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Research Paper

Determinants of User Satisfaction in Public Transportation; The Role of service Quality and Human Resource Quality

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Abstract

Public transportation plays a vital role in supporting urban mobility and providing efficient access to economic, social, educational, and public services. Customer satisfaction in public transportation is influenced not only by physical facilities and operational performance but also by the quality of service delivery and human resources. This study examines how service quality and human resource quality affect customer satisfaction among TransJakarta users in Jakarta. A quantitative, linear regression design was employed using a survey approach involving 384 respondents. Data were collected through a structured questionnaire using a five-point Likert scale and analyzed using statistical hypothesis testing to examine the partial and simultaneous effects of service quality and human resource quality on customer satisfaction. The results show that service quality and human resource quality simultaneously have a statistically significant effect on customer satisfaction ($T = 8.617$, $p < 0.001$). Service quality has a positive and statistically significant effect on customer satisfaction ($T = 11.374$, $p < 0.001$), while human resource quality also has a statistically significant effect ($T = 6.835$, $p < 0.001$). These findings indicate that passenger satisfaction is shaped by the integration of effective service management and competent human resources. Therefore, continuous improvement in service standards, employee competence, responsiveness, professionalism, and customer-oriented management is essential for strengthening public transportation service performance and passenger satisfaction.

Keywords: *Customer satisfaction, Human resource quality, Service quality, Public transportation*

INTRODUCTION

Public transportation is an essential component of sustainable urban development because it connects communities to economic, educational, social, and public service activities. Rising population mobility in urban areas has increased demand for transportation systems that are reliable, accessible, safe, comfortable, and efficient. The effectiveness of public transportation services depends not only on the availability of infrastructure and operational capacity but also on service providers' ability to meet users' expectations and needs. Therefore, user satisfaction has become an important indicator for evaluating the effectiveness of public transportation services (Tuan et al., 2022; Yao et al., 2021; Sogbe et al., 2025).

In Indonesia, TransJakarta is a Bus Rapid Transit (BRT) system that plays a strategic role in supporting public mobility across the Special Capital Region of Jakarta (DKI Jakarta). In response to growing urban transportation demands, TransJakarta has continuously expanded its service network, enhanced intermodal integration, upgraded bus stop facilities, adopted digital technologies, and developed the use of electric buses. According to PT Transportasi Jakarta's annual reports, passenger trips reached approximately 284.92 million in 2023 and subsequently increased to approximately 371 million in 2024. This growth demonstrates TransJakarta's increasingly

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significant role in meeting public mobility needs while also reflecting rising expectations for the consistency and quality of transportation services.

Table 1. Result Passenger Transjakarta 2023-2025

Year	Total Passenger	Average Daily Passenger	Remarks
2023	±284.920.116	±780,603	±780,603
2024	±371.000.000	±1,014,754	±1,014,754
2025	±400.000.000	±1,014,754	±1,014,754

Source: PT. Transportasi Jakarta, 2025

The growth in passenger numbers has created increasingly complex service management challenges. Passengers evaluate transportation services not only by fleet availability and punctuality but also by accessibility, safety, comfort, cleanliness, information availability, and their experiences with service personnel. Accordingly, improvements in infrastructure and technology need to be accompanied by stronger organizational capabilities to deliver high-quality services. This indicates that user satisfaction in public transportation results from service experiences that involve both operational performance and human interactions.

In service management research, Service Quality is among the most frequently examined factors explaining user satisfaction. Service Quality reflects users' evaluations of an organization's ability to deliver services that meet their expectations. In the public transportation sector, Service Quality can be reflected in operational reliability, punctuality, accessibility, comfort, safety, cleanliness, facilities, and information availability. Previous studies have demonstrated that various transportation service attributes are associated with passenger satisfaction, although the magnitude of their effects may vary by users' characteristics and perceptions (Tuan et al., 2022; Saleem et al., 2023; Singh & Kathuria, 2023). These findings underscore the importance of Service Quality in understanding users' experiences with public transportation.

However, an approach that focuses exclusively on service quality has not fully explained how human resource capabilities contribute to user satisfaction. In public transportation operations, service delivery occurs not only through vehicles, bus stops, payment systems, and information technologies but also through direct interactions between passengers and service personnel. Drivers, bus stop attendants, security officers, and customer service personnel are organizational representatives who interact directly with passengers. Their ability to implement operational procedures, provide information, communicate effectively, handle complaints, and maintain professional standards can directly influence users' experiences.

