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ANALYSIS OF ROAD USER SATISFACTION PASSING THROUGH THE WEST BOULEVARD HIGHWAY AND THE KELAPA GADING - PULO GEBANG TOLL ROAD

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ABSTRACT

This study aims to analyze the satisfaction level of road users on Jalan Boulevard Barat Raya and the Kelapa Gading - Pulo Gebang Toll Road. Evaluating user satisfaction is crucial for assessing transportation infrastructure performance and prioritizing road maintenance and development. Using a quantitative approach, data was collected through questionnaires distributed to drivers and passengers of private and online four-wheeled vehicles. The research applied the Importance Performance Analysis (IPA) and Customer Satisfaction Index (CSI) methods, focusing on nine indicators from the Indonesian Ministerial Regulation No. 14 of 2017, including requirements, procedures, completion time, costs, service specifications, implementer competence, behavior, complaint handling, and facilities. The CSI results revealed that road users are "Very Satisfied" with both roads, with Jalan Boulevard Barat Raya scoring 90.7% and the Kelapa Gading - Pulo Gebang Toll Road scoring 90.85%. However, IPA analysis identified several variables in quadrant 1, indicating high importance but low performance. These variables include: (B1) reasonable tariffs without additional costs, (PP1) friendly and polite officers handling complaints, (SM1) availability of complaint forums, and (SP1) adequate supporting facilities. These findings highlight areas needing improvement to enhance user satisfaction further. Overall, the study underscores the importance of addressing specific service gaps to maintain high satisfaction levels among road users.

KEYWORDS *Road User Satisfaction, West Boulevard Highway, Kelapa Gading - Pulo Gebang Toll Road, Customer Satisfaction Index (CSI), Importance Performance Analysis (IPA)*

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INTRODUCTION

Transportation is a basic necessity for urban communities to support their daily activities. In Jakarta, with its dense population and high economic activity, efficient transportation infrastructure is essential. The Kelapa Gading-Pulo Gebang Toll Road and Jalan Boulevard Barat Raya are two major routes that connect important areas of the city. While designed to improve mobility, both roads face challenges that affect user satisfaction.

The Kelapa Gading-Pulo Gebang Expressway, while providing speed and efficiency, is often considered expensive by routine users, such as daily workers and commercial drivers. On the other hand, Jalan Boulevard Barat Raya faces congestion and waterlogging problems due to inadequate drainage. These problems reduce the comfort and safety of road users, both private and online vehicle drivers.

These problems reflect the need to evaluate user satisfaction with these two transportation routes. With reference to public service standards, this study aims to identify factors that influence road user satisfaction and provide recommendations for improvement.

Literature Review

Types of Land Transportation

The types of land transportation in this study consist of:

1. Private Vehicle

A private vehicle can be defined as a means of transportation that is individually owned and used for personal purposes. Private vehicles usually include cars, motorcycles, or other vehicles registered in the name of an individual.

2. Online Vehicle

Based on the Minister of Transportation Regulation No. PM 118/2018, online vehicles or what can be referred to as special rental transportation are door-to-door transportation services with drivers, have an operating area within urban areas, to and from airports, ports, or other transportation nodes and reservations using information technology-based applications, with the tariff amount listed in the application.

Based on the Regulation of the Minister of Transportation Number PM 108 TAHUN 2017, here are some examples of transportation included in the Special Rental Transport category: online taxis, private cars registered on application platforms, special shuttle services, car rental services with drivers, tourism transportation services, premium or executive services.

Road Users

The road user categories in this study consist of:

1. Driver: A driver is a person who drives a motor vehicle or a person who directly supervises a prospective driver who is learning to drive a motor vehicle (Government Regulation No. 44 of 1993).
2. Passenger: Passenger is a person who is in a Vehicle other than the Driver and Vehicle crew. (PP Number 74 Year 2014)

Customer Satisfaction Theory

Satisfaction arises from the comparison between user expectations and actual experience, where quality, value, and service interaction are the main factors (Laetitia et al., 2021).

Theory of Consumer Behavior

Consumer decisions are influenced by internal (motivation, perception) and external (culture, social groups) factors Nugraha et al., 2021).

Elements of the Community Satisfaction Survey

Based on Permenpan RB No. 14 of 2017, elements such as requirements, systems, mechanisms, and procedures, completion time, costs, product specifications of service types, executor competence, executor behavior, handling complaints, suggestions and input, facilities and infrastructure are important indicators.

Highway Minimum Service Standards

In accordance with Law No. 2 of 2022 and Regulation of the Minister of Public Works and Housing No. 01/PRT/M/2014 of 2014 on Minimum Service Standards in the Field of Public Works and Spatial Planning, the indicators of Minimum Service Standards for Highways are the completeness of road facilities, road quality and condition, traffic safety, traffic services, maintenance and management.

Toll Road Service Standard

In accordance with the Minister of Public Works Regulation No. 16/PRT/M/2014 and Government Regulation No. 23 of 2024 concerning minimum service standards for toll roads, it can be measured from several elements, namely road conditions, travel speed, accessibility, and safety facilities.

RESEARCH METHOD

This study was conducted with a quantitative approach that aims to measure and analyze variables related to user satisfaction with private vehicle and online vehicle services on Kelapa Gading-Pulo Gebang Toll Road and Boulevard Barat Raya Road. This method was chosen because it provides the ability to collect data in the form of numbers that can be analyzed statistically.

Data Collection

Data collection is done in several ways, namely: 1. Primary data is data obtained directly by collecting data through questionnaires distributed to drivers and passengers of private vehicles and 4-wheeled online vehicles that have / often use the Kelapa Gading-Pulo Gebang Toll Road and the Great Western Boulevard Road. The questionnaire was designed to understand road users' perceptions and satisfaction with the condition and quality of the two lanes. Each respondent was asked to provide responses based on their driving experience, both on toll roads and highways, using a Likert scale of 1-5. The Likert scale is a tool or method for measuring the level of agreement or disagreement of respondents to a series of questions about an object (Sugiyono, 2018). Numbers 1-5 with the following information: 5: Strongly agree, 4: Agree, 3: Disagree, 2: Disagree, 1: Strongly disagree. 2. Secondary data is data obtained through documentation studies by studying various writings through journals, books, magazines, and other sources that support this research.

RESULT AND DISCUSSION

1. Validity Test Results

a. Validity Test of Performance of the Great Western Boulevard Road

Table 1. Performance Validity Test Results Great Western Boulevard Road

Jalan Boulevard Barat Raya					
NO	**VARIABLES**	**INDICATOR**	**R-CALCULATE**	**R-TABLE**	**DESCRIPTION**
1	REQUIREMENT(P)	**P1**	.756**	0,361	VALID
		P2	.807**	0,361	VALID
		P3	.730**	0,361	VALID
		P4	.810**	0,361	VALID
		P5	.574**	0,361	VALID
2	System, Mechanism, and Procedure (MP)	**MP1**	.750**	0,361	VALID
		MP2	.846**	0,361	VALID
3	Completion Time (WP)	**WP1**	.825**	0,361	VALID
4	Cost/Tariff(B)	**B1**	.632**	0,361	VALID
		B2	.892**	0,361	VALID

5	Product Specification Type of Service (PS)	**PS1**	.723**	0,361	VALID
		PS2	.795**	0,361	VALID
6	Implementation Competency (KP)	**KP1**	.767**	0,361	VALID
7	Executor Behavior (PP)	**PP1**	.786**	0,361	VALID
		PP2	.856**	0,361	VALID
8	Handling of complaints, Suggestions and Feedback (SM)	**SM1**	.760**	0,361	VALID
		SM2	.818**	0,361	VALID
9	Facilities and Infrastructure (SP)	**SP1**	.871**	0,361	VALID
		SP2	.808**	0,361	VALID
		SP3	.748**	0,361	VALID
		SP4	.830**	0,361	VALID
		SP5	.820**	0,361	VALID
10	User Satisfaction (Y)	**Y1**	.955**	0,361	VALID
		Y2	.945**	0,361	VALID
		Y3	.954**	0,361	VALID
		Y4	.890**	0,361	VALID
		Y5	.927**	0,361	VALID
		Y6	.880**	0,361	VALID
		Y7	.915**	0,361	VALID

Source: Processing Results, 2024

Descriptive analysis of Jalan Raya Boulevard Barat Raya all variables and indicators tested have significant R-count values, with all R-count values exceeding the R-table (0.361). This indicates that all indicators related to variables such as Requirements (P), Systems, Mechanisms and Procedures (MP), Completion Time (WP), Costs / Tariffs (B), Product Specifications Type of Service (PS), Implementer Competence (KP), Implementer Behavior (PP), Handling Complaints, Suggestions and Feedback (SM), and Facilities and Infrastructure (SP) are overall valid in measuring factors that affect User Satisfaction (Y).

b. Validity Test of Kelapa Gading-Pulo Gebang Toll Road Performance

Table 2. Performance Validity Test Results Kelapa Gading - Pulo Gebang Toll Road

Kelapa Gading - Pulo Gebang Toll Road					
NO	**VARIABLES**	**INDICATOR**	**R-CALCULATE**	**R-TABLE**	**DESCRIPTION**
1	REQUIREMENT(P)	**P1**	.734**	0,361	VALID
		P2	.885**	0,361	VALID

		P3	.878**	0,361	VALID
		P4	.906**	0,361	VALID
2	System, Mechanism, and Procedure (MP)	**MP1**	.881**	0,361	VALID
		MP2	.896**	0,361	VALID
		MP3	.903**	0,361	VALID
		MP4	.877**	0,361	VALID
3	Completion Time (WP)	**WP1**	.816**	0,361	VALID
		WP2	.889**	0,361	VALID
		WP3	.918**	0,361	VALID
4	Cost/Tariff(B)	**B1**	.902**	0,361	VALID
		B2	.620**	0,361	VALID
		B3	.717**	0,361	VALID
5	Product Specification Type of Service (PS)	**PS1**	.676**	0,361	VALID
		PS2	.837**	0,361	VALID
6	Implementation Competency (KP)	**KP1**	.723**	0,361	VALID
7	Executor Behavior (PP)	**PP1**	.599**	0,361	VALID
		PP2	.893**	0,361	VALID
8	Handling of complaints, Suggestions and Feedback (SM)	**SM1**	.620**	0,361	VALID
		SM2	.642**	0,361	VALID
9	Facilities and Infrastructure (SP)	**SP1**	.725**	0,361	VALID
		SP2	.773**	0,361	VALID
		SP3	.692**	0,361	VALID
		SP4	.708**	0,361	VALID
10	User Satisfaction (Y)	**Y1**	.940**	0,361	VALID
		Y2	.949**	0,361	VALID
		Y3	.947**	0,361	VALID
		Y4	.889**	0,361	VALID
		Y5	.931**	0,361	VALID
		Y6	.875**	0,361	VALID
		Y7	.903**	0,361	VALID
		Y8	.710**	0,361	VALID

Source: Processing Results, 2024

Descriptive analysis of the Kelapa Gading-Pulo Gebang Toll Road shows that all variables and indicators studied show high validity, with the R-count value exceeding the R-table (0.361). This indicates that each indicator related to variables such as Requirements (P), Systems, Mechanisms and Procedures (MP), Completion Time (WP), Costs / Tariffs (B), Product Specifications Type of Service (PS), Implementer Competence (KP), Implementer Behavior (PP), Handling Complaints,

Suggestions and Feedback (SM), and Facilities and Infrastructure (SP) contribute significantly in assessing User Satisfaction (Y).

c. Validity Test of Importance of West Boulevard Highway

Table 3. Validity Test Results K epentingan Jalan Boulevard Barat Raya

Jalan Boulevard Barat Raya					
NO	**VARIABLES**	**INDICATOR**	**R-CALCULATE**	**R-TABLE**	**DESCRIPTION**
1	REQUIREMENT(P)	**P1**	.812**	0,361	VALID
		P2	.841**	0,361	VALID
		P3	.780**	0,361	VALID
		P4	.810**	0,361	VALID
		P5	.827**	0,361	VALID
2	System, Mechanism, and Procedure (MP)	**MP1**	.810**	0,361	VALID
		MP2	.832**	0,361	VALID
3	Completion Time (WP)	**WP1**	.839**	0,361	VALID
4	Cost/Tariff(B)	**B1**	.776**	0,361	VALID
		B2	.863**	0,361	VALID
5	Product Specification Type of Service (PS)	**PS1**	.772**	0,361	VALID
		PS2	.805**	0,361	VALID
6	Implementation Competency (KP)	**KP1**	.819**	0,361	VALID
7	Implementer Behavior (PP)	**PP1**	.868**	0,361	VALID
		PP2	.861**	0,361	VALID
8	Handling of complaints, Suggestions and Feedback (SM)	**SM1**	.858**	0,361	VALID
		SM2	.844**	0,361	VALID
9	Facilities and Infrastructure (SP)	**SP1**	.833**	0,361	VALID
		SP2	.850**	0,361	VALID
		SP3	.875**	0,361	VALID
		SP4	.818**	0,361	VALID
		SP5	.880**	0,361	VALID
10	User Satisfaction (Y)	**Y1**	.788**	0,361	VALID
		Y2	.818**	0,361	VALID
		Y3	.798**	0,361	VALID
		Y4	.889**	0,361	VALID
		Y5	.882**	0,361	VALID
		Y6	.893**	0,361	VALID
		Y7	.888**	0,361	VALID

Source: Processing Results, 2024

Descriptive analysis of Jalan Raya Boulevard Barat Raya all variables and indicators tested have significant R-count values, with all R-count values exceeding the R-table (0.361). This indicates that all indicators related to variables such as Requirements (P), Systems, Mechanisms and Procedures (MP), Completion Time (WP), Costs / Tariffs (B), Product Specifications Type of Service (PS), Implementer Competence (KP), Implementer Behavior (PP), Handling Complaints, Suggestions and Feedback (SM), and Facilities and Infrastructure (SP) are overall valid in measuring factors that affect User Satisfaction (Y). The results reflect the importance of physical aspects and service quality in building positive perceptions of road users.

d. Validity Test of Importance of Kelapa Gading-Pulo Gebang Toll Road

Table 4. Validity Test Results of Importance Kelapa Gading - Pulo Gebang Toll Road

Kelapa Gading - Pulo Gebang Toll Road					
NO	**VARIABLES**	**INDICATOR**	**R-CALCULATE**	**R-TABLE**	**DESCRIPTION**
1	REQUIREMENT(P)	**P1**	.649**	0,361	VALID
		P2	.803**	0,361	VALID
		P3	.785**	0,361	VALID
		P4	.682**	0,361	VALID
2	System, Mechanism, and Procedure (MP)	**MP1**	.830**	0,361	VALID
		MP2	.683**	0,361	VALID
		MP3	.746**	0,361	VALID
		MP4	.777**	0,361	VALID
3	Completion Time (WP)	**WP1**	.772**	0,361	VALID
		WP2	.800**	0,361	VALID
		WP3	.661**	0,361	VALID
4	Cost/Tariff(B)	**B1**	.811**	0,361	VALID
		B2	.809**	0,361	VALID
		B3	.830**	0,361	VALID
5	Product Specification Type of Service (PS)	**PS1**	.832**	0,361	VALID
		PS2	.844**	0,361	VALID
6	Implementation Competency (KP)	**KP1**	.894**	0,361	VALID
7	Executor Behavior (PP)	**PP1**	.894**	0,361	VALID
		PP2	.862**	0,361	VALID
8	Handling of complaints,	**SM1**	.884**	0,361	VALID
		SM2	.867**	0,361	VALID

	Suggestions and Feedback (SM)				
9	Facilities and Infrastructure (SP)	**SP1**	.773**	0,361	VALID
		SP2	.858**	0,361	VALID
		SP3	.863**	0,361	VALID
		SP4	.854**	0,361	VALID
10	User Satisfaction (Y)	**Y1**	.776**	0,361	VALID
		Y2	.774**	0,361	VALID
		Y3	.802**	0,361	VALID
		Y4	.763**	0,361	VALID
		Y5	.688**	0,361	VALID
		Y6	.819**	0,361	VALID
		Y7	.794**	0,361	VALID
		Y8	.785**	0,361	VALID

Source: Processing Results, 2024

Descriptive analysis of the Kelapa Gading-Pulo Gebang Toll Road shows that all variables and indicators studied show high validity, with the R-count value exceeding the R-table (0.361). This indicates that each indicator associated with variables such as Requirements (P), Systems, Mechanisms and Procedures (MP), Completion Time (WP), Costs / Tariffs (B), Product Specifications Type of Service (PS), Implementer Competence (KP), Implementer Behavior (PP), Handling Complaints, Suggestions and Feedback (SM), and Facilities and Infrastructure (SP) are very important in assessing User Satisfaction (Y).

Reliability Test Results

Reliability test is carried out on question items that are declared reliable. This test is used to measure a questionnaire which is an indicator of a variable or construct. A questionnaire is said to be reliable or reliable if someone's answer to a statement is consistent or stable over time. A variable is said to be reliable if it has Cronbach alpha> 0.70.

a. Results of Performance Reliability Test of West Boulevard Highway and Kelapa Gading Pulo Gebang Expressway

Table 5. Table of Performance Reliability Test Results West Boulevard Highway

Jalan Raya West Boulevard				
NO	VARIABLES	ALPHA	COMPARISON	DESCRIPTION
1	Road Service Quality (X)	0,969	0,6	Reliable
2	User Satisfaction (Y)	0,971	0,6	Reliable

Source: Processing Results, 2024

Table 6. Table of Performance Reliability Test Results Kelapa Gading - Pulo Gebang Toll Road

Kelapa Gading-Pulo Gebang Toll Road				
NO	VARIABLES	ALPHA	COMPARISON	DESCRIPTION
1	Road Service Quality (X)	0,975	0,6	Reliable
2	User Satisfaction (Y)	0,964	0,6	Reliable

Source: Processing Results, 2024

Analysis of the results of the reliability test on the Quality of Service of the West Boulevard Highway and the Kelapa Gading-Pulo Gebang Toll Road shows that both locations have a very good level of reliability on the variables tested.

For Jalan Raya Boulevard Barat Raya, the alpha value for the road service quality variable is 0.979, while the value for the user satisfaction variable is 0.971. Both values are well above the commonly accepted reliability threshold of 0.6, indicating that the measurement instruments used in this study are highly consistent and reliable.

For the Kelapa Gading - Pulo Gebang Toll Road, the alpha value for the road service quality variable is 0.975, while the value for the user satisfaction variable is 0.964. Both values are well above the commonly accepted reliability threshold of 0.6, indicating that the measurement instruments used in this study are highly consistent and reliable.

b. Results of Reliability Test of Importance of West Boulevard Highway and Kelapa Gading Pulo Gebang Toll Road

Table 7. Table of Interests Reability Test Results West Boulevard Highway

Jalan Raya West Boulevard				
NO	VARIABLES	ALPHA	COMPARISON	DESCRIPTION
1	Road Service Quality (X)	0,977	0,6	Reliable
2	User Satisfaction (Y)	0,935	0,6	Reliable

Source: Processing Results, 2024

Table 8. Table of Interests Reability Test Results Kelapa Gading - Pulo Gebang Toll Road

Kelapa Gading-Pulo Gebang Toll Road				
NO	VARIABLES	ALPHA	COMPARISON	DESCRIPTION
1	Road Service Quality (X)	0,977	0,6	Reliable

2	User Satisfaction (Y)	0,904	0,6	Reliable

Source: Processing Results, 2024

Analysis of the results of the reliability test on the Quality of Service of the West Boulevard Highway and the Kelapa Gading-Pulo Gebang Toll Road shows that both locations have a very good level of reliability on the variables tested.

For Jalan Raya Boulevard Barat Raya, the alpha value for the road service quality variable is 0.977, while the value for the user satisfaction variable is 0.935. Both values are well above the commonly accepted reliability threshold of 0.6, indicating that the measurement instruments used in this study are highly consistent and reliable.

For the Kelapa Gading - Pulo Gebang Toll Road, the alpha value for the road service quality variable is 0.977, while the value for the user satisfaction variable is 0.904. Both values are well above the commonly accepted reliability threshold of 0.6, indicating that the measurement instruments used in this study are highly consistent and reliable.

Test Results CSI

a. CSI Test Results of Greater Western Boulevard Road

Table 9. CSI Measurement Results of Greater West Boulevard Road

Object	Indicator	MIS	WF	MSS	WS
Greater Western Boulevard	P1	4.01	3.46825809	4.58	15.88462204
	P2	4	3.45960906	4.51	15.60283688
	P3	4.07	3.52015222	4.71	16.57991697
	P4	4.05	3.50285418	4.57	16.00804359
	P5	4	3.45960906	4.44	15.36066424
	MP1	3.93	3.39906591	4.52	15.36377789
	MP2	4.06	3.5115032	4.45	15.62618924
	WP1	4.11	3.55474831	4.52	16.06746238
	B1	4.1	3.54609929	4.45	15.78014184
	B2	3.95	3.41636395	4.53	15.4761287
	PS1	4.18	3.61529147	4.5	15.90728248
	PS2	4.04	3.49420515	4.48	15.65403909
	KP1	4.14	3.58069538	4.49	16.07732226
	PP1	4.05	3.50285418	4.58	16.04307213
	PP2	3.93	3.39906591	4.51	15.32978723
	SM1	4.24	3.66718561	4.56	16.72236637
	SM2	4.13	3.57204636	4.54	16.21709047
	SP1	3.97	3.433662	4.54	15.58882546

	SP2	4.01	3.46825809	4.5	15.60716139
	SP3	3.99	3.45096004	4.58	15.80539699
	SP4	4.25	3.67583463	4.62	16.98235599
	SP5	4	3.45960906	4.57	15.81041342
	Y1	4.05	3.50285418	4.57	16.00804359
	Y2	3.95	3.41636395	4.54	15.51029234
	Y3	3.98	3.44231102	4.58	15.76578447
	Y4	3.65	3.15689327	4.58	14.45857118
	Y5	3.59	3.10499914	4.51	14.0035461
	Y6	3.62	3.1309462	4.52	14.15187684
	Y7	3.57	3.08770109	4.57	14.11079398
WMT					**453.5736897**

Source: Processing Results, 2024

$$CSI = \frac{453.5}{5} \times 100\% = 90.70\% = 0.97$$

A score of 90.7% or 0.97 indicates that road users are "Very Satisfied", but there are indications that their expectations have not been fully met. So there are still a number of areas that need more attention. Therefore, it is necessary to explore customer satisfaction with the attributes of Jalan Boulevard Barat Raya that are considered unsatisfactory. To explore service indicators that need to be improved, it will be analyzed in the IPA method.

b. CSI Test Results for Kelapa Gading - Pulo Gebang Toll Road

Table 10. CSI Measurement Results of Kelapa Gading - Pulo Gebang Toll Road

Object	Indicator	MIS	WF	MSS	WS
Kelapa Gading-Pulo Gebang Toll Road	**P1**	4.55	3.0192435	4.51	13.616788
	P2	4.48	2.9727936	4.59	13.645123
	P3	4.55	3.0192435	4.58	13.828135
	P4	4.57	3.0325149	4.59	13.919244
	MP1	4.56	3.0258792	4.56	13.798009
	MP2	4.47	2.9661579	4.57	13.555342
	MP3	4.56	3.0258792	4.54	13.737492
	MP4	4.55	3.0192435	4.52	13.646981
	WP1	4.64	3.0789648	4.59	14.132449
	WP2	4.54	3.0126078	4.59	13.82787

	WP3	4.59	3.0457863	4.62	14.071533
	B1	4.61	3.0590577	4.08	12.480956
	B2	4.46	2.9595222	4.6	13.613802
	B3	4.56	3.0258792	4.51	13.646715
	PS1	4.62	3.0656934	4.97	15.236496
	PS2	4.6	3.052422	4.53	13.827472
	KP1	4.61	3.0590577	4.58	14.010484
	PP1	4.57	3.0325149	4.45	13.494691
	PP2	4.61	3.0590577	4.61	14.102256
	SM1	4.56	3.0258792	4.48	13.555939
	SM2	4.54	3.0126078	4.5	13.556735
	SP1	4.61	3.0590577	4.47	13.673988
	SP2	4.61	3.0590577	4.55	13.918713
	SP3	4.65	3.0856005	4.53	13.97777
	SP4	4.6	3.052422	4.53	13.827472
	Y1	4.6	3.052422	4.54	13.857996
	Y2	4.57	3.0325149	4.51	13.676642
	Y3	4.54	3.0126078	4.55	13.707366
	Y4	4.58	3.0391506	4.55	13.828135
	Y5	4.54	3.0126078	4.58	13.797744
	Y6	4.63	3.0723291	4.45	13.671865
	Y7	4.5	2.986065	4.61	13.76576
	Y8	4.47	2.9661579	4.47	13.258726
WMT					**454.2667**

Source: Processing Results, 2024

$$CSI = \frac{454.27}{5} \times 100\% = 90.85\% = 0.985$$

A value of 90.85% or 0.985 indicates a value of "Very Satisfied". This indicates that users not only feel satisfied, but also have an overall positive experience when using the Kelapa Gading Toll Road. This indicates that the existing services have successfully met or even exceeded user expectations. With a CSI value of 90.85%, the Kelapa Gading Toll Road shows excellent performance in meeting user expectations. Although user satisfaction is already high, there are still opportunities to improve facilities and services to optimize the driving

experience. With the right improvement measures, the CSI value is expected to be maintained or even improved, creating a better driving environment for all users.

Customer Satisfaction Index (CSI) analysis between Kelapa Gading Toll Road and Boulevard Barat Raya shows a not too far difference in the level of user satisfaction. With a CSI value of 90.85% for Kelapa Gading Toll Road, and 90.70% for Boulevard Barat Raya, it is clear that Kelapa Gading Toll Road is more effective in meeting user expectations. An in-depth understanding of these differences is essential to formulate appropriate improvement strategies.

The difference in CSI between the Kelapa Gading Toll Road and Greater Western Boulevard indicates that while the Kelapa Gading Toll Road is successful in providing an optimal experience for users, Greater Western Boulevard still faces significant challenges that need to be addressed. By implementing improvement strategies that focus on infrastructure, traffic management and supporting facilities, Boulevard Barat Raya can significantly improve user satisfaction. These measures will not only improve the driving experience, but also enhance safety and convenience for all road users. With the right dedication and investment, Boulevard Barat Raya can achieve and even exceed the satisfaction standards set by Kelapa Gading Toll Road.

IPA Test Results

a. IPA Test Results for Greater Western Boulevard Road

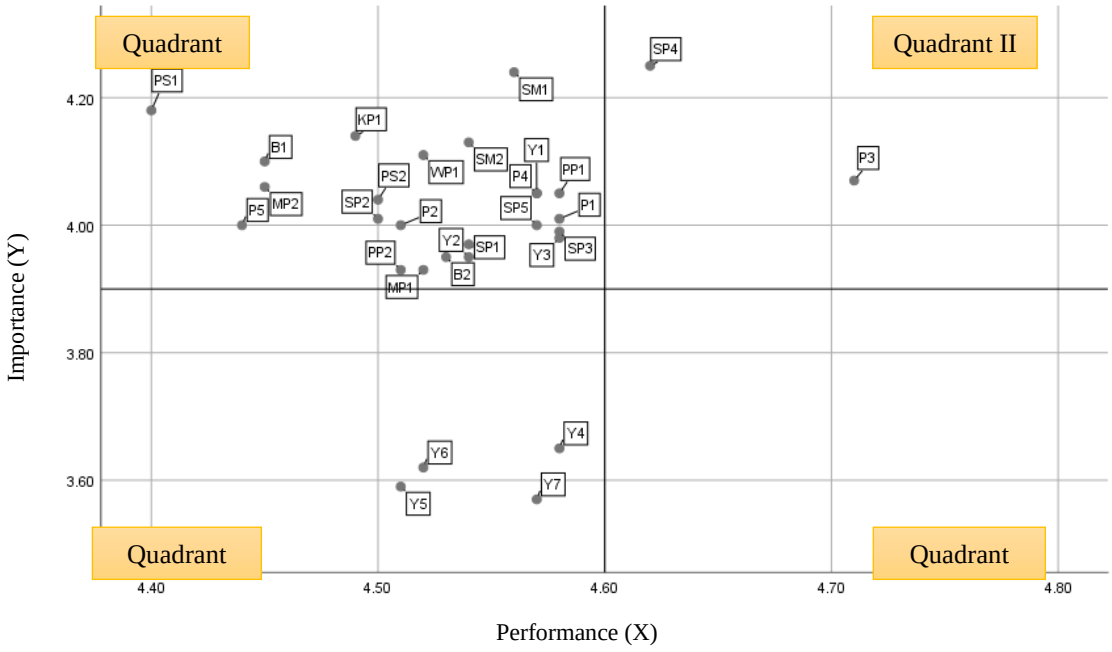
Table 11. Performance and Importance Score of Greater Western Boulevard Road (IPA)

Indicator	Performance	Importance
P1	4.58	4.01
P2	4.51	4
P3	4.71	4.07
P4	4.57	4.05
P5	4.44	4
MP1	4.52	3.93
MP2	4.45	4.06
WP1	4.52	4.11
B1	4.45	4.1
B2	4.53	3.95
PS1	4.4	4.18
PS2	4.48	4.04
KP1	4.49	4.14
PP1	4.58	4.05
PP2	4.51	3.93

SM1	4.56	4.24
SM2	4.54	4.13
SP1	4.54	3.97
SP2	4.5	4.01
SP3	4.58	3.99
SP4	4.62	4.25
SP5	4.57	4
Y1	4.57	4.05
Y2	4.54	3.95
Y3	4.58	3.98
Y4	4.58	3.65
Y5	4.51	3.59
Y6	4.52	3.62
Y7	4.57	3.57

Source: Processing Results, 2024

The table above shows the importance score with the performance score. To identify which attributes need improvement, it can be seen through the Cartesian Diagram.



Cartesian diagram of service attributes of the Great Western Boulevard Road

Source: Processing Results, 2024

Based on Figure 1 and Table 11, the service indicators are divided into four quadrants, namely:

a. Quadrant I (Concentrate Here)

Quadrant I has indicators with a high level of importance for users of the Great Western Boulevard Road, but their performance is still considered low. This indicator needs to increase or improve performance so that it can increase road user satisfaction. The service indicators included in quadrant I total 23 indicators.

b. Quadrant II (Keep Up The Good Work / Maintain Good Performance)

The service indicators included in this quadrant have a fairly good performance value and a high importance value so they need to be maintained. The indicators in this quadrant are very important to users of the Great Western Boulevard Road and have very good service performance, thus satisfying road users with the services provided so far . Service indicators that enter quadrant II amount to 2 indicators.

c. Quadrant III (Low priority)

Service indicators that are in quadrant III have a low priority to be improved or developed. According to users of Jalan Boulevard Barat Raya, service indicators in quadrant III have a low level of importance and their performance is of less concern. Service indicators in this quadrant have less effect on the satisfaction of users of Jalan Boulevard Barat Raya. Indicators included in quadrant III amount to 2 indicators.

d. Quadrant IV (Possible Overkill)

Service indicators included in quadrant IV are services that are less / not important to consumers but have good performance so that users rate the performance as excessive. In this quadrant there are no indicators that are not important to consumers but have good performance. This shows that this is in line with the CSI analysis that all indicators affect the satisfaction of users of the Great Western Boulevard Road and still require an increase in the quality of road services.

b. IPA Test Results for Kelapa Gading - Pulo Gebang Toll Road

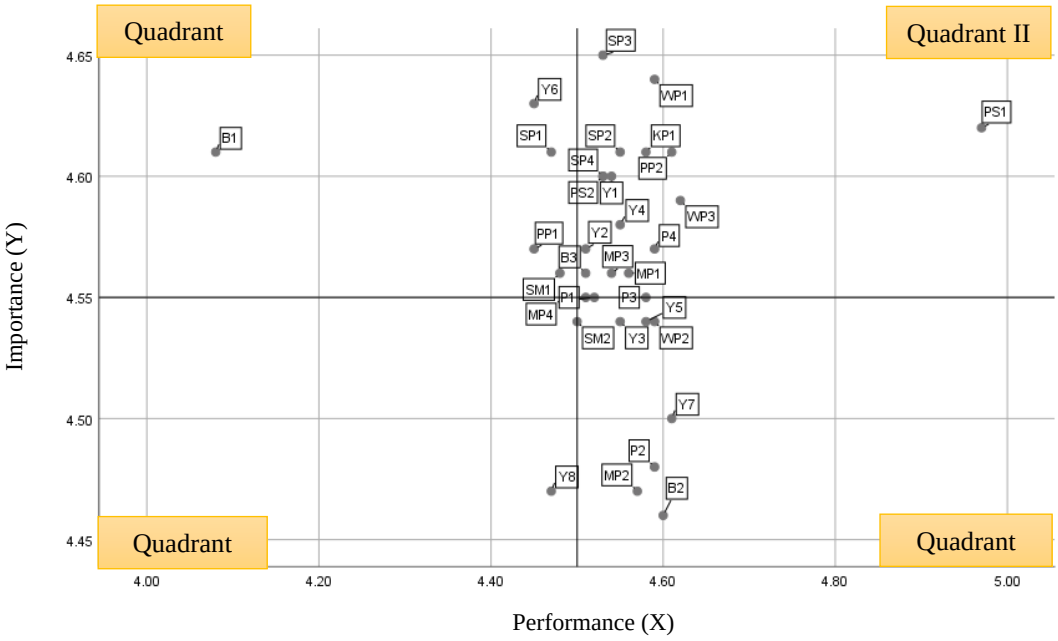
Table 12. Importance and Performance Score of Kelapa Gading - Pulo Gebang Toll Road

Indicator	Performance	Importance
P1	4.51	4.55
P2	4.59	4.48
P3	4.58	4.55
P4	4.59	4.57
MP1	4.56	4.56
MP2	4.57	4.47
MP3	4.54	4.56
MP4	4.52	4.55

WP1	4.59	4.64
WP2	4.59	4.54
WP3	4.62	4.59
B1	4.08	4.61
B2	4.6	4.46
B3	4.51	4.56
PS1	4.97	4.62
PS2	4.53	4.6
KP1	4.58	4.61
PP1	4.45	4.57
PP2	4.61	4.61
SM1	4.48	4.56
SM2	4.5	4.54
SP1	4.47	4.61
SP2	4.55	4.61
SP3	4.53	4.65
SP4	4.53	4.6
Y1	4.54	4.6
Y2	4.51	4.57
Y3	4.55	4.54
Y4	4.55	4.58
Y5	4.58	4.54
Y6	4.45	4.63
Y7	4.61	4.5
Y8	4.47	4.47

Source: Processing Results, 2024

The table above shows the importance score with the performance score. To identify which attributes need improvement, it can be seen through the Cartesian Diagram.



Cartesian diagram of service attributes of Kelapa Gading - Pulo Gebang Toll Road

Source: Processing Results, 2024

Based on Figure 2 and Table 12, the service indicators are divided into four quadrants, namely:

a. Quadrant I (Concentrate Here)

Service indicators included in this quadrant are a priority to be improved or improved. Quadrant I has indicators with a high level of importance for users of the Kelapa Gading-Pulau Gebang Toll Road, but their performance is considered low. This indicator needs to be improved or improved performance so that it can increase road user satisfaction. Service indicators included in quadrant I amount to 5 indicators.

b. Quadrant II (Keep Up The Good Work / Maintain Good Performance)

The service indicators included in this quadrant have a fairly good performance value and a high importance value so they need to be maintained. The indicators in this quadrant are very important to users of the Kelapa Gading-Pulo Gebang Toll Road and have excellent service performance, thus satisfying road users with the services provided so far. Service indicators that enter quadrant II total 19 indicators.

c. Quadrant III (Low priority)

Service indicators that are in quadrant III have a low priority to be improved or developed. According to users of the Kelapa Gading-Pulo Gebang Toll Road, service indicators in quadrant III have a low level of importance and their performance is of less concern. Service indicators in this quadrant have less effect

on the satisfaction of users of the Great Western Boulevard Road. Indicators included in quadrant III amount to 1 indicator.

d. Quadrant IV (Possible Overkill)

Service indicators included in quadrant IV are services that are less / not important to consumers but have good performance so that users rate the performance as excessive. Indicators included in quadrant III amount to 8 indicators.

CONCLUSION

The analysis shows that private vehicle users tend to be more satisfied than online vehicle users with the services of the Kelapa Gading - Pulo Gebang Toll Road and Jalan Raya Barat Boulevard. Private vehicle users prioritize speed, efficiency, safety, and comfort, while online vehicle users pay more attention to fares, waiting time, and the impact of congestion. Factors such as road conditions, service quality, and ease of access are key elements that affect user satisfaction. On Jalan Boulevard Barat Raya, there are new service quality variables that affect user satisfaction, such as proximity to public transportation, ease of document processing, absence of extortion, and easy access to information. Meanwhile, on the Kelapa Gading - Pulo Gebang Toll Road, cost and infrastructure facilities are the most dominant variables.

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