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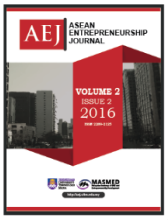

Automotive After-sales Service Quality Attributes and Customer Loyalty: An Empirical Study of Malaysian National Carmakers

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ABSTRACT

The purpose of this paper is to explore on the uni-dimensionality of service quality and how the different attributes influence the level of customer loyalty. A modified SERVQUAL instrument was used to capture customers' perceptions of service quality. Adapting the dimensions from the literature and tested in the context of Malaysian national automotive after-sales service, PLS-SEM was used to investigate the influences of the modified dimensions of service quality attributes on customer loyalty. The results of the study provide strong support for the predictive power of perceived service quality on customer loyalty and shows that customer service is the most important dimension to explain service quality. Support service is also the significant contributor, and correlated with the smallest weight. The findings provide an insight not only to the national carmakers as the main subject of evaluation, but also valuable to the ordinary workshops that offer similar service and maintenance for vehicles. The empirical evident may facilitate the workshop as an entrepreneur to properly understand the importance of excellent quality of service and high quality of customer-service provider relationship in ensuring long-term business sustainability.

Key Words: Automotive, After-sales Service, Malaysian National Carmakers, Customer Loyalty

1. INTRODUCTION

The national car project initiated by the government of Malaysia in 1982 has led to the establishment of Malaysian national carmakers namely Proton and Perodua. The project has transformed Malaysia from a mere motorcar assembler into a car manufacturer (Malaysian Investment Development Authority [MIDA], 2012). The existence of national carmakers provides opportunity for thousands of ordinary Malaysian to own at least one brand new car, train thousands of Malaysian in the industry and offer a substantial number of job opportunities. Until recently, the national car makers controlled more than 50% of the total industry volume (TIV) (Malaysian Automotive Association, 2014) and most importantly, this figure directly indicates the customer base to represent the local automotive industry. The sound economic fundamental and high purchasing power of the population has attracted major international automotive manufacturers to join the Malaysian automotive market.

The competition with the world automotive giant such as Toyota, Honda, Hyundai and Nissan has shown the increasing growth for the non-national brand. Since their establishment, the national car makers have controlled more than 80% of the market shares in local automotive industry. However, the steady growth recorded by the non-nationals has swallowed the share of market and last year 2014 has seen them overtake the market and has left the shares of only 46% to the nationals (Malaysian Automotive Association, 2014). The situation clearly shows that the nationals are losing their market shares and further indicates that the locals are more interested towards non-national brands and most importantly, this trend demonstrates the lower level of loyalty towards Malaysian national car makers compared to the years before.

One of the best platforms to capture higher level of customer loyalty is after-sales service (Saccani, Songini, & Gaiardelli, 2006). Vehicle sales is basically a one-off purchase transaction but after-sales service offers a period of relationship building through the repeated and continuous transactions during the period of free warranty vehicle service. The mutually benefited relationship develops during the period of after-sales service between the customer and the service provider and that has promised positive word-of-mouth and act of recommendation (Hennig-Thurau, Gwinner, & Gremler, 2002) and in turn contribute to the good publicity and good image of the organizations (Prasad & Aryasri, 2008).

2. LITERATURE REVIEW

2.1. Customer Loyalty

The importance of loyal customer to a business organization has attracted attention of many researchers and so the market practitioners. In fact, in automotive industry, customer loyalty posits as one of the most important elements to determine the survival of an automotive organization (Jahanshahi, Gashti, Mirdamadi, Nawaser, & Sadeq Khaksar, 2011). As a result, loyalty as an interesting subject has received sufficient consideration by researchers. However, the complexities of its definition, concept and dimension have made it a fresh topic to receive further research attention especially in the latest phenomena in Malaysian automotive industry. Recently, the evaluation of customer loyalty can be described as uni-dimensional, bi-dimensional, composite, and multi- dimensional approach (Chiu, Cheng, Huang, & Chen, 2013). The combination of both behavioral and attitudinal loyalty known as composite loyalty is the most selected conceptual definition to describe customer loyalty in consumer researches (Hallowell, 1996; Jacoby, Chestnut, & Fisher, 1978; Rundle-Thiele, 2005).

