

Analysis Of Public Transport Service Performance (Case Study: Mikrotrans Jak 36 Trayek Cilangkap - Cililitan)

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Abstract

Jak 36 general mikrotrans transport is a public transport in the area of East Jakarta connecting the area between Cilangkap and Cililitan. Jak 36 microtrans public transportation was launched by the Provincial Government of DKI Jakarta with the aim of public transportation that is integrated with other transportation at a low cost in order to reduce the transportation costs of the people of DKI Jakarta. With the increase in mobility of residents who are on the cilangkap to cililitan route, then demanded the availability of public transport that meets the requirements of fluency, comfort and safety. This study uses a standard service minimum a l Directorate General of Land Transportation and methods Importance Performance Analysis (IPA). Minimum service standards are used to determine the performance of existing public transport, while the Importance Performance Analysis (IPA) method is used to determine passenger satisfaction from the performance of public transport services that are being studied. The results of this study indicate that the results of field trials on the Analysis of the Performance of Public Transport Services of the Jak 36 Mikrotrans Transport Route are included in the good category with a score of 21. The results of the Intermediate Time (Headway) are 15 minutes on average, 17 hours of travel time, the average frequency of 4 vehicles in 1 hour, the number of vehicles operating 100%, the waiting time of 8 minutes and the beginning and end of trips at 05:00 - 22:00, Thus the Jak 36 Mikrotrans Public Transport is feasible to be used as one of the modes of transportation on the cilangkap to cililitan route.

Keywords:

Frequency, Headway, Importance Performance Analysis (IPA), Public Transport Mikrotrans Jak 36, Standard Minimum Service, The Directorate General of Land Transportation.

1. Introduction

Transportation, is one of the supporting facilities that can no longer be separated from the aspects of human life activities. By continuing to develop an area, it will invite movement to a developing area as the center of these activities. In carrying out this movement, people need transportation means in the form of means of transportation, namely vehicles as a medium, as well as infrastructure in the form of roads and parking as supporting facilities, by making terminals and bus stops as nodes. One of the functions of transportation is the link between one region and another, where these regions support one another.

One of the newest transportation infrastructure in the capital city of Jakarta is JAK LINGKO (previously named OK Otrip) is a one-way transportation program launched by the DKI Jakarta Provincial Government under the government of Anies Baswedan and Sandiaga Uno. This program allows passengers to pay only one time payment of Rp. 5,000 (or Rp. 3,500 during the trial period) and then now it becomes 0 (zero) rupiah. This program is considered to reduce residents' transportation costs by 30 percent.

Seeing the condition of city transportation in the cilangkap - cililitan route area (before the operation of JAK 36), many vehicles received less attention from drivers and car owners, both from vehicle maintenance to cleanliness and safety. Departures and arrivals during city transportation trips are also not regulated by the related parties.

According to community information, the length of time taken for angkot is usually caused by congestion of traffic during normal hours or on busy days and some angkots stop for a long time in any place to wait for the public to take the transportation. Judging from the conditions in the field, this long travel time results in irregular departure times between transports and the speed of their travels, so that angkots often appear to be rushing their way because they are hunting for the people who will use the transportation.

The conditions that occur above also cause some people who daily carry out movements on the Cilangkap - Cililitan route to prefer private vehicles such as cars and motorbikes or online-based transportation

as a means of transportation, rather than using public transportation services. The most important thing is that there is still no study or research related to the performance of the Jak 36 microtrans public transport route for the Cilangkap - Cililitan route, which was launched to solve the problems of public transport in the Cilangkap - Cililitan route area.

1.1. Problem Formulation

Based on the background and problem identification above, the problem formulation that the writer will discuss in this final project includes the following:

1. What is the level of operational service for Jak 36 microtrans public transport according to passenger perceptions based on the parameters set by the Ministry of Transportation at this time?
2. How was the operational performance of the Jak 36 microtrans public transport route during the Covid 19 outbreak ?

1.2. Purpose and Research Objectives

The purpose of this research is:

1. Provides an overview of the real condition of the service level of the operational performance of the Jak 36 microtrans public transport route cilangkap -cililitan route.
2. To find out the operational performance of Jak 36 microtrans public transport routes during the Covid 19 outbreak .

The aim of this research is :

To conduct a study on the operational service level of public transportation microtrans Jak 36 cilangkap - cililitan route according to the standards of the Director General of Land Transportation.

1.3. Benefits of Research

The benefits of this writing can later be used as input for related agencies in providing good public transportation facilities for the community, especially public transport users operating on the current Cilangkap-Cililitan route.

