Interlinkages between service quality, customer satisfaction and customer loyalty in Malaysia: A case study of Armed Forces Medical Organizations

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Abstract

Although conceptually viewed as abstract and elusive service quality is an important ingredient in quality management, marketing and organizational studies as evidenced by the appearance of various models dealing with it. The Parasuraman et al. (1985, 1988, 1991, 1994) SERVQUAL model conceives of effective service quality as comprising five core components: tangibility, reliability, responsiveness, assurance and empathy. This study was conducted to measure the relationship between service quality, customer satisfaction and customers' loyalty. Self-report questionnaires were used to collect data from customers who received treatments at the armed forces health organizations in Peninsular Malaysia. The outcomes of SmartPLS path model analysis demonstrated that the ability of organization to appropriately implement tangibility, reliability, responsiveness, assurance and empathy in performing daily job had strongly invoked customer satisfaction, which in turn might lead to enhanced customers' loyalty. Nevertheless, future research in this field should consider exploring further individual similarities and differences in influencing the implementation of service quality by organizations, other research designs that can better describe the patterns of change and the direction and magnitude of causal relationships amongst variables of interest, the need for more diverse organizations to be involved, other specific technical and environmental qualities as an important link between service quality and many aspects of customer outcomes, and the use of a larger sample sizes.

Keywords: health organisations, customer loyalty, customer satisfaction, quality management, service quality, SmartPLS

Introduction

Service quality is an important ingredient in quality management, marketing and organizational studies. It is viewed as an abstract and elusive concepts because it involves three unique features: intangibility, heterogeneity and inseparability of production and consumption (Parasuraman, Zeithaml & Berry, 1985, 1988; Zeithaml, 1988).This quality construct has been operationalized as a long-run overall evaluation of service at multiple levels in an organization (Azman, Ilyani & Nur Afiqah, 2016; Brady & Cronin, 2010; Parasuraman et al., 1988; Sureshchandar, Rajendran & Anantharaman, 2002). A result of this evaluation, customers will compare their expectations of the service (i.e., service firms should offer) with their experiences of the service that they have received before (i.e., performance of firms providing the services). If customers feel that the services have fulfilled their expectations this will show that the quality of service is achieved (Brady & Cronin, 2010; Gronroos, 2007; Kitapci, Akdogan & Dortyol, 2014). As a result, this feelings of satisfaction may help organizations to improve business success, upgrade image and enhance competitiveness in an era of global economy and turbulent time (Amintelligent Help Desk Blog, 2014; Azman et al., 2016: Singh, Feng & Smith, 2006; Kaziliūnas, 2010).

A current literature pertaining to workplace quality show that service quality utilizes a number of models to measure the effectiveness of service quality in various organizations. For example, Gronroos (1984) identifies two instruments for measuring the effectiveness of service quality: technical quality (i.e., what customers' received from services provided by an organization, also referred to an outcome of service act), and functional quality (i.e., how an organization delivers services to customers, also referred to the interactions that take place during service delivery). Besides, Parasuraman et al. (1985, 1988) proposes five instruments to measure the achievement of service quality: tangible (physical facilities, equipment, and appearance of workers), reliability (ability to perform the promised service dependably and accurately), responsiveness (willingness to help customer and provide prompt service), assurance (knowledge and courtesy of workers and their abilities to inspire trust and confidence), and empathy (caring, individualized attention the organization provides its customers). These quality perspectives opposed the objective quality (i.e., physical features of a product) (Brady & Cronin, 2010; Kitapci, Dortyol, Yaman & Gulmez, 2013).

Among these quality approaches, many scholars recognize that Parasuraman et al.'s (1985, 1988) service quality model receive more attention by researchers and managers in measuring perceived quality in service type organizations (Edvardsson 1998; Kitapci, Dortyol, Yaman & Gulmez, 2013). From an academic perspective, this model guides researchers to easily understand service quality components (Kitapci, Dortyol, Yaman & Gulmez, 2013; Kuei & Lu, 1997), and measure the effectiveness of service quality in the service type organizations (Azman et al., 2014; Kang & James, 2004; Malhotra et al., 2005). While, from a practitioner's perspective, many managers prefer to use the model because itmentions clear criteria, ease of applying, ability to adjust as it does not involve complicated theory, and results obtained from the instrument may help in identifying the organization future directions (Abu-El Samen, Akroush & Abu-Lail, 2013, Asubonteng, McCleary & Swan, 1996; Wisniewski, 2001).

