THE IMPACT OF SERVICE QUALITY AND CUSTOMER SATISFACTION ON REUSE INTENTION IN URBAN PUBLIC TRANSPORTATION

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Abstract

Background: Public transportation is an important key to solving traffic congestion and air pollution problems. Bogor is ranked as the 832nd most congested city globally in 2022 and has a poor air quality index. In an effort to mitigate these challenges, the government initiated a soft launch of a public transportation service in Bogor City, named BISKITA Transpakuan, in November 2021. But, from May 2023 to May 2024, the average daily ridership of BISKITA Transpakuan was only 0.86%. In contrast, cities worldwide that have successfully achieved public transportation utilization targets aligned with the Sustainable Development Goals typically exhibit daily ridership percentages ranging from 9% to 12%. Consequently, concerted efforts are necessary to increase BISKITA Transpakuan ridership.
Purpose: The study investigates the impact of service quality and customer satisfaction on reuse intention within the urban public transportation context, specifically focusing on the BISKITA Transpakuan bus transit system in Bogor, Indonesia.
Design/methodology/approach: The research employs a hybrid data collection approach, combining online and offline surveys, to gather responses from 250 BISKITA Transpakuan passengers. The study utilizes Partial Least Squares Structural Equation Modelling (PLS-SEM) to analyze the relationships between transportation performance, driver performance, service quality, customer satisfaction, and reuse intention.
Finding/result: The findings reveal that both transportation performance and driver performance significantly influence service quality. However, while transportation performance directly impacts customer satisfaction, driver performance's effect is mediated through service quality. The study also confirms the significant role of service quality and customer satisfaction in shaping reuse intention. The predominance of female passengers and those aged 19-35 underscores the need for gender-sensitive infrastructure and services.
Conclusion: The direct and positive influence of transportation performance on service quality, customer satisfaction, and reuse intention highlights its significance in enhancing the overall passenger experience. While driver performance also plays a crucial role in shaping service quality, its impact on customer satisfaction and reuse intention is indirect, mediated through the perceived quality of service. The substantial proportion of passengers residing in Bogor Regency suggests potential for service expansion. To enhance Bogor's public transportation, management should optimize vehicle maintenance, routes, schedules, and driver training, prioritizing passenger comfort and female passenger safety. The government should also analyze bus stop regulations for efficiency and accessibility while increasing subsidies to reduce fares and support operators.
Originality/value (state of the art): This study contributes significantly to the measurement of service quality in the transportation service sector. The use of reuse intention variables provides a better understanding of the relationship between service quality and consumer decision-making.

Keywords: bus transit system, customer satisfaction, reuse intention, service quality, structural equation model

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INTRODUCTION

Urban areas typically exhibit higher population densities than rural or coastal regions, accompanied by substantial and diverse mobility patterns. Consequently, public transportation is a critical community requirement. When public transportation services are inadequate, individuals often choose private vehicles to fulfill their mobility needs. According to BPS data, private vehicle ownership in Bogor City surged from 77,530 units in 2016 to 86,716 units in 2018. The escalating reliance on private automobiles contributes to various challenges, including traffic congestion and exacerbated air pollution due to vehicular emissions. These phenomena are pronounced in Bogor City. INRIX (2022) ranks Bogor as the 832nd most congested city globally, while Priyana (2023) underscores the significant contribution of road transportation to air pollution exposure in Bogor City (SO^2, NMVOC, and PM2.5), with concentrations accounting for 60–86% of total emissions.

Traffic congestion and air pollution are inextricably linked, necessitating a simultaneous approach to mitigation. Prolonged low-speed vehicle operation significantly increases pollutant emissions, exacerbating air quality degradation (Bernardo et al. 2021). Both congestion and air pollution profoundly impact quality of life. Traffic congestion can diminish community well-being, reduce productivity, and hinder economic growth at both city and regional scales. The economic impact of traffic jams in the UK, France, Germany, and the US was measured by INRIX and the Centre for Economics and Business Research in 2013. They found three main cost factors: lower worker productivity, higher goods prices due to transport delays, and higher CO^2 emissions (The Economist, 2014). Vehicular emissions in urban areas contribute to a range of severe health issues. The World Health Organization (WHO) has identified PM2.5 as a particularly hazardous pollutant due to its 100% respirability. These fine particulate matters penetrate deep into the respiratory system, reaching the pulmonary alveoli and crossing into the bloodstream. This can lead to serious health complications, including bronchitis, cardiovascular disease, asthma, allergies, and premature mortality (WHO, 2005; Bernardo et al. 2021). mortality attributable to air pollution exceeds that of AIDS, malaria, and influenza (Lelieveld et al. 2015).

In an effort to mitigate these challenges, the Jabodetabek Transportation Management Agency (BPTJ) of the Ministry of Transportation initiated a soft launch of a public transportation service in Bogor City, named BISKITA Transpakuan, in November 2021. This public transportation service represents a collaborative endeavour between the central government, through the BPTJ, and the operator PT Kodjari Tata Angkutan, under the Buy the Service subsidy program. This subsidy mechanism involves the government purchasing all services provided by operators according to predetermined service specifications. Leveraging this subsidy system, BISKITA Transpakuan offered fare-free services for approximately the initial two years of operation. Subsequently, on May 24, 2023, a standard fare of IDR4,000 was implemented across all corridors, irrespective of travel distance. Additionally, a discounted fare of IDR2,000 was introduced for students and the elderly. Notably, this fare remains lower than those charged by other public transportation services in Bogor City. Furthermore, Ferdani's research (2018) indicated that the Willingness to Pay of consumers for Trans Pakuan, prior to its rebranding as BISKITA Trans Pakuan, ranged from IDR6,530 to IDR7,530. This value exceeds the current BISKITA Transpakuan fare.

From May 2023 to May 2024, the average daily ridership of BISKITA Transpakuan was 9,494 passengers. Considering Bogor City's population of approximately 1.1 million, the percentage of daily BISKITA users represents a mere 0.86%. In contrast, cities worldwide that have successfully achieved public transportation utilization targets aligned with the Sustainable Development Goals typically exhibit daily ridership percentages ranging from 9% to 12%. [ls2] Transjakarta daily ridership is about 950,000 people (ITDP, 2020); this value represents a mere 10% of the population of DKI Jakarta that used Transjakarta for their daily mobility. When compared with this value, the daily usage percentage of BISKITA Transpakuan is still relatively small. Increasing the daily ridership of BISKITA Transpakuan should now be a focus for both BISKITA operators and the government. Achieving sufficient ridership is also a critical component of an effective public transportation system (Ibraeva et al. 2020). Good quality services are one of the main ways to attract more riders and have a significant impact on public transportation ridership (Diab et al. 2021). Repeated use of BISKITA Transpakuan is indicative of user satisfaction with the service provided. Therefore,

conducting research on BISKITA Transpakuan user satisfaction is imperative for enhancing services through quality analysis and ensuring the sustainability of BISKITA Transpakuan usage.

This study addresses a gap in the existing literature concerning the relationship between service quality and reuse intention within the transportation sector, specifically focusing on public bus services. This research contributes novel insights by examining the interplay between service quality, customer satisfaction, and reuse intention within this context. The study also takes a new approach by combining transportation performance variables and driver performance metrics based on rules set by the Ministry of Transportation of the Republic of Indonesia. This is the first time that this has been done in this field.

Quality is a complex concept that is challenging to define precisely. According to Tjiptono and Chandra (2019), quality is considered a relative metric for assessing the perfection or excellence of a product or service, encompassing both design quality and conformance quality. When service performance is elevated, perceptions of service quality tend to be positive (Nurhasan and Putro, 2021). Gao et al. (2018) define satisfaction as the extent to which a consumed product or service aligns with consumer expectations. Following consumption, consumers engage in a product evaluation process, as outlined by Sumarwan (2011). This process results in feelings of either satisfaction or dissatisfaction with the product. Satisfaction is likely to encourage repeat consumption, while dissatisfaction may lead to cessation of consumption.

Research conducted by Saputri et al. (2022) on Transjakarta demonstrated a significant impact of service quality on customer satisfaction through the application of multiple regression analysis. However, this study did not incorporate the variable of reuse intention. Langi et al. (2020) identified subjective norms and perceived behavioural control as influential factors on reuse intention within the context of the Jakarta MRT, employing the PLS-SEM methodology. Silvianasari (2019) examined the relationship between service quality, customer satisfaction, and reuse intention on the Jakarta MRT, utilizing simple and multiple regression analyses to investigate the mediating role of customer satisfaction through the Sobel test. Wang et al. (2020) similarly observed a significant influence of service quality and customer satisfaction on reuse intention within the Chinese urban rail transit system. Purwadana and Yasa (2019) explored the impact of transportation and driver performance on service quality and customer satisfaction, employing the PLS-SEM method. This methodology appears well-suited for delineating the relationships among variables in this research domain.

The influence of service quality on passenger satisfaction and intention to reuse is critical for addressing the low daily ridership of BISKITA Transpakuan. Previous research indicates that enhancing public transportation service quality is crucial, particularly in countries with rapidly growing urban populations. A study by Ahmad et al. (2024) demonstrated that service quality influences passenger transportation choices and can increase public transportation ridership. Additionally, a substantial relationship exists between transportation performance and driver performance in relation to service quality and customer satisfaction. There is limited research related to transportation and driver performance on satisfaction and reuse intention, especially in Indonesia. The maintenance of clean and aesthetically pleasing vehicles, coupled with the provision of friendly and helpful staff, can significantly enhance the appeal of public transportation, and contribute to increased ridership (Gonzalez et al. 2021). However, a comprehensive examination of the interrelationships among transportation performance, driver performance, service quality, customer satisfaction, and reuse intention, particularly within the context of road-based public transportation, has yet to be undertaken.

The aims of this study are to analyze the influence of transportation performance and driver performance on service quality, customer satisfaction and reuse intentions. Analysis of reuse intentions is expected to provide a foundation for developing strategies to increase BISKITA Transpakuan's daily ridership.

METHODS

This study employed a non-probability sampling technique, namely purposive sampling. Data were collected from primary sources through a hybrid approach utilizing questionnaires. The study was conducted among BISKITA Transpakuan Bogor passengers across all corridors in Bogor, West Java Province, Indonesia from January to April 2024. The

study scope was confined to BISKITA Transpakuan bus transit system users within all operational corridors: Corridor 1 (Bubulak Terminal – Cidangiang), Corridor 2 (Bubulak Terminal – Ciawi), Corridor 5 (Ciparigi Terminal – Bogor Station), and Corridor 6 (Parung Banteng – Air Mancur).

Online survey, administered via Google Forms, were distributed through social media platforms and online messaging applications. Offline survey was administered to respondents at three bus stops – Tugu Narkoba 2, Warung Jambu, and Bapedda. The selection of these three locations was predicated on their proximity to two active bus corridors, facilitating efficient sampling during operational hours. Furthermore, the Bapedda bus stop exhibits high passenger volume, ensuring a representative sample. The study sample comprised passengers who had used BISKITA Transpakuan at least once, aged between 17 and 65 years, inclusive of both genders. Following Ghozali (2008), the minimum sample size was determined to be five to ten times the number of independent variables or indicators in the study. With 41 indicators, the calculated sample size range was 205–410 respondents. This study utilized a sample size of 250 participants, deemed sufficient for representative Structural Equation Modeling (SEM) analysis based on Santoso (2007), who suggests a minimum sample size of 100.

This study employed Partial Least Squares Structural Equation Modeling (PLS-SEM) using a hybrid SEM model. As described by Kurniawan and Yamin (2009), SEM is a statistical technique used to analyze relationships and interrelationships between latent and manifest variables. The PLS-SEM analysis involved three stages: (1) evaluation of the measurement model (outer model), (2) analysis of the structural model (inner model), and (3) hypothesis testing.

This study utilized both formative (X1 and X2) and reflective (Y1, Y2, and Y3) indicators. Consequently, the outer model evaluation, which assesses the relationship between latent variables and their indicators, was conducted through two distinct processes. Reflective indicators were evaluated for convergent validity, discriminant validity, and internal consistency. Formative indicators were assessed for convergent validity, collinearity statistics, and significance weights. Inner model analysis was performed to determine the accuracy and strength of the structural model using R-squared (R^2) and path coefficient estimation. Hypothesis testing was conducted by examining the probability values and T-statistics.

The hybrid SEM model was developed by modifying and combining the SERVPERF theory by Cronin and Taylor (1992) with transportation performance research by Purwadana and Yasa (2019). SERVPERF is considered more suitable for the transportation service sector as it focuses on service quality based solely on transportation performance (Moisescu and Gica, 2013; Leong et al. 2015). The SERVPERF theory incorporates service quality, customer satisfaction, and intention to reuse as reflective constructs. This model was extended by adding two formative constructs based on Purwadana and Yasa (2019): transportation performance and driver performance. These variables were found to significantly influence service quality and customer satisfaction in the context of this study. The indicators used in the performance variable are taken from the Minimum Service Standards (SPM) of the Ministry of Transportation. These indicators are formative because they combine to form the latent variables.

Hypothesis: Purwadana and Yasa's (2019) study revealed that transportation performance and bus crew performance accounted for 47.4% of the perceived quality of Trans Sarbagita services on corridors 1 and 2. Meanwhile, customer satisfaction levels reached 54.9%. The findings further indicated a positive correlation between transportation performance and both service quality and customer satisfaction. Therefore, Hypothesis 1 is proposed: H1: Transportation performance has a positive effect on service quality, and Hypothesis 2 is proposed: H1: Transportation performance has a positive effect on customer satisfaction.

Purwadana and Yasa's (2019) research demonstrated a substantial correlation between bus crew performance and both service quality and customer satisfaction on Trans Sarbagita Bali. Therefore, Hypothesis 3 is proposed: H1: Bus crew performance has a positive effect on service quality, and Hypothesis 4 is proposed: H1: Bus crew performance has a positive effect on customer satisfaction.

While no direct studies have investigated the relationship between transportation performance and driver performance on reuse intentions, Langi et al.'s (2020) research suggests that attributes

comprising these factors, including ease of information access, security, physical comfort, and punctuality, significantly impact the reuse intentions of MRT Jakarta passengers. Moreover, the study confirms that pricing plays a crucial role in influencing reuse intentions. Therefore, Hypothesis 5 is proposed: H1: Transportation performance has a positive effect on reuse intention, and Hypothesis 6 is proposed: H1: Bus crew performance has a positive effect on reuse intention.

Saputri et al.'s (2022) research established a substantial correlation between service quality and Transjakarta customer satisfaction. The study further revealed that service quality accounted for 49.1% of customer satisfaction. Amponsah and Adams (2016) demonstrated the significant impact of bus density, fare value, and service conditions on public transportation customer satisfaction. Firdaus et al.'s (2021) analysis of Transjakarta corridor 7C identified bus density, bus stop conditions, and bus arrival times as areas requiring improvement. Overall, customer satisfaction with the service was rated as fairly satisfactory. Therefore, Hypothesis 7 is proposed: H1: Service quality has a positive effect on customer satisfaction, and Hypothesis 8 is proposed: H1: Service quality has a positive effect on reuse intention.

Customer satisfaction significantly influences reuse intention on urban rail transit in China, as demonstrated by Wang et al. (2020). This suggests that enhancing customer satisfaction can directly promote the reuse of public transportation. Silvianasari's (2019) study, conducted on the Jakarta MRT, employed simple and multiple linear regression analyses to examine the relationship between service quality and reuse intention. The findings revealed a positive correlation between customer satisfaction and the reuse intention of Jakarta MRT passengers. Therefore, Hypothesis 9 is proposed: H1: Customer satisfaction has a positive effect on reuse intention.

The population in Bogor City tends to continue to grow, so their need for public transportation also increases. If this need is not met, people will prefer to use private vehicles, and this will cause various problems such as congestion and air pollution due to vehicle emissions. Therefore, optimizing the use of public transportation is very important. BISKITA Transpakuan, which is present as a solution to the problem of public transportation needs, must be used optimally by the community so that its goals are achieved. Bogor City, with around 1.1 million residents, has only a small fraction of its population using BISKITA daily, at about 0.86%. This is much lower than successful cities worldwide, which often have between 9% and 12% of their people using public transport daily. Previous research has established significant influences of service quality and customer satisfaction on reuse intention. Additionally, a substantial relationship exists between transportation performance and driver performance in relation to service quality and customer satisfaction. The conceptual framework for this research is illustrated in Figure 1.

RESULTS

Demographic Profile of Passengers

Respondent data was collected using a hybrid methodology. A total of 250 BISKITA Transpakuan passengers participated, with 190 respondents completing the survey online and 60 through offline means.

Female respondents constituted 67.2% of the sample, outnumbering male respondents at 32.8% (Table 1). The age range for eligible respondents was 17-65 years. During the data collection process, age information was gathered through a brief questionnaire. The data was then categorized based on Sumarwan (2011), with slight modifications in accordance with the Population and Civil Registration Service (DISDUKCAPIL) regulations as outlined in Law No. 13 of 1998. The results indicate that the largest group of respondents fell into the Early Adulthood category (25-35 years old), comprising 44.8%, followed by Young Adults (19–24 years old) at 24.8%, and Middle Age at 15.6% (36–50 years old). The categories of Adolescent (16–18 years old), Mature Adulthood (51-60 years old), and Elderly (>60 years old) represented only 3.6%, 8.8%, and 2.4%, respectively.

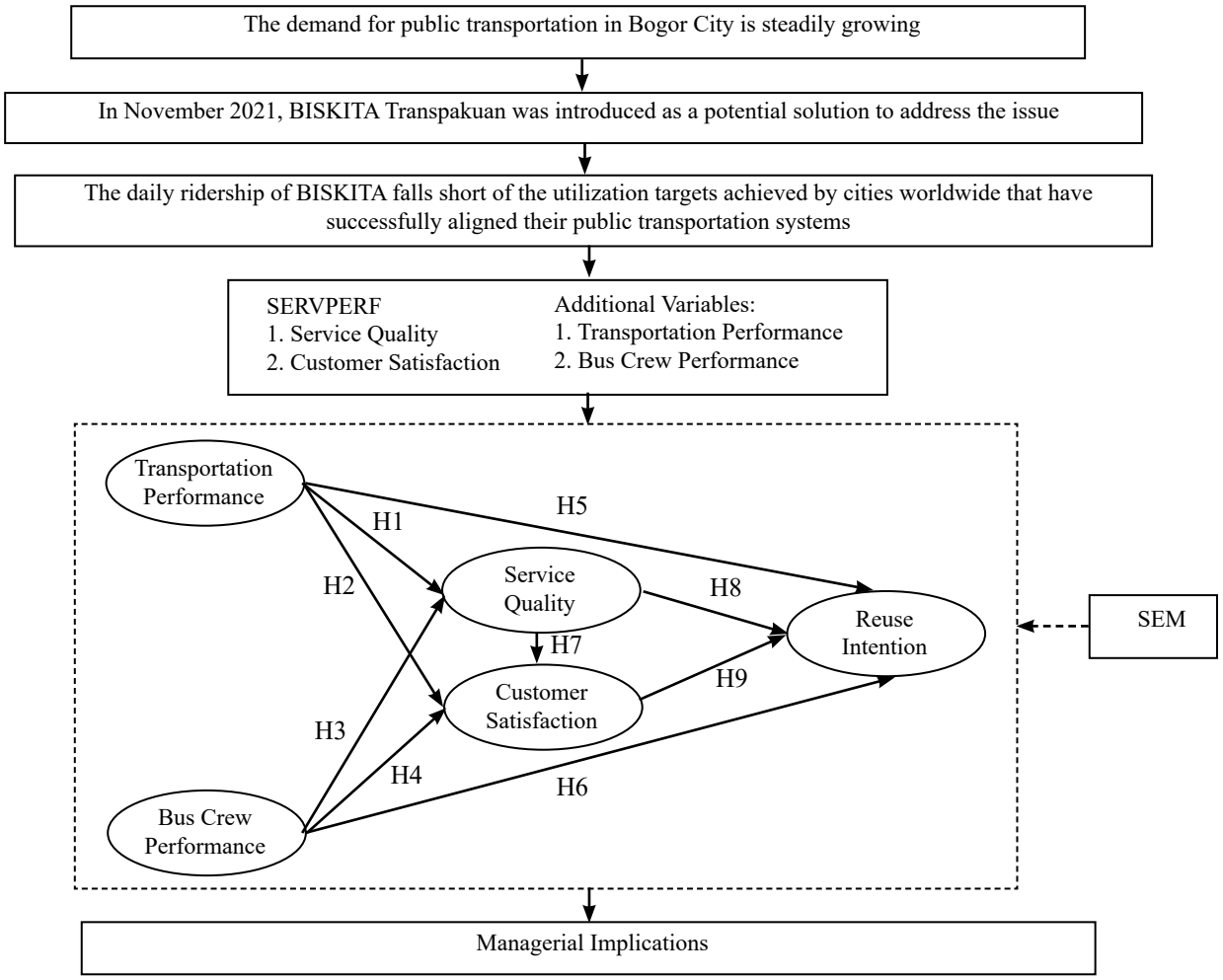

Figure 1. The conceptual framework

Table 1. Demographic characteristics of respondents

	Characteristics	Total (n=250)	Percentage (%)
Gender	Female	168	67.2
	Male	82	32.8
Age	Adolescent	9	3.6
	Young Adult	62	24.8
	Early Adulthood	112	44.8
	Middle Age	39	15.6
	Mature Adulthood	22	8.8
	Elderly	6	2.4
Domicile	Bogor City	148	59.2
	Bogor Regency	92	36.8
	Outside Bogor	10	4.0
Level of education	Elementary School	1	0.4
	Middle School	2	0.8
	Senior high school	91	36.4
	Associate degree	28	11.2
	Undergraduate	114	45.6
	Graduate	13	5.2
	Postgraduate	1	0.4
Job	Student	49	19.6
	Private Employee	82	32.8
	State-Owned Enterprise/Civil Servant	20	8.0
	Self-Employed/ Entrepreneur	25	10.0
	Not Working	19	7.6
	Housewife	40	16.0
	Teacher	9	3.6
	Freelancer	6	2.4
Income	≤ IDR500,000	25	10.0
	IDR500,001 - IDR999,999	41	16.4
	IDR1,000,000 - IDR2,999,999	59	23.6
	IDR3,000,000 - IDR4,999,999	64	25.6
	IDR5,000,000 - IDR9,999,999	46	18.4
	≥ IDR10,000,000	15	6.0

The majority of respondents (59.2%) resided in Bogor City, while 36.8% lived in Bogor Regency, and the remaining 4% resided outside of Bogor. A detailed breakdown by sub-district shows that within Bogor City, most respondents lived in West Bogor District (16.8%) and North Bogor District (14.8%). In Bogor Regency, the primary residence areas were Dramaga District (7.6%) and Sukaraja District (5.2%). Respondents from outside Bogor came from Jakarta City, Depok City, Tangerang City, and Bekasi City.

Respondents with a Bachelor's degree (D4/S1) constituted 45.6% of the sample, followed by those with a high school diploma (SMA/SMK/equivalent) at 36.4%. Private employees constituted the largest occupational group (32.8%), followed by students/college students (19.6%) and housewives (16.0%). Other occupations represented less than 10% of the sample. The most common income bracket was IDR3,000,000 to IDR4,999,999 (25.6%), followed by IDR1,000,000 to IDR2,999,999 (23.6%).

Structural Equation Modelling (SEM)

The analysis commenced with an evaluation of the measurement model to assess the relationship between each manifest indicator (Table 2) and its corresponding latent variable. Formative indicators, representing transportation performance (X1) and driver performance (X2), were evaluated for convergent validity using collinearity statistics and weight significance. Reflective indicators, encompassing service quality (Y1), customer satisfaction (Y2), and intention to reuse (Y3), were assessed for internal consistency, convergent validity, and discriminant validity.

Convergent validity was assessed using the R^2 value, with a recommended threshold of 0.81 or at least 0.64 (Chin, 1998). The obtained R^2 value of 0.77 indicated a strong relationship between the formative and reflective indicators. Collinearity statistics, including Variance Inflation Factor (VIF) and Tolerance Index (TI), were examined to identify multicollinearity. According to Hair et al. (2014), VIF values exceeding 5 and TI values below 0.20 signal high collinearity. The initial outer model revealed four indicators (X1.7, X1.11, X1.12, and X2.2) with excessive collinearity, necessitating their removal. Outer weights and loadings were employed to evaluate the contribution of indicators to the formative construct (Table 3). While insignificant outer weights do not necessarily indicate poor model quality, outer loadings representing the unique contribution of each indicator (Hair et al. 2014) are crucial. Indicators with outer loadings exceeding 0.05 and strong theoretical grounding were retained. In this study, indicators X1.16 and X1.17 exhibited both insignificant outer weights and outer loadings below 0.50, leading to their exclusion from the model.

Table 2 Research symbols and indicators

Symbol	Indicators
X11	Next stop announcements are clear and effective
X12	Automatic doors operate smoothly
X13	Stop request bells function as intended
X14	Hand grips are provided for passenger comfort
X15	Priority seating is designated with red upholstery
X16	Clear information is available regarding eligibility for priority seating
X17	Emergency glass breaker equipment is accessible
X18	Portable fire extinguishers (APAR) are present
X19	Electronic fare payment devices (Bus Validators) are available
X110	Overhead luggage racks are provided
X111	The vehicle exterior is well-maintained
X112	The bus interior is clean and tidy
X113	Waste bins are available on the bus

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Table 2. Research symbols and indicators (Continue)

Symbol	Indicators
X11	Next stop announcements are clear and effective
X12	Automatic doors operate smoothly
X13	Stop request bells function as intended
X14	Hand grips are provided for passenger comfort
X15	Priority seating is designated with red upholstery
X16	Clear information is available regarding eligibility for priority seating
X17	Emergency glass breaker equipment is accessible
X18	Portable fire extinguishers (APAR) are present
X19	Electronic fare payment devices (Bus Validators) are available
X110	Overhead luggage racks are provided
X111	The vehicle exterior is well-maintained
X112	The bus interior is clean and tidy
X113	Waste bins are available on the bus
X114	Bus stops are appropriately spaced (approximately 200-400 meters apart)
X115	Route information is displayed at bus stops
X116	Bus stops are clean and well-maintained
X117	Seating is available for passengers waiting at bus stops
X118	Wait times between buses are reasonable
X119	Real-time bus location information is easily accessible
X120	Fares are commensurate with the level of service provided
X121	The bus operates at a safe speed
X21	Drivers adhere to a uniform dress code
X22	Driver identification is clearly displayed
X23	Driver information is prominently displayed near the bus entrance
X24	Passengers are picked up and dropped off at designated stops
X25	Drivers exhibit a friendly and helpful demeanor
X26	Drivers maintain a safe and cautious driving style
X27	Drivers provide effective solutions to passenger travel issues
Y11	The BISKITA Transpakuan facilities are in good condition
Y12	Driver reliability enhances passenger comfort and confidence
Y13	Drivers provide assistance when passengers encounter difficulties
Y14	The overall politeness of drivers contributes to passenger safety
Y15	Drivers ensure safe passenger boarding and disembarkation
Y16	Drivers correctly position the bus at bus stops
Y21	BISKITA Transpakuan services meet passenger expectations
Y22	Passengers feel comfortable traveling on BISKITA Transpakuan
Y23	Overall passenger satisfaction with BISKITA Transpakuan services is high
Y31	BISKITA Transpakuan is the preferred mode of daily transportation
Y32	There is a strong intention to use BISKITA Transpakuan in the future
Y33	Regular BISKITA Transpakuan usage is planned for the coming months
Y34	There is a desire to increase BISKITA Transpakuan usage frequency

The initial phase of outer model assessment for reflective indicators involved evaluating internal consistency through composite reliability. This metric ranges from 0 to 1, with higher values indicating greater reliability. A composite reliability exceeding 0.70 is generally considered acceptable. In this study, all constructs exhibited composite reliability values above this threshold. Convergent validity was assessed using outer loadings and average variance extracted (AVE). Outer loadings should ideally exceed 0.708 (Hair et al. 2014). All reflective indicators in this study met this criterion, indicating that the latent variables adequately explained the variance in their respective indicators. Higher outer loadings suggest stronger relationships between indicators and their underlying construct, often referred to as indicator reliability. The calculated AVE values surpassed 0.50, demonstrating that each construct explained more than half of the indicator variance. Discriminant validity was examined using cross-loadings and the Fornell-Larcker criterion. Cross-loadings of the target latent variable consistently exceeded those of other latent variables. Additionally, the square root of AVE for each construct was greater than its correlation with other constructs. These findings support discriminant validity, indicating distinct constructs without overlap.

Table 3. Outer weight test results on formative indicators

	Outer Weight	Outer Loading
X1.1→ Transportation Performance	0.003	0.855
X1.2 → Transportation Performance	0.003	0.895
X1.3 → Transportation Performance	0.357	0.799
X1.4 → Transportation Performance	0.007	0.872
X1.5 → Transportation Performance	0.105	0.86
X1.6 → Transportation Performance	0.213	0.787
X1.8 → Transportation Performance	0.396	0.83
X1.9 → Transportation Performance	0.003	0.871
X1.10 → Transportation Performance	0.296	0.552
X1.13 → Transportation Performance	0.133	0.803
X1.14 → Transportation Performance	0.035	0.616
X1.15 → Transportation Performance	0.432	0.626
X1.16 → Transportation Performance	0.281	0.454
X1.17 → Transportation Performance	0.409	0.444
X1.18 → Transportation Performance	0.066*	0.51
X1.19 → Transportation Performance	0.034	0.473
X1.20 → Transportation Performance	0.049	0.727
X1.21 → Transportation Performance	0.044	0.804
X2.1 → Driver Performance	0.102	0.899
X2.3 → Driver Performance	0.001	0.841
X2.4 → Driver Performance	0.000	0.895
X2.5 → Driver Performance	0.122	0.838
X2.6 → Driver Performance	0.121	0.821
X2.7 → Driver Performance	0.013	0.899

Note. The yellow highlight indicates the indicators that has unsignificant results and the green highlight indicates the final results of indicators that should be eliminated

*Performed at level α 10%

The inner model was assessed using R-squared values and path coefficients. However, for complex models with large sample sizes, adjusted R-squared is often preferred to mitigate bias in the measurement.In this research service quality variable is 86.5% explained by the transportation performance (X1) and driver performance (X2), while 13.5% explained by other variables outside the research model. Customer satisfaction variable is 84.6% explained by the transportation performance (X1), driver performance (X2) and service quality (Y1), while 15.4% explained by other variables outside the research model. Reuse Intention variable is 76.6% explained by the transportation performance (X1), driver performance (X2), service quality (Y1) and customer satisfaction (Y2), while 23.4% explained by other variables outside the research model.

Figure 2 presents the bootstrapped path coefficients and their corresponding t-values at the 10% significance level. Hypothesis testing was conducted to assess the nine research hypotheses. A t-statistic greater than the critical value was required for hypothesis acceptance. The outcomes of these tests are summarized in Table 4.

As shown in Table 4, transportation performance and driver performance have a significant direct impact on service quality, with path coefficients of 0.348 and 0.604, respectively. The t-statistic values for both transportation performance and driver performance are greater than the critical t-value (1.285), thus supporting hypotheses H1 and H2. These findings align with the research conducted by Purwadana and Yasa (2019), which demonstrated that transportation performance and driver performance have a significant direct influence on service quality. This is further corroborated by the study of (Soza-Parra et al. 2021), which indicated that various aspects of transportation performance, including fares, waiting time, comfort, and ease of transfer, significantly impact passengers' perceptions of public transportation service quality.

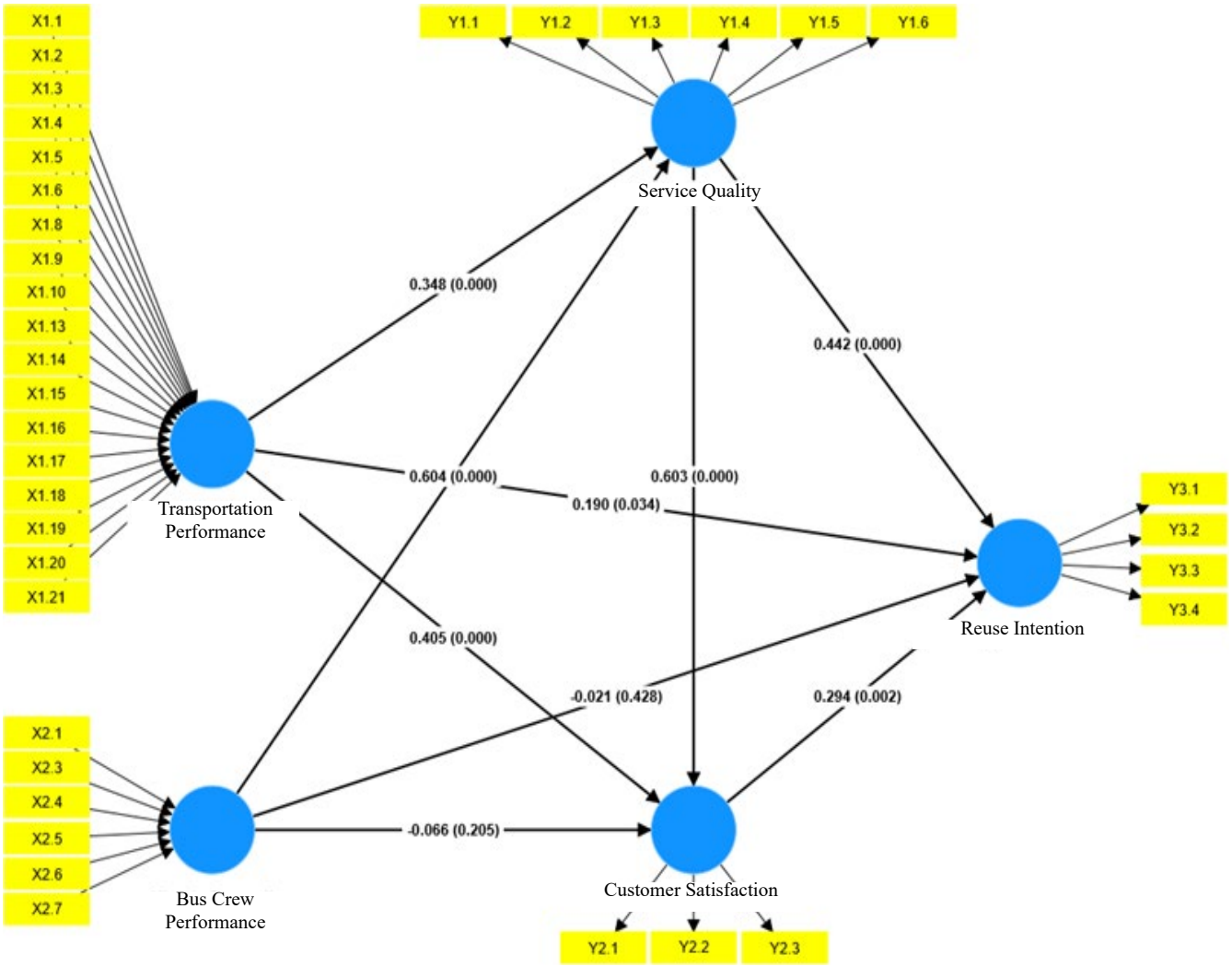

Figure 2. SmartPLS bootstrapping result

Table 4. Path coefficient results

Variable	Original Sample	T Statistics	P Values	Hypothesis Decision
Transportation Performance → Service Quality	0.348	4.978	0.000	Support
Driver Performance → Service Quality	0.604	8.921	0.000	Support
Transportation Performance → Customer Satisfaction	0.405	4.972	0.000	Support
Driver Performance → Customer Satisfaction	-0.066	0.825	0.205	Rejected
Transportation Performance → Reuse Intention	0.190	1.825	0.034	Support
Driver Performance → Reuse Intention	-0.021	0.181	0.428	Rejected
Service Quality → Customer Satisfaction	0.603	8.103	0.000	Support
Service Quality → Reuse Intention	0.442	3.455	0.000	Support
Customer Satisfaction → Reuse Intention	0.294	2.894	0.002	Support
Driver Performance → Customer Satisfaction → Reuse Intention	-0.019	0.839	0.201	Rejected
Driver Performance → Service Quality → Customer Satisfaction	0.364	6.733	0.000	Support
Driver Performance → Service Quality → Customer Satisfaction → Reuse Intention	0.107	2.887	0.002	Support
Driver Performance → Service Quality → Reuse Intention	0.267	3.500	0.000	Support

Transportation performance also has a significant direct impact on customer satisfaction, with a path coefficient of 0.405. The t-statistic for transportation performance is greater than the critical t-value, thus supporting hypothesis H3. These findings align with the research of Purwadana and Yasa (2019), which demonstrated that transportation performance significantly influences customer satisfaction. Similarly, the study by Sukhov et al. 2021 indicated that various aspects of transportation performance, such as bus stop distance, fare, cleanliness, and comfort, significantly affect customer satisfaction, ultimately shaping overall travel satisfaction. In this study, the indirect effect of transportation performance on customer satisfaction, mediated by service quality, was also examined. The results of the indirect effects analysis (Table 4) support a significant indirect relationship between transportation performance and customer satisfaction. Furthermore, the study by Yang et al. 2023 showed that passenger satisfaction with their journey is closely linked to their overall satisfaction with public transportation, which is influenced by various service quality attributes.

For the variable of driver performance on customer satisfaction, the path coefficient was found to be -0.066, with a t-statistic less than the critical t-value, leading to the rejection of hypothesis H4. This result contradicts the findings of Purwadana and Yasa (2019), who reported a significant relationship between driver performance and customer satisfaction. According to Mouwen (2015), passengers under 28 years old tend to place less importance on driver performance compared to those aged 28 and above. This is further supported by Bordagaray et al. (2013), who found that passengers aged 35 to 55 places more emphasis on driver performance than younger passengers. In this study, 24% of respondents were aged 35–55, which could have influenced the relationship between driver performance and customer satisfaction. However, driver performance was found to have a significant indirect effect on customer satisfaction through service quality.