1.4. Limitation and Scope of Problem

The limitations of this research are intended to provide limitations on the writing of the final project which includes:

1. The study area is devoted to the region along the route operational public transport mikrotrans Jak 36 ie from Cilangkap towards Cililitan
2. Does not discuss parking and terminal parking revenue.
3. Does not discuss vehicles other than the operations of public transportation mikrotrans Jak 36.
4. Does not discuss road performance on the Cilangkap -cililitan route.
5. Does not discuss vehicle operating costs.
6. Not comparing services between operating public transports.

2. Literature Review

2.1. Definition of Transportation

Public transportation is basically a means of moving people and goods from one place to another. The process can be said to be using public passenger transportation in the form of means. The need for public transportation for passengers seems to be still vehicles or without vehicles (carried by people), so that it can be categorized as transportation of people and transportation of goods. Playing an important role, especially with the threat of decreasing fuel oil reserves. The use of new fuels other than gasoline still requires testing the level of safety, efficiency, and effectiveness, while the need for people to travel to keep moving increases according to population growth and their activities. The period of transition from current technology to future technology has resulted in greater dependence on passenger public transportation facilities because public passenger transportation has proven to be more energy efficient (Suardjoko P Warpani, 1998).

Transportation (transportation) is the activity of moving people and goods from one place (origin) to another (destination) by means of a vehicle. What must be considered is the balance between the transportation (fleet) and the quantity (volume) of goods and people requiring transportation. When the fleet capacity is lower than required, will be a lot of people and goods are not transported, or both of them crammed into the existing vehicle (Suardjoko Probonagoro Warpani, 2002).

2.1.1. Public Transportation

Public transportation is passenger transportation carried out by a rental or pay system. Included in the definition of passenger public transportation are city transportation (buses, minibuses, etc.), trains, water transportation and air transportation (S. Warpani, 1990) The process can be carried out using a vehicle in the form of a vehicle or without a vehicle (carried by people).

According to S. Warpani, (1990), argued that if the need for transportation increases there is an obligation to meet these needs. If public transportation is not provided, the various needs of the city concerned will not be properly fulfilled.

2.1.2. Passenger Public Transportation (AUP)

Public passenger transportation is passenger transportation carried out by a rental or pay system . The definition of the public passenger transport is the bus, mini bus, minibus, train railway , water transport and land transport. In this case, Jak 36 is included in the category of Passenger Public Transportation whose general purpose is to provide good and proper transportation services for the community (S. Warpani, 1990).

According to the (D. Perhubungan, 2002), the passenger public transport system is transportation owned by an operator that can be used for the public with certain conditions. The passenger transportation system itself can be grouped according to its use and how it operates, namely:

Private transportation is transportation that is owned and operated by and for the owner's personal needs using both private and public infrastructure.

Public transportation is transportation owned by an operator that can be used for the public with certain conditions.

2.1.3. Passenger Public Transport System

According to the Decree of the Directorate General of Land Transportation No. SK.678 / AJ.206. / DRJD / 2002 there are 2 (two) systems for using public passenger transportation, namely:

- a. The rental system means that the vehicle can be operated by either the operator or the lessee, in this case there is no specific route or schedule that must be followed by the user. This system is often referred to as a demand responsive system, because its use depends on the demand.
- b. Concomitant system means the vehicle is operated by the operator with a route and schedule that is usually fixed. This system is known as the transit system.

There are two types of transit systems, namely:

- a. Transits, namely there is no fixed schedule and vehicles that can stop (pick up and drop off passengers) along the route.
- b. The transit period is a more definite schedule and place of stopping.
It is thus clear that the amount of use of public transportation in a city is basically influenced by two main factors, namely:
 - a. The economic condition of the city is meant by the assumption that the financial aspect is the dominant factor affecting someone to be accessible.
 - b. Public transport service conditions.

2.2. Role and Benefits of Passenger Public Transportation

In general, cities that are rapidly developing are those that are on the route of the transportation system. Changes in lifestyle, urban development patterns, and the growth of private vehicle ownership do reduce the contribution of public transportation to the mobility of a city. People need transportation to get to work, to shop, travel and to fulfill other socio-economic needs. Members of the community using this public transportation service are grouped into two major groups, namely the compatriots (unable to own their own vehicle or to rent privately) and selectors (those who can afford it). Even in areas with a very high level of vehicle ownership, there are still people who need and use public passenger transportation. Ownership of a vehicle is an important factor influencing whether a person is a compulsioneer or a volunteer. It is reasonable to say that the proportion of choice.

in urban areas where the level of vehicle ownership is high, there are more than the compatriots (Suwardjoko Probonagoro Warpani, 2002).

Transportation is not a destination but a means to an end. Meanwhile, people's daily activities are related to the production of goods and services to meet their various needs. Therefore, the benefits of transportation can also be seen from various aspects of community life which can be grouped into economic, social and political aspects (S. Warpani, 1990).

2.3. Passenger Public Transport Services

The aim of public transport services is to provide safe, fast, and inexpensive services to people whose mobility is increasing, especially for workers in carrying out their activities (Suardjoko Probonagoro Warpani, 2002).

According to the Perhubungan, (1996), provides efficient and effective limits.

Effective means :

- a. Sufficient capacity, sufficient infrastructure and facilities are available to meet the needs of service use.
- b. Integrated, intermodal and intermodal in the service network.
- c. Orderly transportation management in accordance with prevailing laws and norms in the community.
- d. Appropriate and orderly, the realization of transportation operations according to schedule and certainty.
- e. Fast and smooth, carrying out transportation services in a short time, the indicators include the speed of the flow of time per unit.
- f. Safe and comfortable, in the sense of being safe from accidents, free from external disturbances, creating peace and enjoyment in traveling.

Efficient means:

- a. Affordable cost, the provision of transportation services in accordance with the level of purchasing power of the community in general while still taking into account the viability of transportation service entrepreneurs.
- b. The public burden is low, the sacrifices that must be borne by the community as a consequence of operating the transportation system must be minimal, for example: low levels of pollution.
- c. High utility, is the level of use of the capacity of the transportation system which can be expressed in indicators of the level of cargo for passengers and goods, level of use of goods and infrastructure.

According to Suardjoko Probonagoro Warpani, (2002) several ways can be taken in increasing the capacity of transportation services, namely:

- a. Enlarge service capacity by increasing the fleet.

Offer of choice of mode (split mode), by itself involves an alternative route.

Set the time sharing service time.

Reducing demand, for example at high cost.

Adjusting service costs according to the nature of demand, including encouraging demand for certain types of service by lowering costs, and efforts to reduce requests that are difficult to serve by increasing costs (Suardjoko Probonagoro Warpani, 2002).

2.4. Service Aspects

In one of the studies on SERVQUAL by Parasuraman, (2000) in Lupiyoadi & Hamdani, (2009) involving 800 customers (divided into 4 companies) aged 25 years and over, it was concluded that there are 5 SERVQUAL dimensions , namely as follows:

- a. Tangibles , is the ability of a company to show its existence to external parties. The appearance and ability of the company's physical facilities and infrastructure that can be relied upon by the condition of the surrounding environment is clear evidence of the services provided by the service provider. This includes physical facilities (for example: buildings, warehouses, etc.), equipment and equipment used (technology) and the appearance of employees.
- b. Reliability (Reliability), is the company's ability to provide services as promised accurately and reliably. Performance must be in accordance with customer expectations which means punctuality, the same service to all customers without errors, sympathetic attitude, and with high accuracy.
- c. Responsiveness (responsiveness), is an ability to assist and provide services quickly (responsiveness) and the right to the customer, with clear information delivery. Leaving customers waiting creates a negative perception of service quality.
- d. Guarantee and assurance (assurance), is the knowledge, courtesy, and ability of company employees to foster customer trust in the company. This includes several components such as communication (communication), credibility (credibility), security (security), competence (competence), and courtesy (courtesy).
- e. Empathy (Emphaty), which is giving sincere and individual attention to other passengers and drivers.

2.5. Public Passenger Transport Performance

2.5.1. Definition of Evaluation used on Public Passenger Transportation

a. Frequency

Frequency is the number of trips in a certain time unit which can be identified as high frequency or low frequency. High frequency means multiple trips over a certain period of time. Relatively low frequency means less travel over a period of time. Frequency, can also be interpreted as an aspect of the life of each mode of public transportation that is important for passengers and affects the mode that is determined to be used (Morlok, 1985).

According to Morlok, (1985) , frequency is the number of passing vehicles per unit time. The frequency can be formulated as follows:

$$F = \frac{1}{H}$$

In which: F = Frequency (vehicles / min)
H = Headway (minutes)

Headway

According to Asikin (2001), Headway is the time between one vehicle and another that is sequentially behind it on the same route . The smaller the headway indicates the higher the frequency, so it will cause a lower waiting time. This is a favorable condition for passengers, but on the other hand it will cause a bunching process or sticking together between vehicles and this will result in disruption of other traffic flows. To avoid bunching effect, a minimum headway of 1 minute is set.

According to Morlok, (1985), Headway can be divided into two, namely:

a. Headway time is average

Is the average time interval between successive vehicles, and is measured over a period of time at a certain point. In general, the average headway time can be formulated as follows:

$$H_t = \frac{1}{Q}$$

In which:

H_t = Headway average time

Q = The volume of traffic passing through an observation point

Headway distance

Another headway concept that is often used is the headway distance, which is the distance between the front of a vehicle and the front of the next vehicle at any given moment. The headway distance can be formulated as follows:

$$H_d = \frac{1}{k}$$

In which:

H_d = Average headway distance

k = Average vehicle concentration over a road length (n / L)

n = Number of vehicles on a road

L = Length of the road

Load factor (Load Factor)

Load factor is defined as the ratio of total vehicle passengers to the number of seats available. By knowing the load factor of a city force, it will be possible to know how many passengers are transported by each operating city transportation so that it will get an overview, whether the number of existing transports is adequate and has good service quality or needs additional transportation to improve service quality. Load factor is generally influenced by the size of transportation needs, the number of city transportation operating, the time spent on the departure route, route and time in one day (S. Warpani, 1990).

According to S. Warpani (1990)load factor is the ratio of the ratio between the number of passengers transported in a vehicle to the total capacity of the vehicle during one route, with the formula:

$$Lf = \frac{Jp}{C} \times 100 \%$$

In which:

LF = Load factor (%)

JP = The number of passengers carried along one route at a time

C = capacity of the vehicle

Ravel Speed

According to Suwardjoko P Warpani (1998), the travel speed from the start of the route to the end point of the route is formulated as:

$$V = S/T$$

In which:

V = average speed

S = distance traveled

T = Average travel time

Traveling Time

According to the Decree of the Director General of Land Transportation No.687, 2002 in Nurhasanah et al., (2014) travel time is the travel time from the start point of the route to the end point of the route. The travel time data itself is obtained based on the results of field surveys.

Service standards that can be used as benchmarks for this study are obtained from many sources, in this case the authors take sources from the Directorate General of Land Transportation as in the following table.

Table 1. Public Transport Performance Indicators

Number	Indicator	C (Score 1 Point)	B (Score 2 Point)	A (Score 3 Point)
1	Load Factor (during rush hour)	>1	0,8-1	<0,8
2	Load Factor (outside of rush hour)	>1	0,7-1	<0,7
3	Travel Speed (km/hour)	<5	5-10	>10
4	Travel Time among Hadway (minute)	>15	10-15	<10
5	Travel Time (minute/km)	>12	6-12	<6
6	Service Time (hour)	<13	13-15	>15
7	Frequency	<4	4-6	>6
8	Passenger Waiting Time	>30	20-30	<20

Source: (D. Perhubungan, 2002)

Table 2. Public Transportation Service Performance Standards Based on the Total Weight Value

Criteria	Total Score
Good	18,00-24,00
Moderate	12,00-17,99
Less	<12

Source: (D. Perhubungan, 2002)

2.6. SPSS Application Program

The application program SPSS (Statistical Package for the Social Sciences) is an application used to perform statistical analysis. The use of SPSS in research is for processing and statistical analysis. A nalysis that can be done by using a program application SPSS them Hypothesis, Normality, Multikonearitas, Heteroskidastity, autocorrelation, Validity, Non-parametric Reabilitas.Uji the many kinds like Binomials, Runs Mann Whitney U test, Wilcoxon signed rank Wilcoxon signed rank test, spearman, kendall tau, and others. To test the instrument or test the validity and reliability test, SPSS can also do it with complete features.

2.7. Importance Performance Analysis (IPA)

Quadrant analysis or Importance Performance Analysis (IPA) is an analytical technique used to identify what important performance factors an organization must demonstrate in meeting the satisfaction of their service users (consumers) (John A. Martial and John C. James, 1997: 77-79). In this case, a 5-level scale (Likert) is used which consists of very important, important, moderately important, less important and unimportant. The five assessments are given weight which can be seen in the following table:

Table 3. Performance Assessment and Performance of Public Transportation Services Based on a Likert Scale

Quality	Rating Category	Weight
Performance	Very Important (SP)	5
	Important (P)	4
	Quite Important (CP)	3
	Less Important (KP)	2
	Not Important (TP)	1

Source: J. Supranto, Measurement of Customer Satisfaction Levels, p. 240

Based on the results of research, the level of conformity between service quality based on public transport performance and passenger satisfaction. Where the level of conformity is the comparison of the weighted value of service quality based on the weight of the performance value of Public Transportation with the value of passenger satisfaction. This level of conformity determines the order of service priorities that affect passenger satisfaction.

In this study, there are two variables, namely the variable X and the variable Y where:

- Variable X

It is a level of performance and service based on the performance of the Jak 36 Mikrotrans Public Transport.

- Variable Y

It is the level of interest / satisfaction of users of Public Transport Mikrotrans Jak 36 .

The Importance Performance Analysis formula is as follows :

$$TKi = \frac{\sum Xi}{\sum Yi} \times 100 \%$$

Information :

TKi = Respondent Suitability Level

X_i = score of performance and service appraisal of Mikrotrans Jak 36

Y_i = The weight of the assessment of the importance / satisfaction of users of the Mikrotrans Jak Public Transportation 36

The horizontal axis (X) will be filled with performance level scores, while the vertical axis (Y) will be filled by importance level scores. In simplifying the formula, each attribute that affects customer satisfaction can be determined by the formula:

$$Y = \frac{\sum Y_i}{n_i} \quad X = \frac{\sum X_i}{n_i}$$

Information :

X = average value of performance and service levels

Y = Average value of interest / satisfaction

n = Number of Respondents

Cartesian diagram is a coordinate system which is divided into parts bounded by two lines intersecting perpendicular to the point (x, y) , where x is the average of the value of service quality based on performance and y is the average value of passenger satisfaction. Cartesian diagram is used to determine service indicators that satisfy or do not satisfy consumers. The formula used is:

$$\bar{X} = \frac{\sum_{i=1}^N \bar{X}_i}{K} \quad \bar{Y} = \frac{\sum_{i=1}^N \bar{Y}_i}{K}$$

Figure 1. Formula Cartesian Diagram

Source: J. Supranto, Measurement of Customer Satisfaction Levels, p. 240

where :

K = The number of attributes / facts that can affect customer satisfaction.

These factors will be broken down and divided into four sections in the Cartesian Diagram. For more details about the Cartesian Diagram, see the following figure:

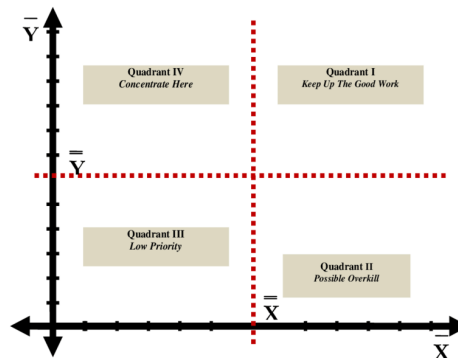


Figure 2. Cartesian diagram "Importance - Performance Analysis"
 Source: J. Supranto, Measurement of Customer Satisfaction Levels, p. 240

Where :

1. Quadrant A shows the Top Priority that the importance is below average but the passenger satisfaction score is above average. The service factor in this quadrant must be the main priority in handling in order to create quality service.
2. Quadrant B indicates Maintain Achievement that the importance and satisfaction value of passengers is above average, where for the service factor that is in this quadrant performance is maintained, because interests and satisfaction are in line with expectations.
3. Quadrant C shows Low Priority that the importance and value of satisfaction are both low, where the interest and satisfaction levels of passengers are at the same level so that it is sufficiently maintained.
4. Quadrant D shows exaggeration that the satisfaction score is below average and the importance value is above average, indicating the level of importance exceeds the level of passenger satisfaction

3. Research Method

3.1. Research Flowchart

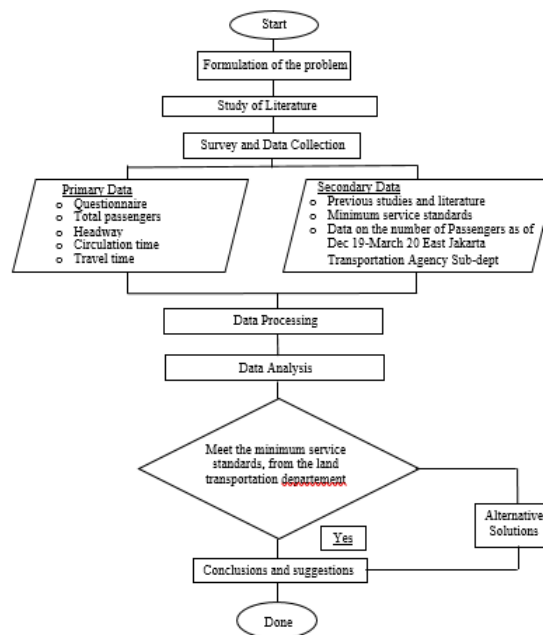


Figure 3. Flowchart

3.2. Place and Time of Research

This research was carried out along the Jak 36 route, namely from Cilangkap direction to Cililitan (Figure 3). The time of the research is planned to be carried out in April - May 2020, but the research will be postponed to see that conditions are not conducive due to the Covid 19 virus outbreak which has resulted in the cessation of public transport services for Jak 36 microtrans . The time for data collection in the field is carried out from 1 July to 11 July 2020, for transportation performance data retrieval is carried out in 3 days a week, namely Monday , Wednesday and Saturday in the morning at 06.00-07.00 WIB at 13: 00-14 : 00 and the afternoon at 18.00-19.00 pm , while for interviews and distributing questionnaires to the respondents carried out for 9 days to implement health protocols researcher and respondent government to remain in a healthy condition .

4. Result and Discussion

4.1. Analysis of Respondent Characteristics

In this study the authors obtained a total of 50 respondents from 36 microtrans Jak public transport passengers cilangkap-Cililitan route consisting of students, employees, and others. The magnitude of the number of respondents was influenced by the non-operation of the Jak 36 microtrans public transport from the end of March to the beginning of July 2020 due to the outbreak of the Covid 19 virus pandemic in Indonesia, and requiring people to avoid crowded places and being obliged to use private vehicles which resulted in a reduction in passengers who usually use public transportation the.

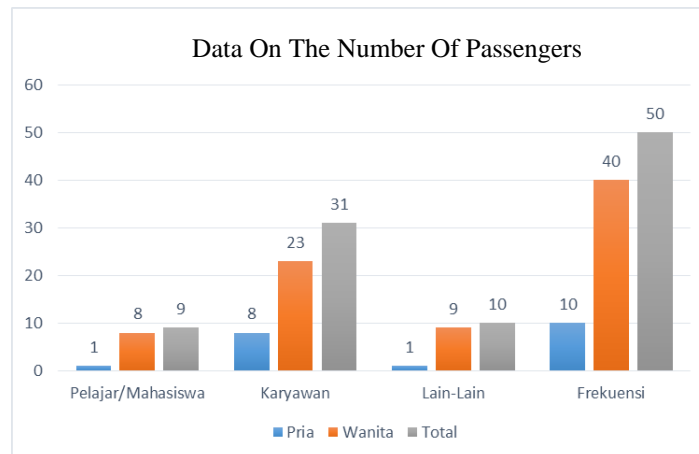


Figure 4. Number of Passengers

Table 4. Number of Passengers

Category	Student / College Student	Employees	Etc	Frequency	Presentati on
Male	1	8	1	10	20%
Female	8	23	9	40	80%
Amount	9	31	10	50	100%

Source: Author's processing results, 2020

4.2. Operational Performance Analysis

The results of data processing are used as the basis for obtaining the performance value of Jak 36 microtrans public transport services, as follows:

Table 5. Results of the Analysis of the Operational Performance Assessment of Mikrotrans Jak 36 Public Transport

No.	Assessment Parameters	Unit	Assessment Standards			Result		
			Less (1)	Moderate (2)	Good (3)	Transit Assessment	Score	Criteria
A	B	C	D	E	F	G	H	I
1	LF Busy Time		>1	0.8-1	<0.8	1	2	Moderate
2	LF Outside of Busy Time		>1	0.7-1	<0.7	0.86	2	Moderate
3	Travel Speed	km/hour	<18	18-30	>30	19.9	2	Moderate
4	Headway	minute	>15	15-10	<10	16	1	Less
5	Travel Time	hour	<13	13-15	>15	17	3	Good
6	Frequency	vehicles /hour	<4	4-6	>6	4	2	Moderate
7	Number of Operating Vehicles	%	<82	82-100	>100	100	3	Good
8	Waiting Time	minute	>30	20-30	<20	8	3	Good
9	Start & Finish	hour	18:00	20:00	22:00	22:00	3	Good
Total Assessment							21	

Source: Author's processing results, 2020

Information :

Value:> 24 = Very Good

Value: 18.00 - 24.00 = Good

Value: 12.00 - 17.99 = moderate

Value: <12 = Less

The results of the analysis from table 4.9 above show that the results of the assessment of the service quality of Jak 36 microtrans public transportation routes during the Covid 19 pandemic get a score of 21 in the value range 18.00 - 24.00 and fall into good criteria.

From the survey results, it can be seen that the performance of the Jak 36 microtrans public transport service level from the table can be seen that there is 1 indicator of lack of assessment on the headway indicator, travel time, 4 indicators of moderate assessment criteria on the indicator of LF travel time at peak and normal hours, vehicle frequency, speed. Trips and 5 assessment indicators both on indicators of the number of operating vehicles, waiting time, travel time, and the beginning of the end of the trip.

4.3. Test Validity and Reliability Test

4.3.1. Validity Test

The validity test is a test used to show the extent to which measuring instruments are used in measuring what is being measured. Luciani et al., (2009) states that the validity test is used to measure whether a questionnaire is valid or not. A questionnaire is said to be valid if the questions on the questionnaire are able to reveal something that will be measured by the questionnaire. Validity testing in this study was carried out by correlating the scores for each item statement shown to the respondent with a total score for all items. In processing the questionnaire that the author gets from observations in the field.

To find out whether a questionnaire is valid or not is to compare the value of r (count) with the value of r (table) . The value of r (table) is obtained from the formula $df = (N-2)$, where N is the number of questionnaire respondents (in this study the number of respondents is 50) then $df = 50-2 = 48$, with alpha 0.05 the value of r (table) is 0.2787. A question in a questionnaire can be said to be valid if r (count) is greater than r (table).

Table 6. Results of Validation Test for Performance Variables (X) and Variable of Interest (Y)

Variable	r value (count)	r value (table)	Result	Variable	r value (count)	r value (table)	Result
x1	0,646679155	0,2787	VALID	y1	0,45153335	0,2787	VALID
x2	0,620981815	0,2787	VALID	y2	0,681577465	0,2787	VALID
x3	0,73663999	0,2787	VALID	y3	0,537834848	0,2787	VALID
x4	0,593053589	0,2787	VALID	y4	0,575721178	0,2787	VALID
x5	0,722838071	0,2787	VALID	y5	0,471709671	0,2787	VALID
x6	0,704204372	0,2787	VALID	y6	0,548234123	0,2787	VALID
x7	0,521328394	0,2787	VALID	y7	0,548861709	0,2787	VALID
x8	0,654990625	0,2787	VALID	y8	0,548651478	0,2787	VALID
x9	0,539237412	0,2787	VALID	y9	0,582194874	0,2787	VALID
x10	0,550317709	0,2787	VALID	y10	0,588548679	0,2787	VALID

Source: Author's processing results, 2020

From the table 4.10 above, it is found that the value of r (count) is greater than r (table) and is positive, so the questionnaire can be said to be valid.

4.3.2. Reliability Test

Reliability, or reliability, is the consistency of a series of measurements or a series of measuring instruments. This can be a measurement from which the same measuring instrument (test with retest) will give the same result, or for a more subjective measure, whether two raters give similar scores (inter-rater reliability). Reliability is not the same as validity. Instrument reliability testing used the Cronbach alpha formula because the research instrument was in the form of a questionnaire and a multilevel scale. A questionnaire can be said to be reliable if the value of Cronbach alpha that emotion is greater than 0.60.

Table 7. Results of Validation Test for Performance Variables (X) and Variable of Interest (Y)

Variabel	Koefisian Reabilitas	Cronbach Alpha	Hasil
X(Performance)	10	0,831464773	Reliabel
Y(Interests)	10	0,746191163	Reliabel

Source: Author's processing results, 2020

4.4. Performance Level Analysis and Passenger Satisfaction

The purpose of this analysis is to determine the quality of public transport services mikrotrans J ak 36 in accordance with the five quality of service that has been described in previous chapters are tangible (Tangibles), reliability (Reliability), responsiveness (Responsiveness), assurance (assurance), and empathy (Empathy) which is intended so that the results of this analysis can be input to related parties to be able to improve the quality of Jak 36 mikrotrans public transport services. Following are the results of the questionnaire recapitulation distributed to respondents of Jak 36 mikrotrans public transport;

Table 8. Recapitulation of the Performance Level Questionnaire (X)

Indikator	Answer (X)				
	SB	B	CB	KB	TB
Total	71	192	195	39	3
Total Variable X and Y			500		
Percentage (%)	14,2	38,4	39	7,8	0,6
Percentage Total			100		

Table 9. The Level of Satisfaction (Y)

SP	P	Answer (Y)			TP
		CP	KP		
265	203	31	1	0	
		500			
53	40,6	6,2	0,2	0	
		100			

Source: Author's processing results, 2020

Based on the results of the above questionnaire recapitulation on the performance level (X) shows the answer and the percentage of the highest is "Good Enough (CB)" at 39%, "Good (B)" by 38.4%, "Very Good (SB)" of 14.2%, "Not Good (KB)" was 7.8%, then the lowest was "Not Good (TB)" at 0.6%. And the results of the recapitulation at the level of importance (Y) show the answers and the percentage of the highest are "Very Important (SP) of 53%," Important (P) "of 40.6%, " Quite Important (CP) "of 6.2 %, "Less Important (KP)" 0.2%, "Not Important (TP)" 0%.

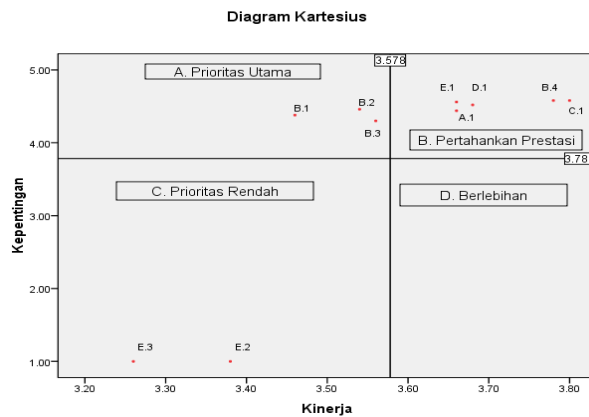


Figure 5. Cartesian Diagram Graphic
 Source: Author's processing results, 2020

From the Cartesian chart above, it can be seen that the questionnaire indicator points fall into the quadrant category A, B, C, or D.

Information :

1. Quadrant A:
 - a. B.1 Timely arrival (5-10 minutes)
 - b. B.2 Timely departure (10-20 minutes)
 - c. B.3 An angkot stop is close to home / school
2. Quadrant B:
 - a. A.1 Physical condition of the transportation fleet and facilities inside the angkot (cars, seats, safety equipment)
 - b. B.4 Travel time to reach destination (1-1.5 hours)
 - c. C.1 The driver's ability to control the vehicle
 - d. D.1 Feelings of safety and comfort when using Micro Trans Jak 36
 - e. E.1 Friendly and polite attitude of drivers in serving
3. Quadrant C:
 - a. E.2 Driver's concern for passengers with special needs
 - b. E.3 Friendly and polite attitude of drivers towards other drivers

4.5. Alternative Solutions

Quantity Solution A :

1. (B.1) Timely arrival (5-10 minutes)
 - a. There are officers who coordinate transportation departure schedules and always remind drivers to follow the schedule according to the available time.
 - b. Providing Contact Person who can help passengers to find out the position of public transportation.
2. (B.2) Timely departure (10-20 minutes)
 - a. Providing a special stop lane, so that Jak 36 microtrans public transport can wait for passengers and not become a nuisance for other vehicles.
3. (B.3) An angkot stop is close to home / school
 - a. Build bus stops for public transportation in strategic areas, especially around schools and near housing.

Quadrant Solution B :

1. (A.1) Physical condition of the transportation fleet and facilities inside the angkot (cars, seats, safety equipment)
 - a. Routinely check / periodically service the car used.
 - b. Provide safety equipment in transportation.
2. (B.4) Travel time to reach destination (1-1.5 hours)
 - a. Increase the number of transportation fleets.
3. (C.1) The driver's ability to control the vehicle
 - a. Providing training and health checks at a certain time in order to maintain the quality of driving for transport drivers.
4. (D.1) Feelings of safety and comfort when using Micro Trans Jak 36
 - a. Providing CCTV on board

Provide police contacts in the form of advertisements that can be seen by passengers while in the transportation.

5. (E.1) The driver's friendly and polite attitude in serving

- a. Provide training for every driver in terms of politeness.

Shelters are made for seats and shelter so that potential passengers can wait without any disturbance from the weather or from the crowd of the road.

Quadrant Solution C :

1. (E.2) Driver's concern for passengers with special needs

- a. Keep giving primary attention to passengers with special needs in order to get a seat that is close to the entry and exit of the transportation

2. (E.3) The driver's friendly and polite attitude towards other drivers

- a. So that all Jak 36 microtrans public transport drivers maintain their speech and attitude while working and while not working so as to maintain their own good name and the good name of Jak 36 microtrans public transport.

5. Closing

5.1. Conclusion

Based on the results of the analysis and calculation of data as well as from the observations made and referring to the problems the author raised, it can be concluded as follows:

The performance of the Jak 36 microtrans public transport route cilangkap - cililitan route refers to the Directorate General of Land Transportation Minimum Service Standard indicator, with 9 assessment indicators with 3 lacking criteria, 3 moderate criteria and 3 good criteria. The average results obtained for the operational performance of Jak 36 microtrans public transport are in good criteria with a total value of 21 in the range 18.00-24.00.

From the IPA analysis "Importance Performance analysis", and statistical tests, the results of user satisfaction:

- 1) Quadrant A addresses 3 indicators, that the importance of service is below average but the satisfaction score is above average.
- 2) Quadrant B shows 5 indicators, that the value of service importance has a satisfaction value above average.
- 3) Quadrant C shows 3 indicators, that the value of service interest and satisfaction value is the same low so that it is sufficiently maintained .
- 4) Quadrant D shows 0 indicators, that the satisfaction score is below the average and the value of service interest is above average.

From the analysis of the questionnaire results given to respondents who at that time the situation was still in the pandemic of the Covid 19 virus , which stated that the performance of the Jak 36 microtrans public transport routes cilangkap - cililitan route was 39%, "Good (B)" 38.4%, "Very Good (SB)" at 14.2%, "Not Good (KB)" at 7.8%, then the lowest was "Not Good (TB)" at 0.6%. Which indicates that the Jak 36 microtrans public transportation continues to operate properly and provides services during the Covid 19 pandemic by prioritizing applicable health protocols.

5.2. Suggestions

Based on the results of the research that has been carried out, the author proposes several suggestions, some of the considerations that the authors propose are expected to be used as evaluation materials to improve the quality of public transport services for the Jak 36 mikrotrans route Cilangkap - Cililitan route to passengers or service users as follows :

1. The operational performance of the Jak 36 microtrans public transport route cilangkap-cililitan route is currently good, based on SPM, there are still some performances that are still lacking and need to be improved again to be good, such as increasing the number of fleets and building shelters with seats and making routes. special stops around bus stops so that public transportation can pick up and drop off passengers without disturbing the traffic of other vehicles.
2. This research was conducted at the time of the outbreak of the Covid 19 pandemic. It is hoped that further research will be carried out when the Covid 19 pandemic ends.
3. To further no research similar to public transport on the route - another stretch in the sense it is necessary to do research.

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