationship with behavioural intention. The results showed that *H2* was supported. This finding was consistent with the results of previous studies in which satisfaction plays a significant role in loyalty intentions (Gaur *et al.*, 2011; Li *et al.*, 2011; Tam, 2012). The results show that patients are more satisfied with the approach that hospitals use to solve problems. This indicates that hospitals must be aware of the patient's problem and provide fast treatment to solve it. In this sense, behavioural intention was based on willingness to recommend the hospital to others, willingness to inform about the advantages of the hospital and considering the same hospital as a first choice in future medical treatment.

In addition, to achieve competitive advantage, both public and private hospitals must keep improving their service from time to time to make sure the level of service quality is at the maximum level to gain patients high satisfaction and have an impact on patient's future behavioural intention. In Malaysian public hospital, Manaf (2006) found that there was a relationship between patient satisfaction with waiting time and outpatient satisfaction. In this sense, indicates that patient more aware of time and money their spent and will effect on their behavioural accordingly. Although, most Malaysians rely on treatment at public hospitals due to subsidiaries provided by government, the possibility patients to switch to private hospital are that they exist. Therefore, hospital service quality can be used as a benchmark for hospitals to further improve their services compared to other hospitals (Aagja and Garg, 2010; Arasli *et al.*, 2008; Padma *et al.*, 2010). In this respect, both public and private hospitals should pay more attention to the aspects of overall service quality offered. Hospitals should provide prompt service to attract more patients to get the services from the same hospital. This can be achieved if hospitals have adequate information concerning the level of patient satisfaction. Furthermore, the most important aspect that will influence patient satisfaction is in terms of tangible facilities, such as equipment and facilities (Li *et al.*, 2011). It is important to educate the patients about the tangible elements in hospital that contribute to service quality improvement, especially in terms of ward facilities. Furthermore, hospital providers must also learn how to balance requirements from employees and patients to maintain a good relationship between patients and employees (Gaur *et al.*, 2011; Li *et al.*, 2011).

Additionally, both public and private hospitals should provide effective training and courses for all staff including nurses, doctors and general staff to enhance their skills in communication and motivation for them to provide a good service to patients. Through motivation and such courses it will motivate them to work efficiently, especially in handling patients. Furthermore, Chahal and Kumari (2010) emphasised the need for training programmes on patient relationship management as a strategy to enhance employee's performance (Gaur *et al.*, 2011). Hence, a better understanding of consumer satisfaction formation will increase marketing managers' knowledge of how to enhance consumer satisfaction (Herrmann *et al.*, 2007). The results indicate that managers should use the perceived service quality, customer satisfaction as mechanisms for an exit strategy that will increase loyalty among the present customers.

Limitations and further research

This research examined the concept of hospital service quality, patient satisfaction and behavioural intention from the perspective of patients. However, this study did not explore the perspective of service providers. This is a limitation in as much as it only considers the patients view, which might be different from the providers view.

References

Aagja, J.A. and Garg, R. (2010), "Measuring perceived service quality for public hospitals (PubHosQual) in the Indian context", *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 4 No. 1, pp. 60-83.

Alhashem, A.M., Alquraini, H. and Chowdhury, R.I. (2011), "Factors influencing patientsatisfaction in primary healthcare clinics in Kuwait", *International Journal of Health Care Quality Assurance*, Vol. 24 No. 3, pp. 249-262.

Amin, M. and Isa, Z. (2008), "An examination of the relationship between perception of service quality and customer satisfaction: A SEM approach towards Malaysian Islamic banks", *International Journal of Islamic Middle Eastern Finance and Management*, Vol. 1 No. 3, pp. 191-209.

Amin, M., Isa, Z. and Fontaine, R. (2011), "The role of customer satisfaction in enhancing customer loyalty in Malaysian Islamic banks", *The Service Industries Journal*, Vol. 31 Nos 9-10, pp. 1519-1532.

