Received: 1 July 2026 | Accepted: 30 July 2026 | Published online: 25 August 2026 | E-ISSN: 3124-2715

Journal of Business and Organizational Research

RESEARCH ARTICLE

Identifying Service Quality Gaps and Improvement Priorities in Padang City's Municipal Public Transportation Service: An IPA Approach

Anisa Dwi Amanda[1], Alhapen Ruslin Chandra[2], Maya Permata Sari[3*]

[1,2,3]Department of Business Administration, Politeknik Negeri Padang, Padang, Indonesia

*Correspondence
Maya Permata Sari, Department of Business Administration, Politeknik Negeri Padang, Padang, Indonesia: mayapermatasari@pnp.ac.id

Summary
The municipal-owned public transportation company in Padang City, Indonesia, serves as a vital link for commuters. Despite growing ridership, passenger complaints regarding service quality persist. This study evaluates its service quality by using the Importance-Performance Analysis (IPA) on five SERVQUAL dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. A quantitative descriptive approach was adopted, with data collected through online questionnaires distributed to 100 respondents selected via purposive sampling. Data were analyzed using conformity level analysis, gap analysis, and IPA quadrant mapping, processed with SPSS 24.0. Results show that all five dimensions recorded negative gaps, with an overall average gap of −0.35 and an overall conformity level of 91.74%. The Reliability dimension had the largest gap (−0.44), while Responsiveness performed best (94.41%). IPA quadrant mapping identified bus stop accessibility and overall security as top-priority attributes requiring immediate improvement (Quadrant I), while 10 attributes, including driver attitude, which had the highest importance score, were classified as well-performing (Quadrant II). Findings suggest that targeted improvements in stop infrastructure, security measures, and scheduling reliability are essential to enhancing passenger satisfaction on this corridor.

Keywords
customer satisfaction, importance performance analysis, service quality, public transportation

1 | INTRODUCTION

Padang City, as the provincial capital of West Sumatra, serves as the largest hub of goods and services in the province and functions as a center of education, industry, and Minangkabau culture (Husna, 2022). These conditions have contributed to rapid population growth and an escalating demand for transportation infrastructure. In the era of globalization, efficient and high-mobility transportation has become an essential necessity for urban communities.

Public transportation plays a crucial role in economic and social urban development. An effective and efficient system can enhance population mobility, reduce congestion, and improve quality of life (Rizqi, 2024). Trans Padang, as one of Indonesia's Bus Rapid Transit (BRT) systems, was officially launched on February 14, 2014 and operates across six corridors with 75 bus units. Passenger data show a significant growth trend, from 1.38 million passengers in 2021 to 3.70 million in 2023, reflecting increasing public trust in this service.

Figure 1 illustrates the annual ridership trend of Trans Padang from 2021 to mid-2024. In 2021, Trans Padang recorded 1,388,186 passengers, reflecting a gradual recovery following the disruption caused by the COVID-19 pandemic. Ridership then increased substantially to 2,122,813 passengers in 2022, representing a growth of approximately 53% year-on-year. The system reached its peak in 2023 with 3,701,351 total passengers,

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.
© 2025 The Author(s). Journal of Business and Organizational Research published by Kreasi Reka Cipta.

demonstrating growing public trust and increasing reliance on Trans Padang as a primary urban mobility solution in Padang. However, as of June 2024, cumulative ridership stood at 1,783,031, which reflects only the first half of the year and was partly affected by the temporary suspension of operations on Corridors II, III, V, and VI in early January 2025 due to disputes over vehicle operational cost contracts between bus operators and Perumda Padang Sejahtera Mandiri (PSM) (Elfisha, 2025). This upward ridership trend underscores the strategic importance of maintaining and improving service quality to sustain passenger loyalty and further expand the Trans Padang user base.

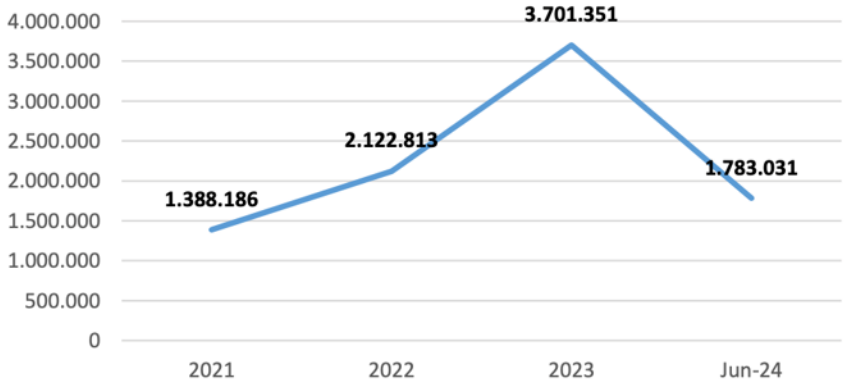


Figure 1. Customer List of Trans Padang

Figure 1 illustrates the annual ridership trend of Trans Padang from 2021 to mid-2024. In 2021, Trans Padang recorded 1,388,186 passengers, reflecting a gradual recovery following the disruption caused by the COVID-19 pandemic. Ridership then increased substantially to 2,122,813 passengers in 2022, representing a growth of approximately 53% year-on-year. The system reached its peak in 2023 with 3,701,351 total passengers — the highest recorded figure — demonstrating growing public trust and increasing reliance on Trans Padang as a primary urban mobility solution in Padang. However, as of June 2024, cumulative ridership stood at 1,783,031, which reflects only the first half of the year and was partly affected by the temporary suspension of operations on Corridors II, III, V, and VI in early January 2025 due to disputes over vehicle operational cost contracts between bus operators and Perumda Padang Sejahtera Mandiri (PSM) (Elfisha, 2025). This upward ridership trend underscores the strategic importance of maintaining and improving service quality to sustain passenger loyalty and further expand the Trans Padang user base.

