

Service Quality as an Antecedent of Customer's Behavioral Intention

Azman Ismail, Nurul Afiqah Foboy, Ilyani Ranlan Rose, and Ahmad Azan Ridzuan

Abstract—This study investigates the relationship between service quality and customer's behavioral intention using self-report questionnaires collected from customers at military medical centers in Malaysia. The outcomes of SmartPLS path model analysis confirmed that tangible, reliability and responsiveness did not act as important antecedents of customer's behavioral intention. Conversely, assurance and empathy did act as important antecedents of customer's behavioral intention in the organizational sample. Further, this study offers discussion, implications and conclusion.

Keywords—Service quality, behavioral intention, military medical centers

I. INTRODUCTION

QUALITY is a broad term and may be interpreted according to the various styles such as conformance to requirements [1], fitness for use [2], one that satisfies the customer [3], and zero defects in service delivery system [1]. In an organizational management perspective, service quality is viewed as a continuously improvement [4], [5], [6] where it exists when customers' expectations for service performance match their perceptions of the service received [7], [8].

Service quality consists of four major components: tangible, reliability, responsiveness, assurance and empathy [4], [9], [10], [11]. Tangible (TANG) is usually defined as a service provider provides good facilities, equipment, personnel and communication materials when delivering services. Reliability (RELB) is often seen as a service provider implements a promised service dependably and accurately. Responsiveness (RESP) is frequently defined as a service provider provides service quickly and accurately. Assurance (ASSR) is often related to credibility, competence and security in delivering services. Finally, empathy (EMPH) is often referred to caring, attention and understanding the customer needs when providing services.

Azman Ismail is with Universiti Kebangsaan Malaysia, 43600 Bandar Baru Bangi, Selangor, Malaysia (E-mail:azisma08@gmail.com)

Nurul Afiqah Foboy is with Universiti Pertahanan Nasional Malaysia, 43600 Bandar Baru Bangi, Selangor, Malaysia (E-mail:snafiqah@yahoo.com)

Ilyani Ranlan Rose is with Universiti Pertahanan Nasional Malaysia, 43600 Bandar Baru Bangi, Selangor, Malaysia. E-mail:nurilyanirose@yahoo.com)

Ahmad Azan Ridzuan is with Universiti Pertahanan Nasional Malaysia, 43600 Bandar Baru Bangi, Selangor, Malaysia (E-mail:azan6142@yahoo.com)

Unexpectedly, extant studies about the workplace service quality program reveal that the ability of service providers to appropriately implement the service quality characteristics in executing job may lead to greater positive customer outcomes, especially behavioural intention [8], [12]. According to many scholars, behavioral intention (BEHINT) is broadly defined as a customer prefers to use services provided by his/her service provider and this preference is manifested in terms of customers ready to recommend, intend to repurchase and deliver positive word of mouth [13], [14], [15].

In a service quality model, many scholars concur that TANG, RELB, RESP, ASSR, EMPH and BEHINT are different, but strongly interrelated concepts. For example, the ability of service providers to appropriately implement these service quality characteristics in executing duties and responsibilities may lead to greater BEHINT [16], [17], [18]. Even though this relationship has been studied, the role of service quality as an important antecedent is left unexplained in the workplace service quality research literature. Many researchers argue that the role of service quality as an important antecedent is given less attention because the previous studies have given much attention on describing the concepts and features of service quality program, employed a simple correlation method to determine employee attitudes toward service quality features, identified the degree of association between certain service quality features and general customer outcomes, and ignored to quantify the effect size and nature of the correlation between service quality and BEHINT in the workplace. As a result, these studies have provided inadequate findings to be used as useful recommendations by practitioners in understanding the complexity of service quality and designing strategic action plans to enhance service quality programs in high performing organizations [8], [17], [18]. Thus, it motivates the researchers to fill in the gap of literature by quantifying the association between service quality and customer's behavioural intention. Further, this study has focused on answering two major research questions: first, which service quality characteristics that may affect customer's behavioural intention?, and do service quality characteristics affect BEHINT?

II. LITERATURE REVIEW

Parasuraman et al.'s [6] service quality model highlights that meet customers' standards may reduce service

performance gap and increase positive customer attitudes toward the quality systems. While, Adams' [19] equity theory posits that fair treatment in the process of exchanging input-output may invoke positive individual outcomes. Further, Vrooms' [20] expectancy theory suggests that understanding the importance of outcomes may positively affect individual actions. The essence of these theories promotes that perceived ability to meet customers' standards, perceived ability to provide fair treatment and perceived valuable are service quality (TANG, RELB, RESP, ASSR and EMPH). These ideas have received strong support from several recent studies conducted using a direct effects model based on different samples, like perceptions of 341 soldiers from the Malaysian Battalion Peacekeeping Mission Management at a Middle East country [8], 610 customers from five star hotels at a Balek Tourism District in Antalya, Turkey [12], 537 outpatients in general hospital located in Sungnam, South Korea [13], and 287 participants at an outdoor program in Lake Plasteera, Greece [21]. These surveys reported that the ability of service providers to appropriately implement TANG, RELB, RESP, ASSR and EMPH in executing duties and responsibilities had been essential antecedents of BEHINT in the respective organizations [8], [12], [13], [21]. Thus, it can be hypothesized that:

H1: Service quality (i.e., TANG, RELB, RESP, ASSR, EMPH) positively related to BEHINT.

III. METHODOLOGY

A cross-sectional research design is chosen because it allows the researchers to combine the service quality literature, the semi structured interview and the actual survey as the main procedure of collecting data for this study. The use of this procedure may help the researchers to gather accurate, less bias and high quality data [22], [23]. This study was conducted at military medical centers in Malaysia. At the initial stage of data collection, a semi structured interview was conducted involving eleven participants namely four administration staff and doctors from military hospitals, non-hospitals and health institute in Peninsular Malaysia. They had working experiences from four to nineteen years and had adequate knowledge and experiences about service quality in the organizations. The information gathered from the interview method helped the researchers to understand the service quality and BEHINT characteristics, as well as the relationship between such variables in the organizational context. After that, the information gathered from the interviews was used to improve and verify the content and format of the survey questionnaire for an actual research. 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 [22], [23].

The survey questionnaire had two major sections: first, service quality characteristics, i.e., TANG had 3 items,, RELB

had 6 items, RESP had 9 items, ASSR had 4 items and EMPH had 4 items adjusted from Parasuraman et al.'s [6] SERVQUAL instrument. Second, BEHINT had 5 items adjusted from the service quality related behavioural intention literature [14], [24], [8]. All these 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 customer attitudes.

A convenient sampling technique was employed to distribute 300 survey questionnaires to customers who received treatments at military medical centers in Malaysia. Of the total number, 128 usable questionnaires were returned to the researchers, yielding 43 percent response rate. The survey questionnaires were answered by participants based on their consents and a voluntarily basis.

SmartPLS 2.0 was employed to analyze the survey questionnaire data because it could 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 [25], [26]. Data for this study were analyzed using the following steps: first, the validity and reliability of instrument were determined using a confirmatory factor analysis. Second, the structural model was assessed by examining the path coefficients using standardized betas (β) and t statistics ($t > 1.96$). The value of R^2 is used as an indicator of the overall predictive strength of the model. The predictive strength of the model is determined based on the criteria: 0.19 (weak), 0.33 (moderate) and 0.67 (substantial) [27], [25].

IV. RESULTS

The majority respondent characteristics were males (64.1%), aged between 21 to 30 years old (44.5%), non-married employees (83.6%), army patients (97.7%), patients who received ordinary treatments (93.8%), patients who received one time treatment in a month (75.8%). In terms of validity and reliability of the instrument, the values of average variance extracted (AVE) for TANG (0.691), RELB (0.778), RESP (0.758), ASSR (0.751), EMP (0.626) and BEHINT (0.734) were greater than 0.5, indicating that these constructs met the acceptable standard of convergent validity [25], [28]. Besides that, the values of AVE square root in diagonal for TANG (0.831), RELB (0.882), RESP (0.871), ASSR (0.866), EMP (0.791) and BEHINT (0.857) were greater than the squared correlation with other constructs in off diagonal, showing that these constructs met the acceptable standard of discriminant validity [25].

Factor loadings for the items that represent TANG (0.80 to 0.89), RELB (0.82 to 0.91), RESP (0.84 to 0.91), ASSR (0.77 to 0.96), EMPH (0.77 to 0.88) and BEHINT (0.85 to 0.90) were greater than other items in the different constructs. These loadings stronger on their own constructs in the model, and

greater than 0.70 were considered adequate [27], [28]. In sum, the measurement model has met the validity criteria. Further, the values of composite reliability for TANG (0.871), RELB (0.955), RESP (0.966), ASSR (0.923), EMPH (0.869) and BEHINT (0.932) were greater than 0.8, indicating that the instrument used in this study had high internal consistency [25, 29].

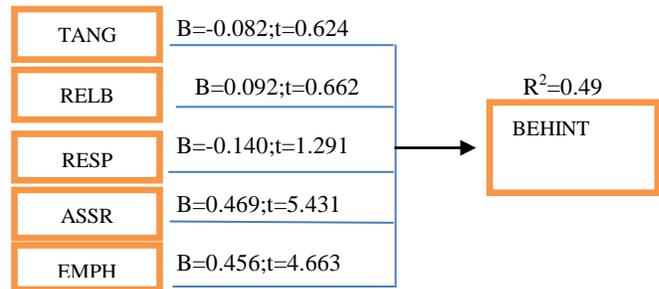
The mean values for TANG (5.6), RELB (5.6), RESP (5.7), ASSR (5.3), EMPH (5.5) and BEHINT (5.4) were from 5.3 to 5.7, showing that the levels of TANG, RELB, RESP, ASSR, EMPH and BEHINT ranging from high (4) to highest level (7). The correlation coefficients for the relationship between the independent variable (i.e., TANG ($r=0.24$, $p<0.01$), RELB ($r=0.41$, $p<0.01$), RESP ($r=0.37$, $p<0.01$), ASSR ($r=0.50$, $p<0.01$) and EMPH ($r=0.56$, $p<0.01$) and the dependent variable (i.e., BEHINT) were less than 0.90, signifying that the data were not affected by serious collinearity problem [30]. Besides that, the correlation between each construct (TANG, RELB, RESP, ASSR, EMPH and BEHINT) had r value 1, estimating that these constructs met a high reliability standard. In sum, these results further confirm that the instrument used in this study has met the acceptable standards of validity and reliability analyses.

Fig. 1 shows that the service quality characteristics in the analysis had contributed 49 percent in the variance of BEHINT. The outcomes of testing the research hypotheses displayed five important findings: first, TANG significantly correlated with BEHINT ($B=-0.082$; $t=0.624$), therefore H1 was not supported. Second, RELB significantly correlated with BEHINT ($B=0.092$; $t=0.662$), therefore H2 was not supported. Third, RESP significantly correlated with BEHINT ($B=-0.140$; $t=1.291$), therefore H3 was not supported. Fourth, ASSR significantly correlated with BEHINT ($B=0.469$; $t=5.431$), therefore H4 was supported. Finally, EMPH significantly correlated with BEHINT ($B=0.456$; $t=4.663$), therefore H5 was supported.

In order to determine a global fit PLS path model, we carried out a global fit measure (GoF) based on Wetzels et al.'s [31] guideline as follows: $GoF = \sqrt{\text{MEAN}(\text{Communality of Endogenous}) \times \text{MEAN}(R^2)} = 0.60$, indicating that it exceeds the cut-off value of 0.36 for large effect sizes of R^2 . This result confirms that the PLS path model has better explaining power in comparison with the baseline values (GoF small=0.1, GoF medium=0.25, GoF large=0.36). It also provides adequate support to validate the PLS model globally [31].

Independent Variable
Variable
(Service Quality Characteristics)

Dependent Variable



Note: Significant at * $t > 1.96$

Fig. 1 The Results of SmartPLS Path Model Analysis

V. DISCUSSION

The findings of this study show that ASSR and EMPH act as important antecedents of BEHINT. Conversely, TANG, RELB and RESP do not act as important antecedents of BEHINT. In the context of this study, the service provider has taken proactive actions to plan, maintain, and monitor its service to customers based on the broad policies and procedures set up by the stakeholder. The majority of respondents perceive that the levels of TANG, RELB, RESP, ASSR and EMPH are high. This situation indicates that the implementation of ASSR and EMPH in doing duties and responsibilities may lead to higher BEHINT. While, the implementation of TANG, RELB and RESP in executing duties and responsibilities may lead to lower BEHINT in the organizations.

This study provides three major implications: theoretical contribution, robustness of research methodology, and practical contribution. In terms of theoretical contribution, this study revealed two important findings: firstly, ASSR and EMPH have been important antecedents of BEHINT in the studied organization. This finding has also supported and extended studies by Ridzuan et al. [8], Choi et al. [13], Kuruuzum and Koksall [12] and Kouthouris and Alexandris [21]. Secondly, TANG, RESP and RELB have not been important antecedents of BEHINT in the studied organization. A thorough review of the interview outcomes shows that this result may be affected by external factors: first, customers have different personal and service characteristics. This situation may create different judgements and values among customers about the ability of TANG, RELB and RESP to improve daily services in the organizations. Second, staff have different personal and services characteristics. This condition may affect their capabilities to properly carry out TANG, RELB and RESP in fulfilling their customers who have different needs and expectations. These factors may decrease the effectiveness of TANG, RELB and RESP in the organizations.

Concerning the robustness of research methodology, the survey questionnaires used in this study have satisfactorily met the requirements of validity and reliability analyses. As a result, it can lead to the production of accurate and reliable findings. In regards with practical contribution, the findings of this study can be used as guidelines by management to

improve the delivery of service quality in organizations. The intention may be realized if management gives more attention on the aspects: firstly, quality service training program needs to be provided to all staff in order to increase their awareness and skills in handling different customers' needs and expectations.

Secondly, attractive recognition plans need to be provided in order to create feelings of important among staff toward customer satisfaction and loyalty. Thirdly, recruitment policy needs to be adjusted in order to select knowledgeable and experienced employees 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. Finally, communication openness between medical staff and customers should be encouraged because it may help to reduce communication gap between them and improve the efficiency of bureaucracy system in taking care customers. If these suggestions are appropriately given attention this may lead to support the organizational service quality program.

VI. CONCLUSION

This study confirms that two service quality characteristics i.e., ASSR and EMPH have played important roles as antecedents of BEHINT in studied organizations. This result has also supported and broadened studies mostly published in most Western countries. Conversely, three service quality characteristics i.e., TANG, RELB and RESP have not played important roles as antecedents of BEHINT in the studied organizations. A thorough review of the interview outcomes shows that this result may be affected by external factors: first, customers who have different personal and service characteristics may have different judgements and values about the implementation of TANG, RELB and RESP in the organizations. Second, staff who have different personal and services characteristics may have different capabilities to properly carry out TANG, RELB and RESP in fulfilling their customers who have different needs and expectations. These factors may overrule the effectiveness of TANG, RELB and RESP in the organizational service quality model. Therefore, current research and practice within organizational total quality model needs to incorporate TANG, RELB, RESP, ASSR and EMPH as driving forces of the service quality domain. The findings of this study further suggest that the ability of service providers to appropriately implement the service quality characteristics may strongly enhance positive customer outcomes (e.g., satisfaction, feel important, loyalty and ethics). Thus, these positive outcomes may lead to maintained and upgraded the level of organizational competitiveness in an era of knowledge based economy.

REFERENCES

- [1] Crosby, P. B. (1978). *Quality is Free – The Art of Making Quality Certain*, McGraw-Hill. New York.
- [2] Juran, J. M. (1988). *Juran's quality control handbook*. Fremont, USA: McGraw-Hill.
- [3] Eiglier, P. & Langeard, E. (1987). *Servuction: Le marketing des services*. McGraw-Hill, Paris.
- [4] Sureshchandar, G. S. (2000). Development of a framework for total quality service – the case of banks in India. Unpublished doctoral dissertation, Indian Institute of Technology Madras.
- [5] Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of Marketing*, 52, 2-22
<http://dx.doi.org/10.2307/1251446>
- [6] Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (1985). A conceptual model of service quality and its implication for future research. *Journal of Marketing*, 49, 41-50.
<http://dx.doi.org/10.2307/1251430>
- [7] Bolton, R. N. & Drew J. H. (1991). A longitudinal analysis of the impact of service changes on customer attitudes. *Journal of Marketing*. 55(1), 1-9.
<http://dx.doi.org/10.2307/1252199>
- [8] Ridzuan, A.A., Ismail, A., & Kadir, M.J. (2013). The Relationships between service quality and behavioural intention in Malaysian Battalion Peacekeeping Mission Management. The Proceeding of the 5th International Conference on Humanities and Social Sciences, April 27, 2013, Faculty of Liberal Arts, Prince of Songkla University, 359-375.
- [9] Juwaheer, T. D. & Ross, D. L. (2003). A study of guest perceptions in Mauritius. *International Journal of Hospitality Management*, 15(2), 105-115.
<http://dx.doi.org/10.1108/09596110310462959>
- [10] Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.
- [11] Walker, R. H., Johnson, L.W. & Leonard, S. (2006). Re-thinking the conceptualization of customer value and service quality within the service-profit chain. *Managing Service Quality*, 16(1), 23-36.
<http://dx.doi.org/10.1108/09604520610639946>
- [12] Kuruuzum, A. & Koksak, C. D. (2010). The Impact of Service Quality on Behavioural Intention in Hospitality Industry. *International Journal of Business and Management Studies*, Vol. 2, No 1, 9-15.
- [13] Choi, K. S., Cho, W. H., Lee, S. H., Lee, H., & Kim. C. (2004). The Relationship among Quality, Value, Satisfaction and Behavioural Intention in Health Care Provider Choice: A South Korean Study. *Journal of Business Research*, 57, 913-921.
[http://dx.doi.org/10.1016/S0148-2963\(02\)00293-X](http://dx.doi.org/10.1016/S0148-2963(02)00293-X)
- [14] Cronin, J., Brady, M., & Hult, G. (2000). Assessing the Effects of Quality, Value, and Customer Satisfaction on Behavioural Intentions in Service Environments. *Journal of Retailing*, 76(2), 193–218.
[http://dx.doi.org/10.1016/S0022-4359\(00\)00028-2](http://dx.doi.org/10.1016/S0022-4359(00)00028-2)
- [15] Saibou, H. & Kefan, X. (2010). The Relationships Among Quality, Value, Satisfaction and Behavioural Intention in Health Care Provider Choice: A Study Based on the Case of Niger. *IEEE*, Vol. 6, 2010 2nd International Conference on Computer Engineering and Technology, 225-228.
- [16] González, M. E. A. Comesaña, L. R., & Brea J. A. F. (2007). Assessing Tourist Behavioural Intentions through Perceived Service Quality and Customer Satisfaction, *Journal of Business Research*. 60(2), 153–160.
<http://dx.doi.org/10.1016/j.jbusres.2006.10.014>
- [17] Gracia, E., Bakker, A. B., & Grau R. M., (2011). The Connection between Customer Quality Evaluations and Loyalty. *Cornell Hospitality Quarterly*, 52(4), 458-465.
<http://dx.doi.org/10.1177/1938965510395379>
- [18] Ha, J., & Jang, S. S. (2012). The Effects of Dining Atmospherics on Behavioural Intentions through Quality Perception. *Journal of Services Marketing*, 26(3), 204-215.
<http://dx.doi.org/10.1108/08876041211224004>
- [19] Adam, J. S. (1963). Towards an Understanding of Inequality. *Journal Of Abnormal and Normal Psychology*. 67, 422-436.
<http://dx.doi.org/10.1037/h0040968>
- [20] Vroom, V. H. (1964). *Work and motivation*. New York, NY: John Wiley & Sons.
- [21] Kouthouris, C. & Alexandris, K. (2005). Can Service Quality Predict Customer Satisfaction and Behavioural Intentions in the Sport Tourism Industry? An Application of the SERQUAL model in an Outdoors

- Setting. *Journal of Sport Tourism* 10(2), Routledge Taylor & Francis Group, 101-111
- [22] Creswell, J. W. (1998). *Quality inquiry and research design: choosing among five traditions*. London: SAGE Publication.
- [23] Sekaran, U. (2000). *Research methods for business: A skill building approach*. New York: John Wiley & Sons, Inc.
- [24] Cronin, J. Joseph, Jr. & Steven A. Taylor (1992). "Measuring Service Quality: A Reexamination and Extension," *Journal of Marketing*, 56 (3): 55-68.
<http://dx.doi.org/10.2307/1252296>
- [25] Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The Use of Partial Least Squares Path Modeling in International Marketing. In: Sinkovics, R. R., Ghauri, P. N. (Eds.), *Advances in International Marketing*. Bingley: Emerald, 277-320.
[http://dx.doi.org/10.1108/S1474-7979\(2009\)0000020014](http://dx.doi.org/10.1108/S1474-7979(2009)0000020014)
- [26] Ringle, C. M., Wende, S., & Will, A. (2005). *SmartPLS 2.0 M3*. Hamburg.
- [27] Chin, W.W. (1998). The Partial Least Squares Approach to Structural Equation Modelling, in Hoyle, R.H. *Statistical Strategies for Small Sample Research*, Sage Publication, Inc., Thousand Oaks – California, 307-341.
- [28] Fornell, C. & Larcker, D.F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, vol XVIII, no. February, 39-50.
<http://dx.doi.org/10.2307/3151312>
- [29] Nunnally, J.C. & Bernstein, I.H. (1994). *Psychometric Theory*. New York: McGraw-Hill.
- [30] Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). *Multivariate data analysis*. New Jersey: Prentice-Hall International, Inc.
- [31] Wetzels, M., Odekerken-Schroder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS Quarterly*, 33 (1), pp. 177-195.