

Implementation of Service Quality and Customer Satisfaction at KAI

Moza Muhammad Althaf¹, Dhimas Januar Prasetyo², Wulan Meidiva³

^{1,2,3}Program Studi Manajemen, Universitas Pembangunan Jaya, Indonesia

ARTICLE INFO

Article history:

Received 20 May 2026

Revised 25 May 2026

Accepted 30 May 2026

Available online 05 June 2026

Keywords

Access by KAI; Customer Satisfaction; PT Kereta Api Indonesia; Service Quality; SERVQUAL.



This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.

Copyright © 2025 by Author. Published by Yayasan Daarul Huda

ABSTRACT

This study examines the implementation of service quality and its effect on customer satisfaction at PT Kereta Api Indonesia (KAI) through a qualitative literature review approach. Drawing on empirical studies published between 2019 and 2025, this research analyzes how KAI has applied the five dimensions of the SERVQUAL model reliability, responsiveness, assurance, empathy, and tangibles across its service delivery systems, including ticketing, station management, and on-train experience. Key findings from the synthesized literature indicate that service quality directly influences passenger satisfaction ($\beta=0.74$) and trust ($\beta=0.29$), while passenger satisfaction further mediates trust formation ($\beta=0.64$) (Levyda, 2021). Digital service channels, particularly the Access by KAI application, have become a central driver of service quality improvement, with studies confirming positive and significant effects on ticket sales and passenger satisfaction (Azizah & Sudrartono, 2025). However, gap analysis of the Access by KAI application reveals negative service gaps across all five SERVQUAL dimensions, particularly in responsiveness (gap = -0.73) and empathy (gap = -0.61), indicating persistent areas requiring improvement (Khoiriyah, 2025). Employee service quality remains the primary determinant of station and on-train quality, while booking process ease

determines ticketing quality. This study concludes that KAI must continue integrating digital innovation with human-centered service standards to achieve sustainable improvement in customer satisfaction.

INTRODUCTION

PT Kereta Api Indonesia (KAI) is the sole national railway operator and serves as the backbone of land transportation in Indonesia. As a state-owned enterprise, KAI serves millions of passengers annually with a network covering the islands of Java and Sumatra. The Indonesian government is committed to developing the national railway system as an efficient, environmentally friendly, safe, comfortable, punctual, and easily accessible mode of transportation (PT KAI, 2021). This commitment drives KAI to continuously and systematically improve its services.

Passenger trust is a key factor in winning competition among transportation modes. Levyda (2021) empirically demonstrated that service quality has a significant effect on passenger satisfaction (t-value = 4.88) and passenger trust (t-value = 2.45) in Indonesian railway services. Furthermore, the indirect effect of service quality on trust through passenger satisfaction (0.47) was proven to be greater than its direct effect (0.29), indicating that enhancing satisfaction is the primary strategic pathway for building customer trust.

In its efforts to improve service quality, KAI has undertaken massive digitalization through the Access by KAI application. Azizah & Sudrartono (2025) found that the service quality of the Access by KAI application has a direct, positive, and significant effect on ticket purchasing decisions, with information availability, staff responsiveness, and processing speed as the primary factors. However, a thorough evaluation of the application using the SERVQUAL method

and Importance Performance Analysis (IPA) by Khoiriyah (2025) revealed negative gaps across all service dimensions, with the largest gaps in responsiveness (-0.73) and empathy (-0.61).

From the perspective of measuring the physical quality of services, Munandar & Suliantoro found that seating comfort, toilet facilities, cabin temperature conditions, and on-time performance were the most frequently complained-about attributes among economy-class train passengers. Using a Modified SERVQUAL adapted from the European transportation standard EN 13816, that study identified eight critical attributes affecting the level of service of railway transportation, including station and in-train information, departure punctuality, and the comfort of supporting facilities.

Based on the above background, this study aims to synthesize findings from various empirical literature on the implementation of KAI's service quality and its impact on customer satisfaction, as well as to identify areas still requiring strategic improvement based on evidence from recent studies.

THEORETICAL REVIEW

Service Quality through the SERVQUAL Approach

Service quality is the overall consumer assessment of an entity (Berry et al., 1988). In the context of public transportation, service quality refers to passengers' comprehensive assessment of all aspects of the service (Eboli & Mazzulla, 2021). The SERVQUAL model developed by Parasuraman et al. (1988) measures service quality across five dimensions: reliability, responsiveness, assurance, empathy, and tangibles.

Levyda (2021) developed a multi-dimensional measurement of railway service quality based on a passenger experience approach, encompassing three main dimensions: ticketing quality (ease of obtaining tickets and the booking process), station quality (punctuality, cleanliness, clarity of signage, staff responsiveness, and security), and train quality (air conditioning, staff responsiveness and friendliness, cleanliness, and security). This study, conducted with 213 respondents using SEM Lisrel, demonstrated a composite reliability of service quality of 0.89, with train quality (loading = 0.93) and station quality (loading = 1.00) as the most dominant dimensions.

Munandar & Suliantoro adapted SERVQUAL with the European transportation standard EN 13816 into a Modified SERVQUAL that measures service quality through 31 attributes across 8 quality dimensions. Their study on economy-class trains found that departure punctuality, seating comfort, and emergency support facilities were the attributes most influential in determining the level of service.

Customer Satisfaction in Railway Transportation

Passenger satisfaction is defined as the feeling that arises as a result of comparing perceived quality with expectations (Wonglakorn et al., 2021). Olsson et al. (2020) state that satisfaction in public transportation is the result of simultaneous cognitive and affective evaluations. Levyda (2021) demonstrated that passenger satisfaction can be measured through cognitive dimensions (satisfaction with the ticketing process, satisfaction at the station, satisfaction on the train) and affective dimensions (overall satisfaction, congruence with expectations, mode preference, and willingness to recommend), with a composite reliability of 0.85.

Empirically, passenger satisfaction has been proven to serve as a mediator between service quality and customer trust. The indirect effect of service quality on trust through satisfaction (0.47) is higher than its direct effect (0.29), indicating that a strategy focused on

improving satisfaction is a more effective investment than directly attempting to build trust without first enhancing satisfaction (Levyda, 2021). This finding is consistent with research by Kospondani & Wahyudi (2021), who found similar effects in KAI Commuter services in Yogyakarta during the COVID-19 pandemic.

Service Digitalization: The Access by KAI Application

The Access by KAI application is PT KAI's official digital platform that facilitates a range of travel services, including ticket purchasing, self check-in, seat selection, food ordering, and real-time train tracking. Azizah & Sudrartono (2025) examined the service quality of Access by KAI at Kiaracondong Station DAOP 2 Bandung using qualitative-descriptive methods and found that all five SERVQUAL dimensions tangibles, empathy, reliability, responsiveness, and assurance influence the application's service quality, with information availability and staff responsiveness as the most dominant factors.

A quantitative data-based evaluation by Khoiriyah (2025) using the SERVQUAL and IPA methods on the Access by KAI application showed an average negative gap across all dimensions: Tangibles (-0.42), Reliability (-0.57), Responsiveness (-0.73), Assurance (-0.41), and Empathy (-0.61). These negative gaps indicate that users' expectations of the application have not yet been fully met. Identified improvement priorities include bug resolution, enhanced application stability, improved user interaction, and the provision of more responsive and professional user support services.

RESULT AND DISCUSSION

Ticketing Quality: Access and Booking Process

The ticketing quality dimension encompasses two main indicators: ease of obtaining tickets and ease of the booking process. Levyda (2021) found that the booking process contributes most to ticketing quality (loading = 0.89), while ease of obtaining tickets has a loading of 0.68. The composite reliability of this dimension is 0.77, indicating adequate measurement consistency. These findings suggest that the ticketing experience not merely ticket availability is the primary determinant of quality perception at the pre-journey stage.

Digitalization through Access by KAI directly addresses this need. Azizah & Sudrartono (2025) confirmed that the service quality of the Access by KAI application has a positive and significant effect on ticket sales at Kiaracondong Station, with information availability and processing speed as the dominant factors. Nevertheless, Khoiriyah's (2025) evaluation revealed that the reliability dimension of the application covering the accuracy and consistency of digital services still has a negative gap of -0.57, indicating the need to improve the stability of the booking system.

Station Quality: Infrastructure and Human Resources

Station quality is the dimension with the highest loading in KAI's service quality model (loading = 1.00, $t = 4.08$), underscoring its role as the most representative reflection of overall service quality (Levyda, 2021). Among the various measured indicators, staff friendliness at the station has the highest loading (0.77) compared to physical indicators such as cleanliness (0.53) and adequacy of waiting areas (0.49). This confirms that human resource quality not merely physical facilities is the primary determinant of station quality perception.

Departure and arrival punctuality have relatively lower loadings (each below 0.50) but remain statistically significant, indicating that although on-time performance influences satisfaction, it contributes less than the quality of personal service from employees. The implication is that investment in training and developing station staff competencies yields a

higher return on passenger satisfaction than investment focused solely on physical infrastructure (Levyda, 2021).

From the perspective of physical quality, Munandar & Suliantoro found that general information within stations and general station facilities are among the eight critical attributes affecting the level of service for economy-class trains. This demonstrates that physical station quality standards remain relevant, particularly for passenger segments that are more sensitive to infrastructure conditions than to personal service quality.

Train Quality: Comfort and In-Journey Service

In-train service quality has been shown to have the greatest influence on overall service quality perception (loading = 0.93, $t = 5.53$) compared to station quality and ticketing quality (Levyda, 2021). Among the six measured indicators, staff responsiveness on the train has the highest loading (0.79), followed by staff friendliness (0.73), while air conditioning has the lowest loading (0.54) though still significant. This pattern is consistent with findings on station quality, where human resource quality dominates assessments of in-journey service.

From the perspective of physical quality, Munandar & Suliantoro identified seating comfort, lighting conditions, noise levels, and emergency facilities as physical attributes that significantly influence the level of service for economy trains. Consistent passenger complaints regarding cabin temperature and toilet facilities also emerged as findings, indicating the need to standardize the physical quality of the fleet, particularly for the economy class serving the largest passenger segment.

Gap Analysis of the Access by KAI Application

A comprehensive evaluation by Khoiriyah (2025) using SERVQUAL and IPA on the Access by KAI application yielded critical findings: all five SERVQUAL dimensions showed negative gap values, meaning that users' perceptions of the actual quality of the application's service fall below their expectations. The largest gap occurred in the responsiveness dimension (−0.73), indicating user dissatisfaction with the speed and willingness of the system to respond to their needs, followed by empathy (−0.61), which reflects the minimal personal touch and individual attention in digital interactions.

Table 1. SERVQUAL Gap Analysis of the Access by KAI Application

SERVQUAL Dimension	Gap Value	Interpretation	Improvement Priority
Tangibles	−0.42	Interface appearance below expectations	Moderate
Reliability	−0.57	Stability & consistency need improvement	High
Responsiveness	−0.73	Largest gap system response too slow	Very High
Assurance	−0.41	Data security assurance relatively adequate	Moderate
Empathy	−0.61	Service personalization still insufficient	High

Source: Khoiriyah (2025), processed by the authors

Based on IPA analysis, the improvement priorities identified by Khoiriyah (2025) include: resolving application bugs, enhancing system stability, improving user interaction, activating more prominent feedback features, and providing more user-friendly and professional user support services. These findings are consistent with those of Azizah & Sudrartono (2025), which emphasize the importance of staff responsiveness speed and information availability as the dominant factors in Access by KAI user satisfaction.

The Relationship Between Service Quality, Satisfaction, and Passenger Trust

Levyda (2021) constructed a comprehensive structural model to measure the relationship between service quality, satisfaction, and trust among KAI passengers using SEM Lisrel with 213 respondents. Hypothesis testing results revealed three relationships, all statistically significant. First, service quality directly influences passenger satisfaction with a coefficient of 0.74 ($t = 4.88$), meaning that 74% of the variation in passenger satisfaction is determined by the service quality provided. Second, service quality directly influences passenger trust (coefficient = 0.29, $t = 2.45$). Third, passenger satisfaction influences passenger trust (coefficient = 0.64, $t = 3.55$).

Table 2. Hypothesis Test Results: Service Quality, Satisfaction, and Trust of KAI Passengers

Variable Relationship	Coefficient	t-value	Conclusion
Service Quality → Passenger Satisfaction	0.74	4.88	Significant
Service Quality → Passenger Trust	0.29	2.45	Significant
Passenger Satisfaction → Passenger Trust	0.64	3.55	Significant
Service Quality → Satisfaction → Trust (indirect)	0.47	3.61	Significant

Source: Levyda (2021)

The most critical finding from this model is that the indirect effect of service quality on trust through passenger satisfaction (0.47) is consistently higher than its direct effect (0.29). The key strategic implication is that KAI's service quality improvement programs will be more effective in building passenger trust if they are explicitly designed to first enhance passenger satisfaction, rather than merely focusing on meeting technical service standards.

CONCLUSION

Based on the literature synthesis conducted, this study concludes that the implementation of KAI's service quality has a significant and measurable effect on customer satisfaction, with human resource quality (staff responsiveness and friendliness) as the dominant determinant in the station and in-train service dimensions, while ease of the booking process is the primary determinant of ticketing quality (Levyda, 2021).

Digitalization through the Access by KAI application has been shown to positively influence satisfaction and ticket sales (Azizah & Sudrartono, 2025). However, the SERVQUAL evaluation of the application reveals negative gaps across all service dimensions, with responsiveness (−0.73) and empathy (−0.61) as the most critical and urgent areas for improvement (Khoiriyah, 2025). These findings indicate that KAI's digital transformation, while positive in its aggregate impact, still leaves a gap between user expectations and perceptions that must be promptly addressed.

This study recommends three strategic steps for KAI: (1) prioritize improvements in the responsiveness and empathy of the Access by KAI application through technical fixes and the development of more intuitive personalized service features; (2) maintain a focus on developing human resource quality as the primary determinant of satisfaction at stations and on trains, given that employee quality has been proven to contribute more than physical facilities; (3) design service quality improvement programs that explicitly target passenger satisfaction as an antecedent to trust, given that the indirect pathway of quality→satisfaction→trust has been proven more effective (Levyda, 2021).

ACKNOWLEDGMENTS

The authors express their gratitude to the lecturers of the Service Management course, Department of Management, Universitas Pembangunan Jaya, for their guidance throughout the process of completing this article. This article was prepared in fulfillment of the Service Management course assignment for the even semester of the 2025/2026 academic year.

REFERENCES

- Azizah, N., & Sudrartono, T. (2025). Service quality of the Access by KAI application in efforts to improve train ticket sales at Kiaracondong Station DAOP 2 Bandung. *Ekonomis: Journal of Economics and Business*, 9(1), 389–394. <https://doi.org/10.33087/ekonomis.v9i1.1910>
- Berry, L. L., Parasuraman, A., & Zeithaml, V. A. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- Eboli, L., & Mazzulla, G. (2021). Customer satisfaction as a measure of service quality in public transport planning. *International Encyclopedia of Transportation*, 6, 220–224. <https://doi.org/10.1016/b978-0-08-102671-7.10643-8>
- Khoiriyah, R. (2025). Analisis kualitas layanan aplikasi Access KAI menggunakan metode Servqual dan Importance Performance Analysis (IPA). *REMIK: Riset dan E-Jurnal Manajemen Informatika Komputer*, 9(3), 897–903. <https://doi.org/10.33395/remik.v9i3.15076>
- Kospandani, R., & Wahyudi, L. (2021). Public transportation trust and satisfaction during the Covid-19 pandemic: Study on electric train services in KAI Commuter Region 6 Yogyakarta. *International Journal of Economics, Business and Management Research*, 5(5).
- Kotler, P., & Keller, K. L. (2016). *Marketing management* (15th ed.). Pearson Education.
- Levyda, L. (2021). Kualitas pelayanan kereta-api dengan pendekatan pengalaman penumpang dan dampaknya pada kepercayaan penumpang. *Jurnal Manajemen Transportasi & Logistik (JMTRANSLOG)*, 8(3), 221–236. <https://journal.itltrisakti.ac.id/index.php/jmtranslog>
- Munandar, A., & Suliantoro, H. (n.d.). Pengukuran kualitas pelayanan kereta api kelas ekonomi dengan pendekatan Modified SERVQUAL. Fakultas Teknik, Universitas Diponegoro. <https://media.neliti.com/media/publications/197880-pengukuran-kualitas-pelayanan-kereta-api.pdf>
- Olsson, L. E., Friman, M., Lättman, K., & Fujii, S. (2020). Travel and life satisfaction: From Gen Z to the silent generation. *Journal of Transport and Health*, 18. <https://doi.org/10.1016/j.jth.2020.100894>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- PT Kereta Api Indonesia. (2021). *Mengapa KAI Prioritas Anda*. PT KAI.

Wonglakorn, N., Ratanavaraha, V., Karoonsoontawong, A., & Jomnonkwao, S. (2021). Exploring passenger loyalty and related factors for urban railways in Thailand. *Sustainability*, 13(10), 1–15. <https://doi.org/10.3390/su13105517>