



Research Paper

## Mediation of Satisfaction in Service Quality and Trust In Students' Loyalty: Empirical Evidence From PTM Indonesia

Imam Suprpta<sup>1</sup>, Moch Rizal<sup>2\*</sup>, Lela Nurlaela Wati<sup>3</sup>, Rita Yuni Mulyanti<sup>4</sup>, Aulia Kusumastuti<sup>5</sup>

<sup>1-5</sup>*Sekolah Tinggi Ilmu Ekonomi (STIE) Muhammadiyah Jakarta, Jl. Minangkabau No. 60 Jakarta Selatan 12650, DKI Jakarta, Indonesia*

**ABSTRACT:** This study aimed to determine the effect of service quality and trust on customer satisfaction and their impact on their loyalty at of Perguruan Tinggi Muhammadiyah Indonesia. This study involved 230 active students of Perguruan Tinggi Muhammadiyah (PTM) as samples, and the selection was determined based on probability sampling techniques with the proportional method. Meanwhile, the data were analyzed using Partial Least Square (PLS) method. The study results revealed that service quality positively affects customer satisfaction, while trust has a positive and significant effect on customer satisfaction. Service quality has a positive and significant effect on the student's loyalty, whereas customer satisfaction positively and significantly affects the student's loyalty. Furthermore, service quality has a positive and significant effect on loyalty through customer's satisfaction and trust has a positive and significant effect on loyalty through customer satisfaction. Meanwhile, trust has a negative and insignificant effect on the student's loyalty at PTM College. Based on these results, the variables that greatly affect students' loyalty at PTM College are service quality and customer satisfaction. It concludes that improving students satisfaction will enhance their loyalty to PTM College.

**KEYWORDS:** service quality, trust, customer satisfaction, customer loyalty

*Received 20 Dec, 2021; Revised 28 Dec, 2021; Accepted 31 Dec, 2021 © The author(s) 2021.  
Published with open access at [www.questjournals.org](http://www.questjournals.org)*

### I. INTRODUCTION

Loyalty is expected behavior associated with a product or service, described as an attitude that shows the desire to stay or remain in the bond of an emotionally formed relationship. There will be high customer loyalty when a product or service is considered capable of providing the customers' highest satisfaction, making them reluctant to switch to other products. Customer loyalty is shown through repeat purchases the customers make because of a commitment to a product or brand from the company (Kottler, 2007). Indeed, loyal customers are beneficial for the company and function as marketers who can recommend the company's products to those closest to them or to people seeking information. Service users' loyalty will provide positive feedback to the service providers, such as recommending it to family, colleagues, and other colleagues.

Meanwhile, customer loyalty in the educational world is closely related to student loyalty, which is an essential aspect of higher educational institutions' existence. Highly loyal students are the higher educational institution's assets because they will provide positive recommendations and encourage friends, relatives, and other communities to use the educational services they have experienced with. If a tertiary institution provides a higher degree of educational service, loyal students will be more likely to return to study at the same tertiary institution. Students who feel their expectations can be fulfilled will feel satisfied and have a positive perception of educational services' quality. This positive perception forms a sense of satisfaction, impacting student loyalty, resulting in their willingness to provide recommendations to others.

Concerning student loyalty, Daryanto et al. (2014) found that service quality and satisfaction significantly affect student loyalty, but trust does not. It is not influenced by service quality, instead of student satisfaction, while service quality affects student satisfaction. This finding is supported by Saoud and Sansou (2019), who argued that students' satisfaction could explain their loyalty to higher education. Srivastava et al. (2015) through a literature study, Ahmed et al. (2014), Gull and Bricci et al. (2016) in the distribution sector, Mohsan et al. (2011), Martha et al. (2018), Odunlami and Matthew (2015) in the banking sector, Awan and

Rehman (2014) found that satisfaction has a positive effect on consumer loyalty. However, the results of research conducted by Putra (2016) showed that satisfaction did not significantly affect loyalty.

Research on loyalty has also been carried out by Osman et al. (2016) who found that service quality directly affects customer satisfaction. Likewise, research on customer loyalty was conducted by Liu and Wang (2017), Kheng et al. (2010), and Putra (2013) on the financial sector; Basir et al. (2015) in the marine transportation sector; Poku et al. (2013) on hotel services; and Mahmud et al. (2013) on commercial aviation industry services.

In contrast to these studies, a study conducted by Krey et al. (2014); and research conducted by Jhahansahi et al. (2011); and Anand and Selvaraj (2012), found that service quality did not have a direct impact on customer loyalty, but needs to be mediated by customer satisfaction. Moreover, research conducted by Chandra et al. (2018) on the education sector also found that service quality did not directly affect student loyalty. However, service quality can increase student satisfaction and ultimately have an impact on student loyalty. Students who are satisfied with the services provided by the campus will become more loyal. For private educational institutions, improving service quality is an important part, especially in campus facilities and premises, such as classroom availability, cleanliness, and comfort, and improving the quality of administrative data. Annamdevula and Belakonda (2016) prove the role of student satisfaction as a mediator between service quality and student loyalty. Service quality has become an essential input for student satisfaction. Osman et al. (2016) found that service quality positively and significantly affects bank customer loyalty with satisfaction as an intervening variable.

Research conducted by Perin et al. (2012) found that student trust positively impacted their commitment and loyalty; their commitment has a positive impact on their loyalty. Their perceptions of service quality have a positive impact on their commitment and trust. These findings also revealed that student loyalty was indirectly influenced by perceived quality. Yousaf, Mishra, and Bashir (2018) argued that creating trust through effective services is a way to enhance loyalty. The dimensions of reliability and integrity are determinants in creating loyalty. The research results by Brilliant and Achyar (2013) found that customer loyalty was influenced by customer trust. This finding is also in agreement with the research results on the telecommunications industry conducted by Hayati (2011), Upamannyu et al. (2015) and Hasan et al. (2014) on the banking sector, Chinomona and Dubihlela (2014) on shops, as well as a literature review conducted by Utami (2015).

Daryanto et al. (2014) and Bricci et al. (2016) found that customer satisfaction in Portugal's distribution sector is directly affected by customer trust. In contrast to these findings, Sampaio et al. (2012) found that trust did not affect student loyalty in their study conducted in Brazil. Furthermore, Haron et al. (2020) found that trust partially mediated consumer satisfaction with consumer loyalty. Meanwhile, the research conducted by Victor et al. (2015) showed that trust influenced consumer loyalty through satisfaction, but the influence was insignificant.

Given the above-varied results of the previous studies on this area, it is indispensable to revisit the effect of service quality and trust on customer satisfaction and its impact on student loyalty. Thus, this study aimed to examine and investigate empirical evidence regarding service quality and trust, customer satisfaction, and its impact on loyalty comprehensively.

## **II. LITERATURE REVIEW**

This section provides intense discussions on the relationship among the relevant factors presented in the background.

### **2.1. THE RELATIONSHIP BETWEEN SERVICE QUALITY AND CUSTOMER SATISFACTION**

Customer satisfaction is one of the critical factors that connect the company with customers in the long run. According to Kotler & Armstrong (2017, p. 39), satisfaction or dissatisfaction is the feelings or perception of pleasure or disappointment that originate from comparing a product's performance with personal desires. One of the influencing factors in customer satisfaction is service quality to which, all customers demand that the product or service in use can deliver satisfaction. Therefore, every organization is always required to prioritize the quality of its services. Customer assessment of service quality results is obtained from comparing expectations between before service with actual service. Service is considered satisfactory if customers feel the service they receive exceeds or is equal to their expectations, and vice versa. Osman et al. (2016) found that service quality had a direct effect on enhancing customer satisfaction. Based on the elaboration above, the following hypothesis is proposed.

H1 = Service quality has a positive effect on customer satisfaction.

## **2.2. THE RELATIONSHIP BETWEEN SERVICE QUALITY AND CUSTOMER LOYALTY**

Khan and Fasih (2014) considered service quality a significantly contributing factor to customer satisfaction and loyalty. The results of their research indicated that service quality and all of its dimensions were significant and positive. On the other hand, Subrahmanyam and Raj (2014) showed that service quality had been found to be an essential input for student satisfaction. Another research conducted by Li (2013) at private tertiary institutions in Taiwan also revealed that service quality had a positive effect on student satisfaction. Thus, the proposed second hypothesis in this study is as follows:

H2 = Service quality has a positive effect on customer loyalty.

## **2.3. THE RELATIONSHIP BETWEEN TRUST AND CUSTOMER SATISFACTION**

Trust is the thought, feeling, emotion, or behavior shown when customers feel they can rely on the producer or service provider of the product they use (Leninkumar, 2017). Customer trust is closely related to satisfaction with a product or service. The results of research conducted by Bricci et al. (2016) showed that customer trust had a direct positive effect on customer satisfaction. Likewise, the research of Gul (2014) proved that trust had a significant effect on satisfaction. Thus, the third hypothesis proposed is as follows:

H3 = Trust has a positive effect on customer satisfaction.

## **2.4. THE RELATIONSHIP BETWEEN TRUST AND LOYALTY**

The results of previous study indicated that trust had a positive and significant effect on customer loyalty. It infers that the higher the trust a company has in managing its business units will increase customer loyalty. Given high credibility supported by the company's reliability, it will directly enhance customer loyalty. The research results by Bozbay and Bazlar (2020) found that brand trust had a significant effect on brand loyalty. Trustworthy customers will recommend brands they trust to others. Daryanto, Sukandar and Yusuf (2014), Bricci et al. (2016) found that customer satisfaction in the distribution sector in Portugal is directly influenced by customer trust. Moreover, trust is the primary determinant of loyalty as stated by Menidjel et al. (2017); Yousaf, Mishra, and Bashir (2018) Thus, the fourth hypothesis is proposed as follows:

H4 = Trust has a positive effect on customer loyalty.

## **2.5. THE RELATIONSHIP BETWEEN CUSTOMER SATISFACTION AND LOYALTY**

The extent to which customer satisfaction or customer dissatisfaction exists can be determined from the subsequent customer behavior. If a customer who consumes a product is satisfied, he/she will show behavior to give his/her preference to others. Furthermore, if the customer is dissatisfied, the customer will complain to the company. Creating optimal customer satisfaction will encourage the creation of loyalty in the mind of the satisfied customer. Chong and Koi (2019); Meesala and Paul (2018), and Teerovengadiem et al. (2019) found that satisfaction affects customer loyalty. Thus, based on theoretical ground and previous research results, the fifth hypothesis in this study is proposed as follows:

H5 = Customer satisfaction has a positive effect on customer loyalty.

## **2.6. THE RELATIONSHIP BETWEEN SERVICE QUALITY, CUSTOMER SATISFACTION, AND CUSTOMER LOYALTY**

The intense competition among the higher educational service providers emphasizes that provision of service quality to students is essential to sustain market share. As a private educational institution, the PTM college must recognize the crucial aspects to be considered and students' expectations to provide the best service. Quality services are indispensable for the institutions that offer services because, with quality services, organizations can measure their performance level. Customer satisfaction leads to behavioral consequences in the form of either complaints or customer loyalty. Thus, an organization or a company that can pay attention to every influential aspect of customer satisfaction will manage to attain it. Eventuall, it will positively impact the company since the satisfaction will create customers loyalty to the product or services they provide. Customers' loyalty will lead them to decide to repurchase on an ongoing basis. If a product or service which has a good quality will cause customers to be satisfied. If they are satisfied, they will provide product or service recommendations to others. Customer loyalty means a condition in which they have a positive attitude, commitment towards a brand, and provide recommendations to other parties to use it. Krey et al. (2014); Jhahansahi et al. (2011); Anand and Selvaraj (2012; Chandra et al. (2018); Annamdevula and Belakonda (2016) found that student satisfaction mediates service quality and students' loyalty. Thus, based on theoretical background and previous research results, the sixth hypothesis in this study is as follows:

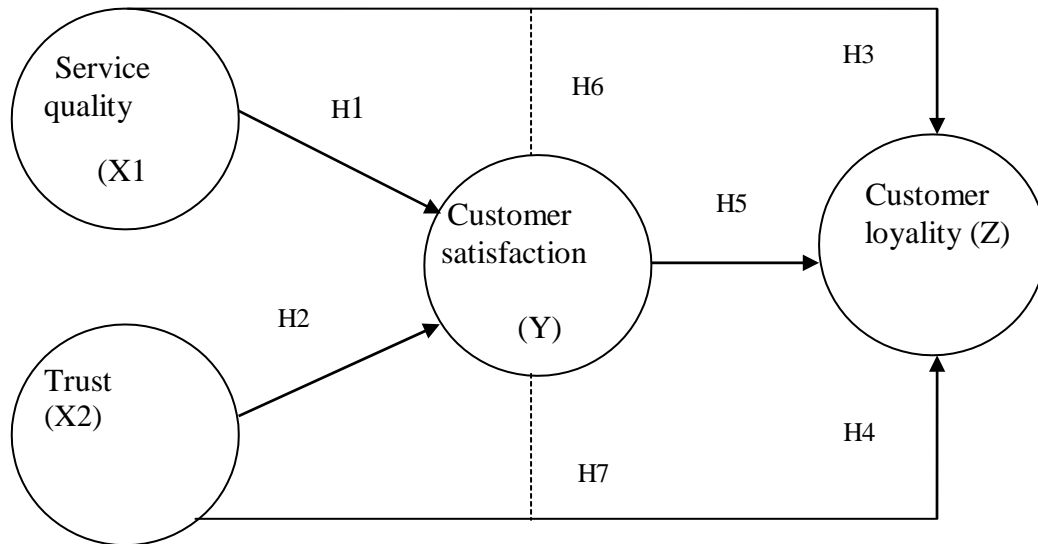
H6 = Service quality has a positive effect on customer loyalty through customer satisfaction.

**2.7. THE RELATIONSHIP BETWEEN CUSTOMER TRUST, SATISFACTION, AND LOYALTY**

Kotler and Keller (2009) suggested that delighted consumers will usually be loyal for an extended period and make repeat purchases when introducing new products and updating the old ones. This argument also means that if students are satisfied and rely on the services they receive, they will become loyal. Therefore, customers trust will have a positive effect on their loyalty. Based on theoretical explanation and the findings of the previous studies, the sixth hypothesis in this study is proposed in the following part:

H7 = Trust has a positive effect on customer loyalty through customer satisfaction.

Based on previous theory and research, the conceptual research framework is depicted in the following figure.



**Fig. 1 Conceptual framework of the study**

**III. METHODOLOGY**

The samples in this study were college students, accounting for 230 respondents. Furthermore, the following table presents the variables, dimensions, and indicators used in this study.

**Table 2. Operational variables**

Variable	Variable concept	Dimension	Question indicator
Service quality (X1)	Service quality is often defined as a comparison between the expected service and the actual service received. Service is intangible. It is an activity, benefit to provide and satisfy that basically does not result in any ownership transfer	Reliability	1. The lecturers' ability to deliver lectures 2. The lecturers' age 3. The academic staff ability to carry out their duties 4. Lecturers have a professional attitude 5. Academic staff has a professional attitude 6. Easy access for students to obtain information
		Responsiveness	1. Academic staff is responsive to handle complaints 2. Lecturer ethics 3. Ethics of academic staff 4. Friendly academic staff 5. Scholarships for students
		Assurance	1. Availability of counseling and guidance 2. Responsible academic staff for providing services 3. Sanctions for disobedient students 4. Clear information conveyed by the academic staff 5. Guarantee of security for students
		Empathy	1. Open and cooperative lecturers 2. No preferential treatment for certain students
		Tangibles	1. Classroom condition 2. Comfortable classroom 3. Availability of lecture facilities and infrastructure 4. Library is regularly updated

			5. Adequate canteen 6. Proper condition of the toilet 7. Availability of WIFI 8. Availability of parking space 9. Availability of facilities and infrastructure for student activities 10. Adequate health clinic 11. Complete place of worship 12. Adequate computer laboratory
<b>Trust (X 2)</b>	Customers trust is their knowledge regarding an object, its attributes, and benefits	Competence	1. Academic staff's good performance 2. Good lecturers' performance
		Honesty	1. Lecturers' impartial assessment for all student 2. Trustworthy academic staff in conveying information
		Benevolence	1. Relief payment for student in need 2. Opportunities for grade improvement for students
Satisfaction (Y)	Customers satisfaction is a post-purchase evaluation where the chosen alternative is at least the same or exceeds their expectations, while dissatisfaction arises if the results do not meet what are expected	Overall customer satisfaction	1. Satisfying performance and professionalism of the lecturers 2. Satisfying performance and professionalism of the academic staff
		Confirmation of expectations	1. Service quality is as expected 2. Academic and non-academic information is well available
		Willingness to recommend	1. Positive response to complaints 2. Responsive to complaints 3. Proper facilities and infrastructure
		Customer dissatisfaction	1. Delay in data input 2. Misinformation 3. Lack of online system socialization
Consumer loyalty (Z)	Loyalty is a firmly held commitment to rebuy or re-subscribe to certain products or services in the future regardless the influence of situations and marketing efforts that potentially lead to behavioral changes	Brand value	1. Comparison of prices 2. Comparison of quality
		Customer characteristics	1. Peer sharing 2. Recommendations to friends 3. Inform the comfort of interesting facilities and activities
		Switching barrier	1. Facilities do not meet expectations 2. Low level of accreditation
		Customer experience	1. Confident in the quality of campus activities 2. Constant participation in campus activities
		Competitive environment	1. Maintaining campus reputation 2. Assured in the quality of education

(Source: data processed)

Later, the data were analyzed to test the direct and indirect effects of service quality and trust on loyalty using the Structural Equation Model with Smart Partial Least Square (PLS) software. The equation in this study is formulated as follows:

$$KK = \alpha_0 + \beta_1 KP + \beta_2 K + e_1$$

$$LK = \alpha_0 + \beta_3 KP + \beta_4 K + \beta_5 KK + \beta_6 KPKK + \beta_7 KKK + e_2$$

Where:

KP = service quality

K = trust

KK = customer satisfaction

LK = customer loyalty

B = multiple coefficient

$\alpha$  = constant

KPKK = quality of service through customer satisfaction

KKK = trust through customer satisfaction

$e_1$  = error

$e_2$  = error

## IV. RESULTS AND DISCUSSIONS

### 4.1. DESCRIPTIVE ANALYSIS

The population of this study were active students at PTM College in Jakarta, with a total sample of 230 respondents. The samples were taken proportionally from the population from various study programs.

Source: authors' own calculation

### 4.2. VALIDITY AND RELIABILITY TEST

The data from this study were tested using Pearson correlation analysis, from which, if the total value of the analysis indicates less than 0.05, the data are considered invalid. The research results are presented in Table 2 as follows.

**Table 3. Validity test results**

Variable	Indicator	Loading	T-Statistics				Note
			Service quality	Trust	Satisfaction	Loyalty	
Service quality (X1)	X.1.1	0.705	15.502				Valid and significant***
	X.1.2	0.727	13.500				Valid and significant***
	X.1.3	0.686	14.977				Valid and significant***
	X.1.4	0.701	16.187				Valid and significant***
	X.1.5	0.719	16.503				Valid and significant***
	X.1.6	0.730	12.826				Valid and significant***
	X.2.1	0.747	15.900				Valid and significant***
	X.2.2	0.641	12.105				Valid and significant***
	X.2.3	0.919	63.613				Valid and significant***
	X.2.4	0.870	46.669				Valid and significant***
	X.2.5	0.525	7.231				Valid and significant***
	X.3.1	0.766	20.762				Valid and significant***
	X.3.2	0.841	30.644				Valid and significant***
	X.3.3	0.747	18.255				Valid and significant***
	X.3.5	0.758	23.238				Valid and significant***
	X.3.5	0.675	12.967				Valid and significant***
	X.4.1	0.863	32.805				Valid and significant***
	X.4.2	0.895	49.346				Valid and significant***
	X.5.1	0.595	11.964				Valid and significant***
	X.5.2	0.827	28.561				Valid and significant***
	X.5.3	0.844	32.993				Valid and significant***
	X.5.4	0.832	32.851				Valid and significant***
	X.5.5	0.752	21.166				Valid and significant***
	X.5.6	0.776	20.945				Valid and significant***
	X.5.7	0.652	12.572				Valid and significant***
	X.5.8	0.745	23.903				Valid and significant***
	X.5.9	0.813	29.623				Valid and significant***
	X.5.10	0.801	31.722				Valid and significant***



*Mediation Of Satisfaction In Service Quality And Trust In Students' Loyalty: Empirical ..*

	X.5.11	0.524	9.575		Valid and significant***
	X.5.12	0.739	19.030		Valid and significant***
Trust (X2)	X2.1.1	0.710		13.894	Valid and significant***
	X2.1.2	0.895		64.328	Valid and significant***
	X2.2.1	0.918		72.208	Valid and significant***
	X2.2.2	0.910		57.293	Valid and significant***
	X2.3.1	0.888		54.390	Valid and significant***
	X2.3.2	0.889		43.736	Valid and significant***
	Loyalty (Y)	Y1.1	0.981		66.175
Y1.2		0.953		74.279	Valid and significant***
Y2.1		0.945		83.054	Valid and significant***
Y2.2		0.940		78.452	Valid and significant***
Y2.3		0.924		66.012	Valid and significant***
Y3.1		0.546		0.964	Valid and significant***
Y3.2		0.993		1.072	Valid and significant***
Y4.1		0.919		97.405	Valid and significant***
Y4.2		0.791		19.286	Valid and significant***
Y5.1		0.875		42.698	Valid and significant***
Y5.2	0.930		132.902	Valid and significant***	
Satisfaction (Z)	Z1.1	0.853		30.113	Valid and significant***
	Z1.2	0.912		110.718	Valid and significant***
	Z2.1	0.898		102.292	Valid and significant***
	Z2.2	0.834		24.824	Valid and significant***
	Z3.1	0.924		90.280	Valid and significant***
	Z3.2	0.933		96.341	Valid and significant***
	Z3.3	0.701		13.157	Valid and significant***
	Z4.1	0.903		0.000	Valid and significant***
	Z4.2	0.236			Invalid and significant***
Z4.3	0.387			Invalid and significant***	

\*\*\*Significant level at  $\alpha = 1\%$ , \*\* significant level at  $\alpha = 5\%$ , \*significant level at  $\alpha = 10\%$

Source: results processed using Smart PLS.

In Table 1 above, it could be observed that the indicator has a loading factor greater than 0.5, which is considered valid. Meanwhile, both indicators Z.4.2 and Z4.3 have a loading factor less than 0.5, and therefore, they are considered invalid. These two invalid indicators were dropped and were not taken into account in the subsequent analysis.

Furthermore, the reliability test results for service quality, trust, job satisfaction, and loyalty are displayed in Table 4 below. Wati (2018:239) asserted that a variable is considered moderately reliable if it has a construct reliability value greater than 0.6.

Variables	AVE	Composite reliability
Loyalty (L)	0.524	0.897
Customer satisfaction	0.50	0.894
Trust	0.594	0.896
Service quality	0.404	0.952

Based on the table above, it can be observed that the variable of service quality has composite reliability above 0.7; thus, it can be concluded that the indicators of the variable in each dimension have adequately good reliability. In other words, the indicators are able to measure the construct. However, the service quality variable has an AVE value <0.5, which means that the indicators used have good reliability, yet they cannot measure the construct. But, based on composite reliability, which has a value of 0.952, the service quality is regarded to have good reliability.

Meanwhile, the trust variable has composite reliability above 0.7, so it can be concluded that the indicators used for the trust variable in each dimension have pretty good reliability and can measure the construct. The trust variable has an AVE value > 0.5, which means that the indicators used have sufficiently good reliability or they can measure the construct.

Given that the satisfaction variable has composite reliability above 0.7, we can conclude that the indicators used in each dimension's service quality variable have reasonably good reliability or can measure the construct. However, the service quality variable has an AVE value <0.5, which indicates that the indicators do not have adequately good reliability or cannot measure the construct.

Furthermore, the variable of customer loyalty has composite reliability above 0.7. We can conclude that the trust variable indicators in each dimension have relatively good reliability and can measure the construct. The trust variable has an AVE value > 0.5, which means that the indicators used have sufficiently good reliability or can measure the construct.

#### 4.2. THE GOODNESS OF FIT MODEL (INNER MODEL)

##### Evaluation of goodness of fit model structural (inner model)

Based on data processing results using SEM PLS, the R2 value of the variables involved in this study is depicted in the following table.

Variable	R- Square
Customer satisfaction	0,776
Students loyalty	0,628
Predictive relevance	0,917

Source: data processed using SmartPLS, 2020

Based on the table, we can determine that R square on customer satisfaction has a value of 0.776 (77.6%) > 0.67, which is considered robust. Likewise, R square for loyalty has a value of 0.628 (62.8%) < 0.67 and is regarded as robust. Furthermore, the measurement of the inner model (goodness of fit model) was carried out using the predictive relevance (Q2) value (Wati, 2018: 239). The predictive relevance (Q2) value we obtain was 0.

$$Q^2 = 1 - (1 - R^2_t)(1 - R^2_2)$$

$$Q^2 = 1 - (1 - 0.776)(1 - 0.628)$$

$$Q^2 = 1 - (0.224)(0.372)$$

$$Q^2 = 1 - 0.08332$$

$$Q^2 = 0.91668$$

Meanwhile, the predictive–relevance value of the structural model in this study is 0.917 or 91.7%, indicating that the model can precisely explain the phenomenon of student loyalty related to several variables, which are service quality, trust, and satisfaction.

#### 4.3 HYPOTHESIS TESTING

**Table 5. Path Coefficients (coefficient parameter, T- Statistic P- Values)**

Relationship between variable and dimension	Parameter coefficient	T- Statistic	P – Values	Result
Service quality >> reliability	0.746	18.077	0.000	Supported ***
Service quality >> Responsiveness	0.839	30.234	0.000	Supported ***
Service quality >> Assurance	0.877	48.792	0.000	Supported ***
Service quality >> Empathy	0.711	22.039	0.000	Supported ***
Service quality >> Tangible	0.905	49.260	0.000	Supported ***
Service quality >> customer satisfaction	0.635	8.916	0.000	Supported ***
Trust >> Competence	0.896	48.618	0.000	Supported ***
Trust >> Honesty	0.918	75.779	0.000	Supported ***
Trust >> Benevolence	0.831	32.470	0.000	Supported ***
Trust > customer satisfaction	0.288	3.658	0.000	Supported ***
Customer satisfaction >> Overall customer satisfaction	0.887	47.400	0.000	Supported ***



Customer satisfaction >> confirmation of expectation	0.909	54.613	0.000	Supported ***
Customer satisfaction >> willingness to recommend	0.931	66.611	0.000	Supported ***
Customer satisfaction >> customer dissatisfaction	0.722	18.667	0.000	Supported ***
Customer satisfaction > customer loyalty	0.428	3.981	0.000	Supported ***
Customer loyalty >> brand value	0.855	36.066	0.000	Supported ***
Customer loyalty >> customer characteristics	0.922	79.575	0.000	Supported ***
Customer loyalty >> Switching barrier	0.279	0.920	0.179	Not Supported ***
Customer loyalty >> customer experience	0.823	31.276	0.000	Supported ***
Customer loyalty >> competitive environment	0.839	35.817	0.000	Supported ***
Service quality > customer loyalty	0.468	4.652	0.000	Supported ***
Trust > customer loyalty	-0.090	1.004	0.158	Not Supported ***
Service quality > customer loyalty through customer satisfaction	0.272	3.770	0.000	Supported ***
Trust > customer loyalty through customer satisfaction	0.123	2.458	0.007	Supported ***

Note: \*\*Significant at level 5%, \* significant at level 10%

Source: data processing using Smart PLS

$$KK = \alpha_0 + 0.635 KP + 0.288 K + e_1 \dots$$

$$LK = \alpha_0 + -0.090 K + 0.428 KK + 0.272 KPKK + 0.123 KKK + e_2$$

Based on testing the first hypothesis, the path parameter coefficient value we obtained from the effect of service quality on customer satisfaction is 0.635. A t-statistic value of 8.916 > 1.66 at the significant level  $\alpha = 0.05$  (5%). These results indicate that service quality has a positively direct effect on customer satisfaction. The coefficient value of 0.635 indicates that student satisfaction will increase as the service quality is improved. This study result found that the most significant dimension of the PTM College is the tangibles, with the parameter coefficient value of 0.905 and t-statistic 46.260 > 1.66. Furthermore, these results are in line with Mansori et al. (2014) in their study on service quality in Malaysian private education sectors, where service quality, especially the tangible aspect, significantly affects student satisfaction. These findings indicate that physical facilities play a vital role in increasing student satisfaction. This condition also means that tangibility has the most significant influence on students' intentions to continue their tertiary education at the same institution. This study's results support Rimbinguwu et al. (2014); Sultan and Wong (2012) in their research on the service quality have a substantially direct influence on consumer satisfaction. The results of this study emphasize that service quality is an essential component in higher education. Chandra et al. (2018) studied 1000 students from 13 universities and found that service quality affected student satisfaction. Good quality service will create satisfaction for its customers. When the customers are satisfied with the products or services they receive, they will compare the services provided by other institutions. If students are delighted, they will recommend others to study in the same institution.

Based on the results of testing the second hypothesis, the path coefficient value obtained from the influence of trust on customer satisfaction was 0.288 with a t-statistic value of 3.981 > 1.66 at the significant level  $\alpha = 0.05$  (5%). It states that the variable of trust has a direct positive effect on customer satisfaction. These research results are in line with Daryanto, Sukandar, and Yusuf (2014) and Bricci et al. (2016), that trust directly affects consumer satisfaction. Thus, in this research, it can be said that the higher the students' trust in their higher education institutions, the higher the satisfaction they feel. However, this study's results are different from the research results by Haron et al. (2020), which found the opposite condition, i.e. consumer satisfaction can affect consumer confidence.

Moreover, based on the third hypothesis testing on the service quality effect on loyalty, it was obtained that a path parameter coefficient value was 0.468 with a t-statistic value of 4.652 > 1.66 at the significant level  $\alpha = 0.05$  (5%). It means that service quality has a direct positive effect on the variable of loyalty; in other words, customer loyalty will be increased with the improvement in service quality they perceive. The study results are in line with Liu and Wang's research (2017), which states that service quality positively and significantly affects customer loyalty. Service quality is the main factor affecting customer loyalty because customers whose personal values are satisfied and experience a positive perception of service will have high loyalty. This study also reveals that the service quality in tertiary educational institutions with the most decisive influence on customer loyalty is the tangible aspects, such as parking lots, buildings, classrooms, libraries, and other premises for student comfort. This result supports Chandra et al. (2018) findings that the service quality will affect students' loyalty at private universities.

Testing the fourth hypothesis on the effect of trust on loyalty obtained a path coefficient value of -0.090 with a t-statistic value of 1.004 < 1.66 at the significant level  $\alpha = 0.158$  (15.8%) or insignificant. The path coefficient and p-value indicate that trust has no direct effect on loyalty. This study's results do not support the fourth hypothesis, where trust is a determinant of loyalty. This finding is not following the research results of Hasan et al. (2014). In contrast, it is in line with the research results of Daryanto, Sukandar, and Yusuf (2014).

These findings also support the research results by Sampaio et al. (2012) conducted at universities in Brazil, that higher trust in administrative staff and faculty did not significantly impact student loyalty.

By testing the fifth hypothesis regarding the effect of satisfaction on loyalty, it obtained a coefficient value of 0.428 with a t-statistic value of  $3.658 > 1.66$  at the significant level  $\alpha = 0.05$  (5%). It indicates that customer satisfaction has a direct positive effect on loyalty. These findings support the research results of Srivastava and Rai (2013), Mohsan et al. (2011), which revealed that customer satisfaction and loyalty have an inseparable relationship. High satisfaction will increase customer loyalty, and vice versa; lower satisfaction will result in insufficient consumer loyalty. This study also supports the findings of Appuhamilage and Torii (2019) that satisfaction has a strong and positive influence on student loyalty.

Testing the sixth hypothesis regarding the effect of service quality on loyalty through customer satisfaction obtained a path parameter coefficient of 0.272 with a t-statistic value of  $3.770 > 1.66$  at the significant level  $\alpha = 0.05$  (5%). It indicates that service quality positively affects loyalty through customer satisfaction either directly or indirectly. This study finding is in line with the research results of Krey et al. (2014); Jhahansahi et al. (2011); Anand and Selvaraj (2012); Chandra T et al. (2018); Annamdevula and Belakonda (2016). Service quality is an effort to deliver services to meet customers' needs, desires, and expectations. Fulfilled or exceeded expectations of service quality by service providers will foster a feeling of satisfaction and the desire to buy back or recommend the provider to others. The customer whose expectations can be exceeded or fulfilled will feel satisfied, leading to customer loyalty.

The results of testing the seventh hypothesis, i.e., the effect of trust on loyalty through customer satisfaction, obtained the value of parameter coefficient of 0.123 with a t-statistic value of  $2.458 > 1.66$  at the significant level  $\alpha = 0.05$  (5%). It means that trust can indirectly increase customer loyalty through satisfaction. If customers are convinced of a higher educational institution, their satisfaction will increase; thus, their loyalty will rise. This study's results align with Haron et al. (2020), who found that trust acts as a mediating variable between customer satisfaction and consumer loyalty.

In the research model, the effect of trust on customer satisfaction has a smaller coefficient value when compared to the coefficient of service quality. It indicates that service quality has more influence on customer satisfaction than trust. Investigating the effect of mediation can be performed with a procedure developed by Hair et al. (2011) in (Wati: 259; 2018). This method is considered more appropriate because it does not require any assumptions about the distribution of the variables; so that it can be applied to small sample size. VAF is a measure of how much the mediating variable can absorb the direct effect previously significant from the model without mediation. If the VAF value is above 80%, it indicates the mediating variable's role as a full mediator. Meanwhile, if the VAF is above 20 – 80%, it can be categorized as a partial mediator. However, if the VAF is less than 20%, it is said that there is almost no mediation effect (Wati: 259:2018).

Based on the parameter's coefficient value as shown in Table 4.6 above, there is a significant direct or indirect effect of service quality and trust on customer satisfaction and its impact on student loyalty at PTM College. Thus, according to the calculation results, the VAF value for the effect of service quality on loyalty through customer satisfaction is 0.3675 (36%), while that of trust in loyalty through customer satisfaction is 3.727 (372%). Based on these calculations, the VAF value of the effect of service quality on loyalty through customer satisfaction is 0.3675 (36%), indicating that satisfaction partially acts to mediate service quality and loyalty. The VAF value for the effect of trust on consumer loyalty through customer satisfaction is 3.727 (372%), indicating that satisfaction fully mediates the effect of trust on loyalty.

## V. CONCLUSIONS

This study investigated the effect of service quality and trust on student loyalty mediated by customer satisfaction. The results showed that customer satisfaction was directly influenced by service quality and trust. The better the service PTM College can provide, the higher student satisfaction will be. In addition, high trust of the students will more result in their satisfaction. Furthermore, it was revealed that good service quality could directly increase student loyalty. Yet, the results showed that trust has a direct negative effect on loyalty. Increased loyalty is directly influenced by student satisfaction, which means that the students' high satisfaction will lead to loyalty. The results also found that service quality has a positive influence on loyalty through student satisfaction. Trust was found to enhance student's loyalty through the students' satisfaction. Thus, both variables of service quality and trust can increase student loyalty provided that the variables the College gives can provide them satisfaction.

Regardless of the essential findings, this study still has limitations in the sample size and observation due to the Covid-19 pandemic. Based on this study's results, PTM College needs to improve and develop facilities, such as canteens, revamping working hours for clinics, parking lots, updating library collections, and improving toilet cleanliness. Besides, it is also necessary to develop and improve academic and financial academic administration services. Students' confidence also needs to be enhanced by the College's efforts to elevate its accreditation status.

## ACKNOWLEDGEMENT

The authors would like to express gratitude to Sekolah Tinggi Ilmu Ekonomi (STIE) Muhammadiyah Jakarta Indonesia for supporting and providing assistance in this research.

## AUTHORSHIP CONTRIBUTIONS

**Imam Suprapta:** conceptualization and research design, data collection, manuscript writing, data analysis and interpretation, resource provision,

**Rita Yuni Mulyanti:** conceptualization and research design, data collection, manuscript writing, data analysis and interpretation, resource provision,

**Moch Rizal:** conceptualization and research design, data collection, data analysis and interpretation, manuscript writing,

**Lela Nurlaela Wati:** conceptualization and research design, data analysis and interpretation, resource provision,

**Aulia Kusumastuti:** conceptualization and research design, resource provision.

## REFERENCES

- [1]. Annamdevula, S. and Bellamkonda, R.S. (2016), "Effect of student perceived service quality on student satisfaction, loyalty and motivation in Indian universities: Development of HiEduQual", *Journal of Modelling in Management*, Vol. 11 No. 2, pp. 488-517.
- [2]. Ahmed, I., Nawaz, M. M., Usman, A., Shaukat, M. Z., Ahmad, N. 2010. Impact of Service Quality on Customer's Satisfaction: Empirical Evidence from Telecom Sector of Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, 1 (12): 98-113.
- [3]. Ahmed, Zohaib; Muhammad, Rizwan; Mukhtar, Ahmad; Misbahul, Haq. 2014. Effect of brand trust and customer satisfaction on brand loyalty in Bahawalpur. *Journal of Sociological Research*. ISSN 1948-5468 2014, Vol. 5, No. 1.
- [4]. Anand, S., Vijay, M, Selvaraj. 2012. The Impact of Service Quality on Customer Satisfaction and Loyalty in Indian Banking Sector: An Empirical Study through SERVPERF. *Int. J. Manag. Bus. Res.*, 2 (2), 151- 163, Spring 2012.
- [5]. Appuhamilage, K.S.M and Hiroshi Torii. 2019. The Impact of Loyalty on The Student Satisfaction in Higher Education: A structural equation modeling analysis. *Higher Education Evaluation and Development*. Vol. 13 No. 2, 2019 pp. 82-96.
- [6]. Archi Dubey & Dr. A.K. Srivastava. 2016. Impact of Service Quality on Customer Loyalty- A Study on Telecom Sector in India. *Journal of Business and Management (IOSR-JBM)* e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 18, Issue 2
- [7]. Awan, Abdul, Ghafoor; Rehman, Asad, Ur. 2014. Impact Of Customer Satisfaction On Brand Loyalty- An Empirical Analysis Of Home Appliances In Pakistan. *British Journal of Marketing Studies*. Vol.2, No.8, pp. 18-32.
- [8]. Basir, Muhammad; Basri, Modding; Jeni, Kamase;Sabri, Hasan. 2015. Effect of Service Quality, Orientation Services and Pricing on Loyalty and Customer Satisfaction in Marine Transportation Services. *International Journal of Humanities and Social Science Invention*. ISSN (Online): 2319 – 7722, ISSN (Print): 2319 – 7714 www.ijhssi.org Volume 4 Issue 6|June. 2015 || PP.01-06.
- [9]. Bricci, Luciana & Fragata, Anabela & Antunes, Joaquim. (2016). The Effects of Trust, Commitment and Satisfaction on Customer Loyalty in the Distribution Sector. *Journal of Business Economics and Management*. 4. 10.7763/JOEBM.2016.V4.386.
- [10]. Brilliant, M.A; Adrian Achyar. 2013. The Impact Of Satisfaction and Trust on Loyalty of E-Commerce Customers. *Asean Marketing Journal*. Vol.V No.1.
- [11]. Chandra1,T.; Martha Ng, Stefani Chandra, and Priyono. The Effect of Service Quality on Student Satisfaction and Student Loyalty: An Empirical Study. *Journal of Social Studies Education Research*. 2018:9 (3), 109-131
- [12]. Chandra, T., Hafni, L., Chandra, S., Purwati, A.A. and Chandra, J. (2019), "The influence of service quality, university image on student satisfaction and student loyalty", *Benchmarking: An International Journal*, Vol. 26 No. 5, pp. 1533-1549.
- [13]. Chinomona, Richard; Dorah, Dubihlela. 2014. Does Customer Satisfaction Lead to Customer Trust, Loyalty and Repurchase Intention of Local Store Brands? The Case of Gauteng Province of South Africa. *Mediterranean Journal of Social Sciences*. ISSN 2039-2117 (online) ISSN 2039-9340 (print) Vol 5 No 9 May 2014
- [14]. C. Victor., R.J. Jorie., J.S.B. Sumarauw. 2015. The Effect Of Customer Relationship Management And Trust Towards Satisfaction And Its Impact On Customer Loyalty Pt. Bank Bca Tbk. In Manado. *Jurnal EMBA* 671 Vol.3 No.2 Juni 2015, Hal. 671-683.
- [15]. Hayati, Nur. 2011. The Effect Of Customer Satisfaction, Customer Trust On Customer Loyalty Of The Card Users Of PT. Indosat Tbk. *Proceedings of The 1st International Conference on Information Systems For Business Competitiveness (ICISBC) 2011*
- [16]. Haron, Razali.; Noradilah Abdul Subar and Khairunisah Ibrahim.2020. Service Quality Of Islamic Banks: Satisfaction, Loyalty And The Mediating Role Of Trust. *Islamic Conomic Studies*. e-ISSN: 2411-3395. p-ISSN: 1319-1616
- [17]. Hasan, Haslinda; Teo, Poh, Kiong; Raja, Azimah, Ainuddin. 2014. Effects of Perceived Value and Trust on Customer Loyalty towards Foreign Banks in Sabah, Malaysia. *Global Journal of Emerging Trends in e-Business, Marketing and Consumer Psychology (GJETeMCP) An Online International Research Journal*. (ISSN: 2311-3170) 2014 Vol: 1 Issue
- [18]. Iddrisua, A.M; I.K. Noonib; Fiankoc, K.S.; W. Mensah..2015. Assessing The Impact Of Service Quality On Customer Loyalty: A Case Study Of The Cellular Industry Of Ghana. *British Journal of Marketing Studies*. Vol.3, No.6, pp.15-30.
- [19]. Jahanshahi, Asghar, Afshar; Mohammad, Ali, Hajizadeh, Gashti; Seyed, Abbas, Mirdamadi; Khaled, Nawaser; Seyed, Mohammad, Sadeq, Khaksar. 2011. Study the Effects of Customer Service and Product Quality on Customer Satisfaction and Loyalty. *International Journal of Humanities and Social Science*. Vol. 1 No. 7.
- [20]. Kheng, Lo, Liang; Osman, Mahamad; T. Ramayah, Associate; Rahim, Mosahab. 2010. The Impact of Service Quality on Customer Loyalty: A Study of Banks in Penang, Malaysia. *International Journal of Marketing Studies*. Vol. 2, No. 2.
- [21]. Kotler, Philip and Keller, Kevin Lane. (2009). *Marketing Management* (13th ed). New Jersey: Upper Saddle River.
- [22]. Krey, Abraham; Moeljadi; Ghozali, Maskie; Mintarti, Rahayu. 2014. Effect of Quality Services on Customer Satisfaction and Loyalty (Theoretical Study at Banking). *International Journal of Business and Management Invention*. ISSN (Online): 2319 – 8028, ISSN (Print): 2319 – 801X www.ijbmi.org Volume 3 Issue 10 | October. 2014 | PP.30-35.
- [23]. Leninkumar, Vithya. 2017. The Relationship between Customer Satisfaction and Customer Trust on Customer Loyalty. *International Journal of Academic Research in Business and Social Sciences* 2017, Vol. 7, No. 4 ISSN: 2222-6990 450 www.hrmarss. DOI: 10.6007/IJARBSS/v7-i4/2821
- [24]. Liu, Chia, Ming; Tsung, Yuan, Wang. 2017. A study on the effect of service quality on customer loyalty and corporate performance in financial industry. , 15 (2-2), 355-363.

