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How the Unique Industry-Specific Measures of Service Quality and Brand Image Can Develop Customer Loyalty in Automotive After-Sales Service

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Abstract

The relationship between service quality and customer loyalty has been the focus of service organizations for decades when pursuing competitiveness and profitability. Albeit being the focus of research for years, the customer's perception of the measures of service quality according to specific industry dimensions and contexts is still a major argument. As such, this study aimed to investigate service quality in the context of automotive after-sales service, specifically that provided by Malaysian national carmakers' service providers. This study also evaluated the role of the national carmakers' brand image and how it impacts the level of customer loyalty. This study found that national carmakers should focus on customer service and technical quality in order to achieve a higher quality of service, as well as strengthen their image to ensure customers return for the subsequent service and secure new vehicle sales. This study's primary data was obtained from questionnaires involving 321 respondents. Statistical analysis using the SPSS software was performed on the data. Empirical findings have provided insights for carmakers, especially after-sales service, on the importance of service quality, especially the element of customer service, technical quality and a strong image that captures customers' loyalty.

Keywords: Customer Loyalty, Automotive, Service Quality, After-sales Service, Brand Image.

Introduction

The local automotive industry has seen national carmakers aggressively competing for a larger market share. As market leaders, national carmakers hold 56% of the total market share (Malaysian Automotive Association, 2019). Securing a larger market share means a better opportunity to secure customer loyalty. The impact of a larger market share on more loyal customers comes in two ways. First, a larger number of cars sold contributes to a higher market share and at the same time the national carmakers get to secure a larger customer base and subsequently better customer retention. Secondly, the more cars sold or registered

contributes to a bigger number of cars coming in for service, maintenance and repairs. An important point to note is that every car registered will be given free service warranty for at least three years. As such, higher market shares also mean more cars coming in for service, maintenance and repairs. Hence, the higher the market share, the higher the customer loyalty, and the higher the number of cars coming in for service maintenance and repairs. This means that national carmakers earn profits not only from car sales but also directly from their after-sales service business.

Therefore, ensuring high quality of service is vital for securing a handsome bottom line and long-term profitability. The nature of business in automotive after-sales involves the service process and service delivery between the customer and the service provider. The relationship between the two parties continuous for at least three years until the free service warranty expires. During the long-term relationship, the service provider could impress the customer with high quality service that differentiates the national carmakers from their competitors. On another note, competitors to the national carmakers after-sales service are the ordinary service centres that are owned and operated by either a sole-proprietor, partnership or a company. By comparison, national carmakers are in a far better position compared to ordinary workshops as they are a big company established with standard operating procedures (SOP) and a well-positioned brand image. However, the question arises as to why customers do not continue to send their cars to the national carmakers' service centre after the warranty expires. Customers rather look for the ordinary workshop for the repair, service and maintenance of their cars. They lack loyalty to the national carmakers even though the relationship during the three years has given huge opportunities for the nationals to retain their customers for a long-term business relationship even after the warranty expires (Saidin, Abdul Rahman, Yus Kelana, & Abd Hamid, 2018).

Drawing upon that argument, this study intended to examine the how service quality and image affects the degree of customer loyalty to the national carmakers.

Problem Statement

Service quality is definitely an important factor when attracting loyal customers, which subsequently contributes to the firm's profit margin (Arora & Narula, 2018; Brochado, Rita, Oliveira, & Oliveira, 2019; Fauzi & Suryani, 2019). In fact, studies in automotive after-sales service have advocated service quality as an important variable that influences the degree of customer loyalty (Bouman & Wiele, 1992; Yieh, Chiao, & Chiu, 2007). Moreover, in service industries, marketers and academics have placed service quality as a source of competitive advantage that nurtures customer loyalty (Fauzi & Suryani, 2019). Apparently, perceptions on service quality dimensions or industry-specific measures might influence customer loyalty (Arora & Narula, 2018). As such, service quality measures are still debatable and the extant literatures clearly show that researchers do not unanimously agree on one established dimension of service quality measure (Uddin, Ali, & Khan, 2018).

Even though SERVQUAL (developed by Parasuraman, Zeithaml, & Berry, 1988) has been accepted as the most popular measure for service quality, it is still inadequate to fully describe service quality for all service settings (Arora & Narula, 2018; Bhat, 2012). As such, researchers are encouraged to further revisit the multi-dimensional scale of service quality (Cronin & Taylor, 1994). The instruments and determinants also need to be reassessed (Caceres &

Paparoidamis, 2007). Arora and Narula (2018) also stated that the literature has not fully explained service quality, especially in non-western countries and further proposed for future studies to consider the new paradigm that represents service quality according to different contexts of the study.

