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ANALYSIS OF THE CAUSES OF DECLINING DEMAND FOR PUBLIC TRANSPORTATION PASSENGERS IN THE CITY OF BANDUNG

(Case Study of Trans Metro Bandung Corridor 3 Cicaheum - Sarijadi)

Firyal Wan Azizah[1], Nurlaela Kumala Dewi[2], Syafrianita[3]

[1]University of Logistics and International Business, Bandung, 40151, Indonesia, firyalwanazizah@gmail.com
[2]University of Logistics and International Business, Bandung, 40151, Indonesia, nurlaelakumala@ulbi.ac.id
[3]University of Logistics and International Business, Bandung, 40151, Indonesia, syafrianita@ulbi.ac.id

Abstract

Congestion is one of the problems that occur in urban areas, one of which is the city of Bandung. To overcome this problem, the Bandung City Government has established a policy on Trans Metro Bandung with the aim of improving services and providing integrated, safe, fast, smooth, orderly, regular, comfortable, reliable and efficient public transportation. However, in reality, the policy has not been able to achieve the stated goals. This study aims to analyze the causes of the decline in passenger demand for Trans Metro Bandung Corridor 3 (Cicaheum – Sarijadi). The study uses a descriptive quantitative approach by distributing questionnaires to passengers to measure perceptions and expectations of service quality. Data analysis was carried out using the Service Quality (ServQual) method to identify the gap between passenger expectations and perceptions of service quality. The results of the ServQual calculation show a gap value in each dimension, namely, Comfort (-0.47), Regularity (-0.94), Security & Safety (-0.61), Equality (-0.20), and Affordability (-0.62), with a total of -0.58. All of these negative values indicate that the service quality of Trans Metro Bandung Corridor 3 is still below customer expectations.

Keywords: Trans Metro Bandung, Customer Satisfaction, Servqual.

Introduction

Transportation plays an important role in supporting community mobility, especially in big cities like Bandung which has a dense population and increasing vehicle growth (Kurniati, 2020). Based on BPS data of Bandung City 2024, Bandung City which is the capital of West Java Province and has an area of 167.67 km² with a population of 2,528,160 people, the need for a reliable transportation system is very high. The rapid population growth is not

proportional to the addition of roads, causing worsening congestion. As a solution, the Bandung City Government introduced the bus-based Trans Metro Bandung (TMB) service with a bus-based scheme with a buy the service scheme to replace the conventional deposit system. However, data shows that the utilization of TMB by the public is still low compared to private vehicles and still far behind compared to private vehicles, and the level of supervision and interest in community services is starting to decline (Lestari, 2024).

Based on data from the Bandung City Transportation Office, one of the TMB corridors that initially had a high number of passengers, namely Corridor 3 (Cicaheum – Sarijadi), which covers densely populated areas and activity centers, showed a decrease in the percentage of passengers from 28% in 2021 to 31% in 2023, which had previously risen to 38% in 2022. To identify the causes of the decline in public interest in this service, research was conducted using the SERVQUAL method. This research is expected to provide recommendations for strategies to increase the attractiveness of the TMB, especially on Corridor 3 as the preferred mode of transportation for the people of Bandung.

Research Methods

This study uses a quantitative survey method to evaluate the service quality of Trans Metro Bandung Corridor 3 which passes through high-activity areas in Bandung City from the perspective of users. Data were collected through a questionnaire based on five ServQual dimensions, distributed directly and online to 100 respondents with a Likert scale of 1 – 5. Sampling was carried out randomly and representatively to ensure that the data obtained was sufficient and also reflected the variations that existed in Trans Metro Bandung Corridor 3 passengers. Data were analyzed through validity tests, reliability, ServQual analysis to measure the gap between expectations and perceptions.

Results and Discussion

This analysis was conducted using the ServQual method, researchers will see the validity and reliability of the attributes used. The attributes used consist of 19 attributes, namely lighting, transport capacity, room temperature control facilities, cleaning facilities, waiting time, payment systems, and so on.

1. Validity Test

Validity comes from the word validity which means validity or truth. Validity means the extent to which the accuracy and accuracy of the measuring instrument is able to perform its measuring function (Ono, 2020). Validity testing is carried out with a

significance level of 5% using a two-way test. The results of the validity test for each attribute based on respondents' perception (satisfaction) and expectation (importance) data are presented in the following table:

Table 1 Validity Test Results Based on Perception and Expectation Data

Variable	Indikator	r Hitung		r Tabel	Keterangan
		Kepentingan (Ekspektasi)	Kinerja (Persepsi)		
Convenience (X1)	X11	0,652	0,433	0,1966	Valid
	X12	0,762	0,500		
	X13	0,461	0,213		
	X14	0,732	0,583		
Regularity (X2)	X21	0,774	0,589	0,1966	Valid
	X22	0,789	0,610		
	X23	0,694	0,572		
Security & Safety (X3)	X31	0,684	0,612	0,1966	Valid
	X32	0,701	0,636		
	X33	0,776	0,545		
	X34	0,655	0,476		
	X35	0,827	0,487		
	X36	0,658	0,570		
	X37	0,798	0,412		
Equality (X4)	X41	0,765	0,381	0,1966	Valid
	X42	0,748	0,461		
Affordability (X5)	X51	0,788	0,512	0,1966	Valid
	X52	0,697	0,448		
	X53	0,737	0,469		

2. Reliability Test

Reliability test is a reliability test used to determine how far a measuring instrument is reliable (Kumala Dewi et al., 2022). This test uses an internal consistency approach through the Cronbach's Alpha coefficient value, where the instrument is said to be reliable if the alpha value exceeds the minimum limit of 0.60. The following table presents the results of the reliability test on the questionnaire used in this study: Reliability test is a reliability test used to determine how far a measuring instrument can be relied on (Kumala Dewi et al., 2022). This test uses an internal consistency approach through the Cronbach's Alpha coefficient value, where the instrument is said to be reliable if the alpha value exceeds the minimum limit of 0,60. The following table presents the results of the reliability test on the questionnaire used in this study:

Table 2 Reliability Test Results Based on Perception and Expectation Data

Cronbach's Alpha		Standard	Description
Importance (Expectation)	Performance (Perception)		
0,950	0,838	0,8 – 1,0	Very Reliable

1. Service Quality

The Service Quality method or often abbreviated as Servqual is a method used to measure consumer ratings regarding the overall excellence of a service (Yulianto & Ginanjar, 2020). According to (Utomo et al., 2024), after passing the validity and reliability test stages, researchers continued data processing using the ServQual method with the aim of calculating the gap value between perceptions and expectations (Gap – PE) on each attribute in the five dimensions of service, namely Comfort, Description, Security & Safety, Equality, and Affordability (Kumala et al., 2023).

According to (Dewi et al., 2024) the calculation results show the service gap value of each dimension which is the basis for further analysis:

Table 3 Service Quality Rating Data

Variable	Expected Average	Average Perception	Gap V	Rangkin
Convenience (X1)	3,76	3,29	-0,47	IV
Regularity (X2)	3,78	2,84	-0,94	I
Security & Safety (X3)	3,76	3,15	-0,61	III
Equality (X4)	3,69	3,49	-0,20	V
Affordability (X5)	3,80	3,18	-0,62	II

From the Servqual Gap ranking results per dimension above, it can be seen that the dimension that is ranked first is the Regularity dimension with a gap value of -0.94.

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1. Passenger Satisfaction Level

Analysis of each service attribute shows that most have not met passenger expectations. Attributes with the lowest satisfaction scores are top priorities for improvement, while attributes with the highest scores reflect relatively satisfactory service. The following table presents the attributes with the lowest satisfaction scores.

Table 4 Customer Satisfaction Level

Variable	Indicator	Satisfaction	Percentage
Security & Safety	X34	2,70	3%
Regularity	X23	2,76	3%
Security & Safety	X33	2,84	3%
Regularity	X21	2,87	3%
Regularity	X22	2,90	3%
Affordability	X52	2,97	3%
Affordability	X51	2,99	3%
Total		**20,03**	**20%**
Avarage		**2,86**	**3%**

Based on the results of the analysis, it is known that the average level of satisfaction of Trans Metro Bandung Corridor 3 passengers is at 2.86 or equivalent to 20%, which reflects that there is still dissatisfaction with the services provided. Although 80% of satisfaction attributes have approached passenger expectations, there are several attributes that have low satisfaction scores, including (X34), (X23), (X33), (X21), (X22), (X52), and (X51).

2. Proposed Improvements

Based on the results of the SerQual analysis and data from the Department of Transportation, the improvement of Trans Metro Bandung Corridor 3 services is focused on waiting time, schedule accuracy, and ease of movement between corridors through operational evaluation, fleet additions, real-time systems, and bus stop improvements. Facilities such as cleanliness and security need to be maintained, while low-priority aspects are gradually improved. Communication with passengers through social media also needs to be strengthened.

Conclusion

Based on the results of the analysis with the ServQual and Importance Performance Analysis (IPA) methods, all dimensions of service quality show negative gap values, namely: Convenience (-0.47), Regularity (-0.94), Security & Safety (-0.61), Equality (-0.20), and Affordability (-0.62), with an overall total of -0.58. This indicates that service quality is still below customer expectations and needs to be improved on attributes with low service values.

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