Andaleeb, S.S. (1998), "Determinants of customer satisfaction with hospitals: a managerial model", *International Journal of Health Care Quality Assurance*, Vol. 11, pp. 181-187.

Anderson, E.W. and Sullivan, M.W. (1993), "The antecedents and consequences of customer satisfaction for firms", *Marketing Science*, Vol. 12 No. 2, pp. 125-143.

Anderson, J.C. and Gerbing, D.W. (1988), "Structural equation modelling in practice: a review and recommended two-step approach", *Psychological Bulletin*, Vol. 103 No. 3, pp. 411-423.

Angur, M.G., Nataraajan, R. and Jahera, J.S. Jr (1999), "Service quality in the banking industry: an assessment in a developing economy", *International Journal of Bank Marketing*, Vol. 17 No. 3, pp. 116-123.

Anthanassopoulos, A., Gounaris, S. and Sathakopoulos, V. (2001), "Behavioural responses to customer satisfaction: an empirical study", *European Journal of Marketing*, Vol. 35 Nos 5/6, pp. 687-707.

Arasli, H., Ekiz, E.H. and Katircioglu, S.T. (2008), "Gearing service quality into public and private hospitals in small islands", *International Journal of Health Care Quality Assurance*, Vol. 21 No. 1, pp. 8-23.

Arasli, H., Mehtap-Smadi, S. and Katircioglu, S.T. (2005), "Customer service quality in the Greek Cypriot banking industry", *ManagingService Quality*, Vol. 15 No. 1, pp. 41-56.

Babakus, E. and Boller, G.W. (1992), "An empirical assessment of the SERVQUAL scale", *Journal of Business Research*, Vol. 24, pp. 253-268.

Bakar, C., Akgün, S. and Al-Assaf, A.F. (2008), "The role of expectations in patients' hospital assessments: a Turkish university hospital example", *International Journal of Health Care Quality Assurance*, Vol. 21 No. 5, pp. 503-516.

Bell, L. (2004), "Developing service quality in mental health services", *International Journal of Health Care Quality Assurance*, Vol. 17 No. 7, pp. 401-406.

Bhat, M.A. and Malik, M.Y. (2007), "Quality of medical services – a study of selected hospital", *NICE Journal of Business*, Vol. 2 No. 2, pp. 69-78.

Brady, M.K. and Cronin, J.J.J. (2001), "Some new thoughts on conceptualizing perceived service quality: a hierarchical approach", *Journal of Marketing*, Vol. 65 No. 3, pp. 34-49.

Brady, M.K., Voorheed, C.M., Cronin, J. Jr and Bourdeau, B.L. (2006), "The good guys do not always win: the effect of valence on service perceptions and consequences", *Journal of Services Marketing*, Vol. 20 No. 2, pp. 83-91.

Butt, M.M. and Cyril de Run, E. (2010), "Private healthcare quality: applying a SERVQUAL model", *International Journal of Health Care Quality Assurance*, Vol. 23 No. 7, pp. 658-673.

Campbell, S.M., Roland, M.O. and Buetow, S.A. (2000), "Defining quality of care", *Social Science and Medicine*, Vol. 41 No. 11, pp. 1611-1625.

Carman, J.M. (1990), "Consumer perceptions of service quality: an assessment of the SERVQUAL dimensions", *Journal of Retailing*, Vol. 66 No. 1, pp. 33-55.

Caruana, A. (2002), "Service loyalty: the effects of service quality and the mediating role of customer satisfaction", *European Journal of Marketing*, Vol. 36, pp. 811-828.

Chahal, H. and Kumari, N. (2010), "Development of multidimensional scale for health care service quality (HCSQ) in Indian context", *Journal of Indian Business Research*, Vol. 2 No. 4, pp. 230-255.

Cronin, J.J. and Taylor, S.A. (1992), "Measuring service quality: a reexamination and extension", *Journal of Marketing*, Vol. 56, pp. 55-68.

Cronin, J.J. Jr and Taylor, S.A. (1994), "Modeling patient satisfaction and service quality", *Journal of Health Care Marketing*, Vol. 14 No. 1, pp. 34-44.