Trans Padang Corridor VI (City Centre – Universitas Andalas, Limau Manis) commenced operations in 2022 as a vital transportation link for students and staff of Universitas Andalas and Politeknik Negeri Padang. This corridor is particularly important because it connects the city center with an educational area that is relatively far and difficult to access by other modes of transportation. However, preliminary observations revealed several service complaints from users, including bus delays, inadequate facilities, and limited route information, suggesting that service quality has not fully met user expectations.

Customer satisfaction is not merely a measure of happiness but a critical indicator of a company's success in meeting customer needs (Putra, 2023). Satisfied customers remain loyal, recommend the service, and contribute to a positive public image. Conversely, dissatisfied customers may shift to alternatives such as online motorcycle taxis, city transport (angkot), or private vehicles—Trans Padang's primary competitors.

The Importance Performance Analysis (IPA) method was selected in this study because it maps the level of importance and performance of each service attribute, serving as a basis for formulating targeted service improvement strategies (Wardhana, 2024). IPA enables managers to visually prioritize resource allocation based on what customers consider important versus what they experience.

This study aims to: (1) determine the conformity level between passenger expectations and actual performance across five SERVQUAL dimensions; (2) quantify the performance–importance gap for each service attribute; and (3) identify priority areas for service improvement through IPA quadrant analysis.

2 | LITERATUR REVIEW

2.1 | Service Quality

Service quality is one of the key factors in meeting customer satisfaction and building loyalty. According to (Kotler, 2016), quality is the totality of features and characteristics of a product or service that depends on its

ability to satisfy stated or implied needs. (Tjiptono, 2022) define service quality as the expected level of excellence and the control over that level to fulfill customer desires.

The SERVQUAL model measures service quality across five dimensions (Tjiptono, 2022). First, tangible – Physical evidence related to service facility appearance, equipment, human resources, and communication materials; includes seat condition, bus worthiness, safety equipment (APAR/CCTV), air conditioning, bus stop accessibility, and standing space. Second, reliability – The ability to deliver the promised service accurately and consistently; covers departure/arrival punctuality, waiting time, travel time, and schedule/route information availability. Third, responsiveness – Willingness and ability to help customers and respond promptly; includes driver competence, driver discipline, operator assistance, stop reminders, crowd management, and route guidance. Forth, assurance – Staff knowledge and courtesy and their ability to build customer trust and confidence; encompasses passenger safety inside the bus, safety at stops, overall security, and comfort. Finnally, empathy – Understanding customer problems and acting in their best interests, providing personal attention; measured by driver attitude (friendliness, politeness, attentiveness.

Rohmadhon et al. (2024) investigated service quality among TransJakarta Bus Rapid Transit users in Jakarta using the IPA method across five SERVQUAL dimensions. Their study found that the Empathy dimension received the highest passenger ratings, while the Tangible dimension — particularly bus and stop capacity — recorded the lowest scores and the largest negative gap (−55% conformity level). These findings highlight the critical role of physical infrastructure in shaping overall service quality perceptions in Indonesian BRT systems, a pattern that is also observable in the present study.

Prabantari (2020) analyzed the relationship between service quality and customer satisfaction among TransJakarta passengers using Pearson correlation and simple regression analysis. The study reported a strong and significant positive correlation ($r = 0.811$, $p < 0.05$) between service quality and customer satisfaction, with a coefficient of determination of 65.8%, indicating that service quality is a dominant predictor of passenger satisfaction. The regression equation ($Y = 14.088 + 0.807X$) confirmed that every one-unit improvement in service quality increases customer satisfaction by 0.807 units. This finding underscores the practical importance of continuous service quality monitoring as a strategy for ridership retention.

Saputra & Savitri (2020) applied the IPA method to evaluate Suroboyo Bus performance in Surabaya based on passenger satisfaction levels. Their study reported an overall conformity level of 94.60% across all service indicators. The Quadrant I analysis identified staff information delivery as the top priority for improvement, while CCTV availability, seating separators, and stop adequacy were classified as Quadrant II attributes to be maintained. Notably, the study found that departure and arrival punctuality remained persistent improvement areas — a finding consistent with the Reliability gap observed in the present study.

Deliyani & Prambudi (2019) examined the influence of service quality on customer satisfaction among MRT Jakarta passengers using regression analysis. Results showed that service quality significantly and positively influences passenger satisfaction ($F = 33.887$, Sig. = 0.000), with an adjusted R^2 of 0.249, indicating that 24.9% of satisfaction variance is explained by service quality. The study confirmed that all five SERVQUAL dimensions collectively contribute to passenger satisfaction, reinforcing the validity of using the SERVQUAL model as a measurement framework for urban rail and bus transit systems in Indonesia.

Rizqi et al. (2024) qualitatively assessed the service quality of Trans Jatim buses against passenger satisfaction using the five SERVQUAL dimensions. The study found that while Assurance and Empathy dimensions generally performed well — with staff being described as courteous, non-discriminatory, and attentive to vulnerable passengers — the Reliability dimension remained the most challenging, with schedule inconsistencies and external traffic factors contributing to unpredictable arrival times. This finding directly parallels the Reliability shortfall identified in Trans Padang Corridor VI, suggesting that punctuality management is a systemic challenge across Indonesian BRT operations.

2.2 | Importance Performance Analysis (IPA)

IPA is a graphical method displayed in a two-dimensional coordinate system, showing average values of importance and performance of service elements calculated in relation to each other (Wardhana, 2024). The Cartesian diagram divides attributes into four quadrants. Quadrant I (Top Priority): High importance, low performance – requires immediate improvement. Quadrant II (Maintain Performance): High importance, high performance – must be sustained. Quadrant III (Low Priority): Low importance, low performance – low priority for improvement. Quadrant IV (Overperforming): Low importance, high performance – considered excessive effort.

