



Analysis of Bus Public Transportation Passenger Satisfaction Level Route Manado - Tondano, North Sulawesi

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ABSTRACT

Transportation has a strategic role in supporting economic development, especially in meeting the needs of transportation services for people and goods. This research aims to analyze the level of satisfaction of bus public transport passengers on the Manado - Tondano route, North Sulawesi. The methods used in this study are Importance and Performance Analysis (IPA) and Service Quality (SERVQUAL), which assess passenger perceptions and expectations of bus service quality. Data were obtained through a questionnaire survey covering five dimensions of service quality, namely Tangibles, Reliability, Responsiveness, Assurance, and Empathy. The results showed that the majority of respondents were female under the age of 20, with dominant occupations as students or college students, and income below Rp1,500,000. Based on the gap analysis between performance and expectations, it was found that all service attributes have negative values, with an average gap of -1.38, which indicates that bus services are still below passenger expectations. This research provides important implications for transportation service providers to improve service quality to meet passenger expectations.

Keywords: Tondano terminal, satisfaction level, Importance Performance Analysis, Service Quality.

INTRODUCTION

Public transportation plays an important role in community mobility, especially in areas with high economic and social activity (Kadarisman et al., 2016). For example, the Manado - Tondano route in North Sulawesi. This route connects the provincial capital with one of the main cities in North Sulawesi, Tondano. As one of the modes of public transportation, buses are the main choice of people to travel on this route, because they are considered more economical and easily accessible (Rodiyah & Ikhtiarini, 2023). Therefore, it is important to analyze the level of passenger satisfaction in order to provide better service and improve the quality of public transportation (Malisan & Chisdijanto, 2017).

Karombasana Terminal is one of the inter-city public vehicle bases located in Manado City, with a type B terminal classification. This terminal has experienced a decline in passenger interest

due to inadequate facilities and lack of maintenance. In conditions of intense competition, the main thing that must be prioritized by bus owners is passenger satisfaction in order to survive. (Perangin-Angin et al., 2022). Bus owners must know what is considered important by passengers and bus owners strive to produce the best possible performance so as to satisfy passengers (Kalangi et al., 2024). In order to improve service quality and user attractiveness, a comprehensive evaluation of the level of passenger satisfaction is needed (Sedayu, 2015). One method that can be used to conduct this evaluation is Importance and Performance Analysis (IPA) and Service Quality (SERVQUAL), which can provide a clearer view of service quality based on passenger perceptions and expectations (Liestyanti & Prawiraatmadja, 2021).

The IPA method helps to understand the relationship between importance and performance of services. (Indrajaya, 2018) Meanwhile, SERVQUAL is used to measure the gap between passengers' expectations and perceptions of the five dimensions of service quality. (Djaelani & Darmawan, 2021). There are five dimensions of service quality, namely tangibles (physical evidence), reliability, responsiveness, assurance, and empathy (Wijayanto, 2015).

Based on the background described, this research will focus on two main issues. First, the characteristics of public transport passengers on the Manado-Tondano bus route need to be understood to find out their needs and preferences while using public transport services. Understanding this is very important to improve service quality. Second, the level of passenger satisfaction in terms of the gap (GAP) between expectations and service reality. This gap analysis provides an overview of the level of passenger satisfaction. In line with this focus, this study aims to: (1) analyze the characteristics of public transport passengers on the Manado-Tondano bus route, and (2) analyze the level of passenger satisfaction using the gap (GAP) approach between expectations and the reality of the services received. So the benefit of this research is to make a real contribution to the public transportation service provider in understanding the passenger profile more deeply, which can be used as a basis for designing a strategy to improve service quality. In addition, the results of this study are expected to provide insight into the factors that influence the level of passenger satisfaction, especially through analyzing the gap between expectations and reality of service.

RESEARCH METHODS

The study was conducted by adopting a non-experimental quantitative approach, with descriptive analysis to evaluate how satisfied passengers of public transportation buses on the Manado - Tondano route, North Sulawesi. The study applied the "Importance and Performance Analysis (IPA) and Service Quality (SERVQUAL)" methods. The IPA method is used in identifying service elements that must be prioritized in improvement, as well as to see the relationship between passenger views and their order of importance in improving service quality. In this method, the average value of the importance of elements and service work results is examined by the "Importance-Performance matrix" (Kurniawan & Febrianti, 2022).

While the SERVQUAL method is used to assess service standards based on five elements such as "Tangibles, Reliability, Responsiveness, Assurance, and Empathy." SERVQUAL produces a gap value between consumers' views after receiving service and the expectations they have (MARTADURI, 2021). The object of the research is the satisfaction of bus passengers on the Manado - Tondano route, with a population of all passengers on that route. The sampling technique was carried out by convenience sampling to select respondents who were easy to reach, thus involving 131 respondents. The results of the study will show whether there is a gap between service performance and passenger expectations, which means that the bus service can be judged to have met expectations positively or negatively.

RESULTS AND DISCUSSION

Analysis of Respondent Characteristics

The characteristics of respondents in this study include gender, age, occupation, income. The results of distributing questionnaires in this study obtained 131 respondents.

Table 1. Respondent Characteristics

	Variables	Percentage (%)
Gender	Male	15.27%
	Female	84.73%
Age	<20 Years	46.56%
	21-30 Years	27.48%
	31-40 Years	3.82%
	>40 Years	22.14%
Jobs	Student	58.78%
	Merchant	3.05%
	PNS	3.05%
	More	35.11%
Revenue	<Rp.1,500,000	72.52%
	IDR 1,500,000 - 2,500,000	6.87%
	Rp.2,500,000 - 3,500,000	11.45%
	Rp. >3,500,000	9.16%

Validity and Reliability Test

The validity test was carried out on questionnaires relating to the reality and expected conditions of passengers. The validity test is intended to test whether the question instrument in the questionnaire is valid to get respondents' answers (Makbul, 2021). Validity testing is done with computer assistance using the SPSS program. Decision making is based on the value of rcount (Corrected Item-Total Correlation) > rtable. In this study, the validity test was carried out on 131 respondents with the rtable value for 131 respondents being 0.17 at the 0.05 significance level.

The reliability test is said to be reliable if the respondents' answers that we have obtained are consistent or stable over time. The level of reliability of a research variable can be seen from the Cronbach Alpha results and a variable is declared reliable if the Cronbach Alpha value is > 0.60 (Arikunto, 2017).

Conformance Level Analysis

The level of conformity is the result of comparing the perception or performance score with the importance or expectation score (Supranto, 2011). This level of conformity will determine the priority order of improving the factors that affect passenger satisfaction on the Manado-Tondano bus route. The following is a recapitulation of the Level of Conformity based on survey and analysis results presented in the following table.

Table 2. Suitability Level

Attributes	Measurement Scale		Conformity Level (%)
	Performance	Hope	
1	458	648	70,68%

Based on the analysis results in the table above, the average value of the level of conformity of all variables and indicators is 72.04%. This shows that passengers are not satisfied or still at a moderate level with the Manado - Tondano route bus. Relatively low levels of conformity can be attributed to several factors, including inadequate punctuality, comfort, or security, which are often critical in influencing passengers' perceptions of service quality (Mentari, 2022). These gaps indicate areas where service improvements are essential to meet customer expectations and, thus, increase satisfaction levels.

Importance Performance Analysis

Importance Performance Analysis answers questions about what service attributes need to be maintained or improved by bus owners which can then be used as recommendations for work improvement. IPA analysis is done with several stages, namely calculating the value of conformity between the expected value and performance of each attribute (Tki), calculating the level of performance (X) and the level of expectation (Y) and then summing all X and Y scores to get an average. Furthermore, the average is used to group each attribute into quadrants I, II, III, and IV in the IPA diagram. The following is the data on the distribution of performance and expectations of satisfaction of bus passengers on the Manado-Tondano route, and then mapped in a Cartesian diagram

The quadrant division for the physical evidence dimension is presented in Figure 2.

1. Quadrant B (Maintain Achievement)

Quadrant B, namely number 2 (Ease of getting a bus), and number 3 (Is it safe or orderly on the bus) shows attributes that must be maintained because the level of performance is in accordance with the interests of passengers so that it can satisfy passengers.

2. Quadrant C (Low Priority)

Quadrant C is attribute number 1 (Cleanliness in the Manado - Tondano Bus Route) and attribute number 4 (Seats for passengers) are attributes that are considered less important by passengers and their performance is not good.

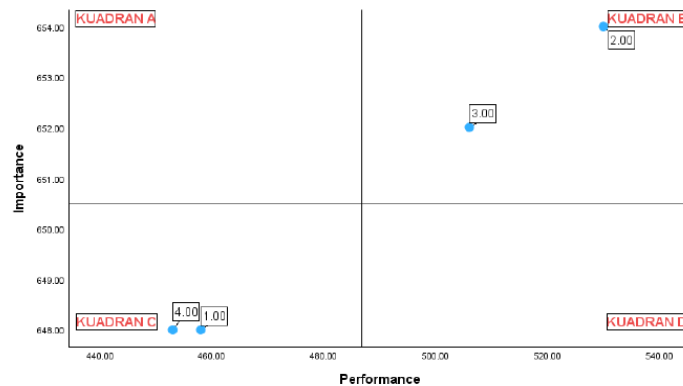


Figure 2. Cartesian Diagram of the Physical Evidence Dimension

The quadrant division for the reliability dimension is presented in Figure 3.

1. Quadrant A (Top Priority)

Quadrant A, namely attribute number 3 (Bus waiting time span) shows attributes that are considered important by passengers but have performance that is not in accordance with passenger expectations. This attribute has a performance value of 318, passengers admit that so far they have complaints regarding the bus waiting range. Therefore, bus owners can pay more attention to this attribute and make improvements to increase passenger satisfaction.

2. Quadrant B (Maintain Achievement)

Quadrant B, namely attribute number 1 (Convenience when getting on and off the Bus) shows attributes that must be maintained because the level of performance is in accordance with the interests of passengers so that it can satisfy passengers. This attribute is considered very important and bus owners have good performance.

3. Quadrant D (Excessive)

Quadrant D, namely attribute number 2 (Ability to provide the best service to passengers) is an attribute that is considered not too important by passengers but bus owners do it very well. The bus owner's focus on this attribute can be reduced and shifted to Quadrant A attributes so that attributes in Quadrant A can shift to Quadrant B. This attribute is assessed by passengers that the bus owner is very good at providing services. Passengers agree that this attribute has good performance. Bus owners need to maintain their performance in providing services to passengers.

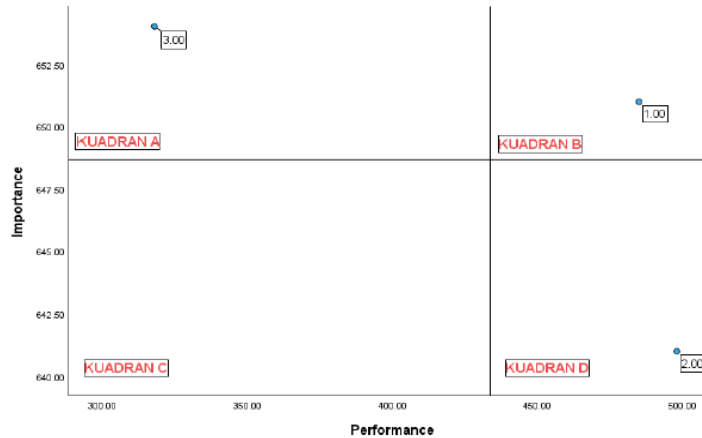


Figure 3. Cartesian Diagram of Reliability Dimension

The following is the quadrant distribution for the responsiveness dimension presented in Figure 4 below.

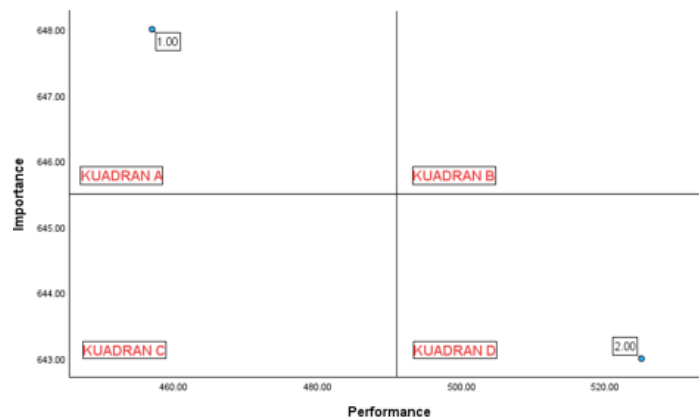


Figure 4. Cartesian Diagram of Responsiveness Dimension

1. Quadrant A (Top Priority)

Quadrant A, namely attribute number 1 (Ability of drivers / Officers to respond to passenger complaints) shows attributes that are considered important by consumers but have poor performance in accordance with consumer expectations. Attributes in this quadrant need to be prioritized for improvement. This attribute has an expected value of 648 and a perceived performance value by consumers of 457, meaning that consumers rate this attribute as very important, while the owner does not really respond to consumer complaints and consumers feel less satisfied.

2. Quadrant D (Excessive)

Quadrant D, namely attribute number 2 (Drivers / Officers show confidence and attitude ready to serve / help passengers) is an attribute that is considered too much by passengers. The owner's focus on this attribute can be reduced and shifted to Quadrant A attributes so that attributes in Quadrant A can shift to Quadrant B. This attribute is considered by passengers

that the bus owner shows confidence in helping passengers is good enough. Bus owners need to maintain their performance in helping passengers.

The following is the quadrant distribution for the empathy dimension presented in Figure 5 below.

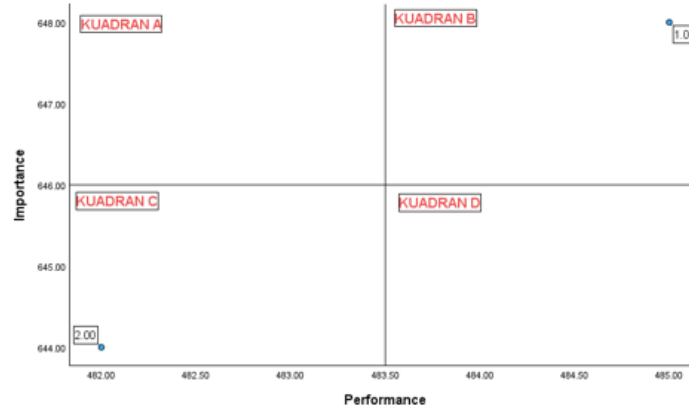


Figure 5. Cartesian Diagram of Empathy Dimension

1. Quadrant B (Maintain Achievement)

Quadrant B, namely attribute number 1 (Drivers / Officers are ready in place when needed) shows attributes that must be maintained because the level of performance is in accordance with the interests of passengers so that it can satisfy passengers. This is evident based on the assessment of passengers who have assessed that the bus owner is ready on the spot when needed. Bus owners need to maintain this attribute in order to maintain passenger satisfaction.

2. Quadrant C (Low Priority)

Quadrant C, namely attribute number 2 (Patience of drivers / Officers in providing services) is an attribute that is considered less important by passengers and their performance is not good.

The following is the quadrant distribution for the guarantee dimension presented in Figure 6 below.

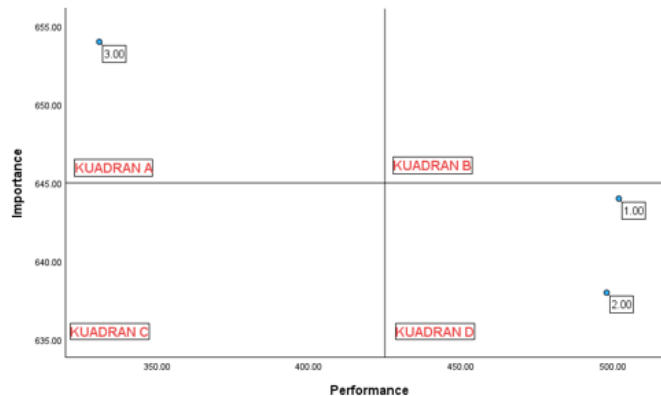


Figure 6. Cartesian Diagram of the Guarantee Dimension

1. Quadrant A (Top Priority)

Quadrant A, namely attribute number 3 (Availability of equipment to deal with emergency situations and conditions (fire extinguisher, p3 box, etc.) on the bus) shows attributes that are considered important by passengers but have performance that is not in accordance with passenger expectations. Attributes in this quadrant need to be prioritized for improvement. This attribute is included in Quadrant A, with a performance value given by passengers of 331 and an expected value of 654. Passengers consider this attribute very important because if something unwanted happens on the bus it will harm many passengers and also the bus owner. In this case, bus owners need to maintain performance so that nothing happens on the bus.

2. Quadrant D (Excessive)

Quadrant D, namely attribute number 1 (Friendliness and politeness provided by the driver / officer) and number 2 (Driver / officer skills in communicating with passengers) are attributes that are considered less important and excessive. The bus owner's focus on these attributes can be reduced and shifted to Quadrant A so that the attributes in Quadrant A can shift to Quadrant B. This attribute is considered by passengers that the friendliness and skills of the bus owner are good enough.

The following are the results of the analysis of passenger satisfaction with the Manado-Tondano bus route.

Table 3. Results of Passenger Satisfaction Analysis of the Manado-Tondano Bus Route

Item	Average		GAP	Description
	Performance	Importance		
1	3.50	4.95	-1.45	Not Satisfied
2	4.05	4.99	-0.95	Not Satisfied
3	3.86	4.98	-1.11	Not Satisfied
4	3.46	4.95	-1.49	Not Satisfied
5	3.70	4.97	-1.27	Not Satisfied
6	3.80	4.89	-1.09	Not Satisfied
7	2.43	4.99	-2.56	Not Satisfied
8	3.49	4.95	-1.46	Not Satisfied
9	4.01	4.91	-0.90	Not Satisfied
10	3.70	4.95	-1.25	Not Satisfied
11	3.68	4.92	-1.24	Not Satisfied
12	3.83	4.92	-1.08	Not Satisfied
13	3.80	4.87	-1.07	Not Satisfied
14	2.53	4.99	-2.47	Not Satisfied
	3.56	4.94		

Based on the table above, it is obtained that the average calculation of the passenger expectation assessment has an average performance score smaller than the average expectation score. GAP analysis, as shown here, is an important tool in service quality management, as it

helps identify specific areas where improvements are needed to meet customer expectations. The larger the negative gap, the greater the dissatisfaction, indicating that the service provider should prioritize those areas for improvement. One possible explanation for this performance gap is the mismatch between the dimensions of service quality most valued by passengers, such as reliability, responsiveness, and tangibility, and the actual service provided. According to the SERVQUAL (Astuti, 2012), when the perceived service does not meet or exceed expectations, it will cause dissatisfaction. The results of the GAP analysis can be concluded that it is not satisfactory for passengers.

CONCLUSION

Based on the analysis of respondent characteristics, from the classification results based on gender, we can see the dominance of female participation in this survey. The age distribution shows that the majority of respondents are <20 years old, while the job classification is mostly by students, and most respondents have an income below Rp.1,500,000. The level of satisfaction based on the gap between performance and expectations using gap analysis is known that all attributes are negative, giving the conclusion that all services provided by the Manado-Tondano bus route are still below passenger expectations. The gap value obtained from this study from the lowest value of -0.90 at the attribute "drivers / officers show confidence and a ready attitude to serve / help passengers" to the largest gap value of -2.56 at the attribute "Bus waiting time range" and the average gap (GAP) -1.38.