Crowe, R., Gage, H., Hampson, S., Hart, J., Kimber, A., Storey, L. and Thomas, H. (2002), "The measurement of satisfaction with healthcare: implications for practice from a systematic review of the literature", *Health Technology Assessment*, Vol. 6 No. 32, pp. 1-244.

Dabholkar, P.A., Thorpe, D.I. and Rentz, J.O. (1996), "A measurement of service quality for retail stores development and validation", *Journal of Academy of Marketing Science*, Vol. 24 No. 1, pp. 3-16.

de Matos, C.A., Rossi, C.A.V., Veiga, R.T. and Vieira, V.A. (2009), "Consumer reaction to service failure and recovery: the moderating role of attitude toward complaining", *Journal of Services Marketing*, Vol. 23 No. 7, pp. 462-475.

Donio, J., Massari, P. and PassianteDabho, G. (2006), "Customer satisfaction and loyalty in a digital environment: an empirical test", *Journal of Consumer Marketing*, Vol. 23 No. 7, pp. 445-457.

Duggirala, M., Rajendran, C. and Anantharaman, R.N. (2008), "Patient-perceived dimensions of total quality service in health care", *Benchmarking: An International Journal*, Vol. 15, pp. 560-583.

Eleuch, A. (2011), "Healthcare service quality perception in Japan", *International Journal of Health Care Quality Assurance*, Vol. 24 No. 6, pp. 417-429.

Esch, B.M., Marian, F., Busato, A. and Heusser, P. (2008), "Patient satisfaction with primary care: an observational study comparing anthroposophic and conventional care", *Health and Quality of Life Outcomes*, Vol. 6 No. 74, pp. 1-15.

Finkelstein, B.S., Harper, D.L. and Rosenthal, G.E. (1999), "Patient assessments of hospital maternity care: a useful tool for consumers?", *Health Services Research*, Vol. 34 No. 2, pp. 623-640.

Fornell, C. (1992), "A national customer satisfaction barometer: the Swedish experience", *Journal of Marketing*, Vol. 56, pp. 6-21.

Fornell, C., Johnson, M.D., Anderson, E.W., Cha, J. and Bryant, B.E. (1996), "The American customer satisfaction index: nature, purpose and findings", *Journal of Marketing*, Vol. 60, October, pp. 7-18.

Fox, J.G. and Storms, D.M. (1981), "A different approach to socio demographic predictors of satisfaction with health care", *Social Science and Medicine. Part A: Medical Sociology*, Vol. 15 No. 5, pp. 557-564.

Garman, A.N., Garcia, J. and Hargreaves, M. (2004), "Patient satisfaction as a predictor of return-to-provider behavior: analysis and assessment of financial implications", *Quality Management in Health Care*, Vol. 13 No. 1, pp. 75-80.

Gaur, S.S., Xu, Y., Quazi, A. and Nandi, S. (2011), "Relational impact of service providers' interaction behavior in health care", *Managing Service Quality*, Vol. 21 No. 1, pp. 67-87.

Gill, L. and White, L. (2009), "A critical review of patient satisfaction", *Leadership in Health Services*, Vol. 22 No. 1, pp. 8-19.

Grogan, S., Conner, M., Norman, P., Willits, D. and Porter, I. (2000), "Validation of a questionnaire measuring patient satisfaction with general practitioner services", *Quality in Health Care*, Vol. 9, pp. 210-215.

Gronroos, C. (1984), "A service quality model and its marketing implications", *European Journal of Marketing*, Vol. 18 No. 4, pp. 36-44.

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L. (2006), *Multivariate Data Analysis*, 6th ed., Prentice Hall, Englewood Cliffs, NJ.

Hariharan, S., Dey, P.K., Moseley, H.S.L., Kumar, A.Y. and Gora, J. (2004), "A new tool for measurement of process-based performance of multispecialty tertiary care hospitals", *International Journal of Health Care Quality Assurance*, Vol. 17 No. 6, pp. 302-312.