Previous studies have underscored the importance of employee behavior and competence in transportation services. Herath et al. (2024) showed that driver and conductor behavior, comfort, and service quality were linked to passenger satisfaction in BRT systems. Mardikawati et al. (2025) likewise emphasized the importance of employee competence, performance, behavior, professionalism, safety, and driver service ethics. Yuwono et al. (2024) found an association between human resource quality, service performance, and user satisfaction in the port transportation sector. Although these studies provide empirical support for the importance of human resources, the role of human resource quality as an independent construct that makes a distinct contribution to user satisfaction in BRT systems warrants further investigation.

A key conceptual issue that needs to be addressed is the potential overlap between Service Quality and Human Resource Quality. In conventional service quality approaches, dimensions such as responsiveness, assurance, and empathy already encompass aspects of employee behavior and interaction. Meanwhile, Human Resource Quality may also include competence, professionalism, communication, and responsiveness. When both constructs employ identical indicators or closely

related measurement concepts, their respective contributions to user satisfaction become difficult to distinguish. Therefore, this study differentiates the two constructs based on their objects and measurement characteristics. Service Quality focuses on users' perceptions of the performance and characteristics of the transportation service system, whereas Human Resource Quality focuses on the individual capabilities and professional attributes of employees in performing their service responsibilities. This distinction enables the study to examine whether Human Resource Quality provides additional explanatory value beyond the quality of transportation services perceived by users.

Addressing this research gap, the present study does not merely re-examine the relationship between service quality and TransJakarta user satisfaction. Rather, it extends the perspective of transportation service management by examining human resource quality as a distinct construct. This study aims to analyze the effects of Service Quality and Human Resource Quality on Customer Satisfaction among TransJakarta users, both individually and simultaneously. Theoretically, this study is expected to contribute to the development of public transportation satisfaction research by clarifying the distinction between transportation service system quality and human resource quality as two interrelated dimensions with different conceptual characteristics. Practically, the findings are expected to provide insights for TransJakarta management in formulating service improvement strategies that extend beyond infrastructure and technological development to include the enhancement of employee competence, professionalism, and human resource capabilities.

LITERATURE REVIEW

Public transportation plays an essential role in urban mobility and in access to public services. Its performance is largely reflected in customer satisfaction, which captures passengers' overall evaluations of the services they receive. Satisfaction is influenced by several factors, including reliability, punctuality, accessibility, comfort, safety, and cleanliness (Tuan et al., 2022; Sogbe et al., 2025).

Service Quality refers to passengers' perceptions of how well transportation services meet their needs and expectations. It encompasses operational reliability, punctuality, accessibility, safety, comfort, cleanliness, and the availability of adequate facilities and information. Previous studies show that accessibility, service coverage, connectivity, and operational performance contribute positively to passenger satisfaction (Saleem et al., 2023; Singh & Kathuria, 2023).

However, transportation service performance is determined not only by operational facilities and system attributes but also by employees who interact directly with passengers. Drivers, attendants, and customer service personnel play key roles in providing information, ensuring safety, handling complaints, and responding to passenger needs. Herath et al. (2024) highlight that driver and conductor behavior significantly influences passenger satisfaction.

Human Resource Quality refers to employees' competencies and professional attributes, including knowledge, technical skills, professionalism, discipline, integrity, and communication skills. These qualities support effective service delivery and positive passenger experiences. Therefore, Service Quality and Human Resource Quality are complementary dimensions that may jointly contribute to Customer Satisfaction in public transportation.

Service Quality and Human Resource Quality are two distinct yet complementary dimensions of public transportation performance. Service Quality focuses on passengers' evaluations of the transportation system, including punctuality, accessibility, reliability, cleanliness, comfort, and safety. By contrast, Human Resource Quality emphasizes employees' competencies, technical knowledge, professionalism, discipline, integrity, and communication skills. This distinction is important to avoid conceptual overlap and to ensure that both variables can be examined

independently.

Customer satisfaction refers to passengers' overall evaluations of transportation services, shaped by their expectations and perceived experiences. It reflects assessments of reliability, accessibility, comfort, safety, operational performance, and employee interactions. Previous studies indicate that passenger satisfaction is influenced by multiple service attributes rather than a single factor (Tuan et al., 2022; Singh & Kathuria, 2023).

Service Quality and Customer Satisfaction are positively related because reliable, punctual, accessible, comfortable, and safe transportation services are more likely to meet passengers' expectations. Prior research highlights the contributions of service accessibility, coverage, timely information, and operational performance to passenger satisfaction (Tuan et al., 2022; Saleem et al., 2023; Singh & Kathuria, 2023). Therefore, higher Service Quality is expected to contribute positively to Customer Satisfaction among TransJakarta passengers.

