Influence of tangible service quality on travellers' behavioural intentions in intercity bus transport in Tanzania: The mediating role of customer satisfaction

Kissa Benedict Killagane[1*]
Hawa Uiso[2]
Salum Mohamed[3]

[1*]killaganek@gmail.com (+255 713430229)

[1]https://orcid.org/0000-0001-9013-6558

[1]National Institute of Transport, [2]Dar es Salaam Tumaini University, [3]The Open University of Tanzania, [1, 2,3] Tanzania

https://doi.org/10.51867/ajernet.7.3.106

ABSTRACT

This study examined tangible service quality in Tanzania's intercity public road passenger transport (IPRPT) by assessing how physical conditions across intercity buses, bus terminals, and en-route bus stops contribute to overall tangible quality and influence travellers' behavioural intentions, with customer satisfaction as a mediator. Guided by service quality theory, the study used a deductive, explanatory, cross-sectional design. Data were collected from 516 passengers travelling from Dar es Salaam to four regions using a multistage sampling design and were analysed using PLS-SEM. The measurement model results confirmed adequate reliability and validity, and the lower-order dimensions contributed positively and significantly to overall tangible quality. Structurally, tangible quality positively influenced customer satisfaction ($\beta = 0.450$, $p<0.001$) and behavioural intentions ($\beta = 0.583$, $p<0.001$). Tangible quality also had a significant indirect effect on behavioural intentions through customer satisfaction ($\beta = 0.262$, $p<0.001$), indicating complementary partial mediation. The model explained 20.2% of the variance in customer satisfaction and 44.2% in behavioural intentions. The findings show that tangible quality in intercity public road transport is best understood as a travel-chain experience formed across buses, terminals and en-route stops. Improving these connected physical service environments can strengthen passenger satisfaction and support favourable behavioural intentions.

Keywords: Intercity-bus tangibles; en-route Bus Stop tangibles; Travellers' Behavioural Intentions; Customer Satisfaction; bus terminal tangibles.

I. INTRODUCTION

In today's competitive public transport industry, tangible service quality is critical in influencing travellers' overall satisfaction and behavioural intentions to use public transport services, including Intercity Public Road Passenger Transport (IPRPT). These physical and visible attributes contribute to customer satisfaction by enhancing safety and service providers' perceptions of service, loyalty, and professionalism. IPRPT is the key to connecting people across regions worldwide, driving the need for mobility to support economic and social development.

Historically, stagecoaches and horse-drawn carriages were the primary public transport for long-distance travel in the 16th and 17th centuries (Black, 2025). From the early 1860s to the 1880s, railways were introduced to replace animal traction; railways offered higher speed, greater reliability, and supported mass transport (Robinson & Cameron, 2023). In the modern period, road and air travel replaced rail as the leading mode of public transport in most parts of the world (Muya et al., 2017). In the developing countries, intercity public road transport is a key element of regional connectivity and economic activity due to its accessibility and affordability (Shatta & Myamba, 2024; Wonglakorn et al., 2023). However, this significance is overshadowed by ongoing concerns about service quality in intercity road transport, which undermine traveller satisfaction and loyalty to public transport as a mode choice.

The IPRPT is vital in Africa, where urban populations are expanding rapidly. At the same time, transportation facilities struggle to keep up with the rate of urbanisation and the demand for public transportation, with IPRPT among them (Swalehe, 2019). The reliability and attractiveness of public transportation systems in many African countries depend solely on old vehicles, service irregularities, and a lack of infrastructure (Tengecha & Mwendapole, 2021). This scenario affects economic productivity and fosters inequalities in access to mobility within the city (Bubalo & Rajsman, 2020). For intercity linkages, the IPRPT is essential as the primary mode of transport for those who cannot afford private vehicles or airlines (Msumanje & Runyoro, 2021). However, IPRPT has faced significant challenges in Africa, including overcrowding, long wait times, and safety issues. This led to public transport attracting few passengers, who are less satisfied with the service than with private alternatives.

Li et al. (2022) explained that service quality factors, including vehicle condition, seating comfort, cleanliness, and staff professionalism, significantly influence passengers' perceptions and satisfaction levels. In Tanzania, tangible service attributes and their impact on behavioural intentions are considered significant, as high-quality intra-city transport enhances equitable access to resources, reduces congestion caused by private vehicle dependence, and supports environmental sustainability. While the IPRPT is used in Tanzania to address congestion and environmental sustainability, it is evident that public transport systems, such as Dar es Salaam's Bus Rapid Transit (BRT), face challenges including management inefficiencies and infrastructure limitations (Msumanje & Runyoro, 2021). The prevailing issues of waiting times, safety, and comfort voiced by passengers make these challenges with public transport quite visible, thereby undermining its effectiveness and rendering it unreliable in fulfilling its basic role as public transport (Shatta & Myamba, 2024). As a result, knowledge of the consequences of tangible service quality for customer satisfaction and behavioural intentions could provide strategic insight into increasing intercity public road transport usage and fostering favourable behavioural intentions among travellers.

1.1 Statement of the Problem

Various studies emphasised the influence of service quality on traveller satisfaction, which ultimately results in behavioural intentions; for example, Hamzah et al. (2023), Hizam et al. (2021), (Igembe & Matonya, 2024), Shatta and Myamba (2024) and Tian and Tolford (2024) collectively, indicated that the quality of vehicles, accessibility, cleanliness and reliability are primary attributes that contribute to positive or negative experiences of public transport use that influence users' choice of public transport and long-term use of public transport, of which IPRPT is a part.

While significant studies have examined a holistic approach to tangible service quality in public transport, little is known about how tangible service quality influences the entire travel chain of services and travellers' behavioural intentions for intercity public road passenger transport in Tanzania. Additionally, various service quality models have been used in the public transport sector to measure perceived service quality and its influence on customers' satisfaction and behavioural intentions. However, the SERVQUAL model is widely used to evaluate service quality with a focus on reliability, assurance, responsiveness, empathy, and tangibility dimensions in shaping customer satisfaction and behavioural intentions (Hidayat & Choocharukul, 2023; Igembe & Matonya, 2024; Nguyen-Phuoc et al., 2022).

The current research used the tangible dimension as presented in the P-TRANSQUAL model, one among the public transport industry-specific models, as suggested by Brady and Cronin Jr (2001), Zeithaml et al. (2002) and Ladhari (2008), who emphasised the use of industry-specific models. Although various models have been used to assess tangible service quality in intercity public passenger transport, most documented models are multidimensional and fail to capture the hierarchical nature of IPRPT, including the contexts of intercity buses, intercity bus terminals, and en-route bus stops. Thus, this study aimed to bridge these gaps by examining how the overall tangible service quality of IPRPT influences travellers' behavioural intentions in Tanzania and identifying the mediating role of customer satisfaction.

