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THE INFLUENCE OF RATES, FACILITIES, AND QUALITY OF SERVICES ON USER SATISFACTION OF THE PALINDRA (PALEMBANG-INDRALAYA) TOLL ROAD

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ABSTRACT

Construction of toll roads as a solution to traffic congestion and as an alternative route to save vehicle operating costs. Therefore toll roads must fulfill the principle of profit and benefit for their users, namely in the form of facilities and quality of service according to the tariff. For this reason, it is necessary to consider determining the achievement of the user principle which is often not optimal. This research was conducted to analyze whether toll rates, facilities and service quality affect the satisfaction of Palindra toll users. Data collection was carried out online via Google Forms with 100 respondents. Structural Equation Modeling (SEM) analysis is used to test the measurement and structural models through Smart-PLS 3.0. The results of this study indicate that the three hypotheses are accepted by proving that all hypotheses have a positive and significant effect on one another.

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1. INTRODUCTION

Toll roads are alternative roads for road users. For people who choose to use toll roads, the toll fees charged will provide added value in the form of savings in vehicle operating costs and time, convenience of facilities and better service (Rudy Hermawan, 2013).

In 2015 the government began to construct the Palembang-Indralaya Toll road or what is now often called the Palindra Toll Road. Indralaya is a district that is directly adjacent to the capital city of South Sumatra, Palembang, which makes Indralaya the Palembang-Indralaya meeting route for the East and Central Routes. Apart from that, there is also the Ogan Ilir government office center and also campus number 1 in South Sumatra which makes Indralaya a destination, a stopover city and a travel attraction which is always packed with vehicles (A.Y. Kurnia, 2020).

Then in 2017, the Palindra Toll Road was officially operational for the public with a road length of 22 km. With the operation of the Palindra Toll Road, Palembang-Indralaya road users and vice versa have a choice when taking this route. The user's choice, of course, has its own reasons.

Since the 2023 Eid return took place through the Palembang-Indralaya (Palindra) toll road, it has decreased. Traffic on April 27, 2023 was a bit sluggish. The branch manager of the Palindra Toll Road, Syamsul Rizal, explained that the decrease in the number of vehicles on the toll road was because some travelers had returned. Only 126,144 vehicles cross the Palindra Toll Road. This year, travelers tend to use trains and planes based on the data seen by "he added". However, what often happens is that the provision of toll roads is not followed by the maximum quality of service and facilities and in determining the amount of toll rates one must also comply with the principle of profit and benefits for road users (H.T Zuna, 2014).

Judging from the road conditions in the field, there are still many bumpy roads, insufficient lighting at night, so that the services, facilities and determination of toll tariffs provided do not provide maximum benefits according to the standards set. Based on this description, this study aims to determine the effect of toll rates, service quality, and facilities on the satisfaction of Palembang-Indralaya toll road users.

2. LITERATURE REVIEWS

Rates

According to (Kotler in Rizky Yasin, 2014) suggests that "Price is the only element of the marketing mix that generates income, other elements generate costs. Price is also one of the most flexible elements of the marketing mix. Prices can be changed quickly, unlike product features and distribution agreements.

According to Tjiptono (2014) that price can be interpreted as the amount of money (monetary unit) or other aspects (non-monetary) that contain certain utilities or uses needed to obtain a service.

Based on some of the definitions above, that price is a flexible tool that can influence the decision to purchase an item or service (Wulan Yuliyana & Eva Febriyanti, 2018). According to (Schiffman and Kanuk in Rahman, et al 2012) the price dimensions include:

1. Tarif Range with consumer purchasing power
2. Tarif competitiveness, when the tariffs set can be competitive
3. Compatibility of rates with quality
4. Product form pricing, location-based pricing, time-based pricing
5. *Perceived Price* and Reference *Price* .

Facility

Facilities are physical resources that must exist before a service can be offered to consumers. Facilities can also be anything that makes it easier for consumers to obtain satisfaction (Tjiptono, 2008 in Iskandarsyah and Utami, 2018). According to Raharjani (2005) in Lumentut and Palandeng (2014), states that if a service company has adequate facilities so that it can use its services, it will be able to influence consumers in purchasing services. In addition, companies that provide a pleasant atmosphere with attractive design facilities will influence consumers in making purchases. According to Tjipto (2001: 46-48) in Putranto (2016) there are 4 (four) facility indicators, namely:

1. Partial planning considerations, aspects such as proportions, textures, colors and others are considered, combined and developed to provoke intellectual and emotional responses from the user or the viewer.
2. Space planner, this element includes interior and architectural planning, such as placement of furniture and fixtures in the room, design of circulation flow, and others. Like the placement of the waiting room, apart from its capacity, it is also necessary to pay attention to the placement of furniture or additional equipment.
3. Equipment/furniture, equipment/furniture functions as a means of providing comfort, as a display or as a supporting instructor for users of the customer's goods. What is meant by equipment in this study such as: the availability of electricity, tables or chairs, internet, painting or reading areas, writing equipment and others
4. Lighting and color arrangement, the intended lighting arrangement is the color of the type of room offering and lighting arrangements according to the nature of the activities carried out in the room and the desired arrangement. Color can be used to increase efficiency, create a relaxed impression, and reduce accident rates. The color used for the interior of the service facility needs to be linked to the emotional effect of the chosen color.

Service Quality

The perceived service quality felt by consumers is the result of the consumer's evaluation process by comparing the perceptions they feel about the delivery of services and the results to what they expect. A service company must maintain the quality of the services offered to be above competitors and greater than what consumers imagine, companies must also understand what consumer needs and expectations are for the products or services offered (CH Lovelock and J.Wirts, 2010 *)* . According to (Tjiptono, 2011) explained that service quality is an effort to fulfill consumer needs both from products and services and the accuracy of their delivery to offset consumer expectations.

Based on the definition of the experts above, that service quality is the fulfillment of consumer needs based on the level of excellence of the product or service that is in line with expectations so that it can fulfill the desires of consumers. Therefore, companies in formulating service strategies and programs must be oriented to customer interests by paying attention to the service quality components. The service quality dimensions used are *service quality* (Arief *,* 2020). that is :

1. *Reliability* includes two main things, namely the consistency of work and the ability to be trusted.
2. *Responsiveness* is the readiness of service provider employees to provide assistance or services quickly and precisely and responsive to customer desires.
3. *Assurance* is the knowledge or behavior of a salesperson to build trust or confidence among consumers when using the services provided.
4. *Empathy* (Empathy) means the ability to understand situations so as to produce easy access, good communication and customer understanding related to service.
5. *Tangibles* (Physical Evidence) means the ability to present real physical actualization to help service.

User Satisfaction

Satisfaction is the level of one's feelings after comparing Performance or results that feels hopeful. According to (Hutasoit, 2011) If performance is explained that service quality is conformity and degree of ability to use from overall characteristics of products and services provided to meet needs and consumer expectations with attributes or factors that include: direct evidence, personal attention from employees to consumers, responsiveness, reliability and guarantee. will be disappointed. When performance as expected, the customer will be satisfied. Customer expectations can be formed by past experience, comments from relatives as well as marketers' promises and information and rivals. Satisfied customers will loyal longer, less sensitive to prices and give good comments about the company. According to (Fandy Tjiptono, 2014) indicators measure consumer satisfaction through three dimensions, namely:

1. Conformity of expectations, namely the level of conformity between product performance expected by consumers and that felt by consumers including products, services by employees and visitor facilities.
2. Interest to revisit, namely the willingness of consumers to revisit or repurchase related products, because the service is satisfactory, the supporting facilities provided are adequate.
3. Willingness to recommend, namely the willingness of consumers to recommend products that they have felt the value or benefits obtained after consuming a service product to Friend or family .

Conceptual Framework

Based on the description above, the research framework can be built as follows:

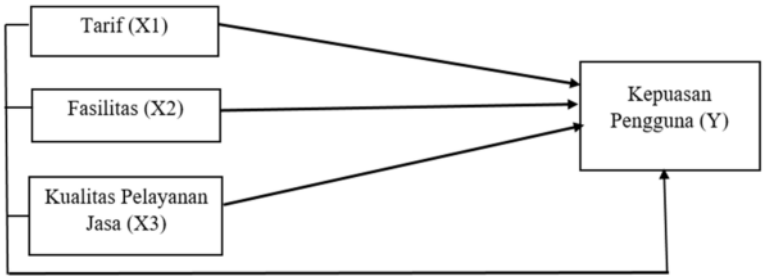

Figure 1 Conceptual Framework

Based on the problem formulation and conceptual framework above, the research hypothesis proposed by the researcher is as follows:

1. Rates have a positive and significant effect on user satisfaction
2. Facilities have a positive and significant effect on user satisfaction
3. Service Quality has a positive and significant effect on user satisfaction
4. Rates, facilities, service quality have a positive and significant impact on user satisfaction.

3. METHOD

This research is a quantitative research with descriptive data analysis approach used For analyze data with method describe .

This research was conducted to analyze users of the Palindra (Palembang-Indralaya) toll road when this research started from May 2023 until the time was adjusted to field conditions and research objects .

The population in this study is the people of Palembang City who have passed the Palindra (Palembang-Indralaya) toll road. The sampling technique used is *Accidental Sampling* , which is a sampling technique by chance that anyone who meets the researcher can become a sample (Sugiyono, 2019). The population of this study was 126,144 calculated using the slovin formula to get 100 results. The determination of the sample size using the slovin formula was as follows:

$$n = \frac{N}{1 + Ne^2}$$

Information :
n = Sample Size
N = Total Population
e = error rate (*error margin*)

The primary data source is by distributing research questionnaires to respondents or research samples. Secondary data in this study are journal articles, books, government *websites* and valid data *websites* related to the research being conducted.

Operational Definition of Research Variables

Table 1. Variable Operational Definitions

Variable	Definition	Indicator	Size
Rates (X1)	Price is a flexible tool that can influence the decision to purchase an item or service (Wulan Yuliyana & Eva Febriyanti, 2018).	1. Tariff Range with consumer purchasing power 2. Tariff competitiveness, when the tariffs set can be competitive 3. Compatibility of rates with quality 4. Product form pricing, location-based pricing, time-based pricing 5. *Perceived Price* and Reference *Price* . (Schiffman and Kanuk in Rahman, et al 2012)	Likert
Facility (X2)	Facilities are physical resources that must exist before a service can be offered to consumers. Facilities can also be anything that makes it easier for consumers to obtain satisfaction (Tjiptono, 2008 in Iskandarsyah and Utami, 2018).	1. Partial planning considerations (aspects of proportion, texture, color and others are considered) 2. Space planning 3. fixtures/furniture 4. Lighting and color According to Tjipto (2001) in Putranto (2016)	Likert
Service Quality (X3)	The perceived service quality felt by consumers is the result of the consumer's evaluation process by comparing the perceptions they feel about the delivery of services and the results to what they expect. A service company must maintain the quality of the services offered to be above competitors and greater than what consumers imagine, companies must also understand what consumer needs and expectations are for the products or services offered (CH Lovelock *and* J.Wirts, 2010).	1. Reliability (reliability) perform services that are reliable and accurate in the form of knowledge, expertise, independence, mastery and work professionalism 2. Responsiveness (responsiveness) existence to external parties so that responsiveness is needed 3. Assurance, in the form of services that require certainty for the services provided 4. Empathy (Empathy) the ability to understand the situation so as to produce easy access, good communication, and customer understanding related to service 5. Tangibles (Physical Evidence) physical actualization to help service (Arief , 2020).	Likert
User Satisfaction (Y)	Satisfaction is the level of one's feelings after comparing Performance or results that feels hopeful. According to (Hutasoit, 2011) If performance is explained that service quality is conformity and degree of ability to use from overall characteristics of products and services provided to meet needs and consumer expectations	1. Conformity of Expectations (performance with what consumers feel) 2. Interest in Returning 3. Willingness to Recommend (Fandy Tjiptono, 2014)	Likert

Measurement Scale

The scale used in this measurement is the Likert scale. To reduce the impact of bias and the occurrence of concentration of data during analysis, the scale used can be seen in the following table:

Table 2 Measurement Scale

No	Question	Score
1	Strongly Agree (SS)	5
2	Agree (S)	4
3	Disagree (KS)	3
4	Disagree (TS)	2
5	Strongly Disagree (STS)	1

Data analysis was performed using the Partial *Least Square* (PLS) method *SmartPLS software version 3.*

Hypothesis test

full model *structural equation* analysis (SEM) with smartPLS. In the *full structural equation model,* in addition to confirming the theory, it also explains whether there is a relationship between latent variables (Ghozali, 2012). Hypothesis testing by looking at the *Path Coefficient value calculated* on the inner model test. The hypothesis is said to be accepted if the significance value is 0.05 (α 5%) and the hypothesis is rejected if the significance value is 0.05 (a 5%).

4. RESULTS AND DISCUSSION

Descriptive Statistics Characteristics of Respondent Profiles

Table 3 Characteristics of Respondent Profiles

	Profile	Frequency	(%)
Gender	Man	58	58.0
	Woman	42	42.0
Age	<20 Years	24	24.0
	21-35 Years	66	66.0
	36-50 Years	10	10.0
	>51 Years	0	0.0
Education	SMA/SMK	32	32.0
	Diploma	2	2.0
	S1	60	60.0
	S2-S3	6	6.0
Work	Not yet working	22	22.0
	Student / Student	32	32.0
	PNS/TNI/POLRI	6	6.0
	Private Employee / Entrepreneur	22	22.0
	Driver	18	18.0
Source of Income	<Rp. 500.000 - Rp. 1,000,000	44	44.0
	Rp. 1,500,000 - Rp. 2,000,000	16	16.0
	Rp. 2,500,000 - Rp. 3,000,000	18	18.0
	>Rp. 3,000,000 - Rp. Rp. 3,500,000	22	22.0
Frequency of Toll Road Users	1-5 times a month	72	72.0
	6-10 times a month	20	20.0
	>10 times a month	8	8.0
Transportation type	Group I: Sedans, Jeeps, Pick-ups or small trucks and buses	94	94.0
	Group II : Large Trucks with Two Axles	4	4.0
	Class III: Large Trucks with Three Axles	2	2.0
	Group IV: Large Trucks with Four Axles	0	0.0
	Class V: Large Trucks with Five Axles	0	0.0
Tariff Class	Group I: Rp. 20,500	88	88.0
	Group II: Rp. 31,000	4	4.0
	Group III : Rp. 31,000	8	8.0
	Group IV : Rp. 41,500	0	0.0
	Group V: Rp. 41,500	0	0.0

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It can be seen that the number of samples used is 100 respondents who were collected through the Google form. Based on the table, the majority of respondents are male with a percentage of 58%; aged 21-35 years by 66%; S1 educational level by 60%; Student / student work by 32%; source of income <Rp.500.000 - Rp. 1,000,000 by 44%; Frequency of Toll Road Users 1-5 times a month by 72%; Type of Vehicle class I by 94%; Tariff Group I is 88%.

Measurement Model (Outer Model)

The value of testing the research hypothesis can be described as follows:

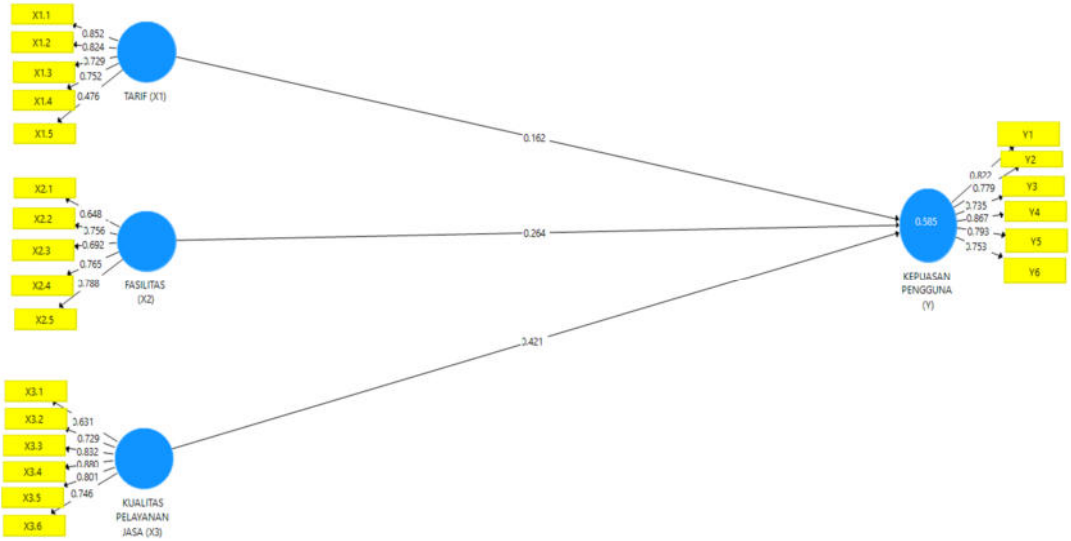

Figure 2. Results of the Outer Model Measurement Model

Based on Figure 2 shows that X1, X2, X3 are declared valid because outer loading value is more big of 0.7 means in each latent variable indicator can measure variable latent .

Measurement Model (Inner Model)

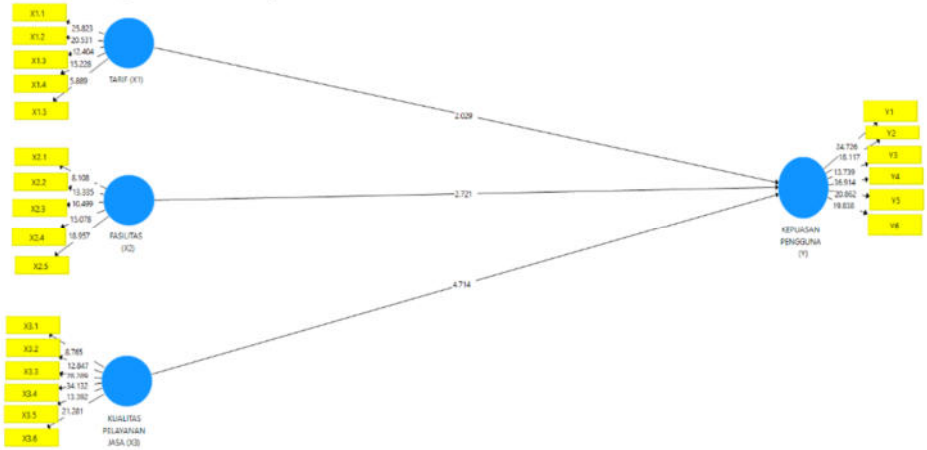

Figure 3 Results of the Inner Model Measurement Model

Criteria furthermore seen from mark *Average Variance Extracted* (AVE) which is presented in table 4.2 below :

Table 4 Convergent Validity Test

Variable	Indicator	*Outer Loading*	AVE
Rates (X1)	X1.1	0.852	0.546

	X1.2	0.824	
	X1.3	0.729	
	X1.4	0.752	
	X1.5	0.476	
Facility (X2)	X2.1	0.648	0.535
	X2.2	0.756	
	X2.3	0.692	
	X2.4	0.765	
	X2.5	0.788	
Service Quality	X3.1	0.631	0.599
(X3)	X3.2	0.729	
	X3.3	0.832	
	X3.4	0.880	
	X3.5	0.801	
	X3.6	0.746	
User Satisfaction	Y1.1	0.822	0.628
(Y)	Y1.2	0.779	
	Y1.3	0.735	
	Y1.4	0867	
	Y1.5	0.793	
	Y1.6	0.753	

The AVE value in table 4 shows that the four latent variables meet the criteria, namely greater than 0.5, which means that the average AVE value of the latent variables explains more than 50% of the variance of each indicator. Latent variables Rates can explain an average of 54% of the variance of the five constituent indicators, Facility latent variables can explain an average of 53% of the variance of the five constituent indicators, Service Quality latent variables explain an average of 59% of the six constituent indicators, Latent variables User satisfaction explains an average of 62% of the six constituent indicators.

Based on table 4., all indicators have fulfilled the required outer loading value, which is > 0.70 and the AVE value is > 0.50.

Table 5 AVE Root Value on Discriminant Validity

	Rates (X1)	**Facility (X2)**	**Service Quality (X3)**	**User Satisfaction (Y)**
Facility (X2)	0.732			
User Satisfaction (Y)	0.679	0.793		
Service Quality (X3)	0.731	0.724	0.774	
Rates (X1)	0.663	0.622	0.677	0.739

Based on the results of table 5, it shows that the AVE root value of a latent variable is greater than the correlation value between other latent variables. It can be concluded that the values between the latent variables and their indicators have met the criteria, in other words, the correlation between latent variables made and their indicators can be used in modeling.

The next criterion can be seen from the value of the crossloading factor, an indicator is said to be valid if it has the highest loading factor value in the intended latent variable compared to the loading factor value in other latent variables. Based on the results of table 4.3, it shows that the latent variables X1, X2, X3, Y are said to be indicators of the intended latent variables that are greater than the loading factor values of other latent variables.

Table 6 Crossloading Factor value

	X1	**X2**	**X3**	**Y**
X1.1	0.852	0.556	0.619	0.519
X1.2	0.824	0.559	0.539	0.505
X1.3	0.729	0.463	0.494	0.428
X1.4	0.752	0.447	0.492	0.477
X1.5	0.476	0.408	0.307	0.342
X2.1	0.362	0.648	0.435	0.354

X2.2	0.468	0.756	0.432	0.489
X2.3	0.522	0.692	0.497	0.426
X2.4	0.553	0.765	0.637	0.551
X2.5	0.502	0.788	0.630	0.607
X3.1	0.449	0.531	0.631	0.364
X3.2	0.580	0.639	0.729	0.505
X3.3	0.571	0.561	0.832	0.595
X3.4	0.598	0.588	0.880	0.577
X3.5	0.486	0.573	0.801	0.504
X3.6	0.463	0.527	0.746	0.711
Y1.1	0.455	0.541	0.617	0.822
Y1.2	0.470	0.490	0.539	0.779
Y1.3	0.530	0.607	0.575	0.735
Y1.4	0.595	0.602	0.599	0867
Y1.5	0.453	0.515	0.621	0.793
Y1.6	0.438	0.451	0.472	0.53

Can seen in table 6 of the value of the cross loading factor of an indicator is said to be valid if own the highest loading factor value on the intended latent variable compared to value of loading factor other latent variables . The value of the loading factor indicator X1 (tariff) is 0.852, as for the value crossloading factor other latent variables of 0.556, 0.619, 0.519 then the value of the loading factor on each indicator of the intended latent variable more big from mark crossloading .

Table 7 Reliability Test

	Composite Reliability	**Cronbach's Alpha**
Rates (X1)	0.853	0.779
Facility (X2)	0.851	0.785
Service Quality (X3)	0.899	0.865
User Satisfaction (Y)	0910	0.881

Based on table 7. it shows that the composite reliability value is in the range of 0.91 up to 1.00, meaning that all latent variable values are greater than 0.7. composite value the lowest reliability is obtained by the facility latent variable (X2) and the highest is the user satisfaction variable (Y). Composite reliability value already met the criteria so it was concluded that all the indicators used were capable in measuring each latent variable properly. Cronbach's alpha calculation results shows that all latent variables have a value greater than 0.6 which means that each indicator used capable measure every variable latent with ok .

Table 8. R-Square

	R Square	R Square Adjusted
User Satisfaction (Y)	0.585	0.576

Based on table 4.6 it shows that the R square value simultaneously influences X1, X2, X3 to Y of 0.585 with an adjusted r square value of 0.576 or 57%.

Table 9 Yield Path Coefficient

Hypothesis	**Original Sample (O)**	**Sample Means (M)**	**Standard Deviation (STDEV)**	**T Statistics (|O/STDEV|)**	**P Values**
Tariff (X1) -> User Satisfaction (Y)	0.162	0.175	0.080	2029	0.043
Facilities (X2) -> User Satisfaction (Y)	0.264	0.262	0.097	2,721	0.007
Service Quality (X3) -> User Satisfaction (Y)	0.421	0.417	0.089	4,714	0.000

Based on the results of testing the hypothesis above, the following test results are obtained:

1. The tariff Pvalue has an effect on user satisfaction of 0.043 with statistics of 2,029 and coefficient track positive 0.162. because _ mark Pvalue obtained < 0.05 and Tstatistic > 1.96 as well track coefficient positive . Can concluded that tariffs have an effect on and are significant on user satisfaction, then Ho is rejected while Ha is accepted
2. The facility's Pvalue value affects user satisfaction by 0.007 with statistics of 2,721 and coefficient track positive 0.264. because _ mark Pvalue obtained < 0.05 and Tstatistic > 1.96 as well track coefficient positive . Can concluded that tariffs have an effect on and are significant on user satisfaction, then Ho is rejected while Ha is accepted
3. The Pvalue value of service quality has an effect on user satisfaction of 0,000 with a tvalue of 4,714 and a coefficient track positive 0.421. because _ mark Pvalue obtained < 0.05 and Tstatistic > 1.96 as well track coefficient positive . It can be concluded that tariffs have significant and significant effect on user satisfaction, so Ho is rejected while Ha is accepted.

5. CONCLUSION

This research was conducted on the research object of the Palindra Toll Road (Palembang-Indralaya) with respondents as many as 1 00 people using the SEM and SmartPLS analysis methods. Based on the results of data analysis and verification of the three hypotheses proposed in the study entitled "The Influence of Tariffs, Facilities, Service Quality on User Satisfaction of the Palindra (Palembang-Indralaya) Toll Road ". So this study concluded that the three hypotheses proposed in this study were as follows: Rates (X1) , Facilities (X2) , and Service Quality (X3) have a positive and significant effect on User Satisfaction (Y) .

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