Extant studies in successful organizations highlight that the ability of service providers to appropriately implement tangible, reliability, responsiveness, assurance and empathy in executing daily job may have a significant impact on customer outcomes, especially customers' satisfaction **(**TiBei & Ching Chiao, 2006; Kitapci, Dortyol, Yaman & Gulmez, 2013). In a service management literature, customers' satisfaction is broadly defined as a psychological response (emotional and/or cognitive) pertaining to a specific service (expectations, product, and consumption experience) that occurs at a certain moment in time (after experience or consumption) (Parasuraman, Zeithaml& Berry, 1985, 1988; Sureshchandar et al., 2002). For example, if service performance provided by an organization matches thecustomerexpectations in a specific time this will strongly create a positive confirmation. As a result, it may lead to greater customer satisfaction (Abu-El Samen, Akroush & Abu-Lail, 2013; Kursunluoglu, 2014).

Interestingly, a thorough exploration about organizational quality management reveals that relationship between service quality and customers' satisfaction may lead to an enhance customers' loyalty (Muhammad, Sharifah Suzana, Mohsin & Syamsulang, 2015; Kitapci, Dortyol, Yaman & Gulmez, 2013). In a customer behaviour perspective, customers' loyaltyis generally viewed based on three distinctive approaches: 1) behavioural measurement (i.e., consistent and repetitious purchase behaviour), 2) attitudinal measurement (i.e., emotional and psychological data that indicate engagement and allegiance), and 3) composite measurements (i.e., combine the first two approaches and customers' service preferences, propensity of brand-switching, frequency of purchase and total amount of purchase). Among these approaches, the composite measurement is found to substantially increase the meaning of customers' loyalty (Bowen & Chen, 2001; Ganesh et al., 2000). For example, high customer loyalty to a service is normally expressed by customers in terms of repeat patronage; self-stated retention, price insensitivity, resistance to counter persuasion, and the likelihood of spreading positive word-of-mouth and repurchase intention (Bowen and Chen, 2001; Butcher et al., 2001; Jaishankar et al., 2000; Jamal and Anastasiadou, 2007; Kitapci, Dortyol, Yaman & Gulmez, 2013).

Within an organizational service quality model, many scholars concur that service quality, customers' satisfaction and customers' loyalty are different, but highly interconnected concepts. For example, the ability of service providers to appropriately implement quality in performing daily job will strongly

invoke customers' satisfaction. Consequently, it may lead to an enhanced customers' loyalty (Bloemer et al., 1998; Caruana, 2002, Chakravarty, 2003). Even though this relationship has widely been studied, the effect of customers' satisfaction as an important mediating variable is given less emphasis in the workplace service quality research literature. Researchers have argued that this situation is mainly due to excessive explanations on the conceptual definitions, disconfirmation paradigms and significance of the service quality in various organizational settings (Brady & Cronin, 2010; Chang, 2008; Gronroos, 2007; Parasuraman, Berry & Zeithaml, 1990). Besides, previous studies have employed a simple survey, correlation and gap analysis methods to examine customer attitudes toward different service quality practices, and strength of association between different service quality practices and certain customer outcomes (TiBei & Ching Chiao, 2006; Kitapci, Dortyol, Yaman & Gulmez, 2013). As a result, the findings of these studies have provided inadequate findings to be used as useful references by practitioners in understanding the complexity of service quality concepts and practices, as well as designing action plans to enhance the performance of service quality in high competitive organizations (Muahmmad, Sharifah Suzana, Mohsin, & Syamsulang, 2015; Kitapci, Dortyol, Yaman & Gulmez, 2013). Therefore, it motivates researchers to fill in the gap of the literature by measuring the influence of customers' satisfaction in the relationship between service quality and customers' loyalty.

Objective of study

This study consists of two major objectives: first, is to examine the relationship between service quality and customers' satisfaction. Secondly, is to measure the relationship between service quality, customers' satisfaction and customers' loyalty. The structure of this study highlights five important issues: literature review, research methodology, findings, and discussion and conclusion.