1.2 Research Objectives

i. To determine the contribution of intercity bus tangible quality to overall tangible quality
ii. To determine the contribution of intercity bus terminal tangible quality to overall tangible quality
iii. To determine the contribution of intercity en-route bus stop tangible quality to overall tangible quality
iv. To assess the influence of overall tangible quality on travellers' behavioural intentions
v. To examine the mediating role of customer satisfaction on the relationship between overall tangible quality and travellers' behavioural intentions

1.3 Research Hypotheses

H_1: Overall tangible quality of IPRPT positively influences travellers' behavioural intention.
H_{1a}: Intercity bus tangibles quality positively contributes to the formation of overall tangible quality
H_{1b}: Intercity bus terminal tangibles quality positively contributes to the formation of overall tangible quality
H_{1c}: Intercity en-route bus stop tangibles quality positively contributes to the formation of overall tangible quality
H_2: Overall tangible quality positively influences customer satisfaction.
H_3: Customer satisfaction positively influences travellers' behavioural intention.
H_4: Customer satisfaction mediates the relationship between overall tangible quality and travellers' behavioural intention.

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Service Quality Theory and Models

In service quality theory, the tangibles dimension is vital to customer perceptions of tangible quality, especially in industries where the physical environment plays a significant role in the customer experience with intercity public road transport. Tangibles include physical buildings, equipment, and other visible assets that affect customers' perceptions of tangible quality. SERVQUAL model was established by Parasuraman et al. (1988) focuses on the significance of visible, physical stimuli in the gap between the anticipated and perceived service quality. In public transport, physical attributes like bus cleanliness, terminal amenities, and the state of stops are important factors that affect travellers' decisions concerning the quality of service.

Although tangibles are a key dimension of SERVQUAL, the model has been criticised for lacking specificity across service contexts. For example, when applied in the public transport sector in a developing country such as Tanzania, the classical SERVQUAL model must be adjusted to account for the physical qualities that passengers value most. A study by Vujičić and Prester (2019) demonstrated this concern by reporting that customers are more concerned with vehicle aesthetics, vehicle comfort, and terminal and en-route stop hygiene. This has led to the development of models specific to public transportation, like P-TRANSQUAL, which extends the tangibles dimension to include the condition of both vehicles and service facilities, making the tangible dimension an important variable that influences customer satisfaction and behavioural intentions in the travel chain (Haron et al., 2015; Moslem et al., 2020).

The study adopted the P-TRANSQUAL model to determine the influence of tangible service quality on the whole travel chain of intercity public road passenger transport (IPRPT). The study focused on three primary aspects of tangible quality in the adapted model: the physical condition of buses, the condition of terminal buildings, and the condition of bus stops along the route, as suggested by Li et al. (2021). These factors were selected because they relate to the IPRPT context, where the physical environment directly influences travellers' comfort, safety, and overall experience, which, in turn, influences behavioural intentions. With the emphasis on tangible quality as part of the travel chain, this study assessed the influence of the tangible service quality of intercity public road passenger transport on travellers' behavioural intentions under the mediation of customer satisfaction in Tanzania

2.2 Empirical Review

Empirical evidence on tangible service quality remains inconclusive across passenger transport settings. Nguyen-Phuoc et al. (2022) found that the physical service environment contributed to behavioural intentions to reuse and recommend bus services, while Hidayat and Choocharukul (2023) reported that tangibility significantly influenced public transport usage intentions. In Tanzania Igembe and Matonya (2024) likewise established a positive relationship between tangibility and passenger satisfaction. However, Laisak et al. (2021) found no significant effect of tangibility on satisfaction among inter-district bus passengers in Sarawak, while Mani and Zainuddin (2021) reported a similar result among Malaysian BRT passengers. These mixed findings suggest that the influence of tangible quality may vary across transport environments and provide a basis for examining its distinct physical components within the intercity travel chain.

2.2.1 Intercity Bus Tangible Quality and Overall Tangible Quality

Physical conditions inside intercity buses are a major component of tangible service quality, as passengers remain exposed to the vehicle environment for prolonged periods. Naveen and Gurtoo (2020) identified bus-related tangibles, including seating, cleanliness, external appearance and physical condition, as important elements in intercity passenger evaluations. Nguyen-Phuoc et al. (2022) similarly showed that the physical service environment influenced passengers' evaluations and subsequent behavioural intention responses, while Javid et al. (2024)Javid et al. (2024) highlighted comfort, vehicle condition, and air-conditioning as key aspects of bus service quality. Evidence from intercity settings therefore suggests that passengers attach considerable importance to physical attributes experienced inside the vehicle. However, previous studies have commonly treated these attributes as part of general tangibility rather than examining their contribution to a broader higher-order construct. This leaves limited evidence on the relative contribution of intercity bus tangible quality to overall tangible quality across the complete journey.

2.2.2 Intercity Bus Terminal Tangible Quality and Overall Tangible Quality

Bus terminals constitute another important physical environment in intercity travel, as passengers spend time there before departure and after arrival. Ganji et al. (2021) identified terminal accessibility as a key element of intercity passengers' service evaluations, while Abdela (2023) examined bus terminal service quality in Addis Ababa and demonstrated the relevance of terminal conditions to passenger perceptions. Salisu et al. (2024) further found that terminal structure, accessibility, space, parking, information and waiting facilities significantly contributed to users'

satisfaction with intercity terminal quality. Hussain et al. (2025) similarly identified waiting areas, terminal location and related facilities as distinct dimensions of intercity bus service quality. These findings establish terminal facilities as an important component of the passenger experience. Nevertheless, terminal tangibles are frequently examined independently or combined with operational factors, leaving their contribution to overall tangible quality insufficiently established.

2.2.3 Intercity En-route Bus Stop Tangible Quality and Overall Tangible Quality

En-route stopping environments also form part of the tangible intercity travel experience because passengers depend on them for rest, sanitation, refreshments and other needs during long journeys. Naveen and Gurtoo (2020) combined cleanliness, seating, toilets, drinking water and eateries at stopping points within the external tangible dimension of intercity service quality. Çelik et al. (2024) provided more direct evidence: their IBUSQUAL scale identified rest areas as a distinct dimension of intercity bus service quality, represented by equipment and maintenance, cleanliness, food and beverage quality, and prices. These findings demonstrate that physical conditions encountered during intermediate stops contribute to passengers' evaluations of intercity services. However, en-route stopping environments have rarely been treated as a separate component within a higher-order tangible quality construct, particularly in African intercity transport. Their specific contribution to overall tangible quality therefore remains underexplored.