REFERENCES

- Arikunto, S. (2017). Prosedur penelitian suatu pendekatan praktek. In *(No Title)*.
- Astuti, H. J. (2012). Analisis kepuasan konsumen (servqual model dan important performance analysis model). *Media Ekonomi Universitas Muhammadiyah Purwokerto*, 7(1), 29587.
- Djaelani, M., & Darmawan, D. (2021). Analisis Persepsi Kualitas Layanan Kapal Feri Penyeberangan Ujung-Kamal. *Journal of Trends Economics and Accounting Research*, 2(1), 22–25.
- Indrajaya, D. (2018). Analisis kualitas pelayanan terhadap tingkat kepuasan konsumen menggunakan metode importance performance analysis dan customer satisfaction index pada UKM gallery. *IKRA-ITH Teknologi Jurnal Sains Dan Teknologi*, 2(3), 1–6.
- Kadarisman, M., Gunawan, A., & Ismiyati, I. (2016). Kebijakan Manajemen Transportasi darat dan dampaknya terhadap perekonomian masyarakat di Kota Depok. *Jurnal Manajemen Transportasi & Logistik (JMTranslog)*, 3(1), 41–58.
- Kalangi, J. I., Lefrandt, L. I. R., & Rompis, S. Y. R. (2024). Analisis Tingkat Kepuasan Penumpang Angkutan Umum Bus Rute Manado–Kawangkoan Dengan Metode Importance Performance Analysis (IPA). *TEKNO*, 22(88), 729–737.
- Kurniawan, N. A., & Febrianti, A. (2022). Usulan peningkatan kualitas pelayanan trans shuttle menggunakan metode importance performance analysis (IPA). *E-Proceeding FTI*.

- Liestyanti, A., & Prawiraatmadja, W. (2021). Service quality in the public service: A combination of SERVQUAL and importance-performance analysis. *Journal of International Conference Proceedings*, 4(3), 320–331.
- Makbul, M. (2021). *Metode pengumpulan data dan instrumen penelitian*.
- Malisan, J., & Chisdijanto, I. H. (2017). Analisis Tingkat Pelayanan Terminal Penumpang Pelabuhan Balikpapan. *Jurnal Penelitian Transportasi Laut*, 19(2), 76–87.
- Martaduri, A. B. (2021). *Analisis Kepuasan Pelanggan Menggunakan Metode Servqual & Importance Performance Analysis Matrix Studi Kasus: Lab Pengujian Dan Lab Kalibrasi Laboratorium Terpadu Uii*.
- Mentari, Y. (2022). *Tingkat Pelayanan KRL Yogyakarta–Solo Terhadap Pilihan Moda Komuter Di Masa Kenormalan Baru*. Universitas Atma Jaya Yogyakarta.
- Perangin-Angin, D. R., Riogilang, H., & Mangangka, I. (2022). Analisis Tingkat Kebisingan Lingkungan Di Kawasan Terminal Karombasan Kota Manado. *TEKNO*, 20(82), 527–536.
- Rodiyah, I., & Ikhtiarini, E. I. (2023). The Service of Trans Jatim Bus Transportation by means of Public Value Approach. *Indonesian Journal of Public Policy Review*, 24, 10–21070.
- Sedayu, A. (2015). *Prioritas dan Target Peningkatan Kinerja dan Pelayanan Green dan Sustainable Terminal Hamid Rusdi Kota Malang*.
- Supranto, J. (2011). *Pengukuran tingkat kepuasan pelanggan: untuk menaikkan pangsa pasar/oleh J. Supranto*.
- Wijayanto, K. (2015). Pengaruh kualitas pelayanan terhadap kepuasan dan loyalitas nasabah bank. *Jurnal Manajemen Dayasaing*, 17(1), 38–45.

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