Herrmann, A., Xia, L., Monroe, K.B. and Huber, F. (2007), "The influence of price fairness on customer satisfaction: an empirical test in the context of automobile purchases", *Journal of Product & Brand Management*, Vol. 16 No. 1, pp. 49-58.

Hoel, M. and Saether, E.M. (2003), "Public health care with waiting time: the role of supplementary private health care", *Journal of Health Economics*, Vol. 22, pp. 599-616.

Host, V. and Knie-Andersen, M. (2004), "Modeling customer satisfaction in mortgage credit companies", *International Journal of Bank Marketing*, Vol. 22, pp. 26-42.

Jabnoun, N. and Chacker, M. (2003), "Comparing the quality of private and public hospitals", *Managing Service Quality*, Vol. 13, pp. 290-299.

Jacoby, J. and Chestnut, R.W. (1978), *Brand Loyalty*, John Wiley and Sons, New York, NY.

Karatape, O., Yavas, U. and Babakus, E. (2005), "Measuring service quality of banks: scale development and validation", *Journal of Retailing and Consumer Services*, Vol. 12 No. 5, pp. 373-383.

Kessler, D.P. and Mylod, D. (2011), "Does patient satisfaction affect patient loyalty?", *International Journal of Health Care Quality Assurance*, Vol. 24 No. 4, pp. 266-273.

Kim, Y-K., Cho, C-., Ahn, S-K., Goh, I-H. and Kim, H-J. (2008), "A study on medical services quality and its influence upon value of care and patient satisfaction – focusing upon outpatients in a large-sized hospital", *Total Quality Management and Business Excellence*, Vol. 19 Nos 11-12, pp. 1155-1171.

Ladhari, R. (2009), "Service quality, emotional satisfaction, and behavioural intentions: a study in the hotel industry", *Managing Service Quality*, Vol. 19 No. 3, pp. 308-331.

Lewis, B.R. (1991), "Service quality: an international comparison of bank customers' expectations and perceptions", *Journal of Marketing Management*, Vol. 7 No. 1, pp. 47-62.

Li, S.J., Huang, Y.Y. and Yang, M.M. (2011), "How satisfaction modifies the strength of the influence of perceived service quality on behavioral intentions", *Leadership in Health Services*, Vol. 24 No. 2, pp. 91-105.

Lim, P.C. and Tang, N.K.H. (2000), "A study of patients' expectations and satisfaction in Singapore hospitals", *International Journal of Health Care Quality Assurance*, Vol. 13 No. 7, pp. 290-299.

Linder-Pelz, S. (1982), "Toward a theory of patient satisfaction", *Social Science and Medicine*, Vol. 16 No. 5, pp. 577-582.

Lytle, R.S. and Mokwa, M.P. (1992), "Evaluating healthcare quality: the moderating role of outcomes", *Journal of Healthcare Marketing*, Vol. 12 No. 1, pp. 4-16.

McDougall, G.H. and Levesque, T.J. (1994), "A revised view of service quality dimensions: an empirical investigation", *Journal of Professional Service Marketing*, Vol. 11 No. 1, pp. 189-209.

Manaf, N.H.A. (2006), "Patient satisfaction in outpatient clinics of Malaysian public hospitals", *IIUM Journal of Economics and Management*, Vol. 14 No. 1, pp. 81-110.

Marley, K.A., Collier, D.A. and Goldstein, S.M. (2004), "The role of clinical and process quality in achieving patient satisfaction in hospitals", *Decision Sciences*, Vol. 35 No. 3, pp. 349-360.

Martinez Fuentes, C. (1999), "Measuring hospital service quality: a methodological study", *Managing Service Quality*, Vol. 9 No. 4, pp. 230-240.

Meehan, T., Bergen, H. and Stedman, T. (2002), "Monitoring consumer satisfaction with inpatient service delivery: the inpatient evaluation of service questionnaire", *Australian and New Zealand Journal of Psychiatry*, Vol. 36, pp. 807-811.