2.2.4 Overall Tangible Quality and Travellers' Behavioural Intentions

Studies generally indicate that favourable tangible service conditions can influence passenger evaluations and subsequent behavioural intention responses. Nguyen-Phuoc et al. (2022) found that the physical service environment significantly influenced intentions to reuse and recommend bus services, while Hidayat and Choocharukul (2023) found that tangibility significantly influenced public transport usage intentions. Brohi et al. (2021) likewise associated the service environment, comfort and facilities with behavioural intentions. Nevertheless, evidence remains mixed. Laisak et al. (2021) found no significant influence of tangibility on passenger satisfaction in inter-district bus services, while Mani and Zainuddin (2021) reported a similar result among BRT passengers. Moreover, much of the evidence on behavioural intention concerns urban transport and conceptualises tangibility as a broad service dimension. Limited evidence therefore explains whether tangible quality across buses, terminals and en-route stops influences behavioural intentions within long-distance intercity transport, particularly in Tanzania.

2.2.4 Mediating Role of Customer Satisfaction

Customer satisfaction is widely regarded as a key mechanism through which tangible service quality influences travellers' behavioural intentions. However, empirical studies are inconsistent about the precise nature of this mediation. For public rail users in Greater Kuala Lumpur, Hizam et al. (2021) found that service quality had both a direct effect on behavioural intentions and an indirect effect through satisfaction, suggesting partial mediation. Likewise, Hamzah et al. (2023) reported that service-quality dimensions had positive indirect effects on switching intentions and word of mouth via satisfaction among public transport riders in Kuala Lumpur. In contrast, de Oña (2021) examined data from five European cities and concluded that satisfaction fully mediated the relationship between service quality and behavioural intentions. In Tanzania, Igembe and Matonya (2024) found that tangibility significantly enhances customer satisfaction among Dar es Salaam BRT passengers, although they did not examine behavioural intentions. These results indicate that satisfaction is important, but its mediating role varies across transport systems and contexts, leaving the issue unresolved in intercity transport, where passengers experience physical service environments across the travel chain. Thus, this study addresses this gap by examining customer satisfaction as a mediator between overall tangible quality and travellers' behavioural intentions in Tanzania's intercity road passenger transport system.

2.3 Conceptual Framework

The study visualised the relationship between independent variables (including intercity bus tangible quality, intercity bus terminal tangible quality, and intercity en-route bus stop tangible quality) and the dependent variable (travellers' behavioural intentions)

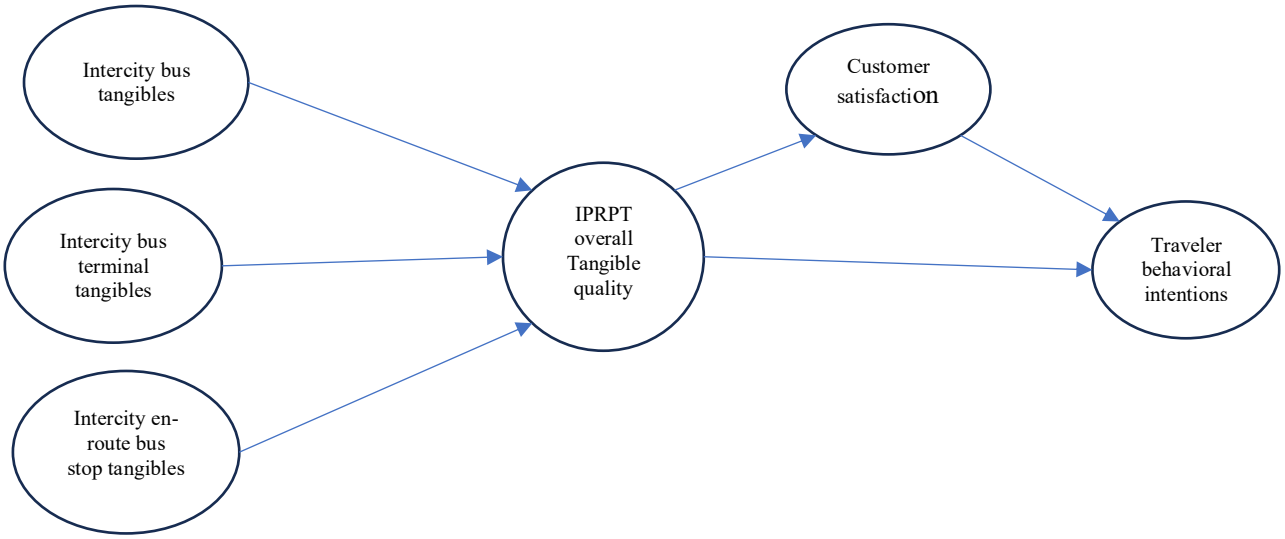

Figure 1
Conceptual Framework

III. METHODOLOGY

3.1 Research Paradigm

The study adopted a positivist research paradigm to test hypotheses, which permits prediction and generalisation (Matanda, 2022) while ensuring researcher independence from the survey (William, 2024). A deductive approach with a quantitative epistemology examined relationships among tangible quality, customer satisfaction and travellers' behavioural intentions, supporting causal relationships (Bell et al., 2022). This paradigm suits hypothesis-driven studies that use structural equation modelling.

3.2 Research Design

The study used an explanatory research design to test causal relationships between tangible quality elements (buses, terminals and en-route bus stops), customer satisfaction, and travellers' behavioural intentions. This design was also chosen because it aligns with the study's objective to assess the mediating role of customer satisfaction. A cross-sectional survey was selected because it can capture multiple variables simultaneously and is cost-effective (Matanda, 2022).

3.3 Study Area

The study was conducted on four IPRPT routes connecting Dar es Salaam – Arusha; Dar es Salaam – Dodoma; Dar es Salaam- Mbeya; and Dar es Salaam – Mwanza, targeting passengers using intercity bus services. The selection of routes is based on Land Transport Regulatory Authority (LATRA) data, which indicates that they account for approximately 60% of Tanzanians' intercity passenger volume and link major business centres (Land Transport Regulatory Authority (LATRA), 2023). Nevertheless, the selected routes are urban-focused, which may limit generalizability to rural areas.

3.4 Sampling Design

3.4.1 Sample Size

The tenth rule of thumb proposed by Hair et al. (2019), widely used as a minimum sample estimation method, was employed to estimate the sample size required to test the study hypotheses using PLS-SEM and Smart PLS 4 software. According to (Hair et al., 2019), the tenth rule of thumb suggests that the minimum sample size required to evaluate the hypotheses of a given research model is 10 times the maximum number of exogenous construct indicators. In this study, each exogenous construct has four indicators. According to the tenth rule of thumb, a sample size of 516 respondents was considered sufficient to evaluate the study model's hypotheses, as it exceeded the minimum required threshold. Hence, this enhanced statistical robustness across the four routes (Hair et al., 2019).