The industry report on national carmakers' after-sales service performance also shows unfavourable outcomes as the nationals were ranked below the mass market average for years and even worse, they were also consistently at the bottom of the rankings (J.D Power Asia Pacific, 2019). This quality issue is still unresolved as evidenced in the market survey and some online sites (J. D. Power Asia Pacific, 2019) and it has imparted a huge impact on the national carmakers' image.

The above discussions show that the automotive industry, especially the after-sales service sector, needs unique measures for improving service quality. In addition, the quality issue that impacts national carmakers' image warrants empirical studies on its relationship with customer loyalty. Therefore, this study attempted to examine the relationship between after-sales service quality dimensions with certain modifications to SERVQUAL and the role of image in determining the impact on customer loyalty.

Research Questions and Research Objectives

Issues that manifest in the problem statement have led to the development of research questions, as listed below.

- i. Is there any relationship between automotive after-sales service quality and customer loyalty?
- ii. Is there any relationship between customer service associated with automotive after-sales service quality and customer loyalty?
- iii. Is there any relationship between the technical quality of the automotive after-sales service quality and customer loyalty?
- iv. Is there any relationship between brand image and customer loyalty towards Malaysian national carmakers?

This study intended to determine the factors that correlate with the level of customer loyalty shown by Universiti Sains Malaysia (USM) students towards Malaysian national carmakers. For that purpose, specific research objectives related to the research questions were derived, as shown below.

- i. To investigate the relationship between automotive after-sales service quality and customer loyalty.
- ii. To examine the relationship between customer service associated with automotive after-sales service quality and customer loyalty.
- iii. To evaluate the relationship between the technical quality of automotive after-sales service quality and customer loyalty.
- iv. To assess the relationship between brand image and customer loyalty towards Malaysian national carmakers.

Literature Review

A literature review provides an insight on how variables in a study have been discussed by previous researchers that has changed the landscape of knowledge content. This section

intends to review relevant previous literature that could guide this current study to further contribute in the areas of customer loyalty and service quality, and subsequently extend the corpus of knowledge pertaining specifically to the Theory of Social Exchange (SET). Since this study is a correlational study, this section explains the relationship between independent variables and the dependent variable. Furthermore, research hypotheses will be written based on the review of literature.

Relationship between Automotive After-sales Service Quality and Customer Loyalty

A prominent Guru in service quality had defined service quality as the outcome resulting from comparisons made by customers between the expectations and perceptions of the service received (Parasuraman, Zeithaml, & Berry, 1988). A high quality service might satisfy customers and subsequently extend their recommendation of the brand to others and return for the next service, maintenance or repair (Myo, Khalifa, & Aye, 2019).

The elusive and subjective nature of service is a huge challenge for marketers and academics when measuring it. Parasuraman had established SERVQUAL as a measure for service quality. However, the uniqueness of each service industry demands for a specific measure according to the industry's needs. As such, studies have measured service quality consistent with the objective and context of the study. For example, Fauzi and Suriani (2019) had measured service quality in Islamic banking using the CARTER model introduced by Othman and Owen (2001). This model consists of five dimensions, namely compliance, assurance, reliability, tangibility, empathy and responsiveness, and the study found that service quality has a positive relationship with customer loyalty.

A recent study in the healthcare industry had evaluated service quality from the customer's perspective by using the popular SERVQUAL model for measuring service quality and empirically found a positive and significant relationship with customer loyalty (Hashem & Ali, 2019). The richness of service quality studies has urged the researcher to assess service quality in relation to self-service technology (SST). The study found a positive significant relationship between self-service technology (SST) service quality and customer loyalty (Iqbal, UI Hassan, & Habibah, 2018).

Most of the literature show service quality as a multidimensional construct. However, a study in the hospitality industry has found a positive relationship between service quality and customer loyalty, which was measured with 8 items as a whole construct without any dimensions (Lemy, Goh, & Ferry, 2019).

Guided by the above literature, this study hypothesised the relationship between service quality and customer loyalty as mentioned below.

H1: There is a positive relationship between automotive after-sales service quality and customer loyalty.

The following sections discuss the two dimensions of automotive after-sales service quality, namely customer service and technical quality, and further determine their relationship with customer loyalty.

Relationship between Customer Service associated with Automotive After-sales Service Quality and Customer Loyalty

Customer service plays an important role in delivering superior and excellent service. As such, to succeed in a competitive environment, it is imperative for a service organization to deliver add-on services in addition to what they normally offer to their customers (Gaurav, Sahu, & Mathew, 2018). The intangible element of service, as manifested in customer service, allows for better understanding of service quality (Bouman & Wiele, 1992; Yieh et al., 2007). In fact, the excellent customer service that manifests as functional quality is able to overcome deficiencies caused by technical qualities (Etemad-Sajadi & Rizzuto, 2013). Even though the literature shows that excellent customer service is vital in influencing the customer's decision to return for the next purchase or service, this topic has received little attention by researchers, especially its relationship to service quality (Gaurav et al., 2018).

A search of the literature shows that the intangible elements of service measured as a functional quality posited a positive relationship with customer loyalty (Bouman & Wiele, 1992). A recent study regarding the online shopping environment also found that customer service is the most significant factor that ensures returning customers (Cao, Ajjan, & Hong, 2018). On a similar note, a study on employee behaviour towards customers suggests the need for developing customer service standards as it ensures effective customer service and a higher percentage of returning customers (Terziev, Banabakova, & Georgiev, 2018).

Hence, due to the importance of customer service as one the determinants of service excellence that contributes to organizational performance, previous studies had explored service quality in different contexts according to their study's objectives. Guided by extant literature, this study intended to investigate the impact of customer service as a measure of service quality in the automotive after sales service context and further determine the relationship with customer loyalty in the same context. The hypothesis is expressed as follows:

H2: There is a positive relationship between customer service associated with automotive after-sales service quality and customer loyalty.

Relationship between Technical Quality associated with Automotive After-sales Service Quality and Customer Loyalty

Technical quality associated with after-sales service is seen as the outcome of a service, maintenance or repair that reflects the effectiveness and efficiency of the outcome (Ooi, Lin, Tan, & Chong, 2011). Gronroos (1984) explained that technical quality is concerned with the results of the service provided and is quite objective in nature. Besides the concern on the intangible aspect of service, customers are also concerned about the objective evaluation of the service measured by technical quality (Omar, Wel, Aziz, & Alam, 2013). The customer evaluates the ability of the service provider to solve problems that arise and the zero-problem status that is supposed to prevail after the repair.

According to a study concerning the financial service industry, technical quality predominantly influences the degree of customer loyalty (Bell, 2005). Another study concerning the Indian banking industry had measured technical quality in relation to the level of technology adoption and found a positive relationship with customer loyalty (Lenka, Suar, & Mohapatra, 2010). The literature review also found that instruments used to measure technical quality in previous studies were normally adapted from studies in various industries

(Kang & James, 2004). Based on the above literature, this study hypothesised the relationship between technical quality and customer loyalty as follows.

H3: There is a positive relationship between technical quality and customer loyalty.

Relationship between Brand Image and Customer Loyalty

In marketing, brand image and corporate image are seen as the same, where it refers to the whole perception of the corporation above its individual products (Nguyen, Nguyen, Nguyen, & Phan, 2018). Accordingly, a positive perception on image could contribute to the company's better position in the competitive market and loyal customers are those who determine the company's position in the market.

Recent studies concerning the Islamic financial banking industry had assessed the image of a service provider from an Islamic perspective and found that image is positively proportionate with customer loyalty (Abd Aziz, 2018). Similarly, a study concerning the insurance industry also found a positive relationship between image and customer loyalty (Nguyen et al., 2018). Xhema, Metin and Groumpos (2018) suggested that organizations would enjoy cost savings and higher profits as well as gain competitive advantage by focusing on strengthening their customer-perceived image. The organisation's credibility will develop trust and subsequently form higher degrees of customer loyalty exercised through the act of word-of-mouth recommendation and willingness to stay in a longer relationship with the service provider.

The above literature has shown the importance of perception towards brand image and how it contributes to a higher degree of customer loyalty. However, the reality faced by national carmakers is not favourable as the issue of negative perception on the quality of service is still unresolved as evidenced in the market survey and some online sites (J. D. Power Asia Pacific, 2019). Moreover, previous studies in the context of after sales service did not specify how the perception of image affects its relationship with customer loyalty. As such, this study was motivated to examine the relationship between the image of the national carmakers' after-sales service and customer loyalty, and later developed a hypothesis as follows.

H4: There is a positive relationship between brand image and customer loyalty.

Theoretical Background and Conceptual Framework

Theoretical Background

The main objective of this study is to evaluate the quality of service and image of the service provider in the automotive after-sales service sector. The evaluation is based on the perception and experience of customers gained from repeated transactions during the service delivery process. The relationship between customers and the service provider will last for the whole tenure of the free service warranty given for each car sold, which is normally three years. Drawing upon that, this study employed the Social Exchange Theory (SET), which explains the mutual benefits enjoyed by both parties in a relationship (Blau, 1960). According to the theory, the customer benefits from a high quality of service as well as association with an excellent image of the service provider and in return, the service provider benefits from a higher level of customer loyalty towards the national carmakers.

Conceptual Framework

This quantitative study is based on the Social Exchange Theory (SET), which serves to explain how variables in the conceptual framework are interconnected in achieving the research objectives. The social exchange that mutually benefits both parties in a long-term relationship results in a higher degree of loyalty towards the national carmakers. The conceptual

framework in this study is depicted in Figure 1 and describes the relationship between all the independent variables and the dependent variable.

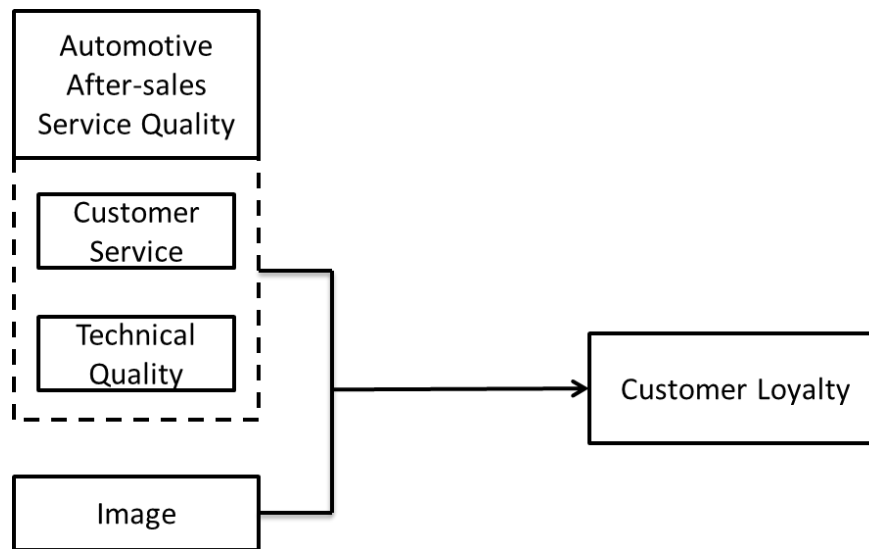


Figure 1 Conceptual Framework

Methodology

Research Design

This cross-sectional study investigated the correlational relationship between independent variables and the dependent variable. A correlational relationship is established when a change in one variable causes a change in another variable without any influence from an extraneous variable. In relation to that, intervention refers to a situation where a study is manipulated or controlled by the researcher. In this field study, intervention was minimum as the researcher did not control or manipulate the study. Drawing upon the above conceptual framework, a hypothesis testing was conducted.

Sample, Population, and Unit of Analysis

This study examined the level of customer loyalty towards national carmakers based on brand image and quality of after-sales service delivered by the service provider as perceived and experienced by the customer during long-term repeated transactions involving the servicing, maintenance and repair of the car. Therefore, the unit of analysis is the customer who has experience dealing with the service provider, namely national carmakers. Study samples comprised Universiti Sains Malaysia students, specifically students from the School of Distance Education. This study measured the service experience; hence, students must possess prior experience dealing with a service advisor at the national carmaker's after-sales service unit related to the service, maintenance and repair of their vehicles at any of the carmaker's outlet. For that purpose, this study used the purposive sampling method for data collection. In relation to that, the selection of students from the School of Distance Education could increase the scope of this study as the students come from all over Malaysia and have been to the national carmakers' service centre at their town of origin located all over the country.

Before proceeding with determining the sample size appropriate for data collection, the study population must first be ascertained. Since each vehicle sold or registered goes for pre-

schedule service, maintenance and repair, this study considered the total number of national cars registered for the last three years (2017, 2018 and 2019) as the population of this study.

Table 1: Total Registration of Vehicles Produced by National Carmakers

Year	TOTAL REGISTRATION PROTON	TOTAL REGISTRATION PERODUA	TOTAL REGISTRATION NATIONAL CAR
2019	100,821	240,341	341,162
2018	70,991	204,887	275,878
2017	72,290	207,100	279,390
TOTAL	244,102	652,328	896,430

Source: Malaysian Automotive Association Report

The registered cars were considered as the population of study because each car registered is given a free service, maintenance and repair warranty. Car owners or customers have to go to the national carmakers' service centre for the pre-scheduled service, maintenance and repair at least for three years after registration or otherwise the warranty is void. During the free service warranty tenure, customers will meet the service provider appointed by the national carmakers for several subsequent transactions and the ensuing service experience will enable them to evaluate the quality of the service and project an image of the service provider, in particular and the national carmakers, in general. Hence, the number of cars registered are the cars that will return to the national carmakers service centre for service, maintenance and repair. Hence, to guide the researcher on the minimal size of the sample size required for this study, the number of cars registered – approximately 896,430 in total – was established as the study's population.

According to Krejcie and Morgan (1970), a population of above 75,000 requires 384 respondents as the sample size. Therefore, based on a population of 896,430 registered cars, which is more than 75,000, the required sample size as suggested is 384 respondents. Another method that offers programs with a graphic solution that enables researchers to calculate a wide variety of statistical tests, including F-tests, known as G*Power, was also considered. G*Power suggests that the number of respondents in the sample size should be 129. To ensure that this suggested number of 129 is achieved, the researcher needed more respondents than the minimum suggested as samples representing the population. Since a sample size of 384, as proposed by Krejcie and Morgan, is far above the minimum of 129, hence, 384 respondents was more than enough to exert sufficient statistical power. Hence, the most suitable sample size was 384.

Measurement of Variables

This study employed the self-administered survey questionnaire method for data collection. The survey questionnaire used in this study was first developed in English and then translated to Malay based on the back-translation procedure of by Brislin (1970). Both English and Malay versions were reviewed for consistency and discrepancies and then referred to the translators until a mutual consensus was reached.

The survey questionnaires used in this study were adapted from previous studies, where the validated scales were identified and modified to fit the context of the current study. First, customer loyalty was measured using seven items, out of which four items were adapted from Cater and Cater (2009), one item from Hennig-Thurau, Gwinner, and Gremler (2002) and two items from Callarisa Fiol, Alcañiz, Moliner Tena, and García (2009).

In addition, after-sales service quality, as an independent variable, was measured using two dimensions, namely customer service and technical quality. Customer service, as the first dimension of after-sales service quality, focuses on the functional quality of service resulting from long-term repeated transactions and the service delivery process. As such, this study considered the element of functional quality, which consists of 17 items related to responsiveness, assurance, empathy and reliability. The popularity of SERVQUAL, as an established measure of service quality by Parasuraman et al. (1988), was applied in this study since the focus of this study was the automotive after-sales service industry. By using SERVQUAL, this study aimed to contribute to the Theory of Social Exchange regarding the impact of service quality in the automotive after-sales service industry and how it correlates with the level of customer loyalty. Out of 17 items related to customer service, 12 items were adapted from Parasuraman et al. (1988), while another five items were adapted from other researchers, such as Cronin, Brady, and Hult (2000), Ismail Haron, Ibrahim, and Isa (2006) and Wong and Sohal (2003), as it is more relevant to the context of this current study.

This study measured the relationship between industry-specific service quality, as in the automotive after-sales service, and customer loyalty, since the outcome of service, maintenance and repair is one of the most important factors that determines the quality of service, which then influences the degree of customer loyalty. Therefore, besides measuring service quality using the customer service dimension, which only emphasizes on the service delivery process, this study also focused on the technical quality element in the service, which is the result or the outcome of the service that reflects effectiveness and efficiency. More specifically, the service outcome is achieved when the problem related to the vehicle is solved successfully by the service provider or the service provided is effective and efficient (Ooi et al., 2011). Drawing on the importance of technical quality as a prerequisite for functional quality (Gronroos, 1984), this study considered technical quality as another independent variable for assessing service quality in the context of after-sales service.

Unlike functional quality, technical quality does not have specific measures similar to SERVQUAL but previous studies had used various measurements to suit the objective as well as context of the study. Therefore, as guided by the literature on service quality, especially technical quality, this study adapted five items from Sharma and Patterson (1999), two items from Kang and James (2004) and one item each from Auruskeviciene, Salciuviene, and Skudiene (2010) and Callarisa Fiol et al. (2009).

As for the second independent variable (image), this study used seven items adapted from Kim and Kim (2005). Similar to service quality, image was also measured by using a 7-point Likert-type scale with values ranging from strongly disagree (1) to strongly agree (7).

Results

Demographic Profiles

Based on the total number of questionnaires collected from 384 respondents, only 321 questionnaires were good for further analysis. Respondents were then demographically profiled, as tabulated in Table 2. Majority of respondents were in the 26-35 age group (62.3 per cent) and 57.9 percent were females. Accordingly, majority of respondents hold SPM/STPM and Diploma qualifications (31.2 per cent and 62 per cent, respectively) with an income level of below RM3000.00 (67.3 per cent).

The table also illustrates the average bill paid by the customer per visit for their car service. Most respondents revealed that the service charge was within the range of RM201.00 to RM300.00 (48 per cent). Only a small percentage paid more than RM400.00 (9.3 per cent). This shows that the majority of customers perceived that the price charged for the service by the national carmakers was not very expensive.

Table 2: Summary of Respondents' Demographic Profile

Demographic Variables	Categories	No. of Respondents	Valid Percentage (%)
Age	17-25 years old	48	15.0
	26-35 years old	200	62.3
	36-45 years old	68	21.2
	46-55 years old	5	1.6
Gender	Male	135	42.1
	Female	186	57.9
Level of Education	SPM / STPM	100	31.2
	Diploma	199	62.0
	Degree	22	6.9
Monthly income	Below than RM1000	2	0.6
	RM1001 – RM3000	214	66.7
	RM3001 – RM5000	79	24.6
	More than RM5000	22	6.9
	No income	4	1.2
Average total bill charged for the service maintenance or repair	Below than RM200	42	13.1
	RM201 – RM300	154	48.0
	RM301 – RM400	95	29.6
	More than RM400	30	9.3

Results of the Hypothesis Testing

This correlational study assessed the relationship between independent variables and the dependent variable. For this purpose, the Pearson correlation was used, as depicted in Table 2. The value that determines the correlation is given by the correlation coefficient of between +1 and -1. A value closer to +1 indicates a stronger positive relationship and a value closer to -1 indicates a stronger negative relationship. The hypothesis is accepted at a significant level of $P < 0.05$. Based on the P value, the decision to accept or reject the hypothesis is shown in Table 3 below.

Relationship between Automotive After-sales Service Quality and Customer Loyalty

Service quality, as an independent variable measured by the two dimensions of technical quality and customer service, also shows a significant relationship with customer loyalty with a r value of 0.846, and $P = 0.000$. Results of the Pearson correlation show that the automotive after-sales service quality, which is an independent variable, is positively correlated to customer loyalty, which is a dependent variable, at a significant level of $P < 0.05$. As such, Hypothesis 1 is accepted.

Relationship between Customer Service associated with Automotive After-sales Service Quality and Customer Loyalty

Customer service, as one of the dimensions of after-sales service quality, has values of r 0.833, $P = 0.000$. A closer look at the after-sales service quality dimension (customer service and technical quality) shows that customer service is predominant, as shown by a higher r value of 0.833, $P = 0.000$, compared to technical quality, with a r 0.802. Hence, Hypothesis H2 is accepted at a significant level of $P < 0.05$.

Relationship between Technical Quality associated with the Automotive After-sales Service Quality and Customer Loyalty

The correlation coefficient for technical quality recorded the lowest value among the variables under investigation, where r 0.802, $P = 0.000$. However, the correlation coefficient is still high and $P < 0.05$, which enables this study to accept Hypothesis H3.

Relationship between Brand Image and Customer Loyalty

There is a significant relationship between the national carmakers' image and customer loyalty shown by USM students, as indicated by a r value of 0.885, $P = 0.000$. Among all the variables under investigation, brand image showed the strongest relationship with customer loyalty, with a r value of 0.885 being the closest to +1. Based on the positive value of r 0.885 and $P < 0.05$, this study therefore accepts Hypothesis H4.

Table 3: Pearson Correlation

		Customer Loyalty	Image	Technical Quality	Customer Service	Service Quality
Customer Loyalty	Pearson Correlation	1.000				
	Sig. (2-tailed)	.				
	N	321				
Image	Pearson Correlation	.885**	1.000			
	Sig. (2-tailed)	.000	.			
	N	321	321			
Technical Quality	Pearson Correlation	.802**	.813**	1.000		
	Sig. (2-tailed)	.000	.000	.		
	N	321	321	321		
Customer Service	Pearson Correlation	.833**	.840**	.873**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.	
	N	321	321	321	321	
Service Quality	Pearson Correlation	.846**	.854**	.927**	.992**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.
	N	321	321	321	321	321

** . Correlation is significant at the 0.01 level (2-tailed).

Discussions

The main objective of this study is to examine the relationship between automotive after-sales service quality and image towards customer loyalty. This study also examined the relationship between each dimension of service quality, which is customer service and technical quality, and customer loyalty. Study samples comprised USM students, specifically from the School of Distance Education, who were of various age range, race, gender, and income level.