Mercer, L.M., Tanabe, P., Pang, P.S., Gisondi, M.A., Courtney, D.M., Engel, K.G., Donlan, S.M., Adams, J.G. and Makoul, G. (2008), "Patient perspectives on communication with the medical team: pilot study using the communication assessment tool-team (CAT-T)", *Patient Education and Counseling*, Vol. 72, pp. 220-223.

Moret, L., Rochedreux, A., Chevalier, S., Lombrail, P. and Gasquet, I. (2008), "Medical information delivered to patients: discrepancies concerning roles as perceived by physicians and nurses set against patient satisfaction", *Patient Education and Counseling*, Vol. 70 No. 1, pp. 94-101.

Naidu, A. (2009), "Factors affecting patient satisfaction and healthcare quality", *International Journal of Health Care Quality Assurance*, Vol. 22 No. 4, pp. 366-381.

Ndubusi, N.O. and Ling, T.A. (2005), "Complaint behavior of Malaysian consumers", *Management Research News*, Vol. 29 Nos 1/2, pp. 65-76.

Newman, K. (2001), "Interrogating SERVQUAL: a critical assessment of service quality measurement in a high street retail bank", *International Journal of Bank Marketing*, Vol. 19 No. 3, pp. 126-139.

Nunnally, J.C. and Bernstein, I.H. (1994), *Psychometric Theory*, 3rd ed., McGraw Hill, New York, NY.

Oliver, R. (1997), *Satisfaction: A Behavioural Perspective on the Consumer*, McGraw Hill, New York, NY.

Oliver, R.L. (1980), "A cognitive model of the antecedents and consequences of satisfaction decisions", *Journal of Marketing Research*, Vol. 17, pp. 460-469.

Orava, M. and Tuominen, P. (2002), "Curing and caring in surgical services: a relationship approach", *The Journal of Services Marketing*, Vol. 16 No. 7, pp. 677-692.

Otani, K.A. and Kurz, R.S. (2004), "The impact of nursing care and other healthcare attributes on hospitalized patient satisfaction and behavioral intentions", *Journal of Healthcare Management*, Vol. 49, pp. 181-197.

Owusu-Frimpong, N., Nwankwo, S. and Dason, B. (2010), "Measuring service quality and patient satisfaction with access to public and private healthcare delivery", *International Journal of Public Sector Management*, Vol. 23 No. 3, pp. 203-220.

Padma, P., Rajendran, C. and Lokachari, P.S. (2010), "Service quality and its impact on customer satisfaction in Indian hospitals. Perspectives of patients and their attendants", *Benchmarking: An International Journal*, Vol. 17 No. 6, pp. 807-841.

Parasuraman, A., Berry, L. and Zeithaml, V. (1994), "Reassessment of expectations as a comparison standard in measuring SQ: implications for future research", *Journal of Marketing*, Vol. 58, pp. 111-124.

Parasuraman, A., Zeithaml, V. and Berry, L. (1985), "A conceptual model of service quality and its implications for future research", *Journal of Marketing*, Vol. 49, pp. 41-50.

Parasuraman, A., Zeithaml, V. and Berry, L. (1988), "SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality", *Journal of Retailing*, Vol. 64 No. 1, pp. 12-40.

Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1991), "Refinement and reassessment of the SERVQUAL scale", *Journal of Retailing*, Vol. 67 No. 4, pp. 420-450.

Patterson, P.G. (2000), "A contingency approach to modelling satisfaction with management consulting services", *Journal of Services Research*, Vol. 3 No. 2, pp. 138-153.

Ranaweera, C. and Prabhu, J. (2003), "The influence of satisfaction, trust and switching barriers on customer retention in a continuous purchasing setting", *International Journal of Service Industry Management*, Vol. 14 No. 4, pp. 374-395.