3.4.2 Sampling Technique

The study employed a multi-step sampling approach, which combined systematic and simple random sampling to ensure representativeness. The sampling frame comprised LATRA's database of 120 registered intercity buses

operating on the selected routes. Each route's first and fourth registered intercity buses were picked systematically to obtain the desired sample size per route and capture operational diversity. The second step involved selecting passengers from the intercity buses selected in the first step. From the anonymised passenger manifest provided by operators in each bus, six passengers were chosen using a simple random sampling technique, specifically a lottery method, producing 516 respondents.

3.5 Data Collection Technique

Both primary and secondary data were used. Primary data were collected from target respondents through a self-administered structured questionnaire distributed to passengers on four selected routes between July and October 2023. Secondary data were obtained from relevant LATRA reports, peer-reviewed journal articles, and past research relevant to the current study's title. Trained enumerators administered the questionnaires in Swahili and English to ensure clarity and completeness. Primary data collection occurred during travel to minimise disruption, resulting in a 95% response rate.

3.6 Measurement Procedures

This study's measurement scales and indicators were adapted from the P-TRANSQUAL service quality model and previous studies, focusing on tangible quality components (buses, terminals, en-route bus stops), customer satisfaction and behavioural intentions. Respondents rated the items on a seven-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree) to capture nuanced perceptions. To ensure clarity and cultural relevance, the items were validated through pre-testing with 30 passengers, as Hair et al. (2019) recommended. Expert validation by three transport academics and three public transport officers confirmed content validity, assuring alignment with IPRPT's context. Adjustments included modifications and additions to suit the current study, simplifying wording for respondents' clear understanding.

3.7 Data Analysis

IBM SPSS version 27 was used to analyse descriptive statistics because of its strong visualisation and data-cleaning capabilities. This analysis summarised respondent demographics and key variable distributions, providing a basis for structural modelling. Considering the complexity of the research model and data in this study, Partial Least Squares Structural Equation Modelling (PLS-SEM) was conducted using SmartPLS4. PLS-SEM was chosen because it can handle non-normal data and model hierarchical constructs (Hair et al., 2024). The study employed the Hierarchical Component Model (HCM) to simplify the relationships in the structural model by modelling tangible quality as a second-order construct with first-order components (buses, terminals and en-route bus stops), as recommended by Sarstedt et al. (2021), with analyses based on measurement model and structural model criteria. Measurement model analyses included a reliability test using Cronbach's Alpha and Composite reliability, and a validity test using HTMT and Average Variance Extracted (AVE). A structural model was estimated using 5000 bootstrap subsamples, which included path coefficients and hypothesis testing.

IV. FINDINGS & DISCUSSION

4.1 Demographic Characteristics of the Respondents

4.1.1 Age of Respondents

Respondents' age is essential because a person's ability to think, understand, view, judge, and give opinions increases with age. As summarised in Table 1, respondents were fairly spread across age groups. However, most respondents (60.7%) fall in the age range between 28 and 37 years, followed by those aged between 18 and 27. This mirrors individuals at a particular stage in life, who have sufficient life knowledge and are actively engaged in economic activities. Additionally, this group suggests that passengers in this age range can continue using IPRPT for an extended period, as long as the industry maintains strong customer relationships by improving service quality.

4.1.2 Gender of Respondents

The gender-based sample analysis in Table 1 indicates good gender representation. However, the gender distribution among travellers shows that males are 238 (53.8%, and females are 204 (46.2%. This means that there are slightly more male travellers than female travellers.

4.1.3 Educational Level of Respondents

Education plays a paramount role in understanding service quality. It is argued that the more time one spends in school, the more likely one is to assess/evaluate and judge service quality reasonably compared with someone who has not attended school (Doyle & O'Flaherty, 2013). From the study findings, the results show that 33.3% of the travellers

held a Bachelor's degree level, 18.8% of the travellers indicated that they held a Diploma level, 14.9% of the travellers indicated that they held a Secondary level, 14.5% of the travellers indicated that they held a Postgraduate level, and 10.6% of the travellers indicated that they held a Certificate level. In comparison, only 7.9% of the travellers held a Primary level of education, as presented in Table 1. This implies that the sampled population of travellers were educated.

4.1.4 Respondents' Frequency of Travel

The frequency of travel data provides insight into how often the surveyed travellers undertake trips on the route per year. Table 1 shows the results. For 1 time, there are 81 travellers, equal to 18.3%. Many travellers make four trips, reflecting substantial travel demand that could be tied to regular or scheduled activities. For more than 4 times, there are 216 travellers, which is equal to 48.9%. This means that nearly half of the travellers make more than four trips, showing that frequent travel is necessary for many respondents. This group represents the most frequent travellers, likely driven by consistent business, work, or personal commitments.

Overall, the data show that most travellers (48.9%) travel frequently, indicating strong demand for travel services among a substantial portion of the surveyed group. In contrast, fewer travellers make one or three trips, indicating less demand for infrequent travel. This suggests that travel is a regular and essential activity for many respondents. This analysis also shows that most (94.1%) participants had potential exposure to and experience with IPRPT.

Table 1

Distribution of Respondents by Demographic Variables

Variable	Category	Frequency	Percentage
Gender	Male	238	53.8
	Female	204	46.2
Age	18 – 27	117	26.5
	28 – 37	151	34.1
	38 – 47	90	20.4
	48 – 57	51	11.5
	58 – 67	23	5.2
	above 67	10	2.3
Education Level	Primary Education	35	7.9
	Secondary Education	66	14.9
	Certificate	47	10.6
	Diploma	83	18.8
	Bachelor Degree	147	33.3
	Post graduate	64	14.5
Travel Frequency	Twice	77	17.4
	3 times	60	13.6
	4 times	89	20.1
	More than 4 times	216	48.9

4.2 Assessment of Measurement Model

4.2.1 First-Order Reflective Model

The PLS-SEM method using SmartPLS software version 4.0 was employed by running the PLS algorithm, adhering to the evaluation criteria for reflective Lower-Order Component (LOC) Measurement models proposed by Sarstedt et al. (2021).

Indicator's Reliabilities

After applying the PLS-SEM method in SmartPLS4, as shown in Figure 2, all indicators associated with the reflective LOCs exhibited outer loadings above the recommended threshold of 0.708. The results therefore demonstrate satisfactory indicator reliability, indicating that each indicator shares sufficient variance with its respective construct (Hair et al., 2022).