Human Resource Quality and Customer Satisfaction are linked through employees' direct involvement in service delivery. Employees with adequate competencies, professional attitudes, discipline, and effective communication skills can enhance passenger experiences by providing appropriate assistance, maintaining safety, and responding effectively to passenger needs. Herath et al. (2024) demonstrate that driver and conductor behavior significantly contributes to passenger satisfaction. Thus, higher Human Resource Quality is expected to contribute positively to Customer Satisfaction.

Furthermore, examining both variables simultaneously provides a more comprehensive understanding of passenger satisfaction. Service Quality represents the performance of the transportation system, whereas Human Resource Quality reflects the capabilities of employees who deliver the services. By distinguishing these constructs, this study investigates whether employee competence and professionalism contribute to explaining Customer Satisfaction beyond conventional transportation Service Quality. This approach offers a broader perspective on the determinants of passenger satisfaction in TransJakarta services.

Research Hypothesis

H1: Service quality and human resource quality of frontline employees influence user satisfaction in TransJakarta public transportation.

H2: Service quality influences user satisfaction in public transportation on TransJakarta.

H3: Human resource quality of frontline employees influences user satisfaction in public transportation TransJakarta.

RESEARCH METHOD

Design

This study employed a quantitative research approach with an explanatory survey design to examine the relationships among service quality, frontliner human resource quality, and user satisfaction among TransJakarta users. A quantitative approach was selected because the study seeks to measure the relationships among the research variables using numerical data and statistical analysis in SPSS. The explanatory design was used to examine whether service quality and frontliner human resource quality are associated with user satisfaction among TransJakarta passengers.

The study was conducted among users of TransJakarta public transportation services in Jakarta, Indonesia. The research focused on passengers who had direct experience with TransJakarta services, enabling them to evaluate the quality of service received and their interactions with drivers. Data were collected using a structured questionnaire based on the

operational definitions of the three research constructs. A five-point Likert scale was used to measure respondents' responses to the questionnaire items.

Population and Sample

The population comprised all TransJakarta users with direct experience using the system, with an average daily ridership of approximately one million passenger trips. A total of 384 respondents were selected based on a sample-size calculation using a 95% confidence level, a 5% margin of error, and a population proportion of 50%. The study employed accidental (convenience) sampling because no comprehensive sampling frame of individual TransJakarta users was available to facilitate random selection. Data were collected through questionnaires distributed directly to TransJakarta passengers at bus stops. Respondents were recruited based on their experience with TransJakarta services and their willingness to participate. The final sample consisted of 384 respondents, comprising 53 individuals aged 16–19 years (13.80%) and 331 individuals aged 20–60 years (86.20%). These respondents provided firsthand assessments of service quality, human resource quality, and customer satisfaction with TransJakarta services.

Research Instruments

Data were collected using structured questionnaires measuring three constructs: user satisfaction, service quality, and human resource quality. The user satisfaction instrument initially consisted of 24 items, comprising 12 favorable and 12 unfavorable items. The construct was operationalized through indicators covering service availability, responsiveness, punctuality, professionalism, and satisfaction.

The service quality instrument initially consisted of 26 items covering physical evidence, reliability, responsiveness, assurance, and empathy. The human resource quality instrument initially consisted of 26 items with indicators related to intellectual quality and education. All items were measured using a five-point Likert scale. Before the main survey, the instruments were tested, and 12 items for service quality and 12 for human resource quality were retained for the main analysis.

Table 2. Validity and Reliability Test

Variable	Validity Range	Item	Reliability
Customer Satisfaction	0,402-0,860	24	0,860
Service Quality	0,361-0,859	26	0,859
Human Resource Quality	0,716-0,822	12	0,822

Data Analysis

Data in this study were analyzed using multiple linear regression to examine the effects of Service Quality and Human Resource Quality on Customer Satisfaction. Multiple linear regression was selected because the study involves two independent variables hypothesized to influence a single dependent variable, both partially and simultaneously. This analysis was used to determine the direction and magnitude of the effect of each independent variable on Customer Satisfaction.

Hypothesis testing was conducted using the t-test and F-test. The t-test was employed to examine the partial effect of each independent variable on the dependent variable. Specifically, the t-test was used to determine whether Service Quality and Human Resource Quality each have a statistically significant effect on Customer Satisfaction. Meanwhile, the F-test was used to assess whether Service Quality and Human Resource Quality jointly have a statistically significant effect on Customer Satisfaction.

In addition, the coefficient of determination (R^2) was examined to assess the explanatory

power of the regression model. The R^2 value indicates the proportion of variation in Customer Satisfaction that can be explained by Service Quality and Human Resource Quality. A higher R^2 value indicates that a greater proportion of the variation in the dependent variable is explained by the independent variables included in the model, while the remaining variation is attributable to other factors not included in the present study.

