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The Effect of Service Quality and Toll Price Rates on Toll Road User Satisfaction (Case Study on Kelapa Gading – Pulo Gebang Toll Road)

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ABSTRACT
Toll road construction is one of the main supporting aspects in the process of accelerating Indonesia's national development. However, along with population growth and regional development, road infrastructure is increasingly filled with various modes of transportation which ultimately causes buildup and congestion. The construction of toll roads in Jakarta is one alternative to break down congestion in the city. The construction of the Kelapa Gading - Pulo Gebang Toll Road is expected to be able to increase road capacity so as to facilitate transportation between the two regions. However, the varied toll rates cause different perceptions in its users. Toll tariff determination is generally oriented towards financial analysis which results in not being commensurate with the ability (Ability To Pay) and desire (Willingness To Pay) as well as the determination of the ideal tariff of the community as toll road service users. This research uses a descriptive method with a quantitative approach. Data collection using questionnaires and documentation. The research population of the entire Jakarta city community in 2022 is 10,679,951 people, the number of samples calculated using the Slovin method resulted in 100 respondents selected through certain criteria. Data analysis uses validity tests, reliability tests and descriptive analysis. The results showed that the level of driver satisfaction with the quality of service of the Kelapa Gading - Pulo Gebang Toll Road was in the "Satisfied" category as evidenced by the Customer Satisfaction Index (CSI) value of 78.62% which was in the range of 61% to 80% so that it was in the "Satisfied" category. Then, the quality of service and tariff policy have a positive effect on the satisfaction of users of the Kelapa Gading - Pulo Gebang toll road, which is indicated by the F value calculated > F table (48.060>3.09) and the significance of < 0.05 (0.00<0.05) means significant / influential. The respondent's Ability To Pay (ATP) on the highest Kelapa Gading - Pulo Gebang toll road tariff was Rp. 166,766.24, namely for respondents with the job category as a Housewife / Father and the lowest ATP was Rp. 125,620.99, namely for respondents with the job category as Students or Students. The average Ability To Pay (ATP) value of all respondents was Rp. 147,582.02. While the respondent's Willingnes To Pay (WTP) value on the highest respondent's Kelapa Gading - Pulo Gebang toll road tariff was Rp. 21,750, namely for respondents with the job category as Students or Students and the lowest WTP was Rp. 20,523, namely for respondents with the job category as Civil Servants (PNS) or TNI / Polri. The average Willingnes To Pay (WTP) value of all respondents was Rp. 20,970.

Keywords : Tariff Policy, Service Quality, ATP, WTP, Customer Satisfaction Index

INTRODUCTION
Background
Toll roads are roads that replace existing public roads and were built with the aim of accelerating the realization of a more integrated road network. Toll roads are specifically

designed for vehicles with two or more axles such as cars, buses, trucks, etc. to reduce the distance and travel time from one place to another and reduce road congestion for which users have to pay tolls.

Toll road construction is one of the main supporting aspects in the process of accelerating Indonesia's national development (Nachrawi & Kusnadi, 2023). As a result, this sector has become very important as a support for economic growth in affected areas. Smoothness, safety and comfort are the goals for toll road service users. To achieve this goal, operational criteria will be determined such as service time at substations, travel time on toll roads, level of slippage, level of equipment, level of consumer complaints, and road smoothness standards.

The construction of toll roads in Jakarta is one alternative to break down congestion in the city (Andani et al., 2019). According to Said in (Annisya & Samputra, 2023), toll roads are roads whose entry is fully controlled, there is no intersection, equipped with fences belonging to the road and median, and has at least 2 (two) lanes in each direction with a minimum lane width of 3.5 m. Toll roads are part of the road network system and as national roads whose use is required to pay tolls.

The government through the Toll Road Regulatory Agency (BPJT) of the Ministry of PUPR together with Toll Road Business Entities (BUJT) continue to strive to accelerate the completion of one of the National Strategic Projects in accordance with Presidential Regulation (Perpres) Number 56 of 2018, namely 6 Toll Roads in Jakarta along 69.77 kilometers. The construction of the Jakarta Inner Ring Road or often referred to as the 6 Jakarta Inner City Toll Road Sections is divided into three segments, namely A, B and C. Segment A will connect Pulo Gebang - Kelapa Gading, segment B connects Semanan - Grogol and segment C from Glogol to Kelapa Gading.

For section A Kelapa Gading - Pulo Gebang along 9.3 kilometers, it is a toll road section connecting Kelapa Gading and Pulo Gebang which was inaugurated by President Joko Widodo on August 23, 2021. While the construction of Section B of the 9.51-kilometer Semanan - Grogol section is currently in the land acquisition stage with a progress of 9.15% and Section C of the Grogol - Kelapa Gading section along 12.38 kilometers is currently also in the stage of land acquisition with a progress of 4.55%.

The construction of the Kelapa Gading - Pulo Gebang Toll Road is expected to be able to increase road capacity so as to facilitate transportation between the two regions (Khafian, 2013). The government is obliged to provide smooth, safe and comfortable transportation facilities and infrastructure in supporting the development of economic, social, political and regional development (Skorobogatova & Kuzmina-Merlino, 2017). However, along with population growth and regional development, road infrastructure is increasingly filled with various modes of transportation which ultimately causes buildup and congestion. According to Inrix Global Traffic Scorecard research (2018), states that Jakarta City is ranked 12th most congested from all over the world.

Based on PUPR Minister Decree Number 1048/KPTS/M/2021 dated August 23, 2021, toll rates for six toll roads in Jakarta for the Kelapa gading - Pulo Gebang segment are as follows:

1.	Group I	: IDR 19,000
2.	Group II	: IDR 28,000
3.	Group III	: IDR 28,000
4.	Group IV	: IDR 37,500
5.	Group V	: IDR 37,500

Based on data quoted from (kompas.com, 2023), the toll tariff above is the basic tariff in the city, while for motorists who head to the Cakung toll gate and pass the Jakarta Outer Ring Road (JORR), an additional fee of Rp. 16,000 will be charged. Therefore, Class I vehicles must pay Rp. 19,000 plus Rp. 16,000 if totaled will be Rp. 35,000. This will certainly harm motorists in relatively short distances.

People who have knowledge of other toll rates and compare them with the Kelapa Gading - Pulo Gebang toll road can affect their satisfaction. Society as consumers when paying a determined tariff is strongly influenced by perception, procedural and fairness of prices. One of the assessments about this is to compare these prices elsewhere (Riajaya et al., 2019).

Based on Law No. 38 of 2004 Article 48 paragraph 3 concerning Toll Roads, toll tariff evaluation and adjustment are carried out every 2 (two) years based on the influence of inflation rate. In addition, the quality of services provided by the system and officers on toll roads is likely to also have an impact on consumer satisfaction in using toll roads as access to their vehicles (Van Lierop et al., 2018). In line with this, tariff policies accompanied by good service quality will have a positive impact on increasing toll road sales (Santos et al., 2010).

Based on the background of the above problems, researchers are interested in conducting research related to the title "**The Effect of Service Quality and Toll Price Rates on Toll Road User Satisfaction (Case Study on the Kelapa Gading - Pulo Gebang Toll Road)".**

METHOD

Place and Time of Research

This research was conducted around the Kelapa Gading-Pulo Gebang toll road to fill out questionnaires with toll road users, in addition, questionnaires were also filled out in the form of google forms. The distribution of questionnaires is carried out on Saturdays and Sundays.

Data collection is done in a variety of settings, multiple sources, and in a variety of ways. When viewed from the setting, the data in this study was collected on the setting on the road, because the respondents were toll road users. When viewed in terms of data collection methods or techniques, data collection techniques can be carried out in this study by observation / observation and questionnaire / questionnaire.

Research Analysis

In this study, the data obtained was analyzed to obtain data and information regarding service quality and tariff policies and their effect on user satisfaction of the Kelapa Gading-Pulo Gebang toll road.

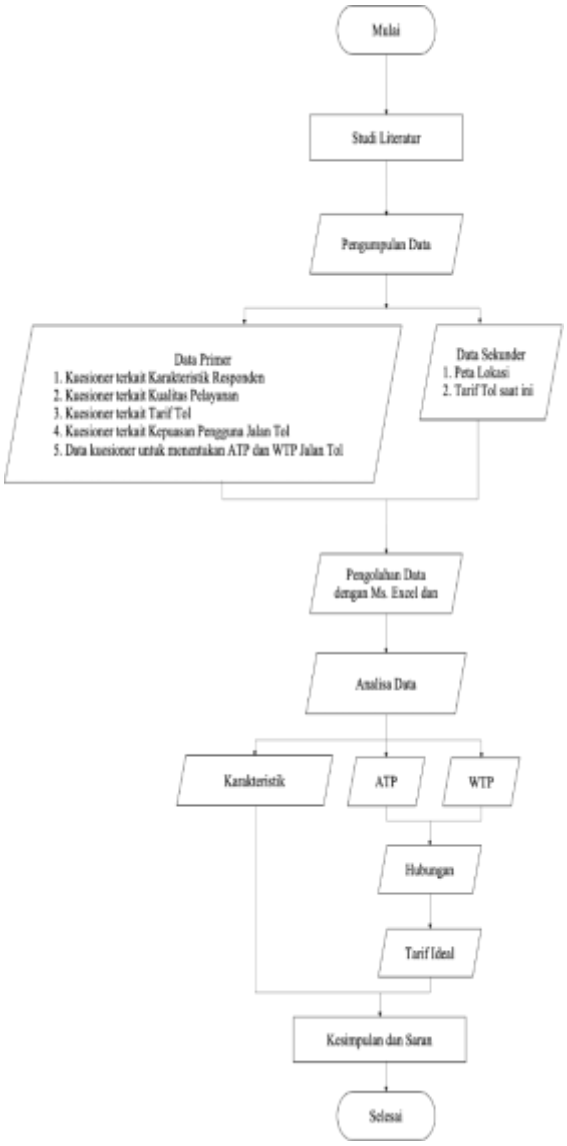

Figure 1. Research Methodology Flow Chart
(Source: Processed Author, 2024)

RESULTS AND DISCUSSION

Characteristics of Research Respondents

This research was conducted around the Kelapa Gading-Pulo Gebang toll road to fill out questionnaires with toll road users, in addition, questionnaires were also filled out in the form of google forms. The distribution of questionnaires is carried out on Saturdays and Sundays.

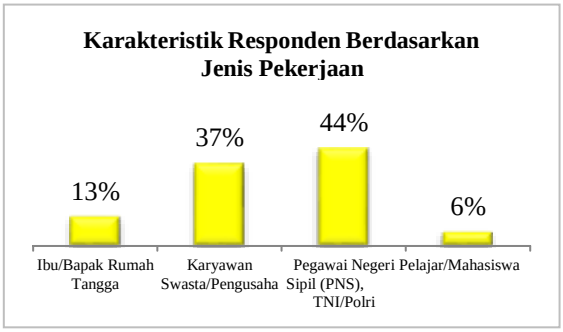

Figure 2. Characteristics of respondents by type of job

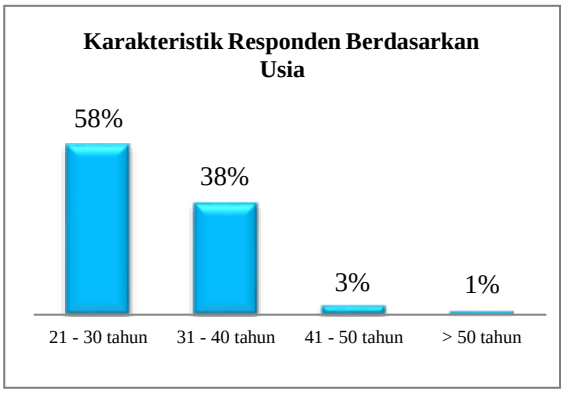

Figure 3. Characteristics of respondents by age

Figure 4. Characteristics of respondents based on the number of family members

Based on the three figures above, it can be concluded that Section A (Kelapa Gading-Pulo Gebang) Toll Road users are dominated by men with a percentage of 53%. The majority of respondents' jobs were as Civil Servants (PNS), TNI/Polri which was 44% and as private employees/entrepreneurs which was as much as 37%. Most respondents are in the age range of 21-30 years, which is 58%, this range is included in the productive age. On average, respondents have 3 to 4 family members.

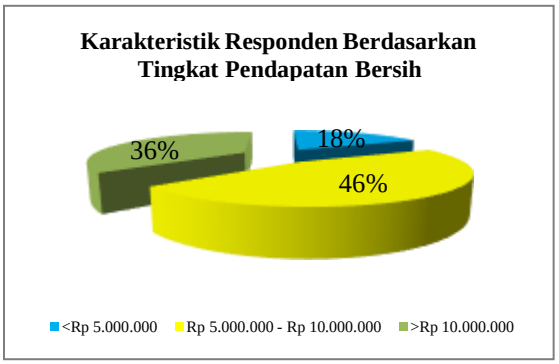

Figure 5. Characteristics of respondents based on net income level

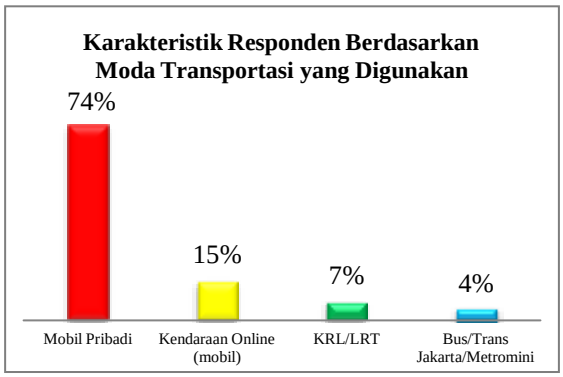

Figure 6. Characteristics of Respondents Based on the Mode of Transportation Used

Figure 7. Characteristics of respondents based on the reasons for using toll roads

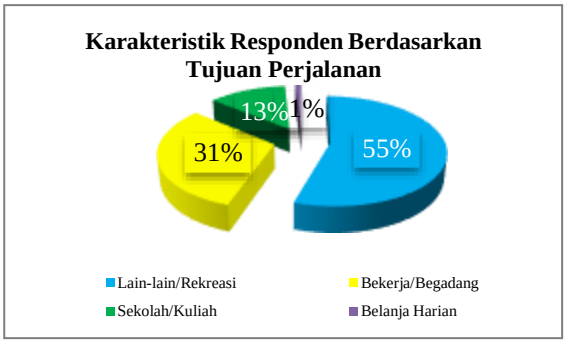

Figure 8. Characteristics of respondents based on travel destination

Overall, it can be concluded that, most of the respondents' income is in the range of Rp. 5,000,000 – Rp. 10,000,000, which is a percentage of 46%. The most widely used mode of transportation is private cars, with a percentage of 74%, followed by online vehicles (cars) at 15%. For KRL/LRT transportation mode users, there are 7% and TransJakarta Bus users are 4%. Almost all respondents stated that they chose to use toll roads for time-saving reasons, with a percentage of 84%. Respondents' travel destinations varied starting from the largest percentage of 55% for Miscellaneous/Recreation, 31% for work/trade, 13% for school or college and 1% for daily shopping.

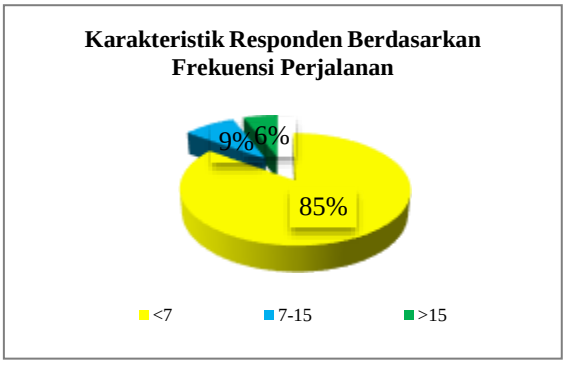

Figure 9. Characteristics of respondents based on travel frequency

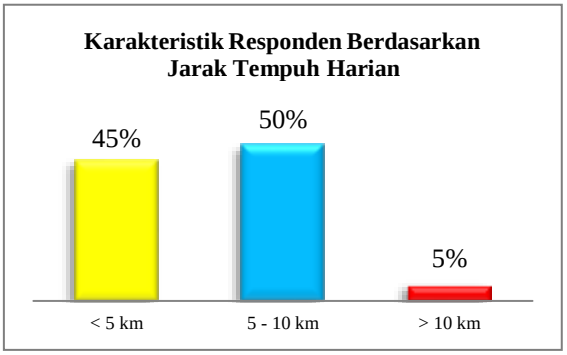

Figure 10. Characteristics of respondents based on daily mileage

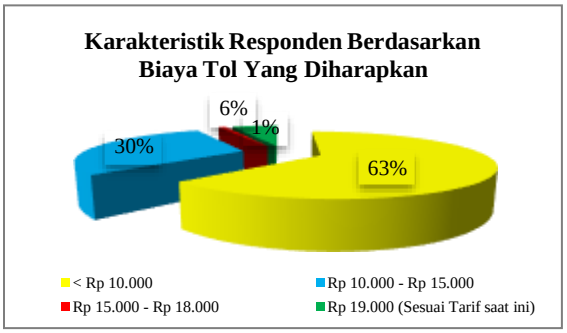

Figure 11. Characteristics of Respondents Based on Expected Toll Fees

From the three figures above, it can be concluded that the frequency of respondents' trips is the most in the range of less than 7 times with a percentage of 85%. Furthermore, the

frequency of travel in the range of 7-15 as much as 9% and the frequency of travel more than 15 times as much as 6%. As many as 50% of respondents cover the daily distance in the range of 5.1-7.5 km. The longest distance traveled is 75 km but the average daily distance is 11.1 km. 63% of respondents expect toll fees to be less than Rp. 10,000, 30% of respondents expect toll fees in the range of Rp. 10,000 to Rp. 15,000, 1% of respondents expect toll rates in the range of Rp. 15,000 to Rp. 18,000. However, 6% of respondents have agreed with the current toll tariff of Rp. 19,000.

Analysis of Toll Road User Satisfaction Level

The following is the calculation of the average user satisfaction of the Kelapa Gading-Pulo Gebang toll road.

Table l. Results of Average Toll Road User Satisfaction

No.	Pernyataan Kualitas Pelayanan	Tingkat Kepentingan (Y)	Tingkat Kepuasan (X)	Rata-rata (MIS)	Rata-rata (MSS)
1	Fasilitas Gerbang Tol Otomatis (GTO) Kelapa Gading-Pulo Gebang bekerja dengan baik.	500	396	5	3,96
2	Adanya fasilitas GTO Kelapa Gading-Pulo Gebang memudahkan pengguna membayar tol.	500	413	5	4,13
3	Adanya fasilitas GTO Kelapa Gading-Pulo Gebang mempercepat pengguna melakukan pembayaran tol.	500	413	5	4,13
4	Petugas GTO Kelapa Gading-Pulo Gebang bersedia memberikan bantuan kepada pengguna yang mengalami masalah.	500	396	5	3,96
5	Petugas GTO Kelapa Gading-Pulo Gebang cepat memberikan layanan kepada pengguna jalan tol.	500	388	5	3,88
6	Petugas GTO Kelapa Gading-Pulo Gebang secara konsisten bersikap sopan kepada setiap pengguna jalan tol.	500	389	5	3,89
7	Petugas GTO Kelapa Gading-Pulo Gebang mampu menjawab pertanyaan konsumen.	500	387	5	3,87
8	Petugas GTO mengingatkan pengguna jalan tol Kelapa Gading-Pulo Gebang tentang ketersediaan soldo tol.	500	372	5	3,72
9	Petugas GTO mengingatkan pengguna jalan tol untuk mematuhi rambu-rambu tol untuk keselamatan berkendara.	500	384	5	3,84

From the above, it can be seen that the highest level of satisfaction is in the second and third service quality indicators, namely the existence of the Kelapa Gading-Pulo Gebang GTO facility making it easier for users to pay tolls and the existence of the Kelapa Gading-Pulo Gebang GTO facility accelerating users to make toll payments, which is 413 points each. While the lowest is the statement of the 8th indicator, namely the GTO Officer reminds users of the Kelapa Gading-Pulo Gebang toll road about the availability of toll roads only getting a value of 372 points.

Table 2. Weight Factor (WF) and Weight Score (WS)

Tingkat Kepentingan (Y)	Tingkat Kepuasan (X)	Rata-rata (MIS)	Rata-rata (MSS)	WF (MIS/£MIS)	WS (WFi xMSS)
500	396	5	3,96	0,111	0,440
500	413	5	4,13	0,111	0,459
500	413	5	4,13	0,111	0,459
500	396	5	3,96	0,111	0,440
500	388	5	3,88	0,111	0,431
500	389	5	3,89	0,111	0,432
500	387	5	3,87	0,111	0,430
500	372	5	3,72	0,111	0,413
500	384	5	3,84	0,111	0,427
Total		**45**	**35,4**		**3,931**

After obtaining the Weight Factor (WF) and Weight Score (WS) values, the next step is to calculate the Customer Satisfaction Index (CSI) value (Agustina et al., 2022). To calculate the Customer Satisfaction Index (CSI) value, the total WS divided by the maximum scale used, then multiplied by 100% (Agustina et al., 2022). The overall level of user satisfaction can be seen from the satisfaction level criteria. The formula for calculating CSI is as follows:

$$\text{CSI} = \frac{\sum \text{WSi}}{\text{HS}} \text{x} 100\%$$

Thus, the Customer Satisfaction Index (CSI) value can be calculated:

$$\text{CSI} = \frac{3{,}931}{5} \text{x} 100\%$$

$$\text{CSI} = 78{,}62\%$$

Based on the CSI calculation above, it can be seen that the Customer Satisfaction Index (CSI) of Kelapa Gading - Pulo Gebang toll road users on the quality of service provided by officers gets a value of 78.62%. This shows that the level of satisfaction of Kelapa Gading - Pulo Gebang Toll Road Users with the quality of service officers is in the range of 61% to 80% so that the value shows that the level of user satisfaction is in the "Satisfied" category.

Ability To Pay (ATP) Analysis

In this study, ATP and WTP analysis were divided into four categories based on the type of work, namely the categories of Father / Housewife, Private Employee / Entrepreneur, Civil Servant or TNI / Polri, and Student / Student. The following is an example of an analysis of the overall average Ability To Pay (ATP) and Willingness To Pay (WTP) of respondents.

Table 3. Number of respondents based on income level per month

Income	Median	Frekuensi	Persentase
<Rp5.000.000	5.000.000	18	18,0%
Rp5.000.000 - Rp10.000.000	7.500.000	46	46,0%
>10.000.000	10.000.000	36	36,0%
Total		**100**	

The table above shows the total number of respondents based on the level of income per month, which is the highest at an income level of Rp. 5,000,000 to Rp. 10,000,000 which is 46.0%. The calculation of the average Income (Ic) value for all respondents can be done as follows.

$$\text{Ic} = \frac{(\text{f1xMed1}) + (\text{f2xMed2}) + (\text{f3xMed3})}{\text{N}}$$

$$\text{Ic} = \frac{(18\text{x}5.000.000) + (46\text{x}7.500.000) + (36\text{x}10.000.000)}{100}$$

$$\text{Ic} = \frac{795.000.000}{100}$$

$$\text{Ic} = \text{Rp } 7.950.000$$

Table 4. Number of Respondents Based on the Level of Allocation of Funds for Transportation Per Month

% *Travel Cost*	Frekuensi	Persentase
10,0%	31	31,0%
13,3%	39	39,0%
15,0%	4	4,0%
20,0%	22	22,0%
26,7%	1	1,0%
30,0%	2	2,0%
40,0%	1	1,0%
Total	**100**	

The table above shows the overall number of respondents based on the level of allocation of funds for transportation per month, the highest value is at 13.3% allocation at 39.0% and the lowest is at 26.7% and 40% with a percentage of 1.0%. The calculation of the average Travel Cost Percentage (%TC) value for all respondents can be done as follows.

$$\%\mathrm{TC} = \frac{(\mathrm{f1xTc1}) + (\mathrm{f2xTc2}) + \cdots + (\mathrm{f7xTc7})}{\mathrm{N}}$$

$$\%\mathrm{TC} = \frac{1.455\%}{100}$$

$$\%\mathrm{TC} = 14{,}55\%$$

Table 5. Number of respondents based on the frequency of trips through the Kepala Gading - Pulo Gebang Toll Road (per month)

Median	Jumlah	Persentase
7	85	85,0%
11	9	9,0%
15	6	6,0%
Total	**100**	

The table above shows the number of respondents based on the frequency of trips through the Kepala Gading - Pulo Gebang toll road (per month), the largest is at a frequency of less than 7 times, which is 85.0%. The calculation of the average Travel Frequency value for all respondents can be done as follows.

$$\mathrm{D} = \frac{(\mathrm{f1xMed1}) + (\mathrm{f2xMed2}) + (\mathrm{f3xMed3})}{\mathrm{N}}$$

$$\mathrm{D} = \frac{(85\mathrm{x}7) + (9\mathrm{x}11) + (6\mathrm{x}15)}{100}$$

$$\mathrm{D} = \frac{784}{100}$$

$$\mathrm{D} = 7{,}84 \text{ kali}$$

From the calculation results, the average travel frequency value of respondents in passing the Kepala Gading - Pulo Gebang Toll Road (per month) was 7.84 times. After the three

influential factors in the calculation of Ability To Pay (ATP) are obtained, then the calculation of ATP is carried out.

$$\text{ATP} = \frac{\text{Lc x\%Tc}}{\text{D}}$$

$$\text{ATP} = \frac{\text{Rp. 7.950.000 x14,55\%}}{7{,}84}$$

$$\text{ATP} = \text{Rp. 147.582,02}$$

Willingness To Pay (WTP) Analysis

Table 6. Number of Respondents Based on Willingness To Pay (WTP)

WTP	Frekuensi	Persentase
9.000	1	1%
17.000	1	1%
19.000	7	7%
19.500	3	3%
21.000	74	74%
22.500	7	7%
24.000	7	7%
Total	**100**	

Table 4.24 above The total number of respondents based on Willingness To Pay (WTP) with the highest value is Rp. 21,000 as much as 74%. Based on the data above, an assessment was made on the average value (mean) of the Willingness To Pay (WTP) of each research respondent. Here's the calculation.

$$\text{MWTP} = \frac{(\text{f1xWTP1}) + (\text{f2xWTP2}) + (\text{f3xWTP3}) + \cdots + (\text{f7xWTP7})}{\text{N}}$$

$$\text{MWTP} = \frac{(1\text{x}9.000) + (1\text{x}17.000) + (7\text{x}19.000 + \cdots + (7\text{x}24.000)}{100}$$

$$\text{MWTP} = \frac{2.097.000}{100}$$

$$\text{MWTP} = \text{Rp } 20.970$$

From the results of the calculation above, it was found that the average value of the respondents' Willingness To Pay in this study was Rp 20,970 which means the respondent's willingness to pay was Rp 20,970.

ATP and WTP relationship

After the calculation is carried out on Ability To Pay (ATP) and Willingnes To Pay (WTP), then the researcher then tried to analyze the relationship between the two by referring to the three categories of relationships proposed by .(Tarmin, dkk.;, 1999)

Figure 12. ATP vs WTP Diagram of Research Respondents Based on Toll Rates

The figure above shows a comparison chart of ATP and WTP based on each job category. This condition shows that the respondent's ability to pay is greater than the desire to pay the Kelapa Gading - Pulo Gebang toll road fare. This happens because the average respondent has a relatively high income but the utility of the service is relatively low, users in this condition are called users who are free to choose (choice riders).

Influence Test Hypothesis

Test t

The t test is used to determine the effect of each independent variable consisting of Service Quality and Toll Tariff Policy on the dependent variable , namely User Satisfaction. Decision making is as follows:

a. If the calculated value of T is < T table and significant of CR, and the TVA is greater than 0.05 then H0 is rejected.
b. If the value of T is calculated > T table and significant then H0 is accepted.
c.

Table 7. Test t (Partial)

Type	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.147	0.824		3.818	0.000
Kualitas_Pelayanan_X1	0.172	0.024	0.547	7.085	0.000
Kebijakan_Tarif_X2	0.116	0.031	0.289	3.743	0.000

(Source : Data Analysis Results, 2023)

Based on the table, the Quality of Service from t-count > t-table (7.085>1.66023) and the significance is small from 0.05 (0.000<0.05) then Ho rejected Ha affects User Satisfaction. For the Toll Rate Policy variable, having t-count > t-table (3.743>1.66023) and a small significance of 0.05 (0.000<0.05) then Ho is rejected, Ha is accepted. So it can be concluded that the Toll Tariff Policy partially has an effect on User Satisfaction.

Test F

The f test aims to determine the effect of the independent variable simultaneously on the dependent variable. Test f is used to determine the effect of all (simultaneous) independent variables consisting of Service Quality and Toll Tariff Policy on the dependent variable, namely User Satisfaction. In the formula of the f test, a significant level of 5% is used.

Table 7. F Test (Simultaneous)

ANOVAa

Type	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	107.508	2	53.754	48.060	0.000b
Residuals	108.492	97	1.118		
Total	216.000	99			

a. Dependent Variable: Kepuasan_Pengguna_Y
b. Predictors: (Constant), Kebijakan_Tarif_X2, Kualitas_Pelayanan_X1

Based on the output shown from table 4.31 above, it can be seen that the F value is calculated > F table (48.060>3.09) and the significance < 0.05(0.00<0.05) means significant/influential. In other words, Service Quality and Toll Tariff Policy simultaneously have a significant positive effect on Toll Road User Satisfaction.

CONCLUSION

Based on the data that has been analyzed, the following conclusions are obtained: The level of driver satisfaction with the quality of service of the Kelapa Gading - Pulo Gebang Toll Road is in the "Satisfied" category as evidenced by the Customer Satisfaction Index (CSI) value of 78.62% which is in the range of 61% to 80% so that it is in the "Satisfied" category. Service quality and tariff policy have a positive effect on the satisfaction of users of the Kelapa Gading - Pulo Gebang toll road, which is indicated by the F value calculated > F table (48.060>3.09) and the significance of < 0.05 (0.00<0.05) means significant/influential. Through the Ability To Pay (ATP) and Willingness To Pay (WTP) approach, it is known that respondents' Ability To Pay (ATP) on the highest Kelapa Gading - Pulo Gebang toll road tariff is Rp. 166,766.24, namely for respondents with the job category as a Mother / Father of the House, and the lowest ATP is Rp. 125,620.99, namely for respondents with the job category as Students or Students. The average Ability To Pay (ATP) value of all respondents was Rp. 147,582.02. Meanwhile, the highest number of Willingnes To Pay (WTP) respondents to the Kelapa Gading - Pulo Gebang toll road tariff was Rp. 21,750, namely for respondents with the job category as Students or Students and the lowest WTP was Rp. 20,523, namely for respondents with the job category as Civil Servants (PNS) or TNI / Polri. The average Willingnes To Pay (WTP) value of all respondents was Rp. 20,970.

BIBLIOGRAPHY

Presidential Regulation Number 56 of 2018 concerning the Second Amendment to Presidential Regulation Number 3 of 2016 concerning the Acceleration of the Implementation of National Strategic Projects.

Purnama, Angie Factuaza. (2020). The Effect of Service Quality and Tariffs on Consumer Satisfaction of Salatiga Toll Road Users. Final Project. Faculty of Economics and Business, Satya Wacana Christian University.

Riajaya, H., Orlando, K., &; Samputra, P. (2017). Analysis of the level of public satisfaction with the Becakayu (Bekasi - Cawang - Kampung Melayu) toll tariff policy in Jakarta-Bekasi. Journal of Economic Perspectives Darussalam, 141-162.

Sari, Dharwati P, Bernado Sandrini Salasa, Nur Asriatul K, Hani Frisca, Deltaven Yoma. (2022). Study of the Impact of the Plan to Increase Road Tariffs and Toll Facilities on Tom Balsam (Balikapapan-Samarinda) Road Users. AMATA Engineering Journal, Volume 03, Number 2.

Syafwandi, Danu Setyo Sembodo, Agyanata Tua Munthe, Agung Sumarno. (2021). Analysis of The Use of Sawdust Waste As Concrete Mixture Add Material Against Workability and Compressive Strength Concrete With Three Concrete Treatment Methods. International Journal of Engineering, Science & InformationTechnology (IJESTY) Volume 1, Number 2.

Widyaningsing, Nunung &; Ondi Daniel (2019). Analysis of Characteristics and Behavior of People Crossings at Zebra Cross and Pelican Cross Crossing Facilities (Case Study Halan M.H. Thamrin). Journal of Engineering and Technology Development, Volume 15, Number 1.

Agustina, M., Sahfitri, V., & Astuti, T. (2022). Analysis of Online Transportation User Satisfaction Using the Customer Satisfaction Index (CSI) and Important Performance Analysis (IPA) Methods In Palembang City. Journal of Information Systems and Informatics, 4(4), 1063–1075.

Andani, I. G. A., Geurs, K., & La Paix Puello, L. (2019). Effects of toll road construction on local road projects in Indonesia. Journal of Transport and Land Use, 12(1), 179–199.

Annisya, S., & Samputra, P. L. (2023). Analysis of the Public Satisfaction Levels on the Issuance Rate Policy of Drugs Test Result Certificate. Quantitative Economics and Management Studies, 4(3), 575–584.

Khafian, N. (2013). The efforts of handling transportation problems in DKI Jakarta through sustainable transportation policy. Bisnis & Birokrasi, 20(3), 179.

Nachrawi, G., & Kusnadi, S. (2023). The Effect of Government Policy on SOE Investment Strategies in the Development of National Infrastructure on Toll Roads (Review of Law no. 25 of 2004 Concerning the National Development System). Migration Letters, 20(8), 17–33.

Riajaya, H., Orlando, K., & Samputra, P. L. (2019). Evaluasi Tingkat Kepuasan Masyarakat Terhadap Kebijakan Tarif Tol Becakayu. Jurnal Perspektif Ekonomi Darussalam (Darussalam Journal of Economic Perspec, 5(2), 141–162.

Santos, G., Behrendt, H., Maconi, L., Shirvani, T., & Teytelboym, A. (2010). Part I: Externalities and economic policies in road transport. Research in Transportation Economics, 28(1), 2–45.

Skorobogatova, O., & Kuzmina-Merlino, I. (2017). Transport infrastructure development performance. Procedia Engineering, 178, 319–329.

Van Lierop, D., Badami, M. G., & El-Geneidy, A. M. (2018). What influences satisfaction and

loyalty in public transport? A review of the literature. Transport Reviews, 38(1), 52–72.