Literature Review

Parasuraman et al (1985, 1988) gap analysis model posits that customer satisfaction exists when customer perceived that implementation of service quality may fulfil their expectations. As a result, it may lead to greater positive customer attitudes and behaviour. The notion of this theory has received strong support from the service quality research literature. For example, several extant studies using an direct effects model were conducted to examine service quality based on different samples, like perceptions of 600 customers were sampled from three package (charter) tour operators in Norway (Andreassen & Lindestad, 1998), 542 heads of household who had shopped at a department store (Sivadas& Baker-Prewitt, 2000), 194 households in Malta (Caruana, 2002), 500 respondents at the Chinese Petroleum Corporation (TiBei & Ching Chiao, 2006), 505 supermarket customers in Turkey (Kitapci, Dortyol, Yaman & Gulmez, 2013). Findings from these surveys showed that the ability of service providers to appropriately implement tangible, responsiveness, reliability, assurance and empathy in performing daily work had been important determinants of customers' satisfaction (Andreassen&Lindestad, 1998; Caruana, 2002; TiBei & Ching Chiao, 2006; Kitapci, Dortyol, Yaman & Gulmez, 2013; Sivadas & Baker-Prewitt, 2000). Therefore, it can be hypothesized that:

H_1: There is a positive relationship between tangible and customers' satisfaction
H_2: There is a positive relationshipbetween reliability and customers' satisfaction
H_3: There is a positive relationship between responsiveness and customers' satisfaction
H_4: There is a positive relationshipbetween assurance and customers' satisfaction
H_5: There is a positive relationship between empathy and customers' satisfaction

Further studies shows that customers' loyalty as an important outcome of the relationship between service quality and customers' satisfaction. The mediating effect of customers' satisfaction in such

relationships is often measured using an indirect effects model based on various samplessuch as perceptions of 542 shoppers at the retail department store context (Sivadas & Baker-Prewitt, 2000), 500 respondents at the Chinese Petroleum Corporation (TiBei & Ching Chiao, 2006), 505 supermarket customers in Turkey (Kitapci, Dortyol, Yaman & Gulmez, 2013), and 300 Islamic banking customers located in the city of Kuching, Malaysia (Muahmmad, Sharifah Suzana, Mohsin & Syamsulang, 2015). Findings from these surveys showed that the ability of service providers to appropriately implement tangible, responsiveness, reliability, assurance and empathy in performing daily work had strongly invoked customer satisfaction. Consequently, it could lead to an ehanced customers' loyalty (TiBei & Ching Chiao, 2006; Muahmmad, Sharifah Suzana, Mohsin & Syamsulang, 2015; Kitapci, Dortyol, Yaman & Gulmez, 2013; Sivadas & Baker-Prewitt, 2000). Therefore, it can be hypothesized that:

H_6: There is a positive relationship between service quality, customer satisfaction and customers' loyalty

Methodology

Research design

A cross-sectional research design was utilized because it allowed the researchers to combine the service quality literature, the semi structured interview, the pilot study and the actual survey as the main procedure of collecting data for this study. The main advantage of using this procedure may help the researchers to gather accurate, less bias and high quality data (Creswell, 1998; Sekaran, 2000). This study was conducted at armed forces health organizations in Peninsular Malaysia. It was established in 1960 to take care of the wounded and sick military personnel, provide preventive and curative medical care for military personnel and their families. In this organization, service quality system has been established to enhance its staff capacity to provide better medical services during peacetime and preserving the fighting strength during wartime (Zin, 2003). At the initial stage of data collection, a survey questionnaire was drafted based on the service quality research literature. Further, a back translation technique was used to translate the content of questionnaires in Malay and English languages in order to increase the validity and reliability of the research findings (Hulland, 1999; Sekaran, 2000).

Measures

The survey questionnaire consists of three sections: first, service quality features, i.e., tangible (TANG) had 4 items, reliability (RELB) had 6 items, responsiveness (RESP) had 9 items, assurance (ASSUR)had 5 items and empathy (EMPH) had 5 items that were adjusted from Parasuraman et al. (1988) SERVQUAL scale. In a study conducted by Parasuraman, Zeithaml and Berry (1988) showed that the value of reliability of linear combination for all service quality components was 0.92. In this study, the dimensions used to measure tangible were adequate equipment, suitable equipment, suitable location and communication network. The dimensions used to measure reliability were solving, good service, schedule and performance. The dimensions used to measure responsiveness were feedback, priority, take care and urgent action. The dimensions used to measure assurance were comfortable, polite, confident, no complaint and believe. The dimensions used to measure empathy were cooperation, understanding and delivery. Second, customer satisfaction (CUSTSAT) had 7 items which were adapted from the previous literature. Third; customers' loyalty (CUSTLOY) had 6 items that were modified from the service quality related loyalty literature. All these items were measured using a 7-item scale ranging from "very strongly disagree" (1) to "very strongly agree" (7). Demographic variables were only used as controlling variables because this study focused on customer attitudes.