All data processing and statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS). Statistical tests were conducted at a 5% significance level ($\alpha = 0.05$). Hypothesis decisions were based on the significance probability (p-value). A p-value less than 0.05 ($p < 0.05$) indicates that the tested effect is statistically significant, whereas a p-value greater than 0.05 ($p > 0.05$) indicates that the effect is not statistically significant.

FINDINGS AND DISCUSSION

Table 3. Participant Demography

Demographic Characteristics	Frequency	Percentage
Age		
16-19 years	53	13,80%
20-60 years	331	86,20%
Total	384	100%
Gender		
Male	149	38,80%
Female	235	61,19%
Total	384	100%
Public Transportation Usage Frequency		
15-30 times (2-3 times/week)	86	22,4%
31-50 times (4-5 timesweek)	151	39,3%
> 50 times (almost daily)	147	38,3%
Total	384	100%

Based on Table 3, respondents were predominantly adults, with 331 respondents (86.20%) aged 20–60 years and 53 respondents (13.80%) aged 16–19 years. The predominance of adult respondents may be understood in the context of urban mobility, where transportation needs are frequently associated with employment, education, economic activities, and social activities. In Jakarta, public transportation provides access not only to destinations near residential areas but also to workplaces, educational institutions, commercial centers, public-service facilities, and other areas of economic activity. Consequently, the substantial representation of adult users provides relevant information on how public transportation users perceive service quality and the quality of frontline human resources. However, this age composition is descriptive and should not be interpreted as evidence that age determines perceptions of service quality or satisfaction.

By gender, female respondents constituted the largest group, with 235 respondents (61.19%), compared with 149 male respondents (38.80%). This distribution indicates a higher participation rate among women in the survey. From a user-experience perspective, gender composition is relevant information because travel patterns, service expectations, and experiences with public transportation may vary across users. Nevertheless, the present study did not specifically test whether perceptions of Service Quality, Human Resource Quality, or Customer Satisfaction differed significantly by gender. Therefore, the gender distribution is reported primarily to describe the composition of the research sample rather than to establish gender-based differences in the research variables.

A notable characteristic of the sample was the relatively high frequency of public transportation use. A total of 147 respondents (38.30%) reported using public transportation more than 50 times, indicating a substantial proportion of respondents with a high frequency of use. In addition, 151 respondents (39.30%) reported using public transportation 31–50 times, while 86 respondents (22.40%) reported using it 15–30 times. Thus, the sample was characterized by a considerable proportion of users with repeated and relatively intensive exposure to public transportation services. This characteristic is relevant because frequent users have more opportunities to encounter different aspects of service delivery and to develop perceptions based on repeated service experiences.

Table 4. Summary Model 1

Path Analysis	R	R^2	*R Square Change*
Service quality and Human resource quality → user satisfaction	0,505	0,255	0,255

Source: Output Analysis SPSS, 2026

Table 5. Summary Model 2

Path Analysis	R	R^2	*R Square Change*
Human resource quality → User satisfaction	0,331	0,109	0,109
Service quality → User satisfaction	0,503	0,253	0,253

Source: Output Analysis SPSS, 2026

Based on Tables 4 and 5, further examination of the coefficient of determination indicates that Service Quality alone explains 25,3% of the variance in Customer Satisfaction (R^2 = 0,253), whereas the regression model incorporating both Service Quality and Human Resource Quality explains 25,5% of the variance (R^2 = 0,255). Thus, the inclusion of Human Resource Quality increases the model's explanatory power by only 0,002, equivalent to 0,2%. This finding suggests that the additional contribution of Human Resource Quality to the model's predictive capacity is relatively limited after accounting for Service Quality. However, the difference in R^2 values alone cannot establish whether the effect of Human Resource Quality is statistically significant. Therefore, the individual regression coefficients in the simultaneous model must also be considered. Human Resource Quality does not have a statistically significant independent effect after controlling for Service Quality. These findings indicate that Service Quality is a more dominant predictor of Customer Satisfaction, whereas Human Resource Quality provides only a limited additional contribution that is not statistically significant in the simultaneous regression model. 74,5% of the variance in Customer Satisfaction remains unexplained by the two predictors included in this study and may be attributable to other factors beyond the scope of the present research.