Gap equals Performance Score minus Importance Score. A negative gap indicates performance falls below expectations. Conformity Level = (Performance / Importance) × 100%; values below 100% indicate unmet expectations. Saputra & Savitri (2020) applied IPA to evaluate the performance of Suroboyo Bus in Surabaya, Indonesia. By mapping 20 service attributes onto the Cartesian diagram, their study identified staff information

delivery as the sole Quadrant I priority, while attributes such as CCTV availability, seating separators, and stop adequacy were maintained in Quadrant II. The study also demonstrated that IPA effectively differentiates between attributes requiring urgent intervention and those already performing satisfactorily, confirming the method's practical utility for transit management resource allocation. Their overall conformity level of 94.60% established a useful benchmark for comparison with other Indonesian BRT systems.

Rohmadhon et al. (2024) employed IPA alongside SERVQUAL to assess TransJakarta service quality in Jakarta. The Cartesian diagram revealed that punctuality-related attributes — specifically the interval time between bus departures — fell in Quadrant I, while security inside the bus, friendly staff attitude, and ease of complaint reporting were classified in Quadrant II. The study demonstrated the value of combining gap analysis with IPA quadrant mapping, as gap scores alone do not capture the relative strategic importance of each attribute. This methodological insight directly informs the analytical approach adopted in the present study.

Wardhana (2024) provides a comprehensive theoretical and applied framework for IPA, affirming that the method's two-dimensional Cartesian diagram — with importance on the Y-axis and performance on the X-axis — enables managers to visually prioritize resource allocation across four distinct action zones: concentrate here (Quadrant I), keep up the good work (Quadrant II), low priority (Quadrant III), and possible overkill (Quadrant IV). Wardhana further emphasizes that the intersection point of the diagram should be set at the overall grand mean of both importance and performance scores, ensuring that quadrant classification reflects the relative standing of each attribute within the full dataset rather than an arbitrary fixed threshold.

3 | METHOD

3.1 | Data collection

This study employs a quantitative descriptive research design, grounded in positivist philosophy, which focuses on the measurement and analysis of causal relationships between variables through statistical procedures (Sugiyono, 2023). The quantitative approach was selected because this study aims to objectively evaluate and describe the service quality attributes of Trans Padang Corridor VI based on passenger perceptions, without seeking to establish causal hypotheses between variables.

Primary data were collected through a structured questionnaire instrument. The questionnaire was developed based on the SERVQUAL framework (Tjiptono, 2022), covering two parallel sets of statements: one measuring passengers' expectations (importance) toward each service attribute, and another measuring their actual experience (performance)**.** In total, the instrument comprised 46 statement items (23 importance items + 23 performance items) across five SERVQUAL dimensions.

Data collection was conducted online by distributing the questionnaire via Google Forms, accessed through a QR barcode that was displayed directly to Trans Padang Corridor VI passengers at bus stops and inside buses along the route. This online distribution method was chosen for several practical reasons: (1) it reduces data collection costs; (2) it is time-efficient; (3) it enables broader population reach; and (4) it facilitates direct access to the target respondents, namely active users of the corridor (Sugiyono, 2023).

Table 1. Likert Scale

Scale	Importance (Harapan)	Performance (Kinerja)
5	Very Important (Sangat Penting)	Very Satisfied (Sangat Puas)
4	Important (Penting)	Satisfied (Puas)
3	Neutral (Cukup)	Neutral (Cukup)
2	Not Important (Tidak Penting)	Unsatisfied (Tidak Puas)
1	Very Unimportant (Sangat Tidak Penting)	Very Unsatisfied (Sangat Tidak Puas)

The use of a five-point Likert scale is appropriate for measuring individual attitudes, opinions, and perceptions toward a social phenomenon (Sugiyono, 2023). Data processing was subsequently conducted using Microsoft Excel for tabulation and SPSS 24.0 for statistical analysis (validity testing, reliability testing, descriptive statistics, gap analysis, and IPA quadrant mapping). Since population size is unknown, the Lemeshow formula was applied: $n = Z^2 \times P(1-P) / d^2 = (1.96)^2 \times 0.5 \times 0.5 / (0.1)^2 = 96.04 \approx 100$ respondents. Purposive sampling was used, with the criterion that respondents must have used Trans Padang Corridor VI at least once.

Prior to the main analysis, the demographic profile of the 100 respondents was examined to understand the composition of Trans Padang Corridor VI users. Respondent characteristics were categorized into five dimensions: gender, age group, occupation, monthly income, and trip frequency per month. Understanding the respondent profile is important as it contextualizes the service quality assessments, particularly given that Corridor VI

primarily serves the City Centre–Universitas Andalas route, which caters predominantly to students and young commuters. The complete profile is summarized in table 2.

Table 2. Respondent Profile

Information	f	%
Gender		
Male	46	46%
Female	54	54%
Total	100	100%
Age		
< 18 years	16	16%
18–25 years	65	65%
26–35 years	14	14%
> 35 years	5	5%
Total	100	100%
Occupation		
Student	28	28%
University Student	36	36%
Private/State Enterprise Employee	18	18%
Civil Servant/Military/Police	12	12%
Entrepreneur	6	6%
Total	100	100%
Monthly Income		
< Rp 1,000,000	36	36%
Rp 1,000,001 – Rp 3,000,000	38	38%
Rp 3,000,001 – Rp 5,000,000	18	18%
> Rp 5,000,000	8	8%
Total	100	100%
Trip Frequency/Month		
1–5 times	45	45%
6–10 times	30	30%
11–20 times	15	15%
> 20 times	10	10%
Total	100	100%

3.1 Measurement

The measurement in this study was constructed based on the SERVQUAL scale developed by Parasuraman et al. (1988) and adapted to the public bus transportation context by Fachrurrozy et al. (2021). Each dimension is measured through specific observable indicators that reflect both the importance (expectation) and performance (actuality) of Trans Padang Corridor VI services as perceived by passengers. A total of 23 indicators were developed and distributed across the five dimensions, as presented in table 3.