2.2. The Unique Characteristics of Service Quality in Various Industries

Undoubtedly, service quality is important to attract more loyal customers and subsequently contributes to the bottom-line of the firm (Caruana, 2002). In fact, the perceptions on service quality dimensions might influence the customer's behavioral and attitudinal loyalty (Anderson & Sullivan, 1993). In automotive after-sales service, service quality is one of the most important variables influencing the level of customer loyalty (Yieh, Chiao, & Chiu, 2007). However, the extant literatures clearly show that researchers do not unanimously agreed on one established dimension as measures for service quality (Bhat, 2012; Kashif, Altaf, Ayub, Asif, & Walsh, 2014; Shekarchizadeh, Rasli, & Hon-Tat, 2011). Even though the SERVQUAL developed by Parasuraman, Zeithaml, and Berry (1985, 1988) offered the five established dimensions to describe service quality, it is still insufficient to fully describe service quality in all service settings (Bhat, 2012). Indeed, the instruments and determinants need to be reassessed (Caceres & Paparoidamis, 2007) and the academician should further revisit the multi-dimensional scale of service quality (Cronin & Taylor (1994), Until recently, Kashif et al. (2014) also suggested that the literature has not fully explained on service quality especially in non-western countries and further proposed future studies to consider the new paradigm to the present service quality.

2.3. Alternative Attractiveness as Competition Factor

Alternative attractiveness basically refers to the guess made by the customer on the possible satisfaction that exists in alternative relationship (Ping, 1993). The competition factors such as better service, relatively lower total price, free service vouchers and lucky draws are all those positive characteristics that influence customers to terminate the existing relationship with current service provider and to choose those ordinary workshops for routine car service maintenance and repair. However, the special services elements serve as competitive advantage that retained the customer to switch to competitor (Wulf & Odekerken-Schröder, 2001).

Being motivated by the SERVQUAL as the mostly used measures for service quality and the arguments on the need to have a new paradigm for service quality, the researcher has explored the literature for new dimensions and has revisited the SERVQUAL as alternative measures for service quality in automotive after-sales service especially in Malaysian national carmakers.

3. RESEARCH MODEL AND HYPOTHESES

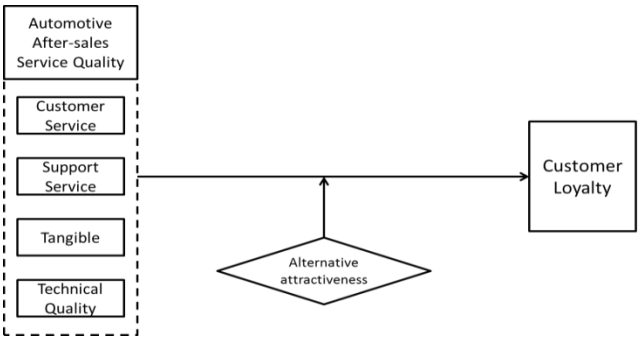

Fig. 1 Research Model

In light of the above-mentioned, the research model of the study is developed as shown in Figure 1. Instead of measuring each service quality dimension pointing directly to customer loyalty, higher-order constructs (HOCs) are used represent automotive after-sales service quality. Next, directional hypotheses are formulated to evaluate the relationship. The HOCs allow for these two hypotheses, and they are developed as follows:

H1: Automotive After-sales Service quality attributes have positive effect on customer loyalty.

H2: Alternative attractiveness moderates the relationship between automotive After-sales service quality attributes and customer loyalty.

4. METHODOLOGY

The quantitative survey was carried out within one month period; started in the end of October and ended November 2015 in the Northern region of Malaysia. A self-administered survey was carried out with 312 customers who had visited the service branches of national carmakers for car service, maintenance and repair. To determine the branches for data collection, the cluster sampling is used. Meanwhile, for selection of respondents, systematic sampling is employed in which every first of third customers were approached upon entering the service branches.

All constructs in this study were adapted from the scales in the extant literature. Customer loyalty in this study was measured using composite loyalty which integrates both attitudinal and behavioural loyalty, and consists of seven items (Caceres & Paparoidamis, 2007; Hallowell, 1996; Jacoby et al., 1978; Prasad & Aryasri, 2008). Service quality scales were adapted from the established SERVQUAL of Parasuraman, Zeithaml, & Berry (1985, 1988) and support service as additional dimension was measured using four scales suitable with service quality in after-sales service (Cronin, Brady, & Hult, 2000; Llach, Marimon, Alonso-Almeida, & Bernardo, 2013; Negash, Ryan, & Igbaria, 2003; Parasuraman, Zeithaml, & Malhotra, 2005). Hence, service quality which is re-categorized into four dimensions; customer service, tangibility, technical quality and support service have been measured with 31 items altogether. In addition, alternative attractiveness was measured using scales of six items from Sharma and Patterson (2000) and Callarisa Fiol et al. (2009).

The analysis of validity and reliability as well as hypothesis testing was done in partial least squares structural equation modeling (PLS-SEM) namely SmartPLS 3.0 developed by Ringle, Wende, and Becker (2015). Service quality (SQ) was conceptualised as a second-order formative construct with four first-order reflective constructs called reflective-formative type II (Becker et al., 2012; Chin, 2010). Treating service quality as second-order formative model was parallel to that given by previous researchers (Badri, Abdulla, & Al-Madani, 2005; Baldwin & Sohal, 2003; Gounaris, 2005; Kang & James, 2004). Lastly, both customer loyalty and alternative attractiveness used reflective measurement.

5. FINDINGS

Table 1 presents the demographic information of 312 customers. The completed questionnaires were collected before the customer left the waiting area of the service branches (Yieh et al., 2007). The response

rate of 95% advocates proper supervision of data collection process in a month's time, hence, the non-response bias is not a major issue (Nulty, 2008; Richardson, 2005).

Table.1. Respondent's Profile

Variable		Frequency	Percent
Age	17 to 25 years	33	11.6
	26 to 35 years	107	34.3
	36 to 45 years	107	34.3
	46 to 55 years	48	15.4
	Above 55 years	17	5.4
Gender	Male	169	54.2
	Female	143	45.8
Income	Below RM1,000	15	4.8
	RM1,001-RM3,000	140	44.9
	RM3,001-5,000	96	30.8
	>RM5,000	51	16.3
	No income	10	3.2
Average Cost of Service	Below RM200	68	21.8
	RM201-RM300	162	51.9
	RM301-RM400	56	17.9
	Above RM400	26	8.3

5.1. Measurement Model Evaluation

The evaluation of constructs reliability in this study is shown by the composite reliability values for dimensions of service quality (customer service, 0.966; support service, 0.911; tangible, 0.953; technical quality, 0.940), and alternative attractiveness of 0.927, also customer loyalty of 0.957. Those values are greater than 0.7 which demonstrate that these constructs possess adequate level of internal consistency and therefore valid measure of the constructs. The value above 0.90 has not been related to the possibility of constructs measuring the same phenomenon (Hair et al., 2014) because the VIF values were all below the cut-off value of 5 (Hair et al., 2014) (Table 3 and Table 5). Similarly, the average variance extracted (AVE) for each of the constructs studied also retain adequate convergent validity as all the values are above the cut-off value of 0.50. This value confirms that all the items loaded to the respective constructs able to explain more than 50% of the variance of the related constructs (Hair et al., 2014).

Another important evaluation in the measurement model involved assessment of construct discriminant validity. This validity was assessed using Fornell Larcker criterion (Fornell & Larcker, 1981). As depicted in Table 2, Fornell Larcker discriminant validity is achieved when the values in the diagonal which are the square root of AVE for each construct are higher than the off diagonal values (correlation). This signifies that each construct is distinct and different from one another.

Table.2. Fornell and Larcker Criterion

	AA	CL	SQCS	SQSS	SQTAN	SQTQ
AA	**0.824**					
CL	0.183	**0.873**				
SQCS	0.218	0.831	**0.838**			
SQSS	0.126	0.721	0.749	**0.848**		
SQTAN	0.269	0.718	0.731	0.557	**0.896**	
SQTQ	0.254	0.835	0.835	0.753	0.737	**0.872**

Note: Bold values in the diagonal represent the square root of AVE while the other entries in off-diagonal represent the correlation between the constructs.
AA – Alternative Attractiveness; CL – Customer Loyalty; SQCS – Customer Service; SQSS – Support Service; SQTAN – Tangibility; SQTQ – Technical Quality.

Since service quality is measured as second-order, it is important to assess the collinearity of each first-order constructs. As depicted in Table 3, the variance inflation factor (VIF) values for each of the first-order construct under service quality are lower than recommended cut-off value of 5 (Hair et al., 2014), suggesting that collinearity was not the major issue.

Table.3. Collinearity Assessment

Second Order Construct	First-order Construct	VIF
Service Quality	Customer Service	4.154
	Support Service	2.627
	Tangibility	2.452
	Technical Quality	4.307

Subsequent to that, Table 4 presents the bootstrapping results which indicate the weights and path-coefficients for service quality formative second-order construct (Hair, Ringle, & Sarstedt, 2011). The bootstrapping results indicate that all of the quality attributes are significantly related to service quality.