Findings of this study provide empirical evidence regarding the relationship between the variables under investigation.

Relationship between Automotive After-sales Service Quality and Customer Loyalty

This study found that automotive after-sales service quality, as the first independent variable, was positively correlated to customer loyalty. This means that the higher the quality of service delivered by the national carmakers' service provider, the higher the degree of customer loyalty. Loyalty was expressed through positive word-of-mouth recommendations by existing customers. The long-term relationship between customers and the service provider that developed during the three-year free service warranty period would create a comfortable feeling when interacting with the provider, halting them from going to ordinary workshops that offer similar services. A high quality service provided in a high quality relationship ensures that the customer returns for subsequent services after the expiry of the free service warranty period (Saidin et al., 2018).

The combination of functional quality, as expressed by the modified dimension of customer service, and technical quality, has defined service quality specifically for automotive after-sales service. This unique and more industry-specific dimension has helped explain the concept of service quality and customer loyalty in the after-sales service context. Hence, the outcome of this study, which shows a positive relationship between industry-specific service quality and customer loyalty is consistent with previous studies (Hashem & Ali, 2019; Iqbal et al., 2018; Lemy et al., 2019).

Relationship between Customer Service associated with Automotive After-sales Service Quality and Customer Loyalty

Secondly, the positive relationship between customer service and customer loyalty means that an increase in quality of the service provided, increases customer loyalty towards the national carmakers. In other words, the positive relationship between customer service, as a dimension of automotive after-sales service quality, shows that excellent customer service as measured by the established SERVQUAL items related to responsiveness, assurance, empathy and reliability was able to ensure customers return to the national carmakers after the warranty expires. Moreover, the excellent service provided by the service provider might influence customers to recommend the service provider to their friends and family. In this competitive environment, after-sales service organizations need to focus more on providing quality service as well as the product offered (Gaurav et al., 2018).

Findings show that among the two dimensions of after-sales service quality (customer service and technical quality), customer service recorded a stronger correlation with customer loyalty. This strongly suggests that the element of functional quality, as represented by the customer service dimension, is more dominant when enhancing the degree of customer loyalty. The positive relationship between customer service and customer loyalty is consistent with a previous study on automotive after-sales service (Yieh et al., 2007). In fact, recent studies in other contexts also posited similar findings (Cao et al., 2018; Terziev et al., 2018).

Relationship between Technical Quality associated with Automotive After-sales Service Quality and Customer Loyalty

This study examined service quality from the aspect of technical quality, which is mainly the outcome of providing a service. Technical knowledge and the ability of the service provider to solve problems related to the car are important elements that contribute to a higher degree of customer loyalty towards the national carmakers. In fact, technical quality is a prerequisite for functional quality addressed through customer service (Gronroos, 1984). The service provider's ability to ensure zero problems and complaints might convince the customer from terminating the relationship and engaging the services of ordinary workshops. In this case, the effectiveness of the service could determine the continuity of engaging with the national carmakers' service provider even after the expiry of the free service warranty period.

Findings show that customers expect zero problems with their car after an effective service job by the national carmakers' service centre. The positive relationship between technical quality and customer loyalty was also presented by a study on financial services (Bell, 2005). Another service dominating industry, which is the banking sector, also posited similar results (Lenka et al., 2010). These consistent findings strongly suggest that besides measuring service

quality based on the element of functional quality, technical quality is another aspect that also matters.

Relationship between Brand Image and Customer Loyalty

The last independent variable evaluated in this study is the role of the national carmakers' image as perceived by customers. This study found a positive relationship between the national carmakers' image and customer loyalty. A comparison of findings between independent variables, such as image and service quality, shows that image has a stronger relationship with customer loyalty than service quality. Hence, it strongly suggests that a good image is important for building trust towards the national carmakers. A car is a valuable item and to own a car requires a lot of investment. As such, to handover a car to the service provider for service, maintenance and repair requires trust. A positive word-of-mouth spread to the public could increase trust on the national carmakers and convince existing customers to stay with the current service provider as well as attract new customers to buy the national brand. Moreover, a good image could become a tool for national carmakers to gain the trust of customers and subsequently enhance the degree of customer loyalty towards the national carmakers.

The relationship between the customer and the national carmakers' service provider is a huge opportunity for national carmakers to ensure a high-quality service provided to customers and consequently, the customer will return for the following service after the free service warranty expires. Besides, a good image resulting from the national carmakers' good service performance could be beneficial for the customer. This mutually beneficial relationship between the customer and the service provider is well explained by the Social Exchange Theory (SET) that has guided this study (Blau, 1960).

This study provided findings similar to some previous literature that emphasized on the importance of product image, which captures customer loyalty (Abd Aziz, 2018; Nguyen et al., 2018). Another study in a different context also posited the same positive relationship between image and customer loyalty, besides product quality (Xhema et al., 2018).

Contributions, Limitations, Direction for Future Research and Conclusions

Theoretical Contributions

This study contributes to the existing corpus of knowledge, particularly service quality in the automotive after-sales services context, by integrating technical quality produced by the service process as well as functional quality, which explains the aspect of 'how' in the service process. This study also incorporated an additional construct in the form of the service provider's image, when determining customers' loyalty.

The current study integrated the element of 'how' and 'what' in service quality. The 'how', or the element of functional quality, is explained by the modified SERVQUAL, whereas the 'what' element, or the outcome of the service, is addressed by technical quality. Besides assessing service quality from the functional quality perspective, this study has also assessed the effectiveness of repair, service and maintenance work that is crucial in automotive after-sales service, which was measured by technical quality. Therefore, this study explains service quality better by considering industry-related measures, such as the effectiveness of service jobs. In addition, this study also evaluated the impact of national carmakers' image on the

degree of customer loyalty. Integration of independent variables, in the form of automotive after-sales service quality and image, has resulted in a more comprehensive framework for explaining customer loyalty.

This study is also guided by the Social Exchange Theory (SET), which explains the mutual benefits enjoyed by both parties in a long-term continuous relationship, such as between the customer and the service provider in the automotive after-sales service context. According to the theory, a high-quality service and a prestigious image could strengthen the relationship between the customer and the service provider, which subsequently contributes to a higher degree of customer loyalty. As such, the findings of this study advocate the theory of social exchange and contribute to the existing corpus of literature pertinent to after-sales service.

Practical Contribution

This study has shown the importance of measuring service quality that integrates both, the element of effectiveness of service that is indicated by the technical quality of the service as well as the functional quality, which is measured by the modified SERVQUAL. This empirical study has also shown the relative importance of automotive after-sales service quality attributes, such as functional quality and technical quality, that enhances the degree of customer loyalty. In addition, the importance of image has also been empirically determined by the findings. Evaluation of the service provider's image from the customer's perspective provides useful insight and information for national carmakers in their pursuit to increase the degree of customer loyalty. This study could also guide them in their strategy for allocating limited resources based on the needs and expectations of customers in automotive after-sales service. Furthermore, this study also guides the non-national carmakers, which are operating in the same industry. All automotive organizations in Malaysia could benefit from this study as the findings could assist them to predict consumer needs and expectations that attract customer loyalty and nurture longer term relationships.

Limitations and Recommendations for Future Research

This study was conducted with certain limitations that allow future studies to understand and overcome these limitations when further exploring related topics. This study only examined customer loyalty in the automotive after-sales service context. It is recommended that future studies empirically examine customer loyalty in other contexts that might extend the corpus of knowledge on customer loyalty.

Secondly, this study only focused on USM students as the study sample. A bigger sample could increase the generalizability of the study. As such, it is recommended that future studies have a bigger sample size that provides empirically richer findings. The enriched findings could broaden and deepen the understanding of customer loyalty concepts.

Conclusion

The results of this study suggest that automotive after-sales service quality is important in determining a higher degree of customer loyalty towards the national carmakers. Customers perceive that a customer service that explains the service delivery process and the technical quality that measures the effectiveness of the service are both important dimensions that help describe service quality in automotive after-sales service. Absence of any one of these dimensions can lead to a lower degree of loyalty.

In addition, the image of the national carmakers positively affects customer loyalty in the automotive after-sales service context, indicating that a positive image is important for developing trust and confidence towards the national carmakers. To encourage and ensure that the customer stays loyal after the expiry of the free service warranty or recommend the after sales outlet to others or to spread a positive word-of-mouth to the public, the national carmakers must perform admirably either in sales or after-sales services. Only by doing so, will the customer feel confident in building longer relationship with the national carmakers, which indirectly indicates a higher degree of loyalty. In conclusion, the automotive after-sales service quality and national carmakers (brand) image are important elements that build a positive relationship and enhance customer loyalty towards the national carmakers.

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