Table 3. Operational Variable

Dimension	Definition	Indicators
Tangible	Physical evidence of service facilities (Tjiptono, 2022)	(1) Adequate seating; (2) Bus worthiness; (3) Safety equipment (APAR, CCTV); (4) Air conditioning; (5) Bus stop accessibility; (6) Standing space at stop
Reliability	Ability to deliver promised service accurately (Tjiptono, 2022)	(7) Departure punctuality; (8) Arrival punctuality; (9) Waiting time; (10) Travel time; (11) Staff info accuracy; (12) Schedule/route information
Responsiveness	Willingness to help and respond promptly (Tjiptono, 2022)	(13) Driver competence; (14) Driver discipline; (15) Operator assistance; (16) Stop reminders; (17) Crowd management; (18) Route transfer guidance
Assurance	Staff knowledge & courtesy to build trust (Tjiptono, 2022)	(19) Safety inside bus; (20) Safety at bus stop; (21) Overall security; (22) Comfort at stop/bus
Empathy	Understanding customer problems and providing personal attention (Tjiptono, 2022)	(23) Driver attitude (friendly, polite, attentive)

The instrument consisted of two parallel measurement scales administered simultaneously to each respondent. The first scale measured importance (expectation), capturing how important each service attribute is to the passenger prior to or independent of their actual experience. The second scale measured performance (actuality), capturing how satisfied passengers were with the actual delivery of each attribute. Both scales employed a 5-point Likert scale, ranging from 1 (*Very Unimportant/Very Unsatisfied*) to 5 (*Very Important/Very Satisfied*), resulting in a total of 46 statement items across the two scales.

3.3 | Data Analysis

Data analysis was conducted using the Importance–Performance Analysis (IPA) method. This method is used to compare the level of importance and performance of each indicator based on respondents' perceptions. The average importance and performance values of each indicator are calculated and then mapped onto a Cartesian diagram consisting of four quadrants. The mapping results are used to identify indicators that are the highest priority for improvement, indicators whose performance needs to be maintained, indicators with low priority, and indicators that are considered excessive. Thus, the IPA analysis provides a basis for formulating strategies to improve service quality or performance more effectively and specifically.

4 | RESULT

4.1 | Measurement Fit (Validity & Reliability)

Validity was assessed using Pearson product-moment correlation, with the criterion that an item is valid if r-count exceeds r-table (0.195 for n = 100, α = 5%). An item is declared valid if the Pearson product-moment correlation coefficient (r-count) is positive and exceeds the r-table value at the 95% confidence level. With n = 100 respondents, the r-table value is 0.195 (α = 5%, two-tailed). Conversely, any item with r-count < r-table is declared invalid and must be excluded from further analysis (Nasution, 2021). The results of the validity test for both the performance (actuality) scale and the importance (expectation) scale showed that all 23 indicators across the five SERVQUAL dimensions obtained r-count values exceeding the r-table threshold of 0.195. This confirms that all 46 statement items (23 performance + 23 importance) are valid and measure what they are intended to measure.

Reliability was assessed using Cronbach's Alpha coefficient, with a minimum threshold of 0.70 indicating acceptable internal consistency (Pasaribu, 2022). An instrument is considered reliable if its Cronbach's Alpha value is ≥ 0.70, and unreliable if it falls below this threshold (Pasaribu, 2022). All 23 indicators on both the importance and performance scales passed both tests, confirming the instrument is reliable for use in this study.

4.2 | Important Performance Analysis (IPA)

The conformity level measures the degree to which actual service performance meets passenger expectations, calculated as the ratio of the mean performance score to the mean importance score expressed as a percentage. The formula applied is:

$$Conformity\ Level\ (\%) = \frac{\overline{Xi}}{\overline{Yi}}\ x\ 100\%$$

Where $\bar{X}$ represents the mean performance (actuality) score and $\bar{Y}$ represents the mean importance (expectation) score for each attribute. A conformity level below 100% indicates that performance has not yet met passenger expectations, while a value equal to or exceeding 100% indicates that performance meets or surpasses expectations (Wardhana, 2024). This analysis serves as a preliminary diagnostic tool before IPA quadrant mapping, enabling identification of which dimensions are furthest from satisfying passenger expectations. Table 4 presents the conformity level results for each SERVQUAL dimension, calculated from the mean scores of all indicators within each dimension.

The results show that all five dimensions recorded conformity levels below 100%, indicating that Trans Padang Corridor VI service performance has not fully met passenger expectations across any dimension. The Responsiveness dimension achieved the highest conformity level at 94.41%**,** suggesting that passengers perceive staff willingness to assist, driver discipline, and route guidance as the service aspects closest to meeting their expectations. In contrast, the Reliability dimension recorded the lowest conformity level at 89.55%, reflecting a notable shortfall in schedule adherence, punctuality, and waiting time — dimensions that directly affect the daily commuting experience of the predominantly student passenger base.

Table 4. Conformity Level Per SERQUAL Dimension

Dimension	Mean Importance (Ȳ)	Mean Performance (X̄)	Conformity Level (%)	Interpretation
Tangible	4.22	3.91	92.69%	Below expectation
Reliability	4.20	3.76	89.55%	Below expectation
Responsiveness	4.22	3.94	94.41%	Below expectation
Assurance	4.25	3.90	91.76%	Below expectation
Empathy	4.30	3.92	91.16%	Below expectation
Overall Average	**4.24**	**3.89**	**91.74%**	**Below expectation**

The overall average conformity level of 91.74% indicates that, on average, actual service delivery fulfills approximately 91.74% of what passengers expect. This finding is consistent with similar studies on Indonesian BRT systems: Saputra & Savitri (2020) reported a conformity level of 94.60% for Suroboyo Bus, while Rohmadhon et al. (2024) identified comparable reliability shortfalls in TransJakarta. The conformity level results establish the foundation for the subsequent gap analysis and IPA quadrant mapping, which provide more granular identification of priority improvement areas.

Gap analysis measures the difference between passengers' perceived service performance and their expectations (importance) for each service attribute. The gap score is calculated using the following formula: Gap = $\bar{X}i - \bar{Y}i$, where $\bar{X}i$ is the mean performance score and $\bar{Y}i$ is the mean importance score for each attribute. A negative gap indicates that actual performance falls below passenger expectations, while a zero or positive gap indicates performance meets or exceeds expectations (Putra, 2023). The closer the gap value is to zero, the better the service quality as perceived by passengers. Gap analysis serves as a more granular complement to conformity level analysis, providing directional information on the magnitude and severity of service shortfalls across all 23 indicators. Table 5 presents the overall average gap scores for each SERVQUAL dimension, derived by averaging the gap values of all indicators within each dimension.

All five dimensions recorded negative gap values, confirming that Trans Padang Corridor VI service performance consistently falls below passenger expectations across every dimension. The Reliability dimension recorded the largest gap (−0.44), driven primarily by shortfalls in bus departure punctuality, arrival punctuality, and waiting time — attributes that are foundational to the daily commuting experience of passengers, particularly the student-dominated ridership of this corridor. The Empathy dimension showed the second-largest gap (−0.38), suggesting that although driver friendliness and attentiveness are highly valued by passengers (mean importance = 4.30, the highest across all dimensions), actual performance in this area still falls short. The Responsiveness dimension had the smallest gap (−0.28), indicating that operator assistance, stop reminders, and driver competence are relatively well-delivered compared to other dimensions.

The overall average gap of −0.35 reflects a moderate but consistent service deficit. This finding aligns with (Rohmadhon, 2024), who identified a large reliability gap in TransJakarta (−55% conformity level for passenger capacity), and Rizqi et al. (2024), who documented persistent punctuality challenges in Trans Jatim. The gap results provide the analytical input for IPA quadrant mapping, which further classifies each attribute by the combined weight of its importance score and its performance shortfall to guide strategic resource allocation.

IPA quadrant mapping was conducted by plotting each of the 23 service attributes onto a two-dimensional Cartesian diagram, with the X-axis representing the mean performance score and the Y-axis representing the mean importance score (Wardhana, 2024). The four quadrants are divided by two intersecting reference lines — the overall mean performance score $\bar{X}$ as the vertical axis and the overall mean importance score $\bar{Y}$ as the horizontal axis. Each attribute is classified into one of four quadrants depending on whether its individual performance and importance scores fall above or below these grand mean thresholds. Table 6 presents the complete IPA quadrant classification of all 23 service attributes across five SERVQUAL dimensions.

Table 5. Average GAP Per SERVQUAL Dimension

Dimension	Mean Importance (Ȳ)	Mean Performance (X̄)	Gap (X̄ − Ȳ)	Rank
Tangible	4.22	3.91	−0.31	4
Reliability	4.20	3.76	−0.44	1 (Largest)
Responsiveness	4.22	3.94	−0.28	5 (Smallest)
Assurance	4.25	3.90	−0.35	3
Empathy	4.30	3.92	−0.38	2
Overall Average	**4.24**	**3.89**	**−0.35**	—

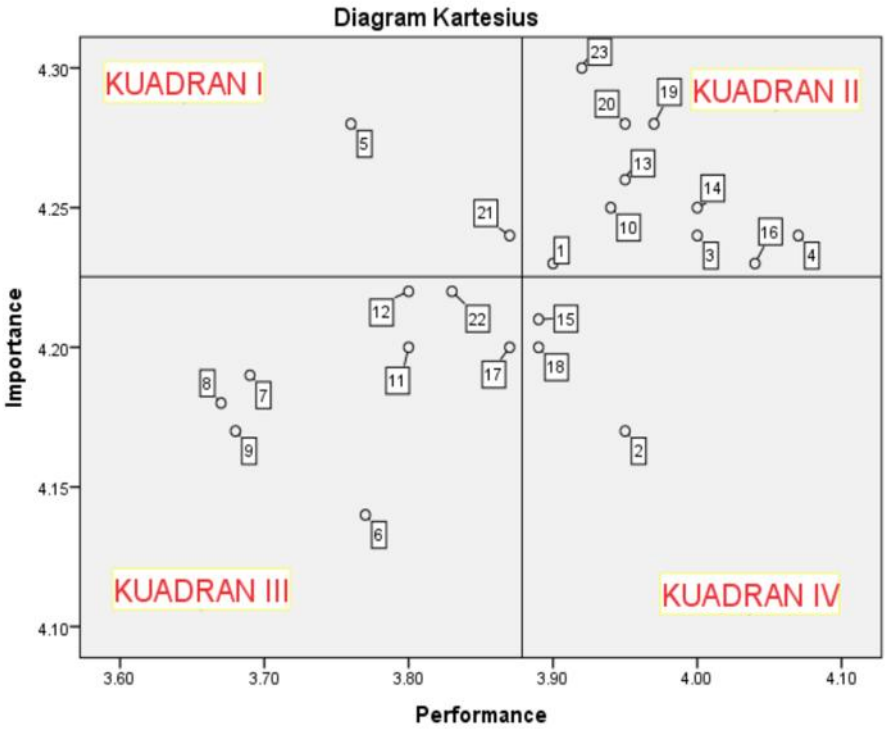


Figure 2. Cartesian Diagram

Figure 2 presents the IPA Cartesian diagram mapping all 23 service attributes of Trans Padang Corridor VI. The diagram is divided by two intersecting reference lines at the overall mean performance score ($\bar{X}$ = 3.89) and the overall mean importance score ($\bar{Y}$ = 4.22), resulting in four quadrants that guide strategic service improvement priorities.