Table.4. Path Co-efficient Assessment for Second Order Formative

	Direct Effect (β)	Standard Error	T-value	P-value
SQCS -> SQ	0.512	0.009	56.107	0.000
SQSS -> SQ	0.150	0.006	26.258	0.000
SQTAN -> SQ	0.209	0.006	34.919	0.000
SQTQ -> SQ	0.226	0.006	38.756	0.000

*p< 0.05, **p < 0.01 (one-tailed)

5.2. Structural Model Evaluation

Prior to evaluating the structural model, it is vital to ensure that the inner model of the study is free from issue of collinearity. As such, Table 5 depicts the result of collinearity test. The VIF value of 1.063 is smaller than 5, suggesting that collinearity is not the major problem (Hair et al., 2014).

Table.5. Collinearity Assessment

	CL
AA	1.063
SQ	1.063

Table 6 and Table 7 illustrate the assessment of structural model using bootstrapping procedure for results of path-coefficient for the hypothesized relationship. The direct relationship for service quality to customer loyalty is found to be significant (SQ → CL, $\beta = 0.881$, $p < 0.01$), hence, the hypothesis is supported. However, for alternative attractiveness to customer loyalty (AA → CL, $\beta = 0.024$, $p < 0.01$), the researcher has failed to reject the null hypothesis and therefore, the hypothesis is not supported.

Table.6. Path Co-efficient Assessment for Direct Relationship

	Direct Effect (β)	Standard Error	T-value	P-value
SQ -> CL	0.881	0.016	54.947	0.000

*p< 0.05, **p < 0.01 (one-tailed)

Table.7. Path Co-efficient Assessment for Moderating Effect

	Moderating Effect (β)	Standard Error	T-value	P-value
AA -> CL	0.024	0.019	1.227	0.110

*p< 0.05, **p < 0.01 (one-tailed)

Table 8 shows the evaluation of co-efficient of determination (R^2), the effect size (f^2), and the predictive relevance (Q^2). As shown in the table, the R^2 value of 0.763 for customer loyalty means that the service quality as the exogenous variable in this study explains 76.3% of variance in customer loyalty. Next, in assessing the predictive relevance (Q^2) of service quality over customer loyalty, the value of 0.580 which is greater than zero suggests that service quality possesses predictive capacity over customer loyalty (Hair et al., 2014). On another note, the results for f^2 when there is moderating effect also show that service quality (SQ) has larger effect ($f^2 = 2.964$) on customer loyalty (CL) compared to alternative attractiveness

(AA) (f^2 = 0.005). This denotes the importance of service quality compared to alternative attractiveness in explaining customer loyalty.

Table.8. Determination of Co-efficient (R^2), Predictive Relevance (Q^2) and Effect Size (f^2)

	Co-efficient	**Predictive Relevance**	**Effect Size f^2 (before)**		**Effect Size f^2 (after)**	
	R^2	Q^2	CL	Effect Size	CL	Effect Size
CL	0.763	0.580				
SQ			3.206	Large	2.964	Large
AA*SQ					0.005	None

6. DISCUSSION AND CONCLUSION

This study revisits the various service quality dimensions and has further identified additional dimension to measure service quality in automotive after-sales service industry. When validating the dimension, it is important to understand how the different dimensions indicate service quality and subsequently contribute differently to influence the level of customer loyalty. The findings correspond to the previous findings that the service quality positively influenced the level of customer loyalty (Curry & Gao, 2012; Etemad-Sajadi & Rizzuto, 2013; Lai, 2014). Although each service quality dimension (customer service, support service, tangibility and technical quality) is found to be positive with customer loyalty, the findings of the current study further point out that support service is the lowest contributor among the dimensions.

The result shows that customer service which mainly concerns on the functional quality has greater impact to represent service quality. This suggests that customers in automotive after-sales service believe that the human factor is more meaningful compared to support service which operationalized in the present study related to technology savvy and efficiency of back office staff. This result is parallel to the previous study that also found the importance of human factor as measures of service quality and indicates competitive advantage (Curry & Gao, 2012; Etemad-Sajadi & Rizzuto, 2013; Yieh et al., 2007). The competition factor as measured by alternative attractiveness shows insignificant relationship with customer loyalty. In fact, it has a very small effect on customer loyalty as compared to large effect of service quality in explaining customer loyalty. This suggests that the quality of service delivered by the service provider is more attractive to hold loyalty compared to the positive characteristics own by the competing service organizations.

Despite the magnitude of the present study from theoretical, methodological and empirical perspectives to both national carmakers and ordinary workshops as entrepreneur, it has few limitations that underscore the necessity of further research. Firstly, due to the highly competitive offers made by the close competitors, the new paradigm for measuring service quality in different industry is possible. Secondly, this study is limited to only Malaysian national carmakers and future studies are suggested to extend the richness of the data by considering both, national and non-national. The bigger sample may portray higher generalizability and the enriched findings could broaden and deepen the social exchange theory in service quality and customer loyalty research.

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