Table 6. Anova 1

Path Analysis	Model	df	F	Sig.
Service quality and Human resource quality → user satisfaction	Regression	2	64,976	0,000
	Residual	380		
	Total	382		

Source: Output Analysis SPSS, 2026

Table 7. Anova 2

Path Analysis	Model	df	F	Sig.
Human resource quality → User satisfaction	Regression	1	46,722	0,000
	Residual	381		

	Total	382		
Service quality → User satisfaction	Regression	1	129,375	0,000
	Residual	381		
	Total	382		

Source: Output Analysis SPSS, 2026

Based on the ANOVA results presented in Tables 6 and 7, all regression models show statistically significant relationships with User Satisfaction. In the simultaneous model, the combination of Service Quality and Human Resource Quality yields an F-value of 64.976 with a significance level of $p < 0.001$. Individually, Human Resource Quality yields an F-value of 46.722 ($p < 0.001$), while Service Quality yields an F-value of 129.375 ($p < 0.001$). All significance values are below the established threshold of 0.05 ($p < 0.05$). Therefore, all regression models are statistically significant. These findings indicate that Service Quality and Human Resource Quality jointly have a statistically significant relationship with User Satisfaction, and each variable also has a statistically significant relationship when examined separately.

Table 8. Coefficients 1

Unstandardized Coefficient			**Standardized Coefficient**		
Model	**B**	**Std. Error**	**B**	**T**	**Sig.**
(Constant)	37,810	24,503		1,543	
Service quality	0,486	0,056	0,476	8,617	0,000
Human Resource Quality	0,225	0,273	0,046	0,827	0,409

Source: Output Analysis SPSS, 2026

Table 9. Coefficients 2

Unstandardized Coefficient			**Standardized Coefficient**		
Model	**B**	**Std. Error**	**B**	**T**	**Sig.**
(Constant)	-4,550	26,210		-0,174	0,860
Human Resource Quality	1,630	0,238	0,331	6,835	0,000
(Constant)	56,100	10,552		5,317	0,000
Service quality	0,514	0,045	0,503	11,374	0,000

Source: Output Analysis SPSS, 2026

Based on the regression coefficient analysis presented in Tables 8 and 9, Service Quality and Human Resource Quality have positive effects on User Satisfaction, both when examined individually and simultaneously. The individual regression results indicate that Service Quality has a positive and statistically significant effect on User Satisfaction ($\beta = 0.503$, $t = 11.374$, $p < 0.001$), and Human Resource Quality has a positive and significant effect ($\beta = 0.331$, $t = 6.835$, $p < 0.001$). When the variables are examined simultaneously, Service Quality retains a positive and statistically significant effect ($\beta = 0.476$, $t = 8.617$, $p < 0.001$), whereas Human Resource Quality does not show a statistically significant independent effect ($\beta = 0.046$, $t = 0.827$, $p = 0.409$). All statistical tests were evaluated using a significance threshold of 0.05 ($p < 0.05$). These findings suggest that Service

Quality is a more dominant predictor of User Satisfaction, while Human Resource Quality remains an important complementary aspect of public transportation service delivery, particularly in supporting the overall quality of services provided to TransJakarta users.

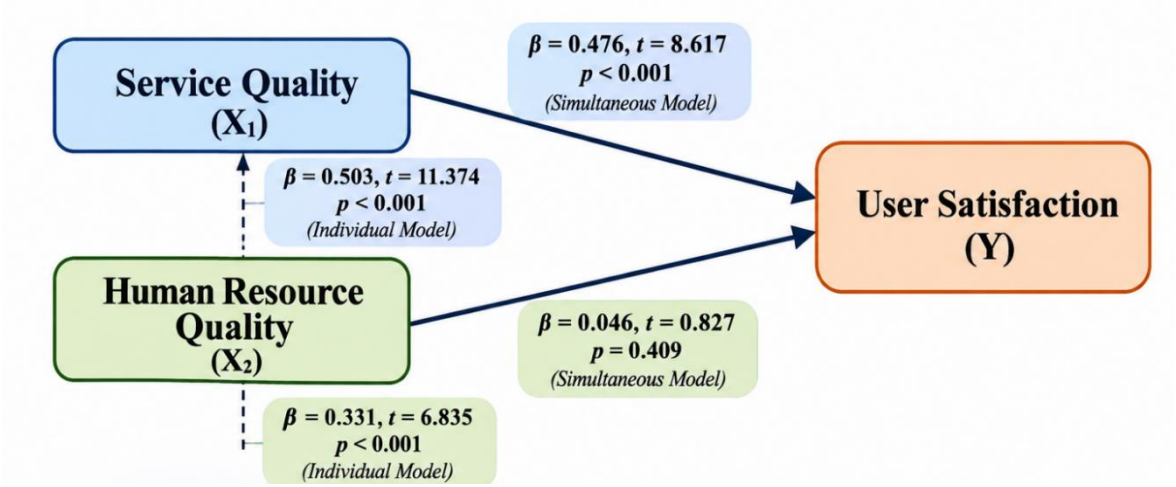

Figure 1. Research Model and Empirical Findings

Hypothesis Research

H1 The ANOVA results show an F-value of 64.976 and a significance level of $p < 0.001$. This indicates that the regression model incorporating Service Quality and Human Resource Quality is statistically significant in explaining variation in User Satisfaction. The combined model produces an R^2 value of 0.255, indicating that both predictors account for 25.5% of the variance in User Satisfaction.

H2 indicates that service quality has a positive and statistically significant effect on user satisfaction. The simultaneous regression analysis produced a standardized coefficient (β) of 0.476, a t-value of 8.617, and a significance level of $p < 0.001$. These findings indicate that Service Quality contributes significantly to User Satisfaction, even after controlling for Human Resource Quality.

H3 Human resource quality has a standardized coefficient (β) of 0.331, a t-value of 6.835, and $p < 0.001$, indicating a significant association with user satisfaction. In the simultaneous regression model, Human Resource Quality does not have a statistically significant independent effect (β = 0.046, t = 0.827, p = 0.409). Therefore, it is not supported as a human resource with user satisfaction.

Discussion

Determinants of Service Quality and Human Resource Quality on Customer Satisfaction

Customer satisfaction in public transportation is passengers' overall evaluation of the service experience they receive when interacting with a transportation system. Satisfaction is determined not only by the availability of transportation modes but also by passengers' perceptions of reliability, safety, security, comfort, accessibility, information provision, responsiveness, and the quality of interactions throughout the service journey. Recent evidence indicates that service quality and customer satisfaction are central to understanding public transportation use, particularly in bus and bus rapid transit systems in developing countries. Sogbe et al. (2025) identified safety, security, comfort, reliability, and accessibility as key determinants of users' perceptions of bus service quality and satisfaction. These findings suggest that passenger

satisfaction is a multidimensional construct reflecting both operational performance and the overall quality of the passenger experience.

The importance of service quality is further underscored by Tuan et al. (2022), who examined public transportation in Ho Chi Minh City. Their findings indicate that the relationship between service quality attributes and passenger satisfaction may vary across passenger groups. Using the three-factor theory, the study found that the relative importance of service attributes differed between captive and non-captive riders. Passenger information, rider care, comfort, availability, accessibility, and environmental attributes may therefore have different levels of importance depending on passengers' characteristics and travel circumstances. This evidence suggests that improvements in public transportation should account for differences in passenger expectations rather than assume that all service attributes contribute equally to satisfaction.

Research on human resources in Indonesian transportation organizations offers complementary insights into this relationship. Arbiansyah & Mukminin (2025), in their study of work motivation, integrity, and employee engagement at PT Kereta Api Indonesia (Persero), examined organizational and employee-related factors relevant to workforce integrity and engagement. Although their study does not directly establish the effect of Human Resource Quality on passenger satisfaction, it provides a relevant organizational perspective on the importance of employee motivation and engagement in transportation services. Employees with commitment, integrity, and engagement may be better positioned to support consistent service delivery. Nevertheless, the relationship between these employee characteristics and customer satisfaction requires direct empirical examination.

The importance of employee capabilities also extends to organizational adaptation. Guritna & Arbiansyah (2024) examined how psychological capital and job security factors shape readiness to change. Their research offers a complementary perspective on the organizational and psychological conditions linked to employees' readiness to respond to change. In public transportation, where service delivery may be affected by technological developments, operational adjustments, and changing passenger expectations, employees' capacity to adapt is an important consideration. However, readiness to change should be distinguished from overall HRQ; rather, it represents one aspect of the broader employee capabilities that may support service improvement.

The passenger perspective offers an additional reason to examine these organizational factors in Indonesian transportation. Rahayu et al. (2023) analyzed factors influencing commuter behavior in the Greater Jakarta area (Jabodetabek). Their study provides a basis for understanding commuter behavior in an urban transportation environment with diverse travel needs and conditions. Although commuter behavior is not equivalent to customer satisfaction, research on commuting patterns underscores the importance of understanding passengers' experiences and behavioral responses when evaluating public transportation services. For TransJakarta, examining both service quality and HRQ may therefore provide a more comprehensive understanding of how system-level performance and employee-related factors relate to passenger evaluations.

