Examining the relationship between service quality and customer satisfaction in military peacekeeping missions

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Abstract:

Purpose: This research was aimed at examining the relationship between service quality and

customer satisfaction with data obtained from Malaysian soldiers who were involved in peace

keeping missions in a Middle Eastern country. The results of which would enable the

management to improve the quality of service accorded to peacekeeping personnel.

Design/methodology/approach: The study employed a cross-sectional research design

which allowed the researchers to integrate the service quality literature, the semi structured

interview and the actual survey to collect and examine the data for optimum results.

Findings: The outcome of multiple regression analysis showed that responsiveness and

assurance variables reflected a high correlation with customer satisfaction. On the other hand,

tangibility, reliability and empathy variables recorded an insignificant correlation with customer

satisfaction.

**Research limitations/implications:** With respect to practical contributions, the findings of

this study can be used as a guideline by the management to improve the quality of peacekeeping

in areas of conflict.

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**Practical implications:** For security reasons, certain information affecting customer satisfaction could not be examined in detail.

*Originality/value:* This paper presents key results on service quality and customers satisfaction research by looking at the niche segment which was not previously studied from the Malaysian perspective.

Keywords: service quality, customer satisfaction, Malaysian soldiers

#### 1. Introduction

In today's modern, globalised and competitive environment, service quality management has become as an essential strategy to maintain and enhance customer satisfaction (Oliver, 1980; Osman & Sentosa, 2013; Zineldin, 2006). The term service quality is viewed as a multidimensional concept and may be interpretated differently by different scholars (Ismail, Abdullah & Francis, 2009a; Ismail, Alli, Abdullah & Parasuraman, 2009b; Raza, Siddiquei, Awan & Bukhari, 2012; Zeithaml, 1988). Some outstanding keywords in service quality definitions emphasis on 'zero defect' in the firm's offerings (Crosby, 1967), the incidence of 'internal' failures and 'external' failures (Garvin, 1983), 'conformance to requirements' (Crosby, 1984), 'fitness for use' (Juran, 1988), and 'one that satisfied the customer' (Eiglier & Langeard, 1987).

In a workplace quality program, service quality is broadly defined as a form of attitude that is a long-run overall evaluation (Osman & Sentosa, 2013; Parasuraman, Zeithaml, & Berry, 1988; Zeithaml, 1988). Relying on this perspective, service quality was viewed as the difference between customers' expectations for service performance prior to the service encounter and their perception of the service received (Asubonteng, McCleary & Swan, 1996; Ouyung, 2010; Parasuraman et al., 1988; Zeithaml, 1988). Perceived service quality represent a general appraisal of service, i.e. a global value judgement on the superiority of the overall services and it may occur at multiple levels in an organization (Raza et al., 2012; Sureshchandar, Rajendran & Anantharaman, 2002).

Many scholars such as Parasuraman et al. (1988), Juwaheer and Ross (2003), Walker, Johnson and Leonard (2006), and Osman and Sentosa (2013) highlight that tangibility, responsiveness, empathy, assurance and reliability were the most important service quality features. Firstly, tangibility was often viewed as the appearance that servicer providers gave in terms of good facilities, equipment, personnel and communication materials when delivering services (Sureschandar et al, 2002; Osman & Sentosa, 2013; Raza et al., 2012). Secondly, responsiveness was often defined as the willingness of service providers to provide service

quickly and accurately (Juwaheer & Ross, 2003). Thirdly, empathy was related to caring, attention and understanding the customer needed when providing services (Juwaheer & Ross, 2003; Osman & Sentosa, 2013; Raza et al., 2012). Fourthly, assurance was usually referred to as credibility, competence and security in delivering services (Juwaheer & Ross, 2003; Osman & Sentosa, 2013; Raza et al., 2012). Finally, reliability was frequently seen as the ability of service providers to implement promised service dependably and accurately (Juwaheer & Ross, 2003; Osman & Sentosa, 2013; Raza et al., 2012).

Surprisingly, a thorough review of quality management programs revealed that the ability of service providers to properly implement service quality in executing jobs may have a significant impact on individual attitude and behaviour, especially customer satisfaction (Ismail et al., 2009a, 2009b; Osman & Sentosa, 2013; Ouyung, 2010; Raza et al., 2012). In a quality management perspective, customer satisfaction is often seen as a result of comparison between what one customer expected about services provided by a service provider and what another customer received in actual services rendered by a service provider (Osman & Sentosa, 2013; Ouyung, 2010; Parasuraman et al., 1988; Raza et al., 2012; Walker et al., 2006). Within the workplace service quality program, many scholars view that tangibility, responsiveness, reliability, empathy, assurance, and customer satisfaction, though different, were strongly interrelated constructs. For example, if service provided by an organization did meet a customer's needs and expectations, it may lead to an enhanced level of customer satisfaction (Raza et al., 2012; Osman & Sentosa, 2013; Walker et al., 2006).

Even though the nature of the relationship was significant, little was known about the role of service quality as an important predicting variable in the workplace quality research literature (Raza et al., 2012; Osman & Sentosa, 2013). Many scholars argued that the predicting variable of service quality was given less attention in the previous studies because they had over emphasized on the internal properties of service quality system, employed a simple correlation method to evaluate general respondent attitudes toward particular service quality features, and ignored to measure the effect size of the relationship between service quality dimensions and employee outcomes in the workplace (Mey, Akhbar & David Yong, 2008; Ouyung, 2010; Raza et al., 2012; Osman & Sentosa, 2013). As a result, those studies may not provide adequate findings to be used as guidelines by practitioners in formulating strategic action plans for improving the implementation of service quality program in high competitive organizations (Raza et al., 2012; Osman & Sentosa, 2013). Thus, it motivated the researchers to further explore the nature of that relationship.

# 1.1. Purpose of the study

This study had five specific objectives: firstly, to examine the relationship between tangible and customer satisfaction. Secondly, to examine the relationship between responsiveness and customer satisfaction. Thirdly, to examine the relationship between reliability and customer

satisfaction. Fourthly, to examine the relationship between empathy and customer satisfaction. Finally, to examine the relationship between assurance and customer satisfaction.

This paper was structured to elaborate the relevant empirical and theoretical evidence supporting the conceptual framework and research hypotheses. Then to describe the methodology and procedure of conducting the current study. Next was to discuss the results of validity and reliability analyses for the measurement scale and hypothesis testing. Finally, discussion, implications, conclusion, limitations and future research were elaborated.

#### 2. Literature review

Previous literature had shown that a direct effects model to investigate service quality program based on different samples such as perceptions of 145 tourists in a service context (Bitner, 1990), perceptions of 286 hotel customers from 5 selected luxury hotels in the Klang Valley (Mey et al., 2008), perceptions of 237 employees in a financial consultancy in Taiwan (Ouyung, 2010), 125 luxury hotel customers of Pakistan (Raza et al., 2012), and 295 rural tourism spot tourists in Malaysia (Osman & Sentosa, 2013). The outcomes of those studies reported that the willingness of service providers to properly implement tangibility, responsiveness, reliability, empathy, and assurance in delivering services had been the major determinants of customer satisfaction (Bitner, 1990; Mey et al., 2008; Ouyung, 2010; Raza et al., 2012; Osman & Sentosa, 2013). The findings of those studies had strongly supported the notion of Parasuraman, Zeithaml and Berry (1985) conceptual service quality model, which revealed that matching between service quality standards and customers' standards might serve to decrease service performance gap and increase customer satisfaction about the quality systems. The application of the theory in a service quality framework showed that the essence of service quality was to maintain and promote customer satisfaction. For example, the willingness of providers to appropriately implement tangibility, responsiveness, reliability, empathy, and assurance in delivering services could lead to higher customer satisfaction in organizations (Bitner, 1990; Mey et al., 2008; Ouyung, 2010; Raza et al., 2012; Osman & Sentosa, 2013).

### 2.1. Conceptual framework and research hypothesis

The literature had been used as the foundation to develop a conceptual framework for this study as shown in Figure 1.

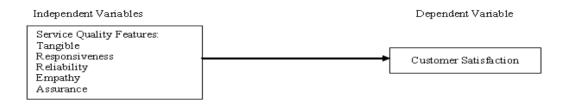


Figure 1. Relationship between service quality features and customer satisfaction

Based on the framework, it can be hypothesized that:

- H1: There is a positive relationship between tangibility and customer satisfaction.
- H2: There is a positive relationship between responsiveness and customer satisfaction.
- H3: There is a positive relationship between reliability and customer satisfaction.
- H4: There is a positive relationship between empathy and customer satisfaction.
- H5: There is a positive relationship between assurance and customer satisfaction.

# 3. Methodology

This study used a cross-sectional research design which allowed the researchers to integrate the service quality literature, the semi structured interview and the actual survey as the main procedure to collect data. The main advantage of using this procedure was to gather accurate, less bias and high quality data (Creswell, 1998; Ismail et al., 2009b; Sekaran, 2000). At the initial stage of data collection, a semi structured interview was conducted involving four experienced army officers comprising of the commandant, a senior officer, an administrative officer and a logistic staff officer who had the relevant experience in peacekeeping missions. The information gathered from this interview method was used to understand the nature and characteristics of service quality and customer satisfaction, as well as the relationship between such variables in the context of this study. The interview results were summarized as shown in Table 1.

Service Quality	Respondents' Opinions			
Tangihility	The provider should strive to provide facilities that had high accessibilities, adequate, and			
Tangibility	comfortable basic ammenities within the military operations areas.			
Dognonoivonoss	The provider should be willing to take urgent actions, and deliver clear, correct			
Responsiveness	information regarding peacekeeping mission objectives.			
Reliability	The provider should be willing to fullfil promises, improve service performance, and solve			
Reliability	problems using good methods in the operations areas.			
Empathy	The provider should be willing to take care and hear complaints/suggestions from soldiers			
Lilipatily	in the operations areas.			
Assurance	The provider should place unflinching trust in the soldiers, as well as exhibit high			
Assurance	professionalism and knowledge in dealing with soldiers in the operations areas.			
Customer Satisfaction	The provider should be willing to maintain and fulfil soldiers' needs and expectations in			
Customer Satisfaction	the operations areas.			
Relationship between	A majority of the soldiers felt that the willingness of the provider to properly implement			
Service Quality and	tangibility, responsiveness, reliability, empathy and assurance in delivering services to			
Customer Satisfaction	soldiers had increased their satisfaction in the operations area.			

Table 1. The Interview Results

Next, the interview results were used to verify the content and format of the survey questionnaire for the actual survey. In addition, a back translation technique was used to translate the content of the questionnaire in Malay and English language in order to increase the validity and reliability of the instrument (Wright, 1996).

The survey questionnaire had two major sections: first, service quality (i.e., tangibility, responsiveness, empathy, assurance and reliability) had seventeen items that were modified from SERVQUAL instrument (Parasuraman et al., 1985). Second, customer satisfaction had three items that were modified from service quality related customer satisfaction (Bitner, 1990; Eggert & Ulaga, 2002; Ouyung, 2010; Mey et al., 2008; Walker et al., 2006). All those items were measured using a 7-item scale ranging from "very strongly disagree" (1) to "very strongly agree" (7). Demographic variables were used as controlling variables because this study focused on employee attitude.

The unit of analysis for this study was made up of Malaysian soldiers who were involved in peace keeping missions in a Middle Eastern country. In the first step of data collection procedure, the researchers met the Staff Officer Grade 1 (Peacekeeping Mission) in the Malaysia Ministry of Defence to find out about the rules for distributing the survey questionnaire to the soldiers. He allowed the researchers to conduct the study, but the list of soldiers was not provided to the researchers. Considering the situation, the 400 survey questionnaires were distributed to soldiers through the Staff Officer Grade 1 (Peacekeeping Mission) in the Malaysia Ministry of Defence who was involved in peace keeping missions. From the total number, 123 usable questionnaires were returned to the researchers, yielding a 30.75 percent response rate. The survey questionnaire was answered by participants based on their consent and on a voluntary basis. A statistical package for social science (SPSS) version 18.0 was used to analyse the questionnaire data and thus tested the research hypotheses.

### 4. Findings

Table 2 shows that the overall respondent characters were males (100%), aged between 26 and 30 years old (41.6%), many of them were from different ranks (89.4%), many of them were SPM/MCE holders (57.5%), their length of service ranged from 8 to 11 years (30.1%), a majority of them were soldiers (76.1%) and a majority of the soldiers were serving with the peacekeeping mission for the first time (93.8%).

Respondent Characteristics	Sub-Profile	Percentage
Gender	Male	
	< 25 years	14.2
	26-30 years	41.6
Age	31-35 years old	23.0
	36-40 years old	18.6
	> 41 years old	2.7
Rank	Officer	10.6
Rdiik	Other Ranks	89.4
	PMR	31.9
	SPM	57.5
Education	Diploma	6.2
	Degree	3.5
	Others	0.9
	<3 years	4.4
	4-7 years	25.7
Length of Service	8-11 years	30.1
	12-15 years	13.3
	>15 years	26.5
	Army	76.1
Type of Service	Navy	15.0
	Airforce	8.8
	First Time	93.8
Frequency of Serving in Peacekeeping	Second Time	4.4
	> Third Times	1.8

Note: SPM/MCE: Sijil Pelajaran Malaysia/Malaysian Certificate of Education Table 2. Profile of Respondents (N = 123)

Table 3 shows that the survey questionnaire had 20 items which were related to five variables: tangibility (3 items), responsiveness (3 items), reliability (4 items), empathy (4 items), assurance (4 items), customer satisfaction (3 items). The validity and reliability analyses were first conducted based on the procedures established by Hair, Anderson, Tatham and Black (1998), and Nunally and Berstein (1994). A principal component factor analysis with oblique rotation using direct oblimin was used to determine the possible dimensions of the constructs. The results of factor analysis showed that that all items for each variable had factor loading values of 0.48 and above, indicating that the items met the acceptable standard of validity analysis. Further, The Kaiser-Mayer-Olkin Test (KMO) which was a measure of sampling adequacy was conducted for each variable and the results indicated that it was acceptable. Table 3 shows the results of validity and reliability analyses where (1) all research variables exceeded the minimum standard of Kaiser-Meyer-Olkin's value of 0.6, were significant in Bartlett's test of sphericity, (2) all research variables had eigenvalues larger than 1, and (3) the items for each variable exceeded factor loadings of 0.5 (Hair et al., 1998), and (4) all variables exceeded the acceptable standard of reliability analysis of 0.70 (Nunally & Bernstein, 1994). These statistical results showed that the measurement scales used in this study met the acceptable standard of validity and reliability analyses as shown in Table 3.

Measures	Item	Factor Loadings	кмо	Bartlett's Test of Sphericity	Eigen value	Variance Explained	Cronbach Alpha
Tangibility	3	.75 to .86	.64	98.85	2.07	68.90	.76
<ol> <li>HQ equipped troops with modern and latest equipment.</li> <li>Sufficient equipment were supplied for operations.</li> <li>Suitable equipment were provided for operations in any weather conditions.</li> </ol>							
Responsiveness	3	.58 to .73	.71	131.66	2.26	75.20	.83
<ol> <li>HQ staff courteously served the researcher.</li> <li>Less mistakes occurred dealing with HQ.</li> <li>Totally believed with services provided by HQ</li> </ol>							
Reliability	4	.68 to .84	.84	255.61	3.01	75.23	.89
<ol> <li>HQ made fewer mistakes in meeting operations demand.</li> <li>HQ ensured excellent services.</li> <li>HQ staff provided best options to solve problems.</li> <li>HQ staff delivered excellent services for any demand</li> </ol>							
Empathy	4	.69 to .78	.83	244.89	2.98	74.57	.89
<ol> <li>HQ staff metes the required services.</li> <li>HQ staff responded fast to solve any demand.</li> <li>HQ staff displayed willingness to help.</li> <li>HQ staff were well-informed and so I explained well.</li> </ol>							
Assurance	3	.53 to .68	.74	186.91	2.45	81.51	.89
<ol> <li>HQ staff understand the researcher's needs and wants.</li> <li>HQ staff understand the researcher well.</li> <li>Less waiting time for services at HQ.</li> </ol>							

Table 3. Results of Validity and Reliability Analyses

Table 4 shows that the results of Pearson correlation analysis and descriptive statistics. Mean values for each variable was between 5.3 and 5.7 indicating the levels of tangibility, reliability, responsiveness, assurance, empathy, and customer satisfaction ranged from high (4) to highest level (7). The Pearson correlation coefficient between the independent variables (i.e., tangibility, responsiveness, reliability, empathy and assurance) and between dependent variable (i.e., customer satisfaction and perceived value) were less than 0.90, indicating the data were not affected by serious colinearity problem (Hair et al., 1998). These correlations

also provide further evidence of validity and reliability for measurement scales used in this research (Hair et al., 1998).

Variable	Mean	Standard Deviation	Component					
			1	2	3	4	5	6
1. Tangibility	5.3	.94	1					
2. Responsiveness	5.7	.60	.41**	1				
3. Reliability	5.7	.63	.33**	.58**	1			
4. Empathy	5.7	.61	.28**	.61**	.75**	1		
5. Assurance	5.6	.67	.43**	.72**	.55**	.55**	1	
6. Customer Satisfaction	5.6	.62	.41**	.70**	.55**	.58**	.74**	1

Note: Significant at \*\*p<0.01

Reliability estimation are shown diagonally (value 1)

Table 4. Pearson Correlation Analysis and Descriptive Statistics

Table 5 shows the results of testing hypothesis using a multiple regression analysis. A multiple analysis was highly recommended by many scholars because it could assess the direct relationship between variables as well as show the causal relationship and the nature of relationship between variables (Aiken et al., 1991; Berenson & Levine, 1992; Foster, Stine & Waterman, 1998). In this model testing, demographic variables were entered in Step 1 and then followed by entering independent variable in Step 2. Customer satisfaction was used as the dependent variable. An examination of multicollinearity in the coefficients table showed that the tolerance values for the relationship between the independent variable (i.e., tangibility, responsiveness, empathy, assurance and reliability) and the dependent variable (i.e., customer satisfaction) were 0.91, 0.87, 0.86, 0.88 and 0.89 respectively. These tolerance values were more than the tolerance value of .20 (as a rule of thumb), indicating the variables were not affected by multicollinearity problem (Fox, 1991; Tabachnick & Fidell, 2001).

Further, the table shows the outcome of multiple regression analysis in two steps: first, Step 1 showed that age and length of service were found to be significant predictors of customer satisfaction. The inclusion of these variables in this step had explained 16 percent of the variance in the dependent variable. Step 2 displayed the outcome of direct relationship between service quality features and customer satisfaction: first, tangibility insignificantly correlated with customer satisfaction ( $\beta = 0.07$ , p > 0.05), therefore H1 was not supported. Second, responsiveness significantly correlated with customer satisfaction ( $\beta = 0.21$ , p > 0.05), therefore H2 was not supported. Third, reliability insignificantly correlated with customer satisfaction ( $\beta = 0.04$ , p > 0.05), therefore H3 was supported. Fourth, relationship between empathy insignificantly correlated with customer satisfaction ( $\beta = 0.14$ , p < 0.5), therefore H4 was supported. Finally, reliability insignificantly correlated with customer satisfaction ( $\beta = 0.43$ , p > 0.001), therefore H5 was not supported. In terms of explanatory power, the inclusion of this variable in this step had explained 64 percent of the variance in

dependent variable. Statistically, the results demonstrate that empathy and assurance were important determinants of customer satisfaction in the studied organization.

Variables	Independent variables (Customer Satisfaction)				
	Step 1	Step 2			
Controlling Variable Age	.62***	.25*			
Rank	05	00			
Education	.08	.01			
Length of Service	36*	18			
Service	.04	04			
Frequency of Serving in Peacekeeping Mission	01	.00			
Independent Variable Tangibility		.07			
Responsiveness		.21*			
Reliability		.04			
Empathy		.14			
Assurance		.43***			
R Square	.16	.64			
Adjusted R Square	.11	.61			
R Square Change	.16	.49			
F	3.23**	16.81***			
F Change	3.23**	28.14***			

Note: Significant at \*p<0.05, \*\*<0.01, \*\*\*p<0.001

Table 5. Results for Multiple Regression Analysis

# 5. Discussion and implications

The findings in this research showed that two service quality features i.e., responsiveness and empathy acted as important determinants of customer satisfaction in the studied organization. In the context of this study, the service provider (MALBAT Headquaters) had taken a proactive action to plan, maintain, and monitor its services to the soldiers who were involved in peacekeeping missions in a Middle Eastern country. The majority of soldiers perceived that responsiveness and empathy were actively and properly implemented by the service provider to improve operations, administration and logistics in operation areas. This practice had increased soldiers' satisfaction with the service quality programs implemented in the peacekeeping operations.

This study provided significant impacts on three major aspects: theoretical contribution, robustness of research methodology, and practical contribution. In terms of theoretical contribution, this study revealed two important outcomes: firstly, responsiveness and empathy had been important determinants of customer satisfaction. The finding had also supported studies by Bitner (1990), Mey et al. (2008), Ouyung (2010), Raza et al. (2012), and Osman and Sentosa (2013).

A thorough review of the semi structured interview outcome highlighted that the results might have been affected by different perceptions of respondents toward the implementation of tangibility, reliability and assurance in the operation areas. For example, most respondents were serving for the first time under the United Nations and they were given most challenging duities and responsibilities in controling violence, maintaining security and enforcing ceasefire in the conflicting areas. Under those challenging duties and responsibilities, the majority of soldiers perceived that the implementation of tangibility, reliability and empathy were not adequate to enhance the peacekeeping services because they had to cover large operation areas, work under unstructured deployment systems, face very poor physical facilities and difficulty in communication with local communities and fighting groups in the peacekeeping zone. Doing work under those prevailing conditions had increased soldiers' physiological and psychological stress, and that could have led to a decrease in their appreciation and recognition about the importance of tangibility, reliability and empathy in handling peacekeeping services.

With respect to practical contributions, the findings of this study could be used as a guideline by the management to improve the quality of peacekeeping operations in the conflicting areas. The objectives could be achieved if peacekeeping mission management emphasized on the following suggestions: firstly, quality service training program must to be provided to officers who were in-charge of the peacekeeping missions so that they will clearly understand the soldiers' needs and expectations in the operations areas. Secondly, quality service training program must be provided to rank holder soldiers to enable them think realistically and able to adapt to unexpected conditions in the conflicting areas. Thirdly, to consider better monetary rewards to soldiers who displayed high commitment and performance in executing their peacekeeping duties and responsibilities. Finally, to give priority to the selection of soldiers who possessed good information technology knowledge and skills because they could increase efficiency in communicating vital information about operations, administration systems and logistics. If these suggestions are seriously considered and implemented, then the motivation for the soldiers to perform well would lead to higher satisfaction in future peacekeeping missions.

# 6. Conclusion

This study proposed a conceptual framework based on the service quality research literature. The exploratory factor analysis confirmed that the measurement scale used in this study had met the acceptable standards of validity and reliability analyses. Further, the results of multiple regression analysis showed that two service quality features i.e., responsiveness and empathy did act as important determinants of customer satisfaction. These results have also supported and extended service quality research literature published in most Western countries. Conversely, tangibility, reliability and assurance did not act as important determinants of customer satisfaction. (Reseachers need to highlight why). Based on the semi structured

interview outcomes, the results may have been be affected by different perceptions of the respondents toward the implementation of tangibility, reliability and assurance in the operation areas. Therefore, current research and practice within service quality literature have to consider all service quality features as critical dimensions for quality management domain. Findings from this study further suggested that the ability of service providers to properly incorporate the service quality features in planning and implementing services may strongly induce positive customer attitudes (i.e., satisfaction, commitment, performance and acceptance). Hence, these positive outcomes may lead to a sustained and well supported peacekeeping management strategy and goals.

While results of the current study find support from extant literature, future research should consider its limitations of conceptual framework and methodology. First, this study used a cross-sectional design as the main procedure to collect data during the duration of this study. Therefore, it did not capture the developmental issues such as intra-individual change and restrictions of making inference to participants and/or causal connections between variables of interest. Besides that, the translation of the survey instrument into the Malay language was one of the challenges encountered by the researchers during the study. Moreover, this study was based on self-reported data, taking only the perspectives of soldiers. In addition, this study included only one outcome variable that could correlate significantly with each other.

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