- [25]. Mahmud, Amir; Kamaruzaman, Jusoff and St. Hadijah. 2013. The Effect of Service Quality and Price on Satisfaction and Loyalty of Customer of Commercial Flight Service Industry. *World Applied Sciences Journal*. 23 (3): 354-359, 2013 ISSN 1818-4952.
- [26]. Mansori, Shaheen; Anthony Vaz and Zarina Mizam Ismail. 2014. Service Quality, satisfaction and Student Loyalty in Malaysian Private Education. *Asian Social Science*; Vol. 10, No. 7; 2014 ISSN 1911-2017 E-ISSN 1911-2025
- [27]. Martha-Martha, N. G., & PRİYONO, I. (2018). The effect of service quality on student satisfaction and student loyalty: An empirical study. *Journal of Social Studies Education Research*, 9(3), 109-131.
- [28]. Medha, Srivastava & Alok Kumar Rai. 2013. Investigating the Mediating Effect of Customer Satisfaction in the Service Quality-Customer Loyalty Relationship. *The Journal of Consumer Satisfaction, Dissatisfaction & Complaining Behavior* 26: 95.
- [29]. Menidjel, Choukri., Benhabib Abderrezzak., & Bilgihan Anil (2017). Examining the moderating role of personality traits in the relationship between brand trust and brand loyalty. *Journal of Product&Brand Management*.26(6):631-649.
- [30]. Mohsan, Faizan; Muhammad, Musarrat, Nawaz; M, Sarfraz, Khan; Zeeshan, Shaukat; Numan, Aslam. 2011. Impact of Customer Satisfaction on Customer Loyalty and Intentions to Switch: Evidence from Banking Sector of Pakistan. *International Journal of Business and Social Science*. Vol. 2 No. 16.
- [31]. Odunlami, Ibojo, Bolanle; Asabi, Oludele Matthew. 2015. Impact of Customer Satisfaction on Customer Loyalty: A Case Study of a Reputable Bank in Oyo, Oyo State, Nigeria. *International Journal of Managerial Studies and Research (IJMSR)*. Volume 3, Issue 2, February 2015, PP 59-69 ISSN 2349-0330 (Print) & ISSN 2349-0349 (Online)
- [32]. Osman, Zahir; Ratna, Khuzaimah, Mohamad; Liana, Mohamad. 2016. Mediating Effect of Customer Satisfaction on Service Quality and Trust Relationship in Malaysian Banking Industry. *International Journal of Advances in Management, Economics and Entrepreneurship*. ISSN: 2349-
- [33]. Poku, Kofi; Mariama, Zakari; Ajara, Soali. 2013. Impact of Service Quality on Customer Loyalty in the Hotel Industry: An Empirical Study from Ghana. *International Review of Management and Business Research*. Vol. 2 Issue.2.
- [34]. Putra, I, Wayan, Jaman, Adi. 2013. The Effect Of Quality And Service Value On Customer Loyalty (A Study on the Customers of Commercial Banks in Malang City). *Interdisciplinary Journal Of Contemporary Research In Business*. Institute of Interdisciplinary Business Research Vol 5, No 5.
- [35]. Sampaio, Claudio Hoffmann, Marcelo Gattermann Perin , Cláudia Simões & Hamilton Kleinowski (2012) Students' trust, value and loyalty: evidence from higher education in Brazil, *Journal of Marketing for Higher Education*, 22:1, 83-100, DOI: 10.1080/08841241.2012.705796.
- [36]. Saoud, S., & Sanséau, P. Y. (2019). Student loyalty through perceived service quality and satisfaction. *Advances in Social Sciences Research Journal*, 6(2) 171-185
- [37]. Sultan, Parves dan Ho Yin Wong. 2012. Service Quality in a Higher Education Context: an integrated model. *Asia Pacific Journal of Marketing and Logistics* Vol. 24 No. 5, 2012. pp. 755-784. <https://doi.org/10.1108/13555851211278196>
- [38]. Teeroovengadum, Viraiyan and Robin Nunkoo, Christian Gronroos, T.J. Kamalanabhan, Ashley Keshwar Seebaluck. 2019. Higher education service quality, student satisfaction and loyalty. Validating the HESQUAL scale and testing an improved structural model.
- [39]. Upamannyu, Nischay; Chanda, Gulati; Ankita, Chack; Gurvinder, Kaur. 2015. The Effect Of Customer Trust On Customer Loyalty And Repurchase Intention: The Moderating Influence Of Perceived CSR. *International Journal of Research in IT, Management and Engineering*. ISSN 2249-1619, Impact Factor: 5.309, Volume 5, Issue 4, April 2015
- [40]. Utami, Sorayanti. 2015. The Influence Of Customers' Trust On Customer Loyalty. *International Journal of Economics, Commerce and Management*. Vol. III, Issue 7, July 2015. ISSN 2348 0386
- [41]. Wati, L.N. 2018. Metodologi Penelitian Bisnis Terapan, Aplikasi SPSS, EViews, SmartPLS dan Amos. Percetakan Mujahid. Bandung.
- [42]. Yousaf, A., Mishra, A., & Bashir, M. (2018). Brand Trust, Institutional Commitment, and Their Impact on Student Loyalty: Evidence For Higher Education in India. *Studies in Higher Education*, 1-14.