Service Quality on User Satisfaction

The findings of this study indicate that the higher the service quality perceived by TransJakarta users, the higher their level of customer satisfaction. This result shows that service quality is an important component in shaping passengers' overall evaluation of their public transportation experience. From an organizational management perspective, this relationship suggests that customer satisfaction is not merely the outcome of direct interactions between passengers and the transportation service, but also reflects how the organization plans, manages, implements, and controls its overall service delivery processes. Service quality can be viewed as an organizational outcome that reflects the effectiveness of integrating human resources, fleets,

infrastructure, technology, information systems, operating procedures, and monitoring mechanisms to deliver services that respond to users' needs.

Empirical evidence from TransJakarta shows a relationship between service quality and customer satisfaction. Indra & Suyanto (2023), based on 391 TransJakarta users, found that the tangibility, responsiveness, assurance, and empathy dimensions of SERVQUAL positively influenced customer satisfaction, whereas reliability did not have a significant individual effect. Nevertheless, the SERVQUAL dimensions collectively had a significant effect on customer satisfaction. These findings indicate that customer satisfaction among TransJakarta users is multidimensional and shaped by a combination of physical and non-physical service attributes. From a management perspective, this suggests that improving customer satisfaction cannot depend on intervention in a single service dimension; rather, it requires an integrated approach to managing the entire service system.

The relationship can also be explained by passengers' actual service experiences. The TransJakarta customer journey involves several interconnected stages, including access to bus stops, payment, waiting for buses, boarding and alighting, in-vehicle conditions, transfers between services, access to travel information, and complaint handling. Each stage can shape passengers' perceptions of service quality. Relatively long waiting times, overcrowding, inadequate bus-stop conditions, delays, insufficient information, suboptimal cleanliness, or slow complaint resolution may influence passengers' overall assessment of service quality and, subsequently, their satisfaction. From an operations management perspective, these conditions underscore the importance of integrating capacity planning, scheduling, fleet management, bus-stop management, passenger information management, and service-quality control.

Empirical evidence on these service attributes also appears in recent research on TransJakarta. A 2024 study of TransJakarta Corridor I used the Customer Satisfaction Index (CSI) and Importance Performance Analysis (IPA) to assess passenger satisfaction and pinpoint service attributes needing improvement. The study identified waiting time, travel time, bus-stop comfort, schedule adherence, bus crowding, noise, seat availability, cleanliness, and complaint handling as key areas for improvement. These findings indicate that service quality is not merely an abstract organizational matter but is directly reflected in operational performance experienced by passengers. From TransJakarta management's perspective, this information can support evidence-based decision-making, resource allocation, performance-indicator development, and the evaluation of service-improvement programs.

From an organizational management perspective, the findings of this study indicate that improving customer satisfaction should be integrated into service quality management, rather than treated solely as the responsibility of a customer-service unit. TransJakarta management needs to translate service standards into measurable performance indicators at both the organizational and operational levels. For example, punctuality can be monitored through vehicle arrival and departure indicators; comfort can be evaluated through vehicle and bus-stop conditions; responsiveness can be assessed through complaint-resolution time; and safety can be monitored through incident rates and compliance with safety procedures. Such an approach enables the organization to connect customer perceptions with operational indicators, allowing managerial decisions to be based on empirical performance data rather than assumptions.

This perspective is further supported by recent research on Jakarta's integrated public transportation system. Fikri et al. (2025), in their study of JakLingko Mikrotrans, reported a Customer Satisfaction Index of 79.83%, indicating a generally satisfied user base; however, all evaluated attributes still showed negative service-quality gaps. Their Importance Performance Analysis identified operational smoothness, driver competence, staff friendliness, and service accessibility as priority areas for improvement. The authors recommended optimizing fleet

management and arrival schedules, improving employee competence and service ethics, upgrading bus-stop facilities, standardizing service operations, and strengthening real-time scheduling and information systems. Although the study focused on Mikrotrans rather than the TransJakarta BRT service itself, its findings are relevant to the broader Jakarta public transportation ecosystem because they show that satisfactory customer evaluations can coexist with identifiable service gaps. From a managerial perspective, this reinforces the need to combine customer satisfaction measurement with operational diagnostics and continuous service improvement.

Human Resource Quality on User Satisfaction

This effect became statistically insignificant after Service Quality was included in the same regression model. This difference suggests that the contribution of Human Resource Quality to user satisfaction is not sufficiently independent of Service Quality. Users' evaluations of employee competence, professionalism, responsiveness, communication, and service orientation may overlap with their overall perceptions of service quality. Human Resource Quality does not provide a substantial additional explanation of user satisfaction beyond what is already explained by Service Quality.

This finding highlights the importance of distinguishing between the individual contribution of organizational resources and their independent contribution within an integrated service model. In public transportation, passengers evaluate their experiences across interconnected service dimensions, including service reliability, responsiveness, accessibility, safety, and the consistency of service delivery. Although employee competence and professionalism remain relevant organizational capabilities, their contribution to passenger satisfaction may be reflected in the broader quality of the services users experience. Research by Yadav et al. (2025) shows that passenger satisfaction with public bus services is associated with service quality and users' personal attitudes, emphasizing the importance of evaluating satisfaction across multiple service-related dimensions. Anjani et al. (2025) identify service quality as an important factor in explaining customer satisfaction in urban public transportation. These findings provide a relevant perspective for understanding why the independent contribution of Human Resource Quality may be limited when overall Service Quality is considered simultaneously.

The results also offer an important distinction from previous research. Da Costa et al. (2024) found that Human Resource Quality was significantly related to customer satisfaction in public registry and notary services. However, differences in organizational characteristics, service delivery mechanisms, and the relationships between human resource performance and service quality may yield different empirical outcomes. Passengers experience transportation services as an integrated operational system rather than evaluating employee performance in isolation. Their satisfaction may therefore depend more directly on the overall consistency, reliability, responsiveness, and effectiveness of service delivery than on their assessment of human resource quality as a separate factor.

From a managerial perspective, these findings suggest that TransJakarta should integrate human resource development into broader service quality improvement strategies. Employee training, professional competence, communication skills, discipline, and responsiveness remain important, but their development should be directed toward measurable service outcomes experienced by passengers. Human resource management should therefore be aligned with operational performance standards, service responsiveness, passenger safety, and service reliability. This approach may strengthen the contribution of employee performance to the overall passenger experience.

CONCLUSIONS

This study concludes that Service Quality and Human Resource Quality are key determinants of Customer Satisfaction among TransJakarta users. The findings show that both factors are positively and statistically significantly associated with customer satisfaction, underscoring their importance in improving the overall quality of public transportation services.

Service Quality plays a fundamental role in shaping customer satisfaction through the reliability, responsiveness, comfort, safety, accessibility, cleanliness, and consistency of service delivery. Improving these dimensions can help TransJakarta deliver a more reliable and satisfying travel experience. Therefore, continuous service evaluation and improvement are essential to ensure that transportation services meet users' expectations and needs.

Human Resource Quality also contributes significantly to customer satisfaction through employee competence, professionalism, discipline, communication skills, responsiveness, and customer-oriented behavior. These qualities can enhance service interactions, address passenger concerns effectively, and strengthen public trust in TransJakarta services. Accordingly, continuous employee training, professional development, and the reinforcement of a customer-oriented organizational culture are important management priorities.

Overall, this study highlights that customer satisfaction in public transportation depends not only on the quality of services provided but also on the capabilities of the human resources responsible for delivering them. Integrating service quality improvement with effective human resource management can help TransJakarta strengthen service performance, enhance passenger experiences, and promote sustainable public transportation development. These findings contribute to the public transportation management literature by emphasizing the complementary roles of service delivery and organizational capabilities in fostering customer satisfaction.

LIMITATION & FURTHER RESEARCH

This study has several limitations that should be considered when interpreting the findings. First, the research focuses exclusively on TransJakarta users in Jakarta, which may limit the generalizability of the results to other public transportation systems with different operational characteristics, infrastructure, and management practices. Second, the study employs a cross-sectional quantitative design, capturing respondents' perceptions at a single point in time. Consequently, it cannot fully explain changes in customer satisfaction resulting from service improvements or organizational changes. Third, the study relies on self-reported questionnaire data, which may be influenced by individual expectations, personal experiences, and subjective perceptions. Finally, the research focuses primarily on service quality and human resource quality, while other factors that may influence customer satisfaction are not examined in depth.

Future research could extend this study by examining other public transportation systems, including commuter rail, mass rapid transit, light rail transit, and bus rapid transit, in different cities. Such comparisons would help determine whether the relationships among service quality, human resource quality, and customer satisfaction remain consistent across transportation contexts. Further studies could also employ longitudinal or mixed-methods approaches to deepen understanding of how customer perceptions change over time and how service improvements affect satisfaction. In addition, researchers could incorporate objective operational indicators, such as punctuality, waiting time, service reliability, and complaint records, to complement survey findings. Future research could also investigate additional variables, including safety, accessibility, affordability, passenger trust, employee competence, and organizational management practices, as well as their relationships with customer loyalty and the intention to reuse public transportation. These directions would provide a more comprehensive understanding of the factors contributing to customer satisfaction and support the development of more effective, sustainable, and customer-

oriented public transportation management strategies.

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