Sample

A convenient sampling technique was employed to distribute 300 survey questionnaires to customers who received treatments at the studied organizations. This sampling technique was employed because the researchers had no detail records about the customers who received treatments at the organizations and this situation did not allow the researchers to use a random technique in selecting the participants of this study. Of the total number, 100 usable questionnaires were returned to the researchers, yielding a response rate of 33.3 percent. The survey questionnaires were answered by participants based on their consents and a voluntarily basis.

Data analysis

Further, the survey questionnaire data were analyzed using the SmartPLS package because it may deliver latent variable scores, avoid small sample size problems, estimate every complex models with many latent and manifest variables, hassle stringent assumptions about the distribution of variables and error terms, and handle both reflective and formative measurement models (Henseler et al., 2009). The data were analyzed using the following steps: first, the model measurement was examined using confirmatory factor analysis. Second, the structural model was assessed by examining the path coefficients using standardized betas (β) and t statistics (t >1.96). Third, the value of R^2 is used as an indicator of the overall predictive strength of the model. The value of R^2 is considered as follows; 0.19 (weak), 0.33 (moderate) and 0.67 (substantial) (Henseler et al., 2010; Chin, 2001). As an additional assessment of model fit in PLS analysis, we carried out a test of predictive accuracy for the latent endogeneous construct using blindfolding (q^2 statistic) as suggested by Geisser (1975) and (Stone, 1974). According to Chin (1998), the q^2 statistic is a jackknife version of the R^2 statistic. It represents a measure of how well observed values are reconstructed by the model and its parameter estimates. Model with q^2 greater than zero are considered to have predictive relevant. The value of q^2 is considered as follows: 0.02 (small predictive relevance for an endogenous construct), 0.15 (medium predictive relevance for an endogenous construct), and 0.35 (large predictive relevance for an endogenous construct) (Hair et al., 2014). Further, the value of variance accounted for (VAF) is used as a standard to define the strength of mediating variable in the model (i.e., more than 80% (full mediation), 20% to 80% (partial mediation) and 0.20% (no mediation)(Hair et al., 2014).

Findings

Sample profile

Table 1 shows that the majority respondent characteristics were male (59%), ages between 21 to 30 years old (38%), non-married employees (83%), army patients (98%), patients who received ordinary treatments (94%), patients who received one time treatment in a month (77%).

Table 1. Profile of respondents (n =100)

Respondent Characteristics	Sub-Profile	Percentage (%)
Gender	Male	59
	Female	41

Respondent Characteristics	Sub-Profile	Percentage (%)
Age	Less than 20 years	50
	21-30 years	38
	31-40 years	10
	More than 41 years	2
Marital status	Single	83
	Married	17
Patient	Army	98
	Army family	2
Type of treatment	Ordinary/acute	94
	Chronic	1
	Dental	5
Frequency of treatment	1 time	77
in a month	2 to 4 times	19
	More than 5 times	4

Measurement

Table 2 shows the factor loadings and cross loadings for different constructs, and composite reliability for different constructs. The loadings of variables more strongly on their own constructs in the model, greater than 0.70 were considered adequate. Besides that, the correlation between items and factors had higher loadings than other items in the different constructs (Chin, 2010; Fornell & Larcker, 1981; Gefen & Straub, 2005).

Table 2. Factor loadings and cross loadings for the constructs, and composite reliability

Construct	Cross-Factor Loadings						
	1	2	3	4	5	6	7
1. TANG	0.860 to 0.902						
2. RELB		0.783 to 0.934					
3. RESP			0.846 to 0.957				
4. ASSUR				0.762 to 0.928			
5. EMPH					0.820 to 0.900		
6. CUSTSAT						0.805 to 0.930	
7. CUSTLOY							0.771 to 0.900

Table 3 shows the results of convergent and discriminant validity analyses. All constructs had the values of average variance extracted (AVE) larger than 0.5 indicating that they met the acceptable standard of convergent validity (Barclay, Higgins & Thompson, 1995; Fornell & Larcker, 1981; Henseler

et al., 2009). Besides that, all constructs had the values of AVE square root in diagonal were greater than the squared correlation with other constructs in off diagonal, showing that all constructs met the acceptable standard of discriminant validity (Henseler et al., 2009).