Table 6. IPA Quadrant Classification

No.	Attribute	Dim.	Mean I ($\bar{Y}$)	Mean P ($\bar{X}$)	Quadrant
1	Adequate seating	Tangible	4.23	3.90	II
2	Bus worthiness	Tangible	4.17	3.95	IV
3	Safety equipment (APAR & CCTV)	Tangible	4.24	4.00	II
4	Air conditioning (AC)	Tangible	4.24	4.07	II
5	Bus stop accessibility	Tangible	4.28	3.76	I
6	Standing space at bus stop	Tangible	4.14	3.77	III
7	Departure punctuality	Reliability	3.90	3.69	III
8	Arrival punctuality	Reliability	3.95	3.67	III
9	Waiting time	Reliability	4.00	3.68	III
10	Travel time	Reliability	4.07	3.94	II
11	Staff information accuracy	Reliability	3.76	3.80	III
12	Schedule/route information	Reliability	3.77	3.80	III
13	Driver competence	Responsiveness	4.26	3.95	II
14	Driver discipline	Responsiveness	4.25	4.00	II
15	Operator assistance	Responsiveness	4.21	3.89	IV
16	Stop reminders by operator	Responsiveness	4.23	4.04	II
17	Crowd management	Responsiveness	4.20	3.87	III
18	Route transfer guidance	Responsiveness	4.20	3.89	IV
19	Passenger safety inside bus	Assurance	4.28	3.97	II
20	Passenger safety at bus stop	Assurance	4.28	3.95	II
21	Security inside bus and at stop	Assurance	4.24	3.87	I
22	Comfort at stop/bus	Assurance	4.22	3.83	III
23	Driver attitude (friendly, polite)	Empathy	4.30	3.92	II

Quadrant I — Top Priority (Concentrate Here)

Two attributes fall in Quadrant I, indicating high importance but low performance — these require immediate and focused improvement:

1. Attribute 5 – Bus stop accessibility (I = 4.28; P = 3.76): Passengers place high importance on the accessibility of bus stops, yet actual conditions are perceived as inadequate. Given that 65% of respondents are aged 18–25 and 36% are university students, many of whom commute daily to Universitas Andalas and Politeknik Negeri Padang, the difficulty in reaching stops directly undermines the corridor's core function. This finding is consistent with Saputra & Savitri (2020), who identified stop adequacy as a Quadrant I priority for Suroboyo Bus.
2. Attribute 21 – Security inside bus and at stops (I = 4.24; P = 3.87): Although overall safety indicators (attributes 19 and 20) are performing adequately, passengers perceive security—particularly against theft, harassment, and unsafe situations—as falling short of their expectations. This gap signals the need for enhanced surveillance measures and security officer presence at stops.

Quadrant II — Maintain Performance (Keep Up the Good Work)

Ten attributes fall in Quadrant II, reflecting service aspects that are both highly valued by passengers and well-delivered by Trans Padang Corridor VI. These attributes must be consistently maintained as they form the backbone of passenger satisfaction. The Tangible dimension, three physical infrastructure attributes perform well above the grand mean: adequate seating (attribute 1), the availability of safety equipment such as APAR fire extinguishers and CCTV (attribute 3), and air conditioning (attribute 4). These findings suggest that passengers positively perceive the interior comfort and safety provisions of the bus fleet itself, even as they raise concerns about stop-level infrastructure.

In the Reliability dimension, travel time (attribute 10) is the only indicator to reach Quadrant II, reflecting passengers' overall satisfaction with how long their actual journey takes once onboard — a positive signal given the corridor's role in connecting the city centre with the relatively distant Universitas Andalas campus. The Responsiveness dimension contributes three Quadrant II attributes: driver competence in operating the bus (attribute 13), driver discipline and traffic compliance (attribute 14), and operator stop reminders to passengers (attribute 16). These results indicate that frontline operational staff — both drivers and operators — are delivering at a level that meets or exceeds passenger expectations, which is particularly important for maintaining ridership confidence.

The Assurance dimension, passenger safety inside the bus (attribute 19) and passenger safety at bus stops (attribute 20) both land in Quadrant II, demonstrating that passengers feel reasonably secure during their journey, even though overall security perception (attribute 21) still falls short and was classified as a Quadrant I priority. Finally, the Empathy dimension's sole indicator — driver attitude encompassing friendliness, politeness, and attentiveness (attribute 23) — achieves the highest importance score of all 23 attributes ($\bar{Y}$ = 4.30) and is firmly placed in Quadrant II. This underscores that human interaction quality is both the most valued and best-executed dimension of the service, consistent with Rizqi et al.'s (2024) finding that Indonesian BRT frontline staff generally exhibit strong empathetic behavior toward passengers. Management should sustain investment in driver training and conduct standards to preserve this competitive advantage

Quadrant III — Low Priority (Low Importance, Low Performance)

Eight attributes fall in Quadrant III — relatively low importance and low performance. While these do not require urgent attention, gradual improvement remains beneficial in the long term: Departure punctuality (7), arrival punctuality (8), waiting time (9), staff information accuracy (11), schedule/route information (12), standing space at stop (6), crowd management (17), and comfort at stop/bus (22). The placement of punctuality-related attributes (7, 8, 9) in Quadrant III rather than Quadrant I is noteworthy — it indicates that, while Reliability had the largest dimension-level gap (−0.44), passengers may have adjusted their expectations around schedule adherence given the general traffic conditions in Padang, placing them at a lower relative importance threshold.

Quadrant IV — Overperforming (Possible Overkill)

Three attributes fall in Quadrant IV — relatively low importance but high performance, suggesting that resources allocated here could potentially be redistributed to Quadrant I priorities:

- Attribute 2 – Bus worthiness (I = 4.17; P = 3.95)
- Attribute 15 – Operator assistance to passengers (I = 4.21; P = 3.89)
- Attribute 18 – Route transfer guidance (I = 4.20; P = 3.89)

These results suggest that, while staff efforts in assisting passengers and guiding route transfers are appreciated, passengers do not consider them as critical as security and stop accessibility, and management could redirect these service resources toward Quadrant I improvements.

4.3 | Discussion

The findings of this study provide a comprehensive picture of service quality at Trans Padang Corridor VI as perceived by its passengers. Overall, the results indicate that while the service is generally appreciated, there remains a consistent and measurable gap between what passengers expect and what they actually experience across all five SERVQUAL dimensions.

The overall conformity level of 91.74% and an average gap of −0.35 indicate that Trans Padang Corridor VI has not yet fully met passenger expectations. This finding is broadly consistent with comparable BRT service quality studies in Indonesia: (Saputra, 2020) reported a conformity level of 94.60% for Suroboyo Bus, while (Rohmadhon, 2024) documented significant gaps in Trans Jakarta. The fact that Trans Padang's conformity level falls slightly below these references suggests that the corridor still has room for service improvement, particularly considering its relatively recent operational launch in 2022.

The Reliability dimension recorded the largest average gap (−0.44) and the lowest conformity level (89.55%) among all five dimensions, driven by shortfalls in bus departure punctuality, arrival punctuality, and waiting time. This finding mirrors the experience of other Indonesian BRT operators: (Rizqi, 2024) identified punctuality and schedule consistency as persistent challenges for Trans Jatim, and (Rohmadhon, 2024) similarly found that schedule-related attributes in Trans Jakarta generated the highest passenger dissatisfaction. The placement of punctuality-related attributes (7, 8, 9) in Quadrant III of the IPA diagram — rather than Quadrant I — suggests that, while objectively underperforming, passengers may have adapted their expectations to the realities of urban traffic congestion in Padang. Nevertheless, the large negative gap in this dimension warrants operational attention from corridor management.

Bus stop accessibility (attribute 5) emerged as the single most strategically urgent improvement priority, positioned in Quadrant I with the highest importance score among Quadrant I attributes ($\bar{Y} = 4.28$) and the second-lowest performance score overall ($\bar{X} = 3.76$). This finding is particularly significant given the corridor's primary function: serving student commuters traveling between the city center and the Universitas Andalas and Politeknik Negeri Padang campuses. With 65% of respondents aged 18–25 and 36% identifying as university students, inadequate stop infrastructure directly undermines the corridor's stated purpose. This result corroborates (Saputra, 2020), who similarly identified stop accessibility as a Quadrant I priority for Suroboyo Bus, suggesting this is a systemic challenge across Indonesian BRT systems rather than one specific to Trans Padang.

The second Quadrant I attribute — overall security inside the bus and at stops (attribute 21) — highlights passenger concerns regarding safety from theft, harassment, and unsafe environments. Notably, related indicators of passenger safety inside the bus (attribute 19) and at bus stops (attribute 20) are both performing adequately in Quadrant II, suggesting that passengers distinguish between structured safety features (e.g., CCTV, safety equipment) and the broader felt sense of security during their journey. This distinction has practical implications: improving security requires not only physical infrastructure but also enhanced patrol presence and incident response protocols, especially during peak commuting hours.

In contrast to the above deficiencies, the Responsiveness dimension recorded the highest conformity level (94.41%), and ten attributes — predominantly from the Responsiveness, Assurance, and Empathy dimensions — were placed in Quadrant II. Most notably, driver attitude (attribute 23) achieved the highest importance score across all 23 indicators ($\bar{Y} = 4.30$) and was firmly maintained in Quadrant II, confirming that frontline human service quality is the corridor's most valued and best-executed dimension. This is consistent with (Putra, 2023) who found a strong positive correlation ($r = 0.811$) between service quality and customer satisfaction in TransJakarta, with interpersonal dimensions being the strongest predictors. For Trans Padang management, this suggests that investments in driver training and staff conduct standards are yielding tangible returns in passenger satisfaction and should be sustained.

Three attributes — bus worthiness (2), operator assistance (15), and route transfer guidance (18) were classified in Quadrant IV, indicating that their current performance levels exceed the relative importance assigned by passengers. While maintaining a serviceable bus fleet remains operationally necessary, this classification suggests that the marginal resources currently directed toward these attributes could be more strategically reallocated toward Quadrant I priorities, specifically stop infrastructure renovation and security enhancement. This resource reallocation logic is a core practical application of the IPA framework (Wardhana, 2024).

Taken together, the findings suggest a clear strategic agenda for Trans Padang Corridor VI: (1) prioritize physical infrastructure improvements at bus stops to address accessibility barriers; (2) strengthen security measures through increased surveillance and patrol protocols; (3) develop a more consistent and reliable scheduling system to reduce waiting and punctuality gaps; and (4) continue investing in frontline staff empathy and competence, which represent a demonstrated service advantage. These recommendations align with the broader policy direction of Indonesian urban transit development, which increasingly emphasizes passenger-centered service design as a key lever for ridership growth (Rizqi, 2024).

5 | CONCLUSION

This study evaluated the service quality of Trans Padang Corridor VI (City Centre – Universitas Andalas) from the perspective of 100 passengers using the Importance Performance Analysis (IPA) method across five SERVQUAL dimensions. The results yield four key conclusions. First, the overall conformity level of 91.74% and an overall average gap of −0.35 indicate that Trans Padang Corridor VI service performance consistently falls short of passenger expectations across all dimensions, though the gap remains at a moderate level comparable to similar Indonesian BRT systems.

Second, the Reliability dimension recorded the lowest conformity level (89.55%) and the largest average gap (−0.44), driven by shortfalls in bus punctuality and waiting time, making it the dimension most in need of operational improvement. Conversely, the Responsiveness dimension achieved the highest conformity level (94.41%), reflecting the strength of frontline staff performance. Third, IPA quadrant mapping identified two top-priority attributes (Quadrant I) requiring immediate action: bus stop accessibility (attribute 5) and overall security at stops and inside buses (attribute 21). Ten attributes across the Tangible, Reliability, Responsiveness, Assurance, and Empathy dimensions — including driver attitude, which recorded the highest importance score of all 23 indicators ($\bar{Y} = 4.30$) — were classified in Quadrant II and must be consistently maintained.

Based on these findings, three strategic recommendations are directed at Trans Padang Corridor VI management: (1) prioritize physical rehabilitation of bus stop infrastructure, particularly to improve accessibility for the student-dominated ridership of this corridor; (2) strengthen security measures through enhanced CCTV coverage, peak-hour patrol deployment, and accessible incident reporting channels; and (3) improve scheduling reliability through GPS-based real-time tracking, stricter departure protocols, and proactive passenger communication via digital platforms.

5.1 | Limitations and Future research

This study has several limitations. The sample is restricted to 100 respondents from a single corridor at one point in time, limiting generalizability across the broader Trans Padang network. Future research should extend the analysis to all six corridors for cross-corridor comparison, adopt longitudinal designs to track service improvements over time, and incorporate objective operational data — such as GPS-based punctuality records — alongside passenger perception measures to produce a more comprehensive service quality evaluation.

Declarations

Conflict of Interest
The authors declare that they have no conflict of interest.

Ethical approval
Not applicable

Consent to Participate
Informed consent was obtained from all participants prior to data collection. Participation was voluntary, and respondents were assured of anonymity and confidentiality.

Consent to Publish
All authors consent to the publication of this manuscript.

References

Deliyani, E. &. (2019). Pengaruh Kualitas Pelayanan Terhadap Kepuasan Pelanggan Pada Penumpang Mrt Jakarta. Jurnal Ekobis : Ekonomi Bisnis & Manajemen, 124-131.

Fachrurrozy, F. W. (2021). The Studi Of The Operation Of Trans Koetaradja Public Bus Transportation Of The Corridor II A and II B In Banda Aceh City. 1-11.

Gantara, D. G., & Sigarlaki, F. F. (2024). Brand Image, Price, and Repurchase Intention of Powercat Cat Food Customers in Bandung City. Asian Journal of Economics, Business and Accounting Volume 24, 190-199.

Ghozali, I. (2018). Aplikasi Analis Multivariate Dengan Program IBM SPSS 25. Semarang: Badan Penerbit

Universitas Diponegoro.
Hendarto, T. (2023). The Impact Of Consumer Decisions In Purchasing Food Based On Price, Product Design, Location, And Store Atmosphere. Jurnal Aplikasi Manajemen Volume 21 , 296 - 307.
Husna, N. L. (2022). Perkembangan Trans Padang Sebagai Transportasi Umum di Kota Padang. Jurnal Kronologi, 136-146.
Kotler, P. &. (2016). Marketing Management. Harlow, Essex, England: Pearson Education Limited.
Nasution, H. (2021). Pengaruh Kualitas Pelayanan Terhadap Kepuasan Penumpang Bus Trans Padang. Universitas Muhammadiyah Sumtera Barat.
Pasaribu, B. H. (2022). Metodologi Penelitian Untuk Ekonomi dan Bisnis. Banten: Media Edu Pustaka.
Priyatno, D. (2018). SPSS Paduan Mudah Olah Data Bagi Mahasiswa Dan Umum,. Yogyakarta: CV Andi Offset.
Putra, R. A. (2023). Studi Penerapan Standar Pelayanan Minimum Pada Bus Trans PAdang Pada Koridor VI (Pusat Kota-Universitas Andalas).
Rizqi, L. N. (2024). Kualitas Pelayanan Bus Trans Jatim Terhadap Kepuasan Masyarakat. Eksekusi : Jurnal Ilmu Hukum Dan Administrasi Negara, 286-302.
Rohmadhon, M. R. (2024). Analisis Kualitas Pelayanan Pada Pengguna Transportasi Bus Transjakarta. Jurnal Ekonomi, Manajemen Dan Akuntansi, 258-280.
Saputra, B. &. (2020). Penerapan Metode Importance Performance Analysis (IPA) Untuk Menganalisis Kinerja Suroboyo Bus Sebagai Moda Transportasi Umum Berdasarkan Tingkat Kepuasan Pengguna. MATHunesa: Jurnal Ilmiah Matematika, 239-253.
Sugiyono. (2016). Skala Pengukuran dan Instrumen Penelitian.
Sugiyono. (2023). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung: Penerbit ALFABETA.
Tjiptono, F. &. (2022). Manajemen Dan Strategi Kepuasan Pelanggan. Yogyakarta: Penerbit ANDI.
Wardhana, A. (2024). Consumer Satisfaction In The Digital Edge. In M. Pradana. Jawa Tengah: Penerbit CV. Eureka Media Aksara.