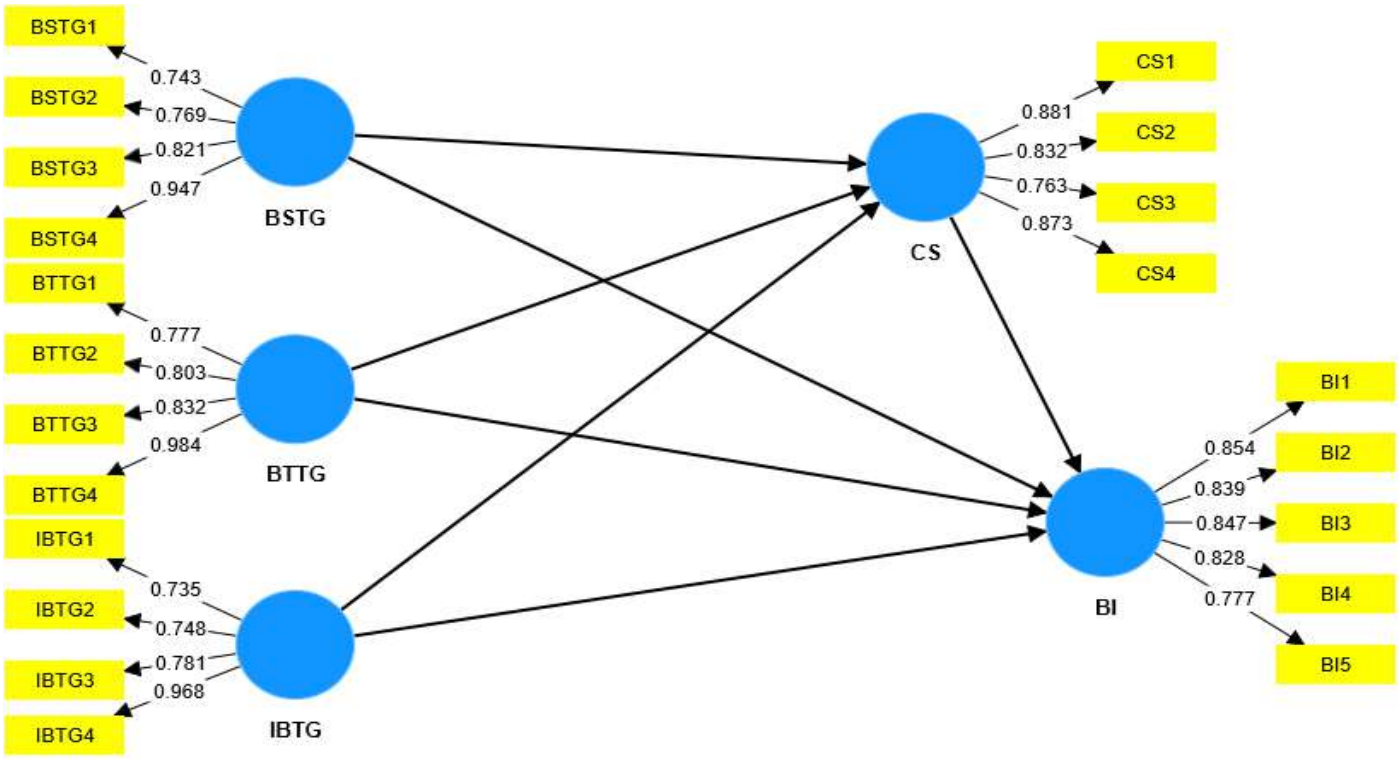

Figure 2
Indicators' reliability of the reflective lower-order constructs

Internal Consistency and Convergent Validity

A construct is considered reliable if its Composite Reliability (CR) score exceeds 0.7. For a construct to demonstrate convergent validity, its Average Variance Extracted (AVE) must be greater than 0.5. In this study, the internal consistency reliability of all reflective LOCs was confirmed by CR and Cronbach's alpha values exceeding the recommended thresholds of 0.7. Additionally, the convergent validity of all LOCs was verified through AVE values greater than 0.5. The results show positive response patterns, with each component explaining variance in its respective item (Hair et al., 2022). Table 2 displays the findings on the reliability and validity of the LOCs.

Table 2
Internal Consistency and Convergent Validity Results for LOCs

First-order constructs (LOCs)	Cronbach's alpha ≥ 0.7	Composite reliability (rho_a) ≥ 0.7	Average Variance Extracted (AVE) ≥ 0.5
BI	0.886	0.889	0.688
BSTG	0.838	0.848	0.678
BTTG	0.873	0.896	0.727
CS	0.859	0.876	0.703
IBTG	0.833	0.873	0.662

Discriminant Validity for the LOC

Discriminant validity is established when indicators of latent constructs are unrelated, meaning they capture a unique phenomenon not represented by any other concept (Hair et al., 2022). This study assessed the discriminant validity of the LOCs using the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) correlation ratio as suggested by Hair et al. (2022) and Li and Lay (2024). The results show that all the HTMT values are less than 0.90, and the Fornell-Larcker analysis demonstrated satisfactory discriminant validity, as all correlation values of the off-diagonal elements in the same row and column were smaller than the square root of the AVE exerted along the diagonals shown in bold, as presented in Table 3. According to Hair et al. (2022) and (Li & Lay, 2024) the findings indicate that each element in the first-order model is empirically different from the other components in the structural model. Thus, the study confirmed the distinction between the constructs.

Table 2
Discriminant validity Results for LOCs

HTMT Results						FORNELL-LACKER Results					
LOCs	**BI**	**BSTG**	**BTTG**	**CS**	**IBTG**	**LOCs**	**BI**	**BSTG**	**BTTG**	**CS**	**IBTG**
BI						BI	**0.829**				
BSTG	0.411					BSTG	0.354	**0.824**			
BTTG	0.397	0.618				BTTG	0.351	0.527	**0.853**		
CS	0.735	0.456	0.401			CS	0.651	0.392	0.362	**0.839**	
IBTG	0.333	0.56	0.499	0.372		IBTG	0.300	0.515	0.438	0.34	**0.814**

4.2.2 Second-Order Measurement Model

This study used a disjoint two-stage approach to assess the second-order measured construct: tangible quality. The two-stage disjoint approach was chosen because it better recovers path parameters (Sarstedt et al., 2022). To ensure the reliability and validity of the formative second-order model, convergent validity, collinearity, and the significance and relevance of the indicators were examined as suggested by Sarstedt et al. (2022).

Convergent Validity of the Formative Construct

Redundancy analysis confirmed convergent validity of the formative TG construct. The path coefficient with the global criterion was 0.864, exceeding the 0.70 threshold (Hair et al., 2022; Sarstedt et al., 2022), while R^2 was 0.746, indicating that the tangible quality construct explained 74.6% of the variance in the global measure. Formative weights were 0.623 for BTTG, 0.297 for IBTG, and 0.288 for BSTG, respectively, showing positive contributions, with BTTG having the strongest contribution, as presented in Figure 2.

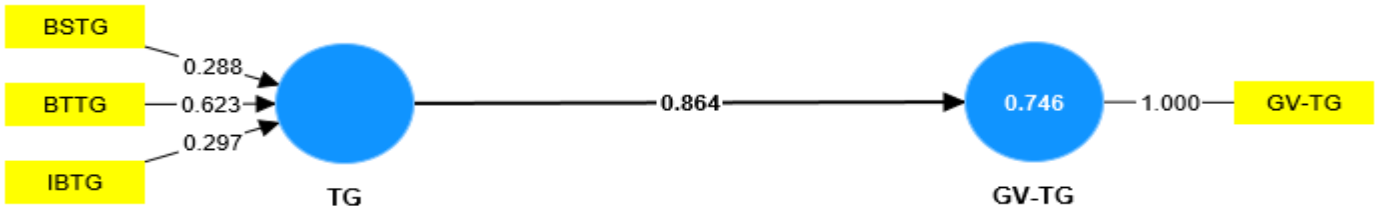

Figure 2
Redundancy Analysis Results for Second-Order HOC

Collinearity Testing

Collinearity for the formative second-order model was assessed by computing the Variance Inflation Factor (VIF) of the LOC as shown in Table 4, with all values less than 5, as suggested by Hair et al. (2024) and Sarstedt et al. (2021). The findings indicated that collinearity was not an issue in the current study, as presented in Table 4.

Significance and Relevance of the Formative Dimensions

The significance and relevance of the formative dimensions were evaluated using bootstrapped outer weights. As shown in Table 4, all three dimensions made positive and significant contributions to tangible quality. The en-route bus stop tangible quality had the highest relative contribution ($\beta = 0.473$, $t = 4.264$, $p < 0.001$), followed by bus terminal tangible quality ($\beta = 0.441$, $t = 3.868$, $p < 0.001$) and intercity tangible quality ($\beta = 0.307$, $t = 2.963$, $p < 0.003$), thus, BSTG had the strongest relative impact on the formation of TG. VIF values are below the recommended cutoff, indicating no collinearity issues among the formative dimensions. Consequently, all three LOCs remained significant parts of the higher-order tangible quality construct (Hair et al., 2022). Bootstrap confidence intervals for all formative weights did not include zero, supporting their statistical significance.

Table 3
Results for Formative SOC Measurement Model

Formative relationship	VIF	Outer Weight (O)	T-statistics > 1.96	p values < 0.05	95% CI	Decision
IBTG -> TG	1.444	0.307	2.963	0.003	(0.107, 0.510)	Supported
BTTG -> TG	1.459	0.441	3.868	0.000	(0.200, 0.641)	Supported
BSTG -> TG	1.615	0.473	4.264	0.000	(0.249, 0.272)	Supported

4.3 Structural Model Analysis

After the measurement models were fulfilled, this study assessed the structural model by checking collinearity, path coefficients, explanatory power, effect sizes, predictive relevance, and model fit, as Hair et al. (2022); Sarstedt et al. (2022) recommended.

Inner Model Collinearity

Variance Inflation Factor (VIF) was used to test collinearity of all endogenous predictor relationships in the proposed study model. VIF values less than 3 indicate no multicollinearity issues per the criterion suggested by Hair et al. (2022). Table 5 presents the collinearity statistics for the inner model of the proposed study model. The results show that all the VIF values are below three, indicating that multicollinearity is not an issue for the predictor constructs of the proposed study model.

Table 5
Collinearity Statistics Results for the Inner Model

Construct	Behavioural Intentions	Customer Satisfaction
Customer Satisfaction	1.253	
Tangibles Quality	1.253	1.000

Relevance of Path Coefficient

The direction and magnitude of the structural model's relationships were assessed using path coefficients generated by running the PLS Algorithm in SmartPLS 4, and the results are presented in Figure 4. All hypothesised relationships in the study model showed positive coefficients. Tangible quality showed a stronger relationship with customer satisfaction (β = 0.450) than with behavioural intentions (β = 0.152). Customer satisfaction exhibited the strongest relationship with behavioural intentions (β = 0.583), suggesting that travellers' satisfaction plays an important role in translating tangible service experiences into favourable behavioural responses. Additionally, the positive path coefficients suggest that improvements in tangibles quality are associated with higher customer satisfaction and increased travellers' behavioural intentions. The statistical significance and relevance of these relationships were subsequently assessed using bootstrapping and effect-size analysis.

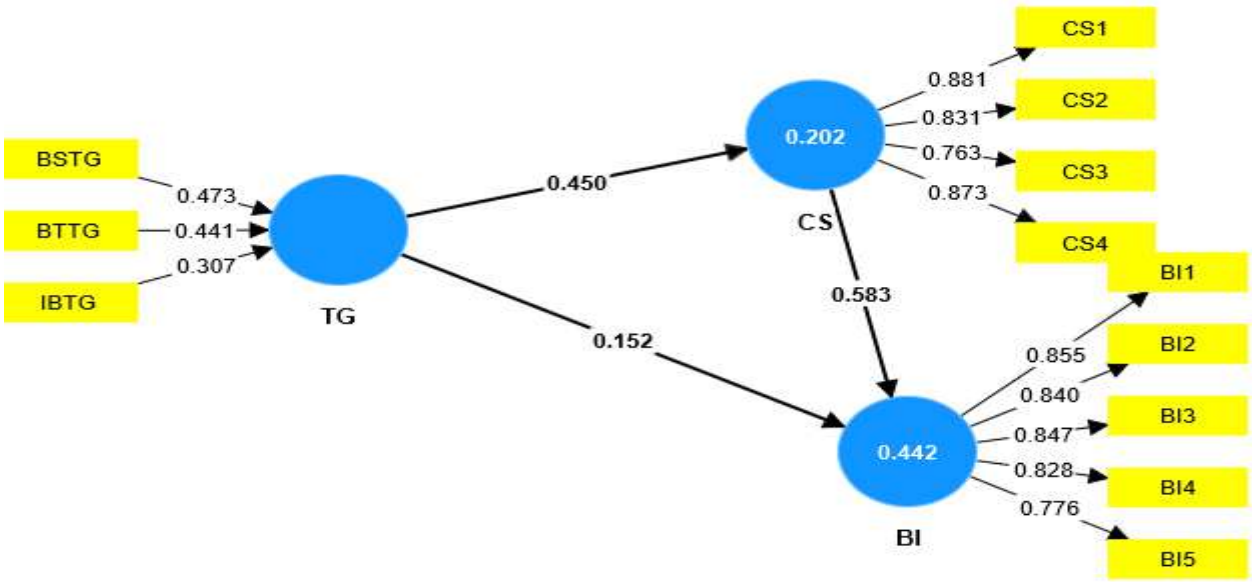

Figure 4
Relevance of the Path Coefficients and R^2

4.3.1 Coefficient of Determination, R^2

The coefficient of determination (R^2) determines the model's predictive accuracy. Hair et al. (2022) suggested that R^2 values of 0.75, 0.50, and 0.25 represent substantial, moderate, and weak model predictive power, respectively. The R^2 values for customer satisfaction (CS) and travellers' Behavioural Intentions (BI) are 0.202 and 0.442, respectively, as shown in Figure 4. The results indicate that Tangible quality explained 20.2% of the variance in customer satisfaction ($R^2 = 0.202$; adjusted $R^2 = 0.200$), indicating relatively weak explanatory power. Together, tangible quality and customer satisfaction explained 44.2% of the variance in travellers' behavioural intentions ($R^2 = 0.442$; adjusted $R^2 = 0.440$), indicating meaningful explanatory power approaching the conventional moderate level. The small differences between the R^2 and adjusted R^2 values indicate that the explanatory estimates remained stable after accounting for the number of predictors in the model. The structural model showed varying explanatory power across the endogenous constructs.

4.3.2 Effect Size (f^2)

The effect size, f^2, explains the contribution made by an exogenous latent variable to an endogenous latent variable. In this study, the f^2 for each exogenous-endogenous relationship was computed. According to Hair et al. (2022) values greater than 0.02, 0.15 and 0.35 indicate small, medium, and large effects, respectively. The analysis identified effect sizes (f^2) for each distinct relationship in this study, as presented in Table 6. Table 6 shows that tangible quality (f^2=0.033) makes a small contribution to explaining travellers' behavioural intentions, while customer satisfaction (f^2=0.486) contributes significantly. In addition, tangible quality (f^2=0.253) contributed moderately to customer satisfaction.

Table 6

Predictive Relevance and Effect Size Results

Construct	Behavioural Intentions	Customer Satisfaction
Customer Satisfaction	0.486	
Tangibles Quality	0.033	0.253

4.3.3 Statistical Significance Results

After running bootstrapping in SmartPLS4, the results indicated that all proposed relationships were confirmed, with p-values less than 0.05. This suggests that the conceptual research model is appropriate for guiding management decisions related to travellers' behavioural intentions in the IPRPT industry. These findings verify the existence of all hypothesized relationships. Figure 5 presents the statistical significance results of these hypotheses.

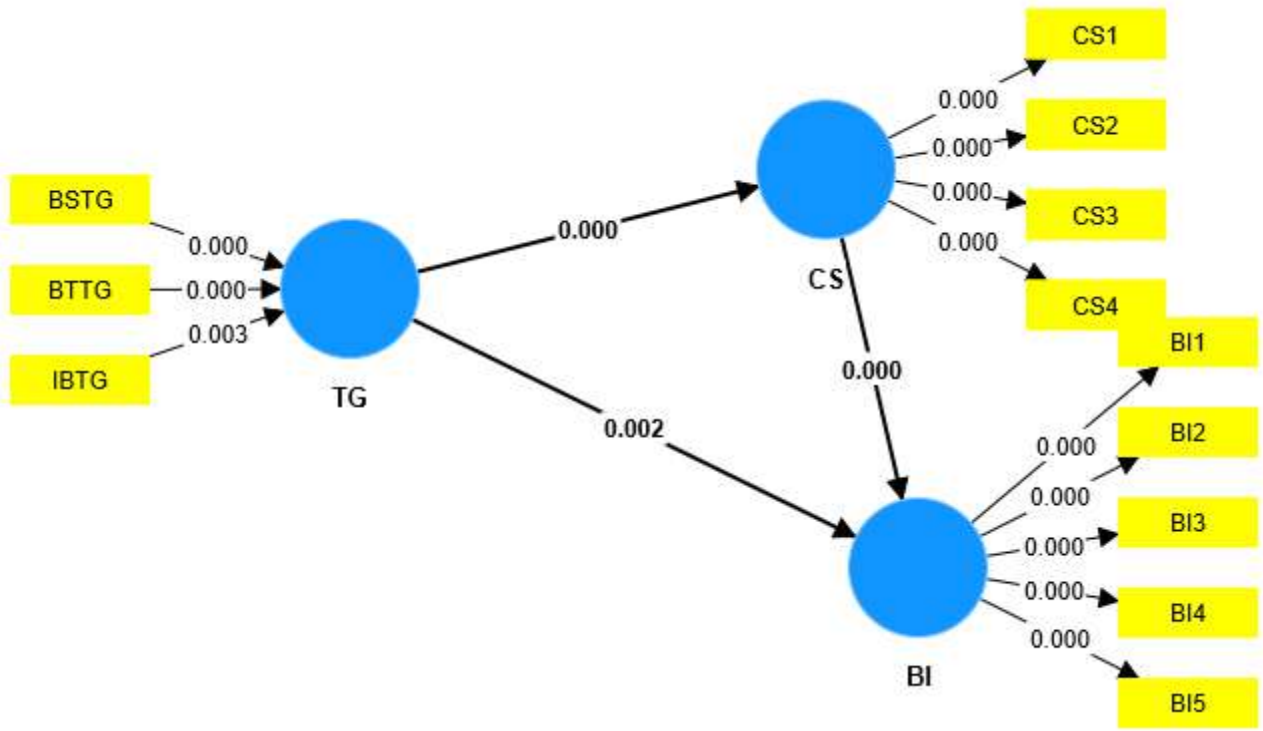

Figure 5

Statistical Significance Results of the Hypothesised Relationships

4.4 Hypothesis Testing

In SmartPLS, 10000 subsample bootstrapping was run to test the study's hypothesised relationships. Table 7 summarises the findings from the analysis of direct and indirect hypotheses derived from the study's theoretical framework. The results show that all predictions were statistically significant, with β >0, t-statistics > 1.96, and P-values < 0.05. The results suggest that the relationships in the study model exist in real-world situations, and the verified model may be used successfully for decision-making in intercity public road transport industry issues, especially concerning travellers' behavioural intentions.

Table 7

Hypothesis Testing Results

Relationship	Influence	Original sample (O=β)	Standard deviation (STDEV)	T-Statistics (O/STDEV) > 1.96	P-value < 0.05	95% CI	Results	Decision
TG -> BI	Direct	0.152	0.048	3.148	0.002	(0.058, 0.247)	Significant	Supported
TG -> CS	Direct	0.450	0.040	11.152	0.000	(0.372, 0.531)	Significant	Supported
CS -> BI	Direct	0.583	0.041	14.386	0.000	(0.497, 0.657)	Significant	Supported
TG -> CS -> BI	Indirect	0.262	0.025	10.280	0.000	(0.214, 0.315)	Significant	Complementary partial mediation

4.4.1 Mediation Analysis Results

SmartPLS4 was used to estimate the direct and indirect effects of tangible quality on travellers' behavioural intentions, with customer satisfaction included as a mediator. Table 7 shows that the total effect of tangible quality on travellers' behavioural intentions was significant (β = 0.152, t = 3.148, p < 0.002). When customer satisfaction was included, the indirect effect was significant (β = 0.262, t = 10.280, p < 0.000), and the bias-corrected 95% confidence interval included zero (0.214, 0.315). In line with Hair et al. (2022) the significant indirect effect and the 95% bias-corrected bootstrap confidence interval of [0.214, 0.315], which does not include zero, validate the presence of complementary partial mediation. Thus, this result shows that customer satisfaction mediates the relationship between tangible quality and travellers' behavioural intentions (See Table 7).

4.5 Importance Performance Map Analysis

The Importance Performance Map Analysis, which focused on travellers' behavioural intentions as the target construct, shows that tangible quality and customer satisfaction attributes contribute differently in terms of importance and performance. Customer satisfaction indicators showed the highest importance, especially CS1 and CS4, indicating that satisfaction-related experiences strongly influence behavioural intentions. For tangible quality, en route bus stop features score highly in both importance and performance, making them a key area for improvement. Conversely, bus terminal tangible quality is highly important but performs lower, making it a priority for improvement. Intercity bus tangible quality is less important, although its performance remains around the average level. The findings indicate that behavioural intentions depend on both satisfaction and tangible service conditions, with satisfaction attributes being more important, while tangible quality offers more specific opportunities for operational improvement. These findings are also relevant for developing and improving the IPRPT system's service quality.

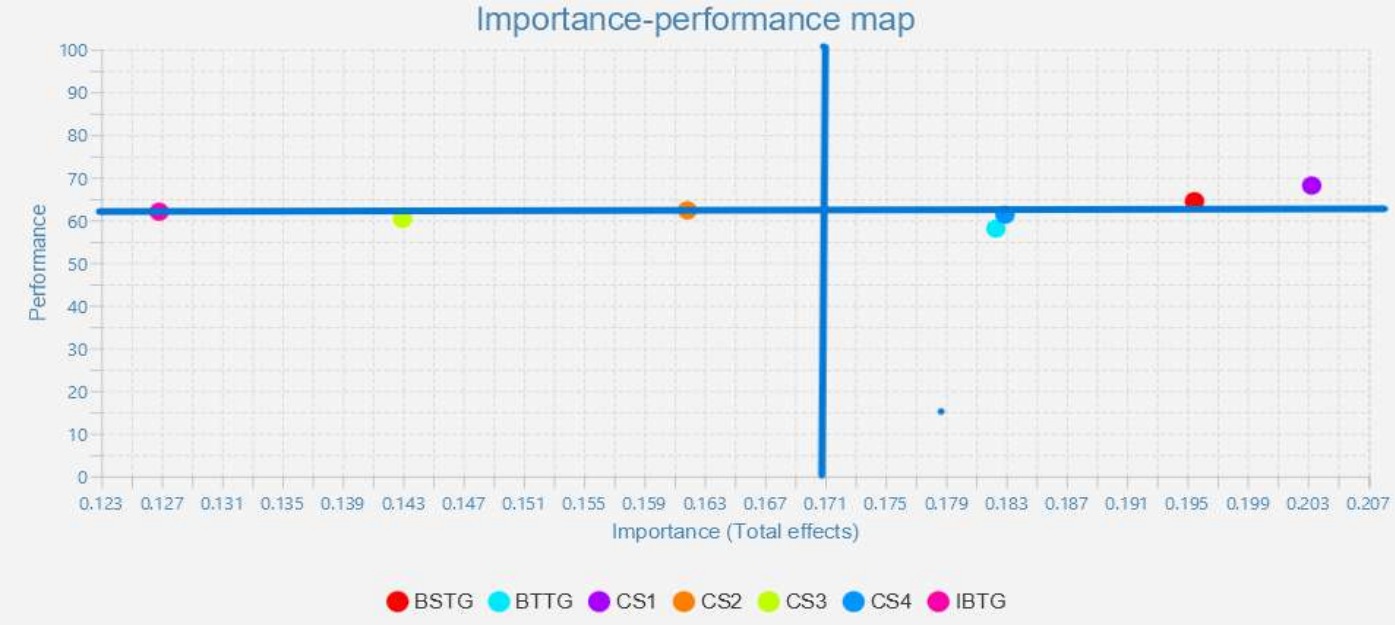

Figure 6
Importance-Performance Map (Indicator) Analysis Results

4.6 Discussion

The findings show that tangible quality significantly influences travellers' behavioural intentions in Tanzania's intercity public road passenger transport. The results align with Nguyen-Phuoc et al. (2021), who linked the physical service environment to reuse and recommendation intentions, and with Hidayat and Choocharukul (2023), who reported that tangibility contributed to public transport usage intentions. In Tanzania, (Igembe & Matonya, 2024)similarly found that tangibility was significantly associated with passenger satisfaction in urban BRT, although they did not examine behavioural intentions directly. However, the results contradict those obtained by Laisak et al. (2021) who found that tangibility did not significantly influence satisfaction among inter-district bus passengers in Sarawak, while Mani and Zainuddin (2021) reported a similarly insignificant effect among Malaysian BRT passengers. These differences may reflect variations in transport context, journey characteristics, passenger expectations, and physical facilities. This study extends the literature by integrating these environments into a single construct, showing each independently contributes to tangible quality with behavioural relevance in Tanzania's intercity transport. The present study extends this evidence to long-distance intercity transport by incorporating physical experiences at intercity buses, terminals, and en-route bus stops, showing that travellers' behavioural intentions are linked to a broader tangible service experience rather than to onboard conditions alone.

The higher-order construct results further showed that intercity bus, bus terminal and en-route bus stop tangible quality each contributed positively and significantly to overall tangible quality. These formative contributions support a multidimensional travel-chain interpretation of tangible. