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Lampiran 4. Hasil Olah Data SPSS

Hasil Uji Validitas

Correlations Bukti Fisik

		Correlations				
		BF1	BF2	BF3	BF4	Bukti Fisik
BF1	Pearson Correlation	1	,447**	,446**	,530**	,755**
	Sig. (2-tailed)		,000	,000	,000	,000
	N	202	202	202	202	202
BF2	Pearson Correlation	,447**	1	,482**	,557**	,797**
	Sig. (2-tailed)	,000		,000	,000	,000
	N	202	202	202	202	202
BF3	Pearson Correlation	,446**	,482**	1	,520**	,783**
	Sig. (2-tailed)	,000	,000		,000	,000
	N	202	202	202	202	202
BF4	Pearson Correlation	,530**	,557**	,520**	1	,821**
	Sig. (2-tailed)	,000	,000	,000		,000
	N	202	202	202	202	202
Bukti Fisik	Pearson Correlation	,755**	,797**	,783**	,821**	1
	Sig. (2-tailed)	,000	,000	,000	,000	
	N	202	202	202	202	202

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

Correlations Keandalan

		Correlations					
		KD1	KD2	KD3	KD4	KD5	Keandalan
KD1	Pearson Correlation	1	,563**	,477**	,513**	,527**	,873**
	Sig. (2-tailed)		,000	,000	,000	,000	,000
	N	202	202	202	202	202	202
KD2	Pearson Correlation	,563**	1	,261**	,293**	,334**	,712**
	Sig. (2-tailed)	,000		,000	,000	,000	,000
	N	202	202	202	202	202	202
KD3	Pearson Correlation	,477**	,261**	1	,196**	,229**	,603**
	Sig. (2-tailed)	,000	,000		,005	,001	,000
	N	202	202	202	202	202	202
KD4	Pearson Correlation	,513**	,293**	,196**	1	,270**	,660**
	Sig. (2-tailed)	,000	,000	,005		,000	,000
	N	202	202	202	202	202	202
KD5	Pearson Correlation	,527**	,334**	,229**	,270**	1	,661**
	Sig. (2-tailed)	,000	,000	,001	,000		,000
	N	202	202	202	202	202	202
Keandalan	Pearson Correlation	,873**	,712**	,603**	,660**	,661**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	
	N	202	202	202	202	202	202

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

Correlations Daya Tanggap

		Correlations					Daya Tanggap
		DT1	DT2	DT3	DT4	DT5	
DT1	Pearson Correlation	1	,514**	,460**	,319**	,385**	,769**
	Sig. (2-tailed)		,000	,000	,000	,000	,000
	N	201	201	201	201	201	201
DT2	Pearson Correlation	,514**	1	,320**	,315**	,408**	,752**
	Sig. (2-tailed)	,000		,000	,000	,000	,000
	N	201	202	202	202	202	202
DT3	Pearson Correlation	,460**	,320**	1	,217**	,307**	,671**
	Sig. (2-tailed)	,000	,000		,002	,000	,000
	N	201	202	202	202	202	202
DT4	Pearson Correlation	,319**	,315**	,217**	1	,146*	,572**
	Sig. (2-tailed)	,000	,000	,002		,038	,000
	N	201	202	202	202	202	202
DT5	Pearson Correlation	,385**	,408**	,307**	,146*	1	,651**
	Sig. (2-tailed)	,000	,000	,000	,038		,000
	N	201	202	202	202	202	202
Daya Tanggap	Pearson Correlation	,769**	,752**	,671**	,572**	,651**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	
	N	201	202	202	202	202	202

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

* . Correlation is significant at the 0.05 level (2-tailed).

Correlations Jaminan

		Correlations					
		JM1	JM2	JM3	JM4	JM5	Jaminan
JM1	Pearson Correlation	1	,557**	,332**	,437**	,307**	,773**
	Sig. (2-tailed)		,000	,000	,000	,000	,000
	N	202	202	202	202	202	202
JM2	Pearson Correlation	,557**	1	,363**	,311**	,331**	,764**
	Sig. (2-tailed)	,000		,000	,000	,000	,000
	N	202	202	202	202	202	202
JM3	Pearson Correlation	,332**	,363**	1	,203**	,126	,595**
	Sig. (2-tailed)	,000	,000		,004	,073	,000
	N	202	202	202	202	202	202
JM4	Pearson Correlation	,437**	,311**	,203**	1	,256**	,650**
	Sig. (2-tailed)	,000	,000	,004		,000	,000
	N	202	202	202	202	202	202
JM5	Pearson Correlation	,307**	,331**	,126	,256**	1	,601**
	Sig. (2-tailed)	,000	,000	,073	,000		,000
	N	202	202	202	202	202	202
Jaminan	Pearson Correlation	,773**	,764**	,595**	,650**	,601**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	
	N	202	202	202	202	202	202

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

Correlations Empati

		Correlations					
		EM1	EM2	EM3	EM4	EM5	Empati
EM1	Pearson Correlation	1	,514**	,545**	,593**	,505**	,866**
	Sig. (2-tailed)		,000	,000	,000	,000	,000
	N	202	202	202	202	202	202
EM2	Pearson Correlation	,514**	1	,288**	,325**	,365**	,690**
	Sig. (2-tailed)	,000		,000	,000	,000	,000
	N	202	202	202	202	202	202
EM3	Pearson Correlation	,545**	,288**	1	,259**	,290**	,669**
	Sig. (2-tailed)	,000	,000		,000	,000	,000
	N	202	202	202	202	202	202
EM4	Pearson Correlation	,593**	,325**	,259**	1	,372**	,701**
	Sig. (2-tailed)	,000	,000	,000		,000	,000
	N	202	202	202	202	202	202
EM5	Pearson Correlation	,505**	,365**	,290**	,372**	1	,693**
	Sig. (2-tailed)	,000	,000	,000	,000		,000
	N	202	202	202	202	202	202
Empati	Pearson Correlation	,866**	,690**	,669**	,701**	,693**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	
	N	202	202	202	202	202	202

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

Correlations Kepuasan Pelanggan

		Correlations					Kepuasan Pelanggan
		KP1	KP2	KP3	KP4	KP5	
KP1	Pearson Correlation	1	,409**	,373**	,360**	,343**	,727**
	Sig. (2-tailed)		,000	,000	,000	,000	,000
	N	202	202	202	202	202	202
KP2	Pearson Correlation	,409**	1	,331**	,467**	,321**	,734**
	Sig. (2-tailed)	,000		,000	,000	,000	,000
	N	202	202	202	202	202	202
KP3	Pearson Correlation	,373**	,331**	1	,269**	,236**	,650**
	Sig. (2-tailed)	,000	,000		,000	,001	,000
	N	202	202	202	202	202	202
KP4	Pearson Correlation	,360**	,467**	,269**	1	,316**	,700**
	Sig. (2-tailed)	,000	,000	,000		,000	,000
	N	202	202	202	202	202	202
KP5	Pearson Correlation	,343**	,321**	,236**	,316**	1	,630**
	Sig. (2-tailed)	,000	,000	,001	,000		,000
	N	202	202	202	202	202	202
Kepuasan Pelanggan	Pearson Correlation	,727**	,734**	,650**	,700**	,630**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	
	N	202	202	202	202	202	202

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

Hasil Uji Reabilitas

Reliability Bukti Fisik Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	202	100,0
	Excluded ^a	0	,0
	Total	202	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,797	4

Reliability Keandalan Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	202	100,0
	Excluded ^a	0	,0
	Total	202	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,739	5

Reliability Daya Tanggap Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	201	99,5
	Excluded ^a	1	,5
	Total	202	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,718	5

Reliability Jaminan Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	202	100,0
	Excluded ^a	0	,0
	Total	202	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,704	5

Reliability Empati Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	202	100,0
	Excluded ^a	0	,0
	Total	202	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,768	5

Reliability Kepuasan Pelanggan Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	202	100,0
	Excluded ^a	0	,0
	Total	202	100,0

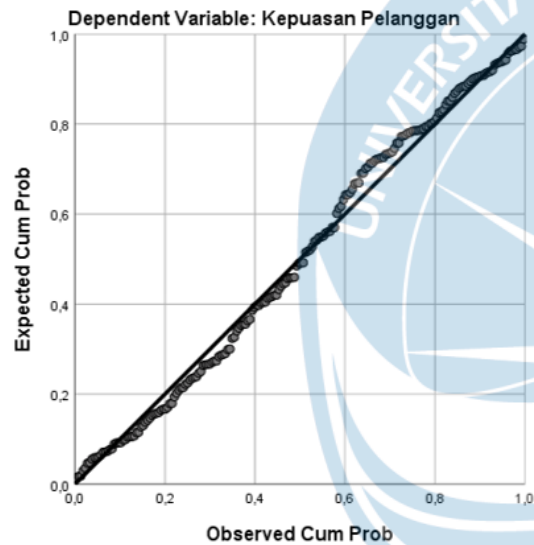
a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,723	5

Hasil Normalitas

Normal P-P Plot of Regression Standardized Residual



One-Sample Kolmogorov-Smirnov Test

Unstandardized
Residual

N		202
Normal Parameters ^{a, b}	Mean	,0000000
	Std. Deviation	,24415479
Most Extreme Differences	Absolute	,062
	Positive	,049
	Negative	-,062
Test Statistic		,062
Asymp. Sig. (2-tailed)		,059 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Hasil Multikolinearitas

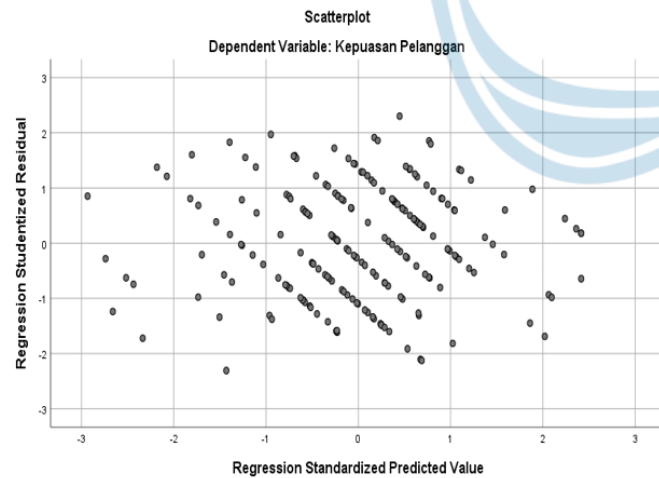
UJI MULTIKOLINIERITAS

Coefficients^a

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Bukti Fisik	,810	1,235
	Keandalan	,787	1,270
	Daya Tanggap	,794	1,260
	Jaminan	,707	1,414
	Empati	,779	1,283

a. Dependent Variable: Kepuasan Pelanggan

Hasil Heterokedastisitas



Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	,354	,104		3,407	,001
	Bukti Fisik	-,003	,018	-,012	-,155	,877
	Keandalan	-,026	,018	-,117	-1,469	,143
	Daya Tanggap	-,032	,020	-,125	-1,576	,117
	Jaminan	,004	,021	,017	,208	,836
	Empati	,020	,019	,086	1,074	,284

a. Dependent Variable: Abs_res

Hasil Koefisien Determinasi

UJI KOEFISIEN DETERMINASI

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,832 ^a	,693	,685	,24725

a. Predictors: (Constant), Empati, Bukti Fisik, Keandalan, Daya Tanggap, Jaminan

b. Dependent Variable: Kepuasan Pelanggan

Hasil Uji F

UJI SIMULTAN (UJI F)

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26,992	5	5,398	88,305	,000 ^b
	Residual	11,982	196	,061		
	Total	38,973	201			

a. Dependent Variable: Kepuasan Pelanggan

b. Predictors: (Constant), Empati, Bukti Fisik, Keandalan, Daya Tanggap, Jaminan

Hasil Uji T

UJI PARSIAL (UJI T)

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	,024	,197		,123	,902
	Bukti Fisik	,233	,035	,297	6,752	,000
	Keandalan	,099	,034	,130	2,905	,004
	Daya Tanggap	,323	,038	,378	8,506	,000
	Jaminan	,097	,040	,115	2,433	,016
	Empati	,234	,035	,298	6,650	,000

a. Dependent Variable: Kepuasan Pelanggan

Hasil Analisis Statistik Deskriptif Variabel

Descriptives Bukti Fisik

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
BF1	202	3,00	5,00	4,0891	,66316
BF2	202	2,00	5,00	4,0099	,75304
BF3	202	2,00	5,00	4,0000	,73977
BF4	202	3,00	5,00	4,0891	,68530
Bukti Fisik	202	2,50	5,00	4,0470	,56064
Valid N (listwise)	202				

Descriptives Keandalan

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
KD1	202	2,00	5,00	4,2030	,77485
KD2	202	1,00	5,00	4,0198	,89198
KD3	202	2,00	5,00	4,0941	,78294
KD4	202	2,00	5,00	4,0000	,87531
KD5	202	2,00	5,00	4,0990	,77914
Keandalan	202	2,40	5,00	4,0832	,57529
Valid N (listwise)	202				

Descriptives Daya Tanggap

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
DT1	201	2,00	5,00	4,1841	,68625
DT2	202	2,00	5,00	3,9703	,82203
DT3	202	2,00	5,00	4,1584	,77566
DT4	202	2,00	5,00	4,1386	,72660
DT5	202	2,00	5,00	4,0396	,74541
Daya TAnggap	202	2,60	5,00	4,0980	,51572
Valid N (listwise)	201				

Descriptives Jaminan

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
JM1	202	3,00	5,00	4,1980	,74004
JM2	202	2,00	5,00	4,1287	,80624
JM3	202	2,00	5,00	3,9406	,75734
JM4	202	2,00	5,00	4,1337	,76422
JM5	202	2,00	5,00	4,1634	,77783
Jaminan	202	2,80	5,00	4,1129	,52056
Valid N (listwise)	202				

Descriptives Empati

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
EM1	202	3,00	5,00	4,2525	,71974
EM2	202	2,00	5,00	4,0941	,79555
EM3	202	2,00	5,00	4,0842	,83329
EM4	202	2,00	5,00	4,1683	,78632
EM5	202	2,00	5,00	4,2475	,75845
Empati	202	2,60	5,00	4,1693	,56149
Valid N (listwise)	202				

Descriptives Kepuasan Pelanggan

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
KP1	202	3,00	5,00	4,2079	,65891
KP2	202	2,00	5,00	4,0842	,63704
KP3	202	2,00	5,00	3,9356	,66229
KP4	202	2,00	5,00	3,9901	,63864
KP5	202	3,00	5,00	4,1386	,59900
Kepuasan Pelanggan	202	2,80	5,00	4,0713	,44034
Valid N (listwise)	202				

THE EFFECT OF SERVICE QUALITY ON CUSTOMER SATISFACTION AS MEASURED BY SERVQUAL: A CASE STUDY OF AUTOMOTIVE MAINTENANCE AND REPAIR SERVICE CENTER

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³Kolej KETENGAH

Abstrak

The purpose of this article is to examine service quality in the car maintenance and repair industry. The SERVQUAL model is used to examine the effect of service quality on customer satisfaction. The Statistical Package for Social Sciences version 19 was used to analyse data from a questionnaire-based survey of 241 car maintenance and repair center users. According to the findings, service quality factors (responsiveness, assurance, and empathy) are positively related to customer satisfaction. The fundamental drawback of the study is its cross-sectional design, which limits the generalizability of the findings. Automotive maintenance and repair service centers should increase its tangible and reliability qualities to assure customer satisfaction. According to the findings, the empathy dimension of service quality is one of the most significant indicators of customer satisfaction in the car maintenance and repair industry.

Keyword: SERVQUAL, Service quality, Customer Satisfaction, Automotive maintenance and repair centre

Perkembangan Artikel

Diterima: 06 Oktober 2021

Disemak: 17 Januari 2022

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INTRODUCTION

In today's highly competitive global economy, the importance of the service sector has grown dramatically in all countries. Service providers are primarily concerned with providing high-quality services in order to attain high levels of customer satisfaction and loyalty. Furthermore, consumers all over the world have become more quality conscious; as a result, customers' expectations for higher quality service have increased (Izogo & Ogba, 2015). Good service providers are committed to delivering on their promises to their customers. According to Parasuraman et al. (1985) and Zeithaml et al. (1990), providing quality services to consumers is a critical strategy for the success and survival of any commercial institution. Customers' satisfaction and loyalty lead to repeat purchases, which eventually leads to company success, hence service quality is becoming increasingly vital to company.

The current study were interested in determining the factors that best represent the quality of after-sales car maintenance services. The primary function of car service centres was to perform routine maintenance and repair cars; but, in today's highly competitive market, customers look for quality maintenance as well as exceptional customer service.

The tremendous competition in the car market, keeping existing clients and developing long-term relationships with them is becoming a common business practice, and enhancing service quality is one way to do so. Typically, in the automobile industry, customers perceive

varying levels of service for various car brands. All research indicates that these services are critical to the automotive sector (e.g., Famiyeh et al., 2018; Izogo & Ogba, 2015). The researcher's interest in the topic of service quality has grown as a result of growing focus on customer satisfaction. The significance of this research can also be demonstrated by the fact that many firms today assess customer satisfaction and use it in conjunction with other indicators of business performance to make future management decisions.

Despite the fact that many studies on the relationship between service quality and customer satisfaction have been undertaken, only a few studies have been conducted on researching and assessing these elements in car maintenance service centres. Therefore, this study aims to fill this gap. This study examines how the concept is measured using the SERVQUAL model. Consequently, the current study's aim is to determine the impact of SERVQUAL's five service quality dimensions on customer satisfaction at Malaysian automotive service centres. This research is supposed to guide automotive service centres in their strategic approaches to service quality improvement, thereby assisting them in satisfying and increasing customer loyalty. Thus, pursuant to the objective of the study the main research questions: Is there a relationship between service quality and customer satisfaction in Malaysian car servicing centres?

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Theoretical framework

This study has focused on the relationship between service quality and customer satisfaction. Quality is an abstract concept in the service sector, and so in automobile after-sales service, making it difficult to define and assess (Velimirović et al., 2016). Accordingly, services are widely described as "deeds, processes and performances" (Zeithaml et al., 2009). The important issue in service quality is consumers evaluated various elements in service before forming an overall judgment of service quality. The service quality theory is regarded as one of the most contentious topics in service literature due to the lack of agreement in characterizing and defining service quality (Mohamed et al., 2017). Service quality is a targeted assessment that reflects the customer's perception of specific service dimensions such as reliability, responsiveness, assurance, empathy, and tangibility (Parasuraman et al. 1985, 1988). Researchers claimed that service quality is an important predictor of customer satisfaction (e.g., Dahiyat et al., 2011; Samen et al., 2013). Customer satisfaction is the emotional response that emerges from business transaction's appraisal of service quality (Parasuraman et al. 1988; Zeithaml et al., 2009). Thus, customers who were satisfied with the service they received thought it was of superior quality. That is satisfied customers are the result of positive experiences (Kim et al., 2008). According to Ott and van Dijk (2005), customer satisfaction is an important measure of an organization's performance.

In this study, the SERVQUAL model (Parasuraman et al. 1988) is used to predict the relationship between service quality and customer satisfaction in the automotive maintenance and repair service centres. The SERVQUAL scale is a valid and reliable scale for measuring car maintenance centres service quality (Izogo & Ogba, 2015). The SERVQUAL model evaluates service quality on five dimensions: reliability, assurance, tangibles, empathy, and

responsiveness. Table 1 summarizes the conceptual definitions of service quality variables based on the literature review.

Table 1: Operational Definitions of Service Quality Variables

Variable	Definition
<i>Tangibles:</i>	Service facilities, equipment, the appearance of personnel as well as the appearance of the workshop, planning and implementation of service products.
<i>Reliability:</i>	The ability to deliver promised services in a dependable, accurate manner. That is the mechanic's ability to provide the promised services in a dependable and accurate manner.
<i>Responsiveness:</i>	The willingness to spontaneously help customers and provide prompt service, i.e., the ability to perform the service in a timely and adequate response to service quality
<i>Assurance:</i>	Service people with etiquette and expertise are available to help; the ability to inspire customer trust by demonstrating effective knowledge distribution and the courtesy of the mechanic.
<i>Empathy:</i>	Customers are treated with special care and attentiveness

This study defines the essential constructs, develops hypotheses, and proposes a conceptual framework based on the SERVQUAL model of service quality and customer satisfaction, as illustrated in Figure 1.

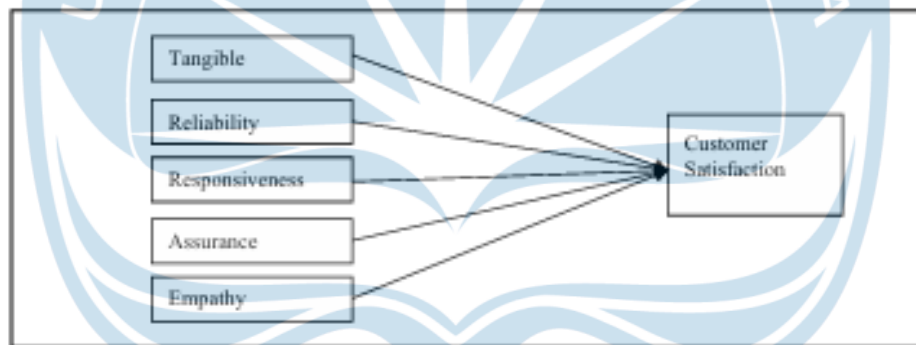


Figure 1: Research Framework

The Figure 1 above shows proposed framework to serve as foundation of this study. It is based on the gap model theory proposed by Parasuraman et al. (1985), which employs both performance and expectation components concurrently. However, in this study, performance-only measures were used, as suggested by Cronin and Taylor (1992). The purpose of this study is to look at how tangibility, reliability, responsiveness, assurance, and empathy of service, which are independent factors, affect the dependent variable, customer satisfaction at an automotive servicing centre.

Service quality and customer satisfaction

Many scholars have studied the relationship between service quality and customer satisfaction in numerous sectors. Magi and Julander (1996) discovered a favourable association between perceived service quality, customer satisfaction, and customer loyalty in a survey of grocery stores in Sweden. In the healthcare sector, Mohamed and Azizan (2015) and Mohamed et al. (2017) observed a strong link between perceived service quality and customer satisfaction.

Dabholkar et al. (1996) discovered that tangible features of service quality influence customers' perceptions of service quality. In their study, Izogo and Ogbu (2015) discovered a substantial positive association between service quality dimensions (reliability, assurance, tangibles, empathy, and responsiveness) and customer satisfaction in Nigerian automotive maintenance and repair centres. Meanwhile, Famiyeh et al. (2018) did a study on automotive maintenance service in Ghana and discovered that empathy, assurance, responsiveness, and tangibles of the mechanic are essential variables of customer satisfaction; however, the study discovered that reliability is not related to customer satisfaction. Jain et al. (2019) discovered that reliability, responsiveness, and empathy are positively connected with customer service satisfaction in automotive maintenance and repair centres in India. However, Aiyesehinde and Aigbavboa's (2019) study on after-sales services in the Nigerian automotive industry revealed that the tangible quality attributes of car repair services were the most influential among the three critical factors of service quality identified (reliability, tangibles, and empathy). Recently, Balinado et al. (2021) used the SERVQUAL approach to study the effect of service quality on customer satisfaction in an automotive after-sales service at Toyota Dasmarinas-Cavite Philippines and discovered that only reliability and empathy have significant relationships to customer satisfaction; however, tangibles, responsiveness, and assurance were found to have no significant relationship.

According to the literature review, customers will be satisfied with the services provided if they believe such services to be of good quality. It therefore, automotive maintenance and repair centres must provide high-quality service in order to fulfil consumer expectations and generate high customer satisfaction, which creates customer trust in the organization. Service quality has different dimensions in different studies, there is no agreement on the attributes of service quality, and the strengths of each attribute on customer satisfaction vary depending on the study and contexts (Dabholkar et al., 1996). Furthermore, service quality is context specific; studies conducted in other contexts, cannot be generalized (Dagger et al., 2007). This clearly demonstrates why it is vital to identify service quality attributes that have a stronger impact on customer satisfaction in specific service settings in order to alert practitioners about areas that require improvement. In view of this, the current study investigated the following hypotheses to determine the impact of each service quality dimension (tangibility, reliability, responsiveness, assurance, and empathy) on customer satisfaction in the automotive maintenance and repair industry:

- H1: Tangible is positively associated with customer satisfaction
- H2: Reliability is positively associated with customer satisfaction.
- H3: Responsiveness is positively associated with customer satisfaction
- H4: Assurance is positively associated with customer satisfaction
- H5: Empathy is positively associated with customer satisfaction

METHODOLOGY

Survey questionnaire

Previously validated scales were adapted to operationalize the variables in current research model. All of the items in this research model were adapted from Berry et al. (1988) and Izogo

and Ogba (2015). All items were measured using a five-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Academic experts gave their approval to the items. Minor changes were made to the questionnaire in response to their suggestions. In total, 30 items were included in the model that form five independent variables and a dependent variable. Table 2 shows the variable and items.

Table 2: Variable and items

Variable	Items
Tangible	Modern equipment. Visually attractive waiting room. Employees dress properly Items are attractively arranged Facilities is clean
Reliability	Repairs the car sent as promised Serious in handling consumers' problems Fixes the car at the source of the problem Repairs the car in the time frame specified. Complete documentation
Responsiveness	Notify customers when the service will be completed. Give a fast service to the consumers Always ready to help the consumers. Always ready to fulfil consumers' demand Response immediately to the requests of customer
Assurance	Behaviour raise the consumers' trust Create a secure environment for transaction Always polite towards the consumers Sufficient knowledge to answer consumers' question. Follow every procedure to handle customer
Empathy	Interested in learning about the consumer's problem. Operation time is suitable for consumers Give a personal care to the consumers Understand the consumers' needs Give the consumers an individual attention
Customer Satisfaction	Representatives are well trained Value me as a customer Attentive to all customers problem Adhere to professional standards of conduct. Overall, I am satisfied

Sampling and data collection

The study was carried out on automotive maintenance and repair service centres in Kuantan, the capital city of Pahang, Malaysia. Data were acquired through a survey of authorized service centre customers. A research team of two faculty members and one undergraduate student visited several single-brand service centres in Kuantan. Before collecting data, the purpose of the visit was communicated to service centre managers, and consent was obtained. The data were then gathered from visiting customers. The respondents were assured of their anonymity, and participation was entirely voluntary. The purpose of the study was explained to respondents, and a cover letter was included with the survey. The respondents completed the questionnaire in private, away from the centre staff; that is, they are not in contact with service providers and hence are less influenced by courtesy or gratitude bias (Glick, 2009; Baalbaki et al., 2008). The sample is regarded as a good theoretical population because respondents came from varied backgrounds and age groups with varying levels of experience (Leong et al., 2013).

Finally, 241 usable surveys response were analysed. This translates into a response rate of 60 percent. Table 4 shows the demographic profiles of the respondents.

Table 3: The demographic profile of the respondents

Demographic	Categories	Frequency	Percentages
Gender	Male	137	56.8
	Female	104	43.2
Age	18 to 25	111	46.1
	26 to 35	88	36.5
	36 to 45	21	8.7
	46 to 55	21	8.7
Status	Single	154	63.9
	Married	80	33.2
	Divorced	7	2.9
Ethnic	Malay	157	65.1
	Chinese	59	24.5
	Indian	25	10.4
Education	No Formal Education	8	3.3
	SPM/MCE	21	8.7
	STPM/HSC	5	2.1
	Diploma	62	25.7
	Degree	108	44.8
	Master	35	14.5
	PHD	2	.8

Table 3 shows that 56.8 percent or 137 of the 241 respondents were male and 43.2 percent or 104 were female. The findings suggested that males constituted the majority of maintenance and repair service customers. The results also show that the majority of respondents or 111 are between the ages of 18 and 25, 88 are between the ages of 26 and 35, 21 are between the ages of 36 and 45, and 21 are between the ages of 46 and 55. Approximately 63.9 percent (154) of those response were single, 33.2 percent (80) were married, and 2.9 percent (7) were divorced. According to the demographics, 65.1 percent or 157 of the respondents were Malay, with Chinese and Indian respondents accounting for 24.5 percent or 59 and 10.4 percent or 25 respectively. The majority of respondents 44.8 percent or 108 of the 241 respondents possess a bachelor's degree, and the second most hold a diploma 25.7 percent or 62 respondents out of the 241 respondents.

DATA ANALYSIS AND RESULT

Data Analysis

Following data collection, SPSS (Statistical Package for Social Sciences) version 19 was used to analyse all 241 usable data. To confirm the hypothesis, multiple linear regression analysis was used.

Common method bias

Self-report surveys are prone to common method bias, which can skew study results, procedural and statistical remedies were implemented to mitigate this issue (Podsakoff et al., 2003). To determine the effects of common method variance (CMV), Harmon's single-factor test was utilized (MacKenzie and Podsakoff, 2012). CMV was not shown to be a problem in

the results, as more than one factor emerged and did not account for the bulk of the variance (Podsakoff and Organ, 1986; Podsakoff et al., 2003).

Reliability Analysis

The Cronbach Alpha inter-item consistency was performed to evaluate the study instrument's reliability. Table III shows summary of reliability analysis results. The degree to which a variable (or group of variables) is consistent in what it is intended to measure is referred to as reliability (Hair et al., 2010). A Cronbach alpha value of 0.70 or higher indicates high scale reliability ((Nunnally, 1978)). Based on the results of the tests, all values above the specified minimum value of 0.70, despite the fact that no items were eliminated.

Table 4: Reliability of the Service Quality Instrument

Variable	No. of Item	Cronbach Alpha
Tangible	5	0.868
Reliability	5	0.881
Responsiveness	5	0.887
Assurance	5	0.917
Empathy	5	0.907
Customer Satisfaction	5	0.930

Correlation

The Pearson correlation statistical analysis was utilized to examine the relationship between the service quality dimensions (tangible, reliability, responsiveness, assurance, and empathy) and customer satisfaction. Correlation is significant when the value is less or equal to 0.05. In this study, the service quality dimensions were correlated with customer satisfaction and significant with value less than 0.05. The correlations between service quality factors and customer satisfaction were found in Table IV: Tangible ($r = .689$, $\text{sig} = 0.00$), Reliability ($r = .763$, $\text{sig} = 0.00$), Responsiveness ($r = .856$, $\text{sig} = 0.00$), Assurance ($r = .850$, $\text{sig} = 0.00$), and Empathy ($r = .851$, $\text{sig} = 0.00$). All of these variables contribute significantly to the prediction of the dependent variable.

Table 5: Correlation

	TAN	REL	RESP	ASSU	EMP	SAT
TAN	1					
REL	.728**	1				
RESP	.703**	.813**	1			
ASSU	.669**	.754**	.820**	1		
EMP	.648**	.713**	.836**	.813**	1	
SAT	.689**	.763**	.856**	.850**	.851**	1

* $p < 0.05$, ** $p < 0.01$

Multiple Regressions

The ultimate result of this regression is an equation that expresses the prediction of a dependent variable from numerous independent variables. This technique is performed when independent variables are correlated with one another and with the dependent variables.

In this study, regression analysis was performed between service quality dimensions and customer satisfaction. Table V reveals that the adjusted R square value was 0.824, indicating that the five dimensions of service quality can explain 82.4 percent of the variance in customer satisfaction. In fact, the model explained 82.4 percent of the variance in customer satisfaction, showing a relatively strong influence in the dependent variable (Cohen, 1988). The F-test (Table VI) provides statistical significance $F(5, 226.16)$, $p < 0.01$.

Table 8 demonstrates that, of the five service quality dimensions studied, only tangible and reliability were determined to be insignificant predictors of customer satisfaction. Table 9 depicts the coefficients that could explain which of the five independent variables is most important in explaining the variation in Customer Satisfaction. Looking at the column Beta under Standardized Coefficients, the greatest beta value for Empathy was 0.304, which is significant at the 0.001 level.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.910 ^a	.828	.824	.33814

a. Predictors: (Constant), EMP, TAN, REL, ASSU, RESP
b. Dependent Variable: SAT

Table 7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.293	5	25.859	226.164	.000 ^a
	Residual	26.869	235	.114		
	Total	156.161	240			

a. Predictors: (Constant), EMP, TAN, REL, ASSU, RESP
b. Dependent Variable: SAT

Table 8: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.152	.113		-1.348	.179
	TAN	.074	.049	.062	1.490	.138
	REL	.068	.055	.063	1.234	.219
	RESP	.290	.069	.263	4.219	.000
	ASSU	.322	.058	.298	5.560	.000
	EMP	.316	.056	.304	5.620	.000

a. Dependent Variable: SAT

Hypothesis Testing

Table 9 shows the results of the hypothesized relationships, which show that responsiveness ($\beta = 0.263$, $p < 0.01$), assurance ($\beta = 0.298$, $p < 0.01$), and empathy ($\beta = 0.304$, $p < 0.01$) of automotive maintenance and repair centres all have a significant positive relationship on the satisfaction of customers sending their cars for servicing. However, the tangible ($\beta = 0.062$, $p > 0.05$) and reliability ($\beta = 0.063$, $p > 0.05$) have no significant positive relationship with the satisfaction of customers, thus, accepting H3, H4, H5, but rejection H1 and H2.

Table 9: Hypothesis Results

Hypothesis	Descriptions	Outcomes
H1	Tangible is positively associated with customer satisfaction	Not accepted ($\beta = 0.062$, $p > 0.05$)
H2	Reliability is positively associated with customer satisfaction	Not accepted ($\beta = 0.063$, $p > 0.05$)
H3	Responsiveness is positively associated with customer satisfaction	Accepted ($\beta = 0.263$, $p < 0.01$)
H4	Assurance is positively associated with customer satisfaction	Accepted ($\beta = 0.298$, $p < 0.01$)
H5	Empathy is positively associated with customer satisfaction	Accepted ($\beta = 0.304$, $p < 0.01$)

DISCUSSION

In general, the study indicated that three of the five service quality dimensions had a significant impact on customer satisfaction. According to regression analysis, tangibles have no significant impact on consumer satisfaction. This result contradicts the findings of many other researchers (for example, Dabholkar et al., 1996; Izogo and Ogbu, 2015; Famiyeh et al., 2018; Aiyeshinde and Aigbavboa's, 2019). Customers have fewer expectations when it comes to overall personnel and facility appearance, which has resulted in a changing trend in which respondents no longer regard tangibles as an important measurement. This is due to automotive maintenance and repair centres almost having identical tools, equipment, and technology, so customers have fewer expectations when it comes to overall personnel and facility appearance. They are more concerned with the quality of service provided on their car and the manner in which service employees assist and interact with them (Balinado et al., 2021). This result means, the amenities at the centre are not visually pleasing. Thus, automotive maintenance and repair centres must consider enhancing their amenities, such as upgrading the waiting room and providing complimentary food and drink.

Surprisingly, the findings show that the reliability of car maintenance and repair centres has no positive relationship with customer satisfaction, contradicting the findings of Famiyeh et al. (2018) and Izogo and Ogbu (2015). This could be because, on average, employees are young and have little experience, and hence respondents do not evaluate them based on abilities, behaviour, providing error-free services, and so on. That is, respondents agree that service quality is not good, and the majority of the centres were unable to give a good level of service quality in terms of reliability to their customers. According to Jain et al. (2019), in the automotive maintenance and repair industry, reliability is a key component of service quality; because customers are not frequently present during servicing, it is critical that the service centre addresses the customer's issues appropriately. However, Jain et al. (2019) and Balinado

et al. (2021) discovered a substantial relationship between reliability and customer satisfaction. Customers may be obligated to stay with the automotive maintenance and repair centre even if they are dissatisfied since their vehicles are still under service guarantee.

According to the findings, there is a considerable association between responsiveness and customer satisfaction. These findings are corroborated by previous findings in other investigations (Izogo and Ogba, 2015; Famiyeh et al., 2018; Jain et al., 2019). Responsiveness is an important dimension in automotive maintenance and repair because most customers rely on their vehicle for daily activities and expect it to be serviced as soon as possible (Jain et al., 2019). This signifies that respondents agree that the service quality at automotive maintenance and repair shops is satisfactory. This result indicates that the centres can give a high degree of service quality to their clients in terms of responsiveness.

This study demonstrates a substantial association between assurance and customer satisfaction, which is consistent with prior research such as Izogo and Ogba, (2015) and Famiyeh et al., (2018). This suggests that respondents agree that car maintenance and repair centres can give a high level of service quality in terms of consumer assurance. Furthermore, customers place a high value on centre employees' constant communication, honesty, and transparency, such as returning all valuable items to customers, informing them if the vehicle is already being serviced, and allowing them to observe to ensure that all the discussed inspections are completed properly.

Empathy is an important aspect of service quality; because maintenance and repair services include changing and replacing parts, the customer should be constantly informed by the service centre, with individualised care and attention. According to the findings of this study, empathy has a substantial positive relationship with customer satisfaction. This evidence is reinforced by the findings of Izogo and Ogba, 2015; Famiyeh et al., 2018; Aiyesehinde and Aigbavboa, 2019; Jain et al., 2019; and Balinado et al., 2019. (2021). It signifies that car owners place a high importance on giving care and personalized attention. According to Balinado et al. (2021), friendship between specific service professionals and consumers has a significant impact on the development of customer satisfaction. Therefore, it is critical for employees to pay close attention to consumers and to treat them fairly. Overall, respondents feel that service quality is good at automotive maintenance and repair centres, and that the centres can provide good attention and service quality in terms of empathy to their consumers.

LIMITATIONS

The current study has a number of limitations, including the following: The respondent coverage in this study only come from Kuantan, thus the findings lack of generalizability. The findings are likely to suffer from temporal effects due to the cross-sectional methodology; a longitudinal approach would help to overcome this limitations. The study was limited to personal cars; however, more research should be conducted to see if the concept may be applied to commercial vehicles. Other factors can be added to the model to improve its predictive potential, for example add revisiting intention as a dependant variable and customer satisfaction as a mediating variable. Finally, broad generalisations to a larger population or business, as well as cultural issues, should be avoided.

CONCLUSION

The findings of this study also successfully mirrored the five-dimensional structure identified in the SERVQUAL scale, with great internal consistency and reliabilities. This result demonstrates that the SERVQUAL scale is a viable and trustworthy measure of service quality in the field of automotive maintenance and repair services, particularly in the Malaysian setting. Furthermore, despite the fact that the five aspects of service quality specified in the original SERVQUAL literature were applied, only three dimensions had a positive connection with customer satisfaction. Two dimensions, tangible and reliability were not significant in relation to customer satisfaction. In this study, empathy was found to be the most important feature of service quality, which differs from past research on service quality in connection to customer satisfaction. In summary, this study used service quality dimensions based on the original SERVQUAL model's framework (tangible, reliability, responsiveness, assurance, and empathy), although there are some modifications in item assignment. These findings show that the SERVQUAL dimensions are context specific rather than generic, as the creators of the SERVQUAL dimensions claimed. As a result, context-specific service quality dimensions are required to aid organizations in their service quality improvement initiatives.

Although customer service has been studied for a long time, it is still one of the research projects that service organizations must continue to conduct in order to keep up with industry advances because this kind of research contributes to both practice and theory. From a practical standpoint, the study's findings are especially important for service center managers, who should focus on boosting service quality and fairness at every stage of customer engagement because a satisfied customer is a loyal customer. They must be responsive and empathic, properly listening to customer enquiries and complaints. Appropriate communication with the customer on automotive maintenance and servicing issues is critical. For example, employees should advise the customer that their vehicle's oil needs to be changed and when the next oil change is scheduled. Therefore, a better understanding of the sequence of relationships between service quality and customer satisfaction can help manager to ensure better customer management. On a theoretical level, the study adds to the literature on service quality by confirming that responsiveness, assurance, and empathy are important factors in the context of automotive maintenance and repair. Based on these findings, service center managers can improve tangible and reliability aspects of their operations in order to maximize customer satisfaction.

CONFLICT OF INTEREST

The author declares no conflict of interest, whether financial or otherwise, in conducting this research.

ACKNOWLEDGEMENTS

We want to thank the both faculty and institutions for their support of this study.

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