Sandoval, G.A., Brown, A.D., Sullivan, T. and Green, E. (2006), "Factors that influence cancer patients' overall perceptions of the quality of care", *International Journal for Quality in Health Care*, Vol. 18 No. 4, pp. 266-274.

Sohail, M. (2003), "Service quality in hospitals: more favorable than you might think", *Managing Service Quality*, Vol. 13 No. 3, pp. 197-206.

Suki, N.M., Lian, J.C.C. and Suki, N.M. (2011), "Do patients' perceptions exceed their expectations in private healthcare settings?", *International Journal of Health Care Quality Assurance*, Vol. 24 No. 1, pp. 42-56.

Sureshchandar, G.S., Rajendran, C. and Anantharaman, R.N. (2002), "Determinants of customer perceived service quality: a confirmatory factor analysis approach", *Journal of Services Marketing*, Vol. 16, pp. 9-34.

Tam, J.L.M. (2012), "Linking perceived service quality to relational outcomes in a Chinese context", *Journal of International Consumer Marketing*, Vol. 24 Nos 1-2, pp. 7-23.

Taner, T. and Antony, J. (2006), "Comparing public and private hospital care service quality in Turkey", *Leadership in Health Services*, Vol. 19 No. 2, pp. 1-10.

Turris, S.A. (2005), "Unpacking the concept of patient satisfaction: a feminist analysis", *Journal of Advanced Nursing*, Vol. 50 No. 3, pp. 293-298.

Trumble, S.C., O'Brien, M.L., O'Brien, M. and Hartwig, B. (2006), "Communication skills training for doctors increase patients' satisfaction", *Clinical Governance: An International Journal*, Vol. 11 No. 4, pp. 299-307.

Urden, K.D. (2002), "Patient satisfaction measurement: current issues and implications", *Outcomes Management*, Vol. 6 No. 6, pp. 125-131.

Wirtz, J. and Lee, M.C. (2003), "An examination of the quality and context-specific applicability of commonly used customer satisfaction measures", *Journal of Service Research*, Vol. 5 No. 4, pp. 345-355.

Wirtz, J. and Mattila, A.S. (2001), "The impact of expected variance in performance on the satisfaction process", *International Journal of Service Industry Management*, Vol. 12 No. 4, pp. 342-358.

Wirtz, J., Mattila, A.S. and Lwin, M.O. (2007), "How effective are loyalty reward programs in driving share of wallet?", *Journal of Service Research*, Vol. 9 No. 4, pp. 327-334.

Wu, H.L., Liu, C.H. and Hsu, W.H. (2008), "An integrative model of customers' perceptions of health care services in Taiwan", *The Service Industries Journal*, Vol. 28 No. 9, pp. 1307-1319.

Yavas, U., Benkenstein, M. and Stuhldreier, U. (2004), "Relationships between service quality and behavioural outcomes: a study of private bank customers in Germany", *International Journal of Bank Marketing*, Vol. 22 No. 2, pp. 144-157.

Zeithaml, V.A. and Bitner, M.J. (2000), *Services Marketing: Integrating Customer Focus across the Firm*, McGraw-Hill, New York, NY.

Zeithaml, V.A., Berry, L. and Parasuraman, A. (1993), "The nature and determinants of customer expectations of service", *Journal of the Academy of Marketing Science*, Vol. 21, Winter, pp. 1-12.

Zeithaml, V.A., Berry, L.L. and Parasuraman, A. (1996), "The behavioral consequences of service quality", *Journal of Marketing*, Vol. 60 No. 2, pp. 31-46.

Zineldin, M. (2006), "The quality of healthcare and patient satisfaction: an exploratory investigation of 5Q model at some Egyptian and Jordanian medical clinics", *International Journal of Health Care Quality Assurance*, Vol. 19 No. 1, pp. 60-92.

Further reading

Salisbury, C. (1998), "How do people choose their doctor?", *British Medical Journal*, Vol. 298 No. 6699, pp. 608-611.

Corresponding author
Muslim Amin can be contacted at: tengkumuslim@yahoo.com