Transportation performance has a significant direct and indirect impact on the intent to reuse. The t-statistic for transportation performance is greater than the critical t-value, thus supporting hypothesis H5. These findings align with Wang et al. (2020), who demonstrated that cleanliness, comfort, safety, and the availability of facilities influence the intent to reuse urban rail transit in China. On the other hand, driver performance does not have a significant direct impact on the intent to reuse. The t-statistic for driver performance is less than the critical t-value, leading to the rejection of hypothesis H6. This suggests that driver performance may not be a primary factor influencing passengers' decisions to reuse BISKITA.

According to Ouali et al. (2020), Female passengers report feeling unsafe on buses at a rate 6% higher than their male counterparts. The study also showed that the presence of additional staff on public transportation did not correlate with a significant increase in female passengers' perceived safety. Perceived safety among female passengers is primarily influenced by factors related to transportation performance rather than driver performance. Given the predominance of female respondents in the sample of this research, the observed lack of significant correlation between driver performance and reuse intention may be attributed to female passengers prioritizing transportation performance attributes. This suggests that enhancing elements such as vehicle condition, route efficiency, and adherence to schedules may be more effective in increasing perceived safety and encouraging reuse among female passengers compared to focusing solely on driver behavior. However, driver performance has a positive and significant indirect effect on the intent to reuse through service quality. Therefore, driver performance plays a crucial role in service quality evaluation.

In this study, service quality has a significant direct impact on customer satisfaction, with a path coefficient of 0.603. The t-statistic for service quality is greater than the critical t-value, thus supporting hypothesis H7. Service quality also has a significant direct and indirect impact on the intent to reuse. The t-statistic for service quality is greater than the critical t-value, thus supporting hypothesis H8. Within the transportation domain, a substantial body of research underscores the pivotal role of passenger satisfaction in cultivating continued ridership (Ibrahim et al. 2023). Specifically, high service quality has been identified as a critical determinant of customer satisfaction within public transportation systems (Lunke, 2020). This assertion is further substantiated by the findings of Ibrahim et al. (2023), whose investigation into monorail passenger perceptions in Kuala Lumpur, Malaysia, revealed a direct correlation between perceived service quality and both customer satisfaction and subsequent reuse intentions. Customer satisfaction is a positive reaction

from passengers to the quality of service they receive. In the decision-making process by passengers, in this case the intention to reuse, they must go through an evaluation process that shapes their satisfaction with the service.

Furthermore, customer satisfaction has a significant impact on the intent to reuse, with a path coefficient of 0.294. The t-statistic for customer satisfaction is greater than the critical t-value, thus supporting hypothesis H9. These findings align with the results of Wang et al. (2020), which demonstrated that service quality in urban rail transit in China has a direct influence on both customer satisfaction and the intent to reuse. A positive relationship was found between these variables.

Manajerial Implications

To enhance the public transportation system in Bogor, the transportation management should prioritize improving transportation performance, including vehicle maintenance, route planning, and adherence to schedules. They should also focus on training drivers to enhance their skills in ensuring passenger comfort and safety and address the needs of female passengers by implementing measures to enhance safety and security. Meanwhile, the government should analyze current regulations concerning the distribution and density of bus stops, aiming to enhance efficiency and accessibility. Concurrently, increasing operational subsidies can reduce fares, incentivizing public use while maintaining operator profitability.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study's findings underscore the critical role of both transportation performance and driver performance in shaping passenger satisfaction and their intention to continue using the BISKITA Transpakuan bus transit system. The direct and positive influence of transportation performance on service quality, customer satisfaction, and reuse intention highlights its significance in enhancing the overall passenger experience. While driver performance also plays a crucial role in shaping service quality, its impact on customer satisfaction and reuse intention is indirect, mediated through the perceived quality of service. This suggests that while driver behavior is important, its effect on passenger decisions is largely contingent upon how it contributes to the overall service experience.

The demographic profile of BISKITA Transpakuan passengers, emphasizes the need for tailored infrastructure and services that cater to the specific needs. For instance, improved lighting at bus stops can enhance safety and comfort, particularly for female passengers. The substantial number of passengers residing in Bogor Regency highlights the potential for service expansion into this area, which could lead to increased ridership and improved accessibility for residents in the region.

The insights gleaned from this study offer valuable guidance for BISKITA Transpakuan management in their efforts to enhance service quality, boost customer satisfaction, and ultimately foster increased ridership and the long-term sustainability of the bus transit system. By prioritizing improvements in transportation performance and driver performance, addressing the needs of specific passenger demographics, and exploring opportunities for service expansion, BISKITA Transpakuan can solidify its position as a reliable and preferred mode of public transportation in Bogor.

Recommendations

This study has several limitations. While it focused on the variables and indicators employed by Purwadana and Yasa (2019), future research should consider incorporating variables and indicators from other service quality theories to determine the most appropriate framework for measuring service quality in the transportation sector. Additionally, this study assumed that BISKITA Transpakuan passengers do not switch modes of transportation to reach their destinations. Future research could explore the travel behavior of Bogor residents to gain a more comprehensive understanding. Furthermore, given the limited existing research on the relationship between service quality and passenger decision behavior, incorporating additional variables related to passenger decision-making would be beneficial.

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