Table 3. Fornell-Larcker criterion T-test

Construct	AVE	1	2	3	4	5	6	7
1. TANG	0.767	**0.876**						
2. RELB	0.769	0.831	**0.877**					
3. RESP	0.788	0.697	0.773	**0.888**				
4. ASSUR	0.689	0.548	0.658	0.571	**0.830**			
5. EMPH	0.754	0.118	0.345	0.390	0.404	**0.869**		
6. CUSTSAT	0.766	0.283	0.519	0.358	0.605	0.772	**0.875**	
7. CUSTLOY	0.715	0.411	0.619	0.510	0.703	0.674	0.784	**0.846**

Analysis of the constructs

Table 4 shows the results of variance inflation factor and descriptive statistics. The means for the variables are ranged from 5.26 to 5.72, showing that the levels of TANG, RELB, RESP, ASSUR, EMPH, CUSTSAT and CUSTLOY are high (above 5). The values of variance inflation factor for the relationships: 1) between the independent variable (i.e., TANG, RELB, RESP, ASSUR, and EMPH) and the mediating variable (i.e., CUSTSAT), and 2) between the mediating variable (i.e., CUSTSAT) and the dependent variable (i.e., CUSTLOY) were less than 10, signifying that the data were not affected by serious multicollinearity problem (Hair, Anderson, Tatham & Black, 2006). Thus, this measurement model met the validity criteria. Further, the composite reliability had values of greater than 0.8, indicating that all the measurement scale used in this study had high internal consistency (Nunally & Benstein, 1994). In this sense, these results further confirm that the instrument used in this study has met the acceptable standards of validity and reliability analyses.

Table 4. Colinearity diagnostics, reliability analyses and descriptive statistics

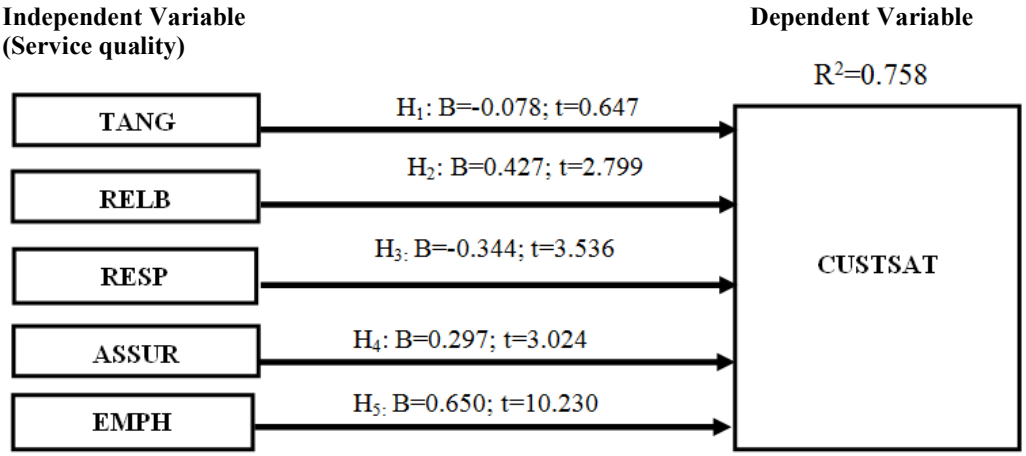
Construct	Mean	Standard Deviation	Variance Inflation Factor		Composite Reliability
			6	7	
1. TANG	5.32	0.25	3.841		0.929
2. RELB	5.41	0.42	5.017		0.952
3. RESP	5.26	0.44	5.174		0.974
4. ASSUR	5.63	0.32	2.764		0.917
5. EMPH	5.72	0.45	1.904		0.902
6. CUSTSAT	5.35	0.25	1.454		0.958
7. CUSTLOY	5.54	0.34		1.00	0.937

Note: Significant at **p<0.01

Outcomes of testing hypotheses 1, 2, 3, 4 and 5

Figure 2 shows that the inclusion of service quality components had contributed almost 76 percent in the variance of CUSTSAT. In terms of explanatory power of this model, it provides a large support for the overall model. Further, the outcomes of testing the research hypothesis showed five important findings: first, TANG was not significantly correlated with CUSTSAT (B=-0.078; t=0.647), therefore H1 was not supported. Second, RELB was significantly correlated with CUSTSAT (B=0.427; t=2.2.799), therefore H2 was supported. Third, RESP was significantly correlated with CUSTSAT (B=0.344; t=3.536), therefore H3 was supported. Fourth, ASSUR was significantly correlated with CUSTSAT (B=0.297; t=3.024), therefore H4 was supported. Fifth, EMPH was significantly correlated with

CUSTSAT(B=0.650; t=10.230), therefore H5 was supported. In sum, this result demonstrates that TANG is not an important antecedent of CUSTSAT. While, RELB, RESP, ASSUR and EMPH are important antecedents of customers' satisfaction.



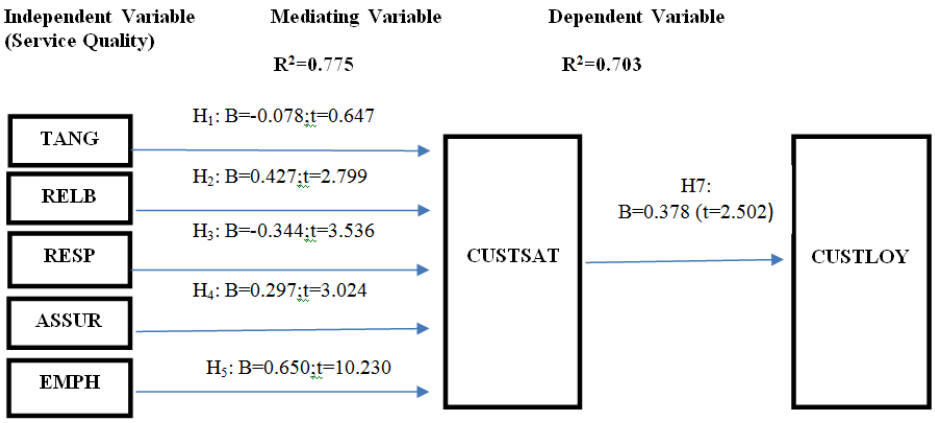
Note: Significant at t >1.96

Figure 2. *The result of testing hypothesis H1, H2, H3, H4 and H5*

Further, a test of predictive relevance for the reflective endogenous latent variable was conducted based on Stone-Geisser's formulae: q2= Q2 included- Q2 excluded/1-Q2 included =0.571, indicating that it was greater than zero (0) for the reflective endogenous latent variable. This result has predictive relevance (Hair et al., 2014). In terms of predictive strength, it indicates that service quality has a large predictive relevance for CUSTLOY.

Outcomes of testing hypotheses 6

Figure 3 show that the inclusion of CUSTSAT in the analysis had contributed 70 percent of the variance in CUSTLOY. In terms of explanatory power of this model, it provides a large support for the overall model. Further, the outcomes of testing the research hypothesis showed that relationship between service quality (i.e., TANG, RELB, RESP, ASSUR and EMPH) and CUSTSAT was significantly correlated with



Note: Significant at *t >1.96

Figure 3. *The result of testing hypothesis H6*

CUSTLOY(B=0.378; t=2.502), therefore H6 was supported. In sum, this result demonstrates that CUSTSAT act as an important mediating variable in the relationship between service quality and CUSTLOY.

Further, a test of predictive relevance for the reflective endogenous latent variable was conducted based on Stone-Geisser's formula: q2=Q2 included-Q2 excluded/1-Q2 included=0.560, indicating that it was greater than zero (0) for the reflective endogenous latent variable. This result has predictive relevance (Hair et al., 2014). In terms of predictive power, it indicates that CUSTLOYAL has a large predictive relevance in the hypothesized model. Further, Variance Accounted For (VAF) is used to measure the size of mediating effect of CUSTSAT in each hypothesis as exhibited in Table 5.

Table 5. The results of Variance Accounted For

Relationship between constructs	VAF	Remark
H1: Relationship between TANG, CUSTSAT and CUSTLOY	0.403	Partial Mediation
H2: Relationship between RELB, CUSTSAT and CUSTLOYAL	0.472	Partial Mediation
H3: Relationship between RESP, CUSTSAT and CUSTLOY	0.763	Partial Mediation
H4: Relationship between ASSUR, CUSTSAT and CUSTLOYAL	0.523	Partial Mediation
H5: Relationship between EMPH, CUSTSAT and CUSTLOYAL	0.390	Partial Mediation

Discussion

The findings of this study show that CUSTSAT does act as an important mediating variable in the relationship between service quality and CUSTLOY. In the context of this study, management teams have taken proactive actions to plan, maintain, and monitor employees in providing medical services to customers based on the broad policies and procedures as set up by their stakeholders. The majority respondents think that the levels of TANG, RELB, RESP, ASSUR, EMPH, CUSTSAT and CUSTLOY are high. This situation explains that the implementation of service quality in performing daily job will invoke CUSTSAT. As a result, it may lead to an enhanced CUSTLOY.

This study provides three major implications: theoretical contribution, robustness of research methodology, and practical contribution. With respect to theoretical contribution, it reveals that CUSTSAT has played important roles as important mediating variable in the relationship between service quality and CUSTLOY. This finding has also been supported by extended studies from Sivadas and Baker-Prewitt (2000), Caruana (2002), TiBei and Ching Chiao (2006), Chodzaza and Gombachika (2013), Kitapci, Dortyol, Yaman and Gulmez (2013) and Muahmmad, Sharifah Suzana, Mohsin and Syamsulang (2015).

In regard with the robustness of research methodology, the survey questionnaires used in this study have met the acceptable standards of validity and reliability analyses. This condition may produce accurate and reliable findings. In terms of practical contribution, the findings of this study can be used as guidelines by management to improve the service quality system in organizations. In order to support this objective, management should give more attention on the following aspects: first, quality service training program needs to be provided to all staff in order to increase their soft skills and confident in handling different customer attitudes and behaviour. Second, better recognitions need to be provided to staff that show high obligation to maintain quality in delivering services to customers. Third, recruitment policy needs to be adjusted in order to select knowledgeable and experienced staff to fulfil senior management positions. Their capabilities may be used to mentor and coach junior managers and supervisors in practicing service quality based on international quality management standards. Fourth, communication openness needs to be used to disseminate policies and procedures via printed materials, online and face to face interaction with customers. This communication may decrease misconceptions and increase good

rapports between customers and medical staff. If these suggestions are greatly considered this may motivate customers to support the organizational service quality goals.

Conclusion, limitations and suggestions

This study tested a theoretical framework developed based on the service quality research literature. The instrument used in this study has met the acceptable standards of the validity and reliability analyses. The outcomes of SmartPLS path model analysis confirmed that the ability of organization to appropriately implement TANG, RELB, RESP, ASSUR and EMPH had invoked CUSTSAT which lead to an enhanced CUSTLOY. This result has also been supported and broadened by studies published abroad. Therefore, current research and practice within workplace quality models need to integrate TANG, RELB, RESP, ASSUR and EMPH as core dimensions of the service quality domain. This finding further suggests that the capability of organization to appropriately implement the service quality components in executing daily job may strongly induce subsequent positive customer outcomes (e.g., behavioural intention, trust and commitment). Thus, these positive outcomes may lead to maintaining and enhancing the instability organizational performances.

This study has several methodological and conceptual limitations. First, a cross-sectional research design used in this study may not capture causal connections between the variables of interest. Second, the outcomes of SmartPLS path model analysis have not measured the relationship between specific indicators for the independent variable, mediating variable and dependent variable. Finally, the sample for this study was only taken from patients who received treatments at one organizational sector. Conversely, these limitations may decrease the generalization of the results to other organizational settings.

In order to strengthen this study, future research should consider the following suggestions: first, several organizational and personal characteristics should be further explored, where this may show meaningful perspectives in understanding how individual similarities and differences influence the implementation of service quality by organizations. Second, other research designs (e.g., longitudinal studies) should be utilized to collect data and describe the patterns of change and the direction and magnitude of causal relationships amongst variables of interest. Third, to fully understand the effect of service quality on customer attitudes and behaviour, a more diverse organizations need to be involved. Fourth, other specific theoretical constructs of service quality such as technical and environmental qualities need to be considered because they have widely been acknowledged as an important link between service quality and many aspects of customer outcomes (Gracia et al., 2010; Gronroos, 2007; Ladhari, 2009; Isik et al., 2011). Fifth, response bias and common-method variance is a common issue in survey method.In order to decrease this weakness, the use of a larger sample size may characterize the studied population. Finally, other specific elements of customer outcomes such as perceive value, satisfaction, behavioural intentions need to be given attention because their roles are often discussed in many service quality research literatures (Azman et al., 2014; Kitapci et al., 2014). Hence, the importance of these issues needs to be further discovered in future study.

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