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Analysis of Perceptions of Fares, Service Quality, and Customer Facilities on LRT Customer Satisfaction: A Case Study of the Dukuh Atas – Jatimulya Route in 2024

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Abstract: Jabodebek LRT (Light Rail Transit) is one of the popular modes of rail transportation in the capital region. Jabodebek LRT comes as a solution to overcome congestion and pollution in the capital city. This mode of transportation has several advantages, one of which is having a special lane that is not obstructed by other traffic and is able to carry twice as many passengers as integrated buses. The method used in this research is quantitative method. A quantitative research method was employed to collect structured data through measurement instruments such as questionnaires and systematic observations. The collected data was then analyzed using statistical methods to generate numerical data and generalizations, providing insights into the influence of Perception of Fare, service quality, and customer facilities on customer satisfaction of the LRT route Dukuh Atas - Jatimulya. The results show that perceived fare, service quality, and customer facilities have a significant positive effect on customer satisfaction for the Dukuh Atas - Jatimulya LRT route in 2024. Therefore, the Jabodebek LRT needs to continuously improve its service quality, facilities, and maintain affordable fares to enhance customer satisfaction and position the Jabodebek LRT as the primary choice for people to commute and explore the Jabodebek area.
Keywords: *Perception of Fare, Service Quality, Customer Facilities, Customer Satifaction, LRT*

1. Introduction

Public transportation plays a crucial role in Jakarta's development, particularly in addressing congestion and air pollution. the DKI Jakarta government's efforts to develop the public transportation sector deserve commendation. This is evident in the increasing mobility of residents and the growing range of transportation options available, such as trains. Trains have become one of the most popular modes of public transportation in Jakarta. Their rapid development offers several advantages, including dedicated tracks that are not hindered by other traffic and the capacity to transport large numbers of passengers. (Ramadianti & Widyaningsih, n.d.)

Public transportation is designed to provide comfort and safety for its users. Therefore, a system comprising reliable facilities, infrastructure, management, and human resources is required to build an effective and efficient transportation network. Transportation is a system consisting of facilities and infrastructure supported by management and human resources, forming an infrastructure and service network. For this reason, transportation must be able to provide comfort and safety for its users. (SAHARA & Delvia Yuliana, 2021)

The Jabodebek LRT (Light Rail Transit), also known as the Integrated Rail Transit or Light Rail, is a popular rail-based public transportation mode in the capital region. The Jabodebek LRT was introduced as a solution to address traffic congestion and pollution in the metropolis. This mode of transportation offers several advantages, including dedicated tracks that are not obstructed by other traffic and a capacity to transport twice as many passengers compared to regular buses. It is expected that this will encourage people to shift from private vehicles to public transportation.

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Based on Jakarta Governor Regulation No. 103 of 2007 concerning the macro transportation pattern, light rail transit, hereinafter referred to as LRT, is a rapid mass transit system using light rail. Light rail, also known as LRT, is a passenger rail system operating in urban areas with a lightweight construction that can either run alongside other road traffic or on dedicated tracks. (Mulia et al., 2016)

The Jabodebek LRT is now fully operational, serving two routes: Jatimulya-Dukuh Atas (round trip) and Harjamukti-Dukuh Atas (round trip). A total of 15 train sets are in operation daily, providing 234 services for passengers.

The fare for the Jabodebek LRT has been set at Rp5,000 for the first kilometer, with an additional Rp700 for each subsequent kilometer. This means the minimum fare for an LRT trip is Rp5,000, while the maximum fare can reach up to Rp24,000 - Rp25,000 for a single journey.

Based on the maximum distance of each route, the Dukuh Atas-Jatimulya route, which spans 28 kilometers, is expected to incur a fare of approximately Rp23,000 to Rp24,000. This fare is considered relatively expensive compared to other public transportation modes in the Jabodebek area, such as buses, TransJakarta, and the Jakarta MRT and KRL Commuter Line.

PT Kereta Api Indonesia (Persero), or KAI, has recorded a continuous increase in the number of LRT Jabodebek passengers, especially in April 2024.

Months	Passenger Volume	Percentage Increase (%)
January	1.200.000	
February	1.260.000	5%
March	1.380.044	9,53%
April	1.402.933	1,66%

Source: Secondary data PT Kereta Api Indonesia (Persero)

Based on the data, it can be seen that from January to April 2024, the total ridership of the Jabodebek LRT experienced a significant increase of 16.19%. In April 2024, the ridership had reached 1,402,933, averaging approximately 46,764 passengers per day. This indicates that the Jabodebek LRT has become a popular public transportation choice in the Jabodebek region.

Beyond providing speed and convenience in transportation, the Jabodebek LRT is designed with passengers' comfort and needs in mind. A variety of facilities are provided to support smooth mobility and passenger activities, ranging from easy access via escalators, stairs, and elevators to physical facilities such as Tap-in and Tap-out machines, charging corners, toilets, ATM machine, trash bins, waiting seats, nursing rooms, prayer rooms, and health rooms. A Passenger Information System (PIDS) and clear, easily accessible passenger announcements are also available, as well as a guaranteed security system with complete CCTV coverage throughout the stations.

In addition, the Jabodebek LRT is committed to being an inclusive public transportation service. This is evidenced by the provision of disability facilities throughout all train units and stations. Jabodebek LRT stations are highly supportive of passengers with disabilities, providing facilities such as disabled toilets, designated areas for people with disabilities in each train carriage, special tactile gate panels, and responsive, according to Tarsidi (2011). Architectural barriers faced by wheelchair users include :

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1. High placement of buttons
2. Heavy and difficult-to-open doors
3. Narrow turning spaces, corridors, and doorways
4. Uneven surfaces
5. Significant elevation changes, such as stairs or trenches
6. Absence of ramps or gentle slopes
7. Insufficient knee clearance under sinks or tables

2. Literature Review

Transportation

Transportation refers to the act of moving people or goods from one location to another, generating traffic. It can be categorized into two primary types: freight transportation, involving the movement of goods and food via vehicles, and passenger transportation. Consequently, transportation encompasses the process of relocating goods and people between different places, either with or without the use of conveyance. (Soejono dan Bowersoz)

Transportation serves as a crucial function in enhancing the well-being of Indonesian society, (Gunardo) In terms of economics, it contributes to augmenting national income, facilitating equitable population distribution, and fostering the growth of domestic industries. Additionally, transportation generates employment opportunities and optimizes the utilization of economic resources. Beyond economic implications, transportation strengthens national unity, elevates the standard of living, and bolsters the nation's resilience and security. Moreover, transportation acts as a catalyst for development across various sectors.

LRT *(Light Rail Transit*)

Light Rail Transit (LRT) is an urban passenger rail system distinguished by its lightweight construction. LRTs can operate either in mixed traffic conditions or on exclusive rights-of-way. (Ramadianti & Widyaningsih, n.d.)

Light Rail Transit (LRT) is a rail-based transit system designed to provide medium-capacity public transportation. Distinguished by its relatively simple and adaptable infrastructure, LRT lines can be constructed at grade, elevated, or underground to accommodate diverse geographic and urban planning requirements. (Ramadianti & Widyaningsih, n.d.)

Light Rail Transit (LRT) is an electric-powered mode of transportation, characterized by its environmentally friendly nature and zero emissions. Its lightweight construction minimizes the impact on road infrastructure. While LRT can attain a maximum speed of 100 km/h, operational speeds are typically lower in day-to-day operations.

Fare

According to Mardia et al (2021) price is the amount of money paid for a product or service, or the value exchanged by a customer to obtain the benefits of owning or using a product or service. Krismiaji and Anni (2011:326) state the selling price is an attempt to balance the desire to maximize profits from high revenue and the decrease in sales volume if the selling price charged to customers is too high.

According to PM 17 year 2018 passenger fare is the unit price of a service on a specific transportation route for passenger transportation by train and Base fare is the tariff amount expressed in rupiah per passenger-kilometer (Rp/pnp.km) obtained from the calculation of total costs plus profit. Cost refers to the monetary value assigned to any activity, including

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both expenditures and non-expenditures, undertaken in the process of producing goods. (Peraturan Menteri Perhubungan Nomor 56, 2023)

There are several objectives in setting the prices to be used, according to nasution (2019). These include: (Nasution, 2019)

1. Profit-oriented
2. Profit-oriented
3. Volume-oriented
4. Image-oriented

Service quality

According to tjiptono in indrasari (2019), Service quality is a dynamic state closely related to goods, services, human resources, processes, and the environment that can at least meet or even exceed expected service quality. (Apriliana & Sukaris, 2022)

The definition of service quality is centered on the endeavor to fulfill customer needs and wants, as well as the timely delivery of services to meet customer expectations (Afrilliana, 2020). The assessment of service quality is based on a comparison between customers' experiences of the service received from the company and their expectations.

service quality is a function of the difference between expected service and the customer's perception of the service actually delivered. The main goal of understanding public transportation service quality is to assist policymakers and service providers in increasing the attractiveness of the service and the number of passengers. (Priyanto et al., 2023)

According to experts, service quality can be defined as a series of actions undertaken by a company to meet customer expectations. Service quality is measured by the gap between customer expectations and their actual experiences. Superior companies consistently improve their service quality by paying attention to established performance standards, both internal and external (Wibowati, 2021). The primary indicators commonly employed by customers are as follows: (Along et al., 2020)

1. Tangibility, that is, physical appearance, equipment, personnel, and communication materials.
2. Realibility, that is, the ability to deliver promised services accurately, on time, and reliably.
3. Responsiveness, that is, the willingness to help customers by providing good and prompt service.
4. Empathy, that is, an effort to know and understand individual customer needs.
5. Assurance, that is, the knowledge and courtesy of personnel and the ability of personnel to be trusted and believed.

Customer Fasilities

Facilities are defined as any resources that support the smooth operation of a company in providing quality services. The types and quantity of facilities required by a company vary widely and depend on the complexity of its business activities. (Putri Maulidiah & Budiantono, 2023)

Facilities are defined as any physical equipment provided by service providers to enhance customer comfort. In line with this definition, the benefits of facilities are: (Santi Jesica Sembiring & , Jumjuma, S.E., 2022)

a. Reducing reinvestment in equipment.
b. More effective use of space.
c. Providing convenience and comfort for both employees and customers.

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d. Increasing efficiency.
e. Aximizing service.

Customer Satisfaction

According to Utami (2019), customer satisfaction is a positive impression that customers experience directly, providing a sense of comfort when using a product or service. Kotler dan Keller (2009) menyatakan, *"Satisfaction reflects a person's judgements of a product's perceived performance (or outcome) in relationship to expectation"* (p.164).

Therefore, customer satisfaction is defined as an evaluation of the comparison between the perceived performance of a product or service and the previously established expectations. If the performance or service meets or exceeds expectations, customers will be satisfied. Conversely, if the performance does not meet expectations, customers will be dissatisfied. Customer satisfaction is a customer's evaluation of a product or service that is deemed to meet or exceed their needs and expectations. Ultimately, it is the customer who determines the quality of a service. (Nainggolan & Nainggolan, 2023)

Variable	Operational Definition	Indicator	Scale
Fare Perception (X1)	1. Perceived value is what a person believes a product or service is worth, which may not always align with its actual price. This value is influenced by various factors, including product quality, brand, and expected satisfaction.	1. Influence on the decision to use LRT	Likert
		2. Price-quality fit of goods	
		3. Price and benefits	
		4. Price according to affordability or price competitiveness	
Service Quality (X2)	2. The degree to which a product or service meets or exceeds customer expectations. It encompasses all aspects of the customer-company interaction.	1. Tangibility	Likert
		2. Realibility	
		3. Responsiveness	
		4. Empathy	
		5. Assurance	
Customer Facilities (X3)	3. Facilities provided by a company to support and enhance customer comfort and satisfaction during their interactions with the company's products or services.	1. Facility condition	Likert
		2. Accessibility	
		3. Facility completeness	
Customer Satisfaction (Y)	4. A customer's evaluation of how well a product or service's performance matches their pre-existing expectations. Satisfaction occurs when the product or service's performance meets or exceeds these expectations.	1. Overall customer satisfaction	Likert
		2. Consistency of expectations	
		3. Repurchase intention	
		4. Willingness to recommend	

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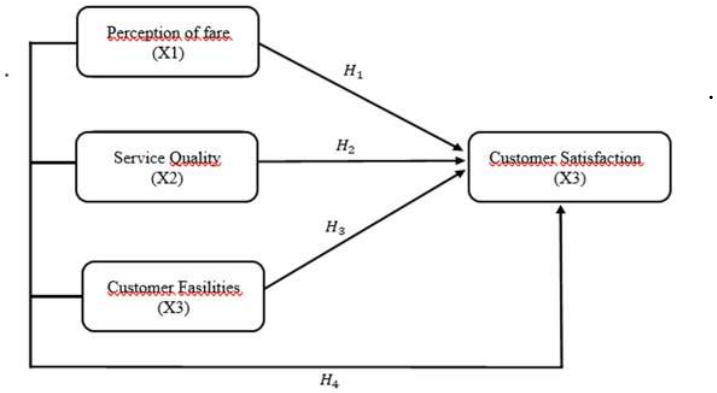
Conceptual framework



Hypothesis

H1 : Perception of fare has an Impact on Customer Satisfaction
H2 : Service Quality has an Impact on Customer Satisfaction
H3 : Customer Facilities have an Impact on Customer Satisfaction
H4 : Perception of Price, Service Quality, and Physical Facilities Simultaneously have an Impact on Customer Satisfaction

3. Research Method

Research design

This study employs a quantitative methodology to assess the impact of Perception of Fare (X1), Service Quality (X2), and Customer Facilities (X3) on Customer Satisfaction (Y) the LRT route from Dukuh Atas to Jatimulya was selected for this study. Primary data was collected through questionnaires distributed to LRT users, while secondary data was obtained from a literature review. Multiple regression analysis was employed to examine the relationships between variables, using computer software. Statistical Package for the Social Sciences (SPSS) version 27.0.

Population and Sample

Population according to Sugiyono (2017:215) It is a generalized area consisting of objects or subjects that have certain qualities and characteristics defined by the researcher to be studied and then conclusions are drawn. Based on the title raised by the researcher, the population in this study is the users of the LRT Dukuh Atas - Jatimulya route, which averages 46,764 users per day.

According to Sugiyono (2018) a sample is a subset of a population that shares the same characteristics. A sample drawn from a population must be truly representative of the population under study.

For sample selection, the researcher used the Slovin formula to calculate the required sample size, considering the population size and setting the value of e at 0,1. The researcher used a 10% sampling error rate in the calculations. The results of this calculation were then used as the basis for sample selection. To represent all users of the Dukuh Atas-Jatimulya LRT route with a 10% error rate, based on calculations using the Slovin formula, the required sample size is approximately 100 respondents, with the following formula and calculation:

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$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{46.764}{1 + 46.674(0,1)^2}$$
$$n = \frac{46.764}{1 + 46.674\ (0,01)}$$
$$n = \frac{46.764}{1 + 468}$$
$$n = \frac{46.764}{469}$$
$$n = 99,71$$
$$\text{Rounded to } n = 100$$

Explanation:
n : Sample size / number of respondents
N : Population size
e : Acceptable margin of sampling error; e= 0,05 (5%)

Place and Time of Research

The research was conducted on the LRT route from Dukuh Atas Station to Jatimulya Station. The research process spanned from planning to execution and report writing. The research was carried out from May 2024 to October 2024.

Research instrument

The instrument used in this research is a questionnaire consisting of several sections :

1. Demographic data includes age, gender, and occupation.
2. Research Variables
   - Perception of Fare: Measured by items that evaluate the appropriateness of the fare set for customers.
   - Service Quality: Measured by items that evaluate the quality of service provided to customers.
   - Customer Facilities: Measured by items that evaluate the facilities and features provided to customers.
   - Customer Satisfaction: Measured by items that evaluate the overall customer experience of the Dukuh Atas - Jatimulya LRT route.

   Each item is measured using a 5-point Likert scale.

Table 3.1 Likert Scale

Alternative response	Score
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

Source: (Setyawan & Atapukan, 2018)

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Data Collection Procedures

Data was collected through the distribution of questionnaires using Google Forms at the Dukuh Atas-Jatimulya LRT station and via social media platforms to respondents who met the sampling criteria.

Data Analysis

Validity test

Sugiharto and Sitinjak (2006) validity refers to the extent to which a variable measures what it is supposed to measure. In research, validity indicates the degree of accuracy of a research measurement tool in measuring its intended construct. Validity testing is used to determine how well a measurement tool measures what it is designed to measure.

To determine the validity of a questionnaire, a decision is made based on a comparison of the calculated correlation coefficient (r-calculated) with the critical value (r-table). An instrument is considered valid if the r-calculated is greater than or equal to the r-table value (r-calculated ≥ r-table). Conversely, if the r-calculated is less than or equal to the r-table value (r-calculated ≤ r-table), the instrument is considered invalid.

Reliability

According to Ghozali (2009) Reliability is a tool used to measure the consistency of a questionnaire, which serves as an indicator of a variable or construct. Sumadi Suryabrata (2004: 28) reliability indicates the extent to which the results of a measurement using a particular instrument can be trusted. Measurement results must be reliable, meaning they must have a high level of consistency and stability.

Hypothesis Testing

Multiple Linear Regression Analysis

Multiple linear regression analysis is used to test the fourth hypothesis, examining the simultaneous influence of independent variables (X1, X2, and X3) on the dependent variable (Y) using the F-test. The general form of multiple linear regression is as follows:

$$\mathbf{Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \varepsilon}$$

The criteria for accepting or rejecting the hypothesis are as follows::

1) If the calculated F-value > (greater) than the tabulated F-value, or the significance level of F ≤ 0.05, then the null hypothesis (H0) is rejected and the alternative hypothesis (Ha) is accepted.
2) If the calculated F-value ≤ (less than or equal) to the tabulated F-value , or the significance level of F > 0.05, then the null hypothesis (H0) is accepted and the alternative hypothesis (Ha) is rejected.

Partial Test (t-test)

Ghozali (2017:56) states that the t-test indicates the extent to which a single independent variable influences a dependent variable, assuming that other independent variables remain constant. This testing is based on a significance level of 0.05. The acceptance or rejection of the hypothesis is based on the following criteria :

- If the significance level is less than (<) 0.05, then the independent variable does not have a partial significant effect on the dependent variable.
- If the significance level is greater than (>) 0.05, then the independent variable does not have a partial significant effect on the dependent variable.

Simultaneous Test (F-test)

Ghozali (2016), as cited in Syamsuryadin & Wahyuniati (2017), states that the F-test is used to determine whether independent variables (X) collectively have a significant influence on the dependent variable (Y). The decision is made as follows:

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- If the calculated F-value is greater (>) than the tabulated F-value or the probability value of the F-statistic is less than (<) 0,05, then it means that the independent variables collectively have a significant influence on the dependent variable.
- If the calculated F-value is less than (<) the tabulated F-value, or the probability value of the F-statistic is greater than (>) 0,05, then it means that the independent variables collectively do not have a significant influence on the dependent variable.

Analysis of Coefficient of Determination (R^2)

According to Sujarweni (2015), "The coefficient of determination (R^2) is used to determine the percentage of change in the dependent variable (Y) caused by the independent variable (X)". If R^2 is larger, then the percentage of change in the dependent variable (Y) caused by the independent variable (X) is higher. Conversely, if R^2 is smaller, then the percentage of change in the dependent variable (Y) caused by the independent variable (X) is lower. To see how strong the impact of an independent variable on a dependent variable is, the coefficient of determination can be used. The formula for the coefficient is:

$$\boldsymbol{KD = R^2\ x\ 100\%}$$

Explanation:

KD = Coefficient of determination

R^2 = Value of the correlation coefficient

In the analysis of the coefficient of determination, there are the following criteria:

1. The influence of the independent variable on the dependent variable is weak if KD is close to zero (0).
2. The influence of the independent variable on the dependent variable is strong if KD is close to one (1).

4. Result and discusstion

Research Data Description

Based on the data collected from 125 respondents through a questionnaire, this research investigates the influence of Perception of Fare (X1), Service Quality (X2), and Customer Facilities (X3) on Customer Satisfaction (Y) for the Dukuh Atas-Jatimulya LRT route in 2024.

Respondent Profile

Respondent Age

Based on the research data, we have limited the data to respondents within the age range specified in Table 4.1:

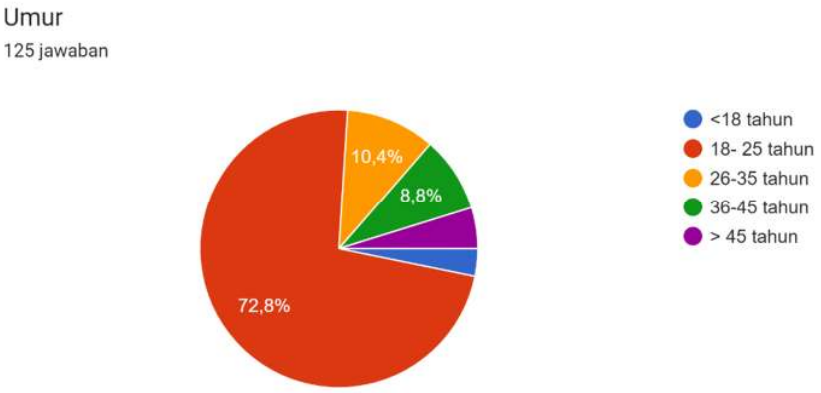

Figure 4.1: Respondent Characteristics by Age

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Figure 4.1 Age Respondent

Age	Quantity	Percentage (%)
< 18 Year	4 Respondent	3,2%
18 - 25 Year	91 Respondent	72,8%
26 - 35 Year	13 Respondent	10,4%
36 - 45 Year	11 Respondent	8,8%
> 45 Year	6 Respondent	4,8%
Quantity	125 Respondent	100%

Source: Research Data Analysis Results (2024)

Based on Table 4.1, out of 125 respondents, the majority were aged 18-25 years, accounting for 91 respondents or (72,8%) of the total. Respondents aged less than 18 years comprised 4 individuals (3,2%), followed by those aged 26 - 35 years 13 respondents, (10,4%), 36 - 45 years 11 respondents, (8,8%), and those above 45 years 6 respondents, (4,8%). This distribution indicates that the respondents in this study ranged in age from under 18 to over 45 years.

Gender

Based on the research data, the researcher obtained data on the gender of the respondents as presented in Table 4.2:

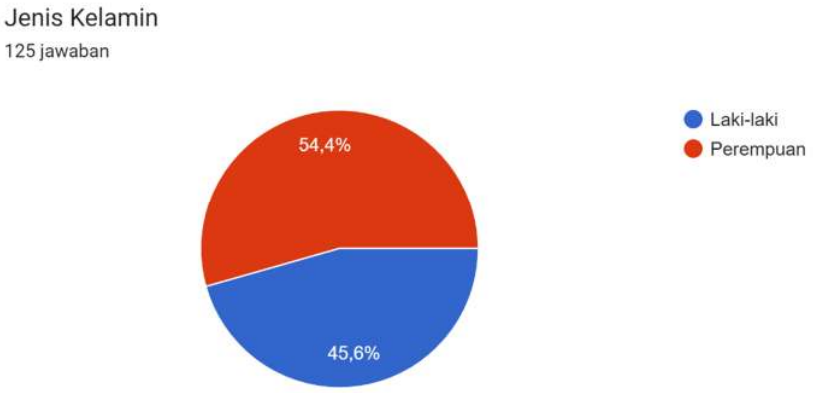

Figure 4.2: Respondent Characteristics by Gender

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Table 4.2: Respondent Gender

Gender	Quantity	Percentage (%)
Male	57 Respondent	45,6%
Female	68 Respondent	54,4%
Quantity	125 Respondent	100%

Source: Research Data Analysis Results (2024)

Based on the table above, it can be observed that the respondents were predominantly female, with 68 female respondents accounting for (54,4%) of the total sample. In contrast, there were 57 male respondents, representing (45,6%) of the total 125 respondents.

Work

Based on the research data, the researcher obtained data on the respondents' occupations as presented in Table 4.3:

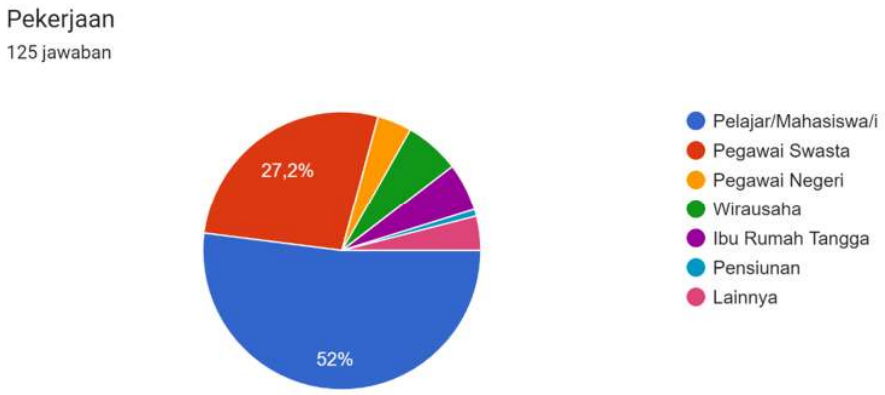

Figure 4.3: Respondent Characteristics by Occupation

Table 4.3: Occupational Profile of Respondents

Work	Quantity	Percentage (%)
Student	65 Respondent	52%
Private Employee	34 Respondent	27,2%
Civil Servant	5 Respondent	4%
Entrepreneur	8 Respondent	6,4%
Housewife	7 Respondent	5,6%
Housewife	1 Respondent	0,8%
Other	5 Respondent	4%
Quantity	125 Respondent	100%

Source: Research Data Analysis Results (2024)

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Based on Table 4.3, out of 125 respondents, the majority of 65 respondents (52%) were students, followed by 34 private employees (27,2%). A smaller proportion of respondents were civil servants 5, (4%), entrepreneurs 8, (6,4%), housewives 7, (5,6%), and retirees 1, (0,8%). The remaining 5 respondents (4%) were employed in other occupations. This distribution reflects the fact that the majority of respondents in this study were students and employees.

Instrument Testing

Validity test

In this research, with a sample size of 125 respondents, the critical value of R (r table) is calculated using df = (N-2) for a 5% significance level. Based on the validity test results for the variables of Perception of Fare (X1), Service Quality (X2), Customer Facilities (X3), and Customer Satisfaction (Y), it can be determined from the total item score that if the calculated r-value (r hitung) is greater than the tabulated r-value (r tabel) for each variable, then the statement is considered valid.

1. Perception of Fare Variable

Figure 4.5 Validity Test Perception of Fare

Indicator	*Rcount*	*Rtable*	*Validity*
X1.1	0,835	0,1757	Valid
X1.2	0,759	0,1757	Valid
X1.3	0,579	0,1757	Valid
X1.4	0,718	0,1757	Valid
X1.5	0,668	0,1757	Valid

Source: Data analyzed by the researcher (SPSS 27)

Based on the measurement results in this research, all 5 items of the Perception of Fare (X1) variable met the validity criteria. This means that all items in the X1 questionnaire were considered valid because the calculated correlation coefficient (r-hitung) was greater (>) than the critical value (r-tabel). The lowest correlation value obtained was 0.579, while the highest was 0.835, both of which were greater (>) than the critical value of 0.1757.

2. Service Quality Variable

Figure 4.6 Validity test of service quality

Indicator	*Rcount*	*Rtable*	*Validity*
X2.1	0,771	0,1757	Valid
X2.2	0,752	0,1757	Valid
X2.3	0,860	0,1757	Valid
X2.4	0,794	0,1757	Valid
X2.5	0,801	0,1757	Valid

Source: Data analyzed by the researcher (SPSS 27)

Based on the measurement results in this research, all 5 items of the Service Quality (X2) variable met the validity criteria. This means that all items in the X2 questionnaire were considered valid because the calculated correlation coefficient (r-hitung) was greater (>) than the critical value (r-tabel). The lowest correlation

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value obtained was 0.752, while the highest was 0.860, both of which were greater (>) than the critical value of 0.1757.

3. Customer Facilities Variable

Figure 4.7 Validity test of Customer Facilities

Indicator	*Rcount*	*Rtable*	*Validity*
X3.1	0,770	0,1757	Valid
X3.2	0,822	0,1757	Valid
X3.3	0,869	0,1757	Valid
X3.4	0,619	0,1757	Valid
X3.5	0,778	0,1757	Valid
X3.6	0,823	0,1757	Valid
X3.7	0,862	0,1757	Valid

Source: Data analyzed by the researcher (SPSS 27)

Based on the measurement results in this research, all 7 items of the Customer Facilities (X3) variable met the validity criteria. This means that all items in the X3 questionnaire were considered valid because the calculated correlation coefficient (r-hitung) was greater (>) than the critical value (r-tabel). The lowest correlation value obtained was 0.619, while the highest was 0.869, both of which were greater (>) than the critical value of 0.1757

4. Customer Satisfaction Variable

Figure 4.8 Validity test of Customer Satisfaction

Indicator	*Rcount*	*Rtable*	*Validity*
Y.1	0,771	0,1757	Valid
Y.2	0,786	0,1757	Valid
Y.3	0,770	0,1757	Valid
Y.4	0,674	0,1757	Valid

Source: Data analyzed by the researcher (SPSS 27)

Based on the measurement results in this research, all 4 items of the Customer Satisfaction (Y) variable met the validity criteria. This means that all items in the Y questionnaire were considered valid because the calculated correlation coefficient (r-hitung) was greater (>) than the critical value (r-tabel). The lowest correlation value obtained was 0.674, while the highest was 0.786, both of which were greater (>) than the critical value of 0.1757.

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Reliability test

Figure 4.9 Reliability test

Reability Test		
Variable	***r Alpha***	**Explanation**
Perception of Fare (X1)	0,939	*Reliable*
Service Quality (X2)	0,935	*Reliable*
Customer Fasilities (X3)	0,946	*Reliable*
Customer Satisfaction (Y)	0,934	*Reliable*

Source: Data analyzed by the researcher (SPSS 27)

Based on the reliability test results, the Cronbach's Alpha values for all variables used in this study were found to be greater (>) than 0.60 (the correlation coefficient index) (., & Trisna, 2020). This indicates that all variables, including Perception of Fare (X1), Service Quality (X2), Customer Facilities (X3), and Customer Satisfaction (Y), are reliable. Therefore, it can be concluded that the instruments used in this research are reliable overall.

Hypothesis testing
Multiple Linear Regression Analysis

Table 4.10: Results of Multiple Linear Regression Analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.445	.603		4.056	<.001
	Persepsi Tarif	.050	.042	.074	1.208	.229
	Kualitas Pelayanan	.382	.063	.515	6.024	<.001
	Fasilitas Pelanggan	.188	.047	.360	3.985	<.001

a. Dependent Variable: Kepuasan Pelanggan

Source: Data analyzed by the researcher (SPSS 27)

Multiple regression is used to explain the causal interaction of several independent variables (X) on a dependent variable (Y). The method used in multiple regression analysis is (Setiawan, 2017):

$Y = \alpha + \beta 1X1 + \beta 2\ X2 + \beta 3\ X3 + e$

Y = 2,445 + 0,050 X1 + 0,382 X2 + 0,188 X3

a. With a constant value of 2.445, which is positive, this can be interpreted as when Perception of Fare (X1), Service Quality (X2), and Customer Facilities (X3) are zero,

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the value of customer satisfaction (Y) is 2.445.

b. When Perception of Fare (X1) increases, it will increase Customer Satisfaction (Y) by 0.050.
c. When Service Quality (X2) increases, it will increase Customer Satisfaction (Y) by 0.382.
d. When Customer Facilities (X3) increases, it will increase Customer Satisfaction (Y) by 0.188.

Partial Test (t-test)

Table 4.11: Results of Partial T-Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.445	.603		4.056	<.001
	Persepsi Tarif	.050	.042	.074	1.208	.229
	Kualitas Pelayanan	.382	.063	.515	6.024	<.001
	Fasilitas Pelanggan	.188	.047	.360	3.985	<.001

a. Dependent Variable: Kepuasan Pelanggan

Source: Data analyzed by the researcher (SPSS 27)

Ghozali (2017:56) states that the t-test shows the extent to which one independent variable influences a dependent variable, assuming that the other independent variables are constant. This test is based on a significance level of 0.05. Its capability is to match the significance level of the t-value ($\alpha = 0.05$) with the following conditions:

a. If the significance value is less (<) than 0.05, then the independent variable partially influences the dependent variable.
b. If the significance value is greater (>) than 0.05, then the independent variable does not partially influence the dependent variable.
c. Based on the description of the data above:
    a) The Perception of Fare variable (X1) with a significance level of 0.229 is greater (>) than 0.05, indicates that this variable does not have a significant partial effect on Customer Satisfaction (Y).
    b) The Service Quality variable (X2), with a significance level of 0.001 is less (<) than 0.05, indicates that this variable has a significant partial effect on Customer Satisfaction (Y).
    c) The Customer Facilities variable (X3), also with a significance level of 0.001 is less (<) than 0.05, indicates that this variable has a significant partial effect on Customer Satisfaction (Y).

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Simultaneous Test (F-test)

Table 4.12 Results of Simultaneous Test (F-test)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	492.783	3	164.261	196.460	<.001[b]
	Residual	101.169	121	.836		
	Total	593.952	124			

a. Dependent Variable: Kepuasan Pelanggan

Source: Data analyzed by the researcher (SPSS ıan, Persepsi Tarif, Kualitas Pelayanan

Based on the results presented in Table 4.12, the significance value (sig) of 0.01 (< 0.05) proves that Perception of Fare (X1), Service Quality (X2), and Customer Facilities (X3) simultaneously have a significant effect on Customer Satisfaction (Y). These results indicate that the calculated F-value is 196.460, while the tabulated F-value is 2.68 (F-calculated > F-tabulated). Therefore, Perception of Fare (X1), Service Quality (X2), and Customer Facilities (X3) simultaneously have a significant influence on Customer Satisfaction (Y).

Analysis of Coefficient of Determination (R^2)

Table 4.14: Coefficient of Determination Analysis Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.911[a]	.830	.825	.914	.830	196.460	3	121	<.001

a. Predictors: (Constant), Fasilitas Pelanggan, Persepsi Tarif, Kualitas Pelayanan

Source: Data analyzed by the researcher (SPSS 27)

Based on the analysis of the coefficient of determination above, the results of R and R-squared for testing the coefficient of determination (R^2) obtained through SPSS 27 software are as follows:

KD = $(\mathbf{0,911^2})$ x 100%
KD = 0,830 x 100%
KD = 83%

The R-squared value of 0.830 indicates that Perception of Fare (X1), Service Quality (X2), and Customer Facilities (X3) explain 83% of the variation in Customer Satisfaction (Y). The remaining 17% can be explained by other factors that were not examined in this study.

5 Conclusion

Based on the results of the multiple linear regression analysis, with a constant value of 2.445 which is positive, it can be interpreted that when Perceived Fare (X1), Service Quality (X2), and Customer Facilities (X3) are zero, then the value of Customer Satisfaction (Y) is 2.445.

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In the multiple linear regression analysis, there was no significant positive influence of the Fare Perception variable (X1) on the Customer Satisfaction variable (Y) for the LRT route from Dukuh Atas to Jatimulya. The calculated t-value of 1.208 was less than the critical t-value of 1.979, with a significance level of 0.229 greater than 0.05. Therefore, the null hypothesis (Ho) was accepted, and the alternative hypothesis (Ha) was rejected.

The multiple linear regression analysis showed a significant positive relationship between Service Quality (X2) and Customer Satisfaction (Y) on the LRT route Dukuh Atas - Jatimulya. This means that as the service quality improves, customer satisfaction also increases. This finding is supported by the statistical test, where the calculated t-value (6.024 and 3.985) is greater than the critical t-value (1.979) at a 5% significance level. This indicates that we can reject the null hypothesis (Ho) which states that there is no relationship between the two variables, and accept the alternative hypothesis (Ha) which states that there is a positive relationship.

The results of the multiple linear regression analysis show that the variables Perceived Fare (X1), Service Quality (X2), and Customer Facilities (X3) have a positive and significant combined impact on Customer Satisfaction (Y) on the Dukuh Atas - Jatimulya LRT route. The calculated F-value of 196.460 is greater than the tabulated F-value of 2.68 with a significance level of 0.001, which is less than 0.05. Based on the coefficient of determination value of 83%, it means that simultaneously, the variables Perceived Fare (X1), Service Quality (X2), and Customer Facilities (X3) influence customer satisfaction (Y), while the remaining 17% can be explained by other factors not examined in this study.

6. Implication

In light of the conclusions outlined above, the researcher proposes the following recommendations:

1. Perceived fare, service quality, and customer facilities can influence customer satisfaction on the Dukuh Atas-Jatimulya LRT route, leading to customer loyalty. Therefore, to enhance customer loyalty, it is recommended that the LRT, particularly the Dukuh Atas-Jatimulya route, improve its service quality and customer facilities..
2. Given the significant impact of service quality on customer satisfaction, it is recommended that the Dukuh Atas-Jatimulya LRT route continuously strive for service quality improvement through regular training, performance evaluations, and innovation in customer services. This can be achieved through employee training, regular performance evaluations, and routine customer satisfaction measurement. Additionally, the LRT can innovate its services by introducing new features to its application or providing additional facilities at stations.
3. The LRT route from Dukuh Atas to Jatimulya should ensure that the provided facilities are well-maintained and function optimally. Additionally, there should be regular assessments to identify and implement any necessary additional facilities required by users.
4. Future research should explore additional factors that contribute to customer satisfaction and consider expanding the study to other LRT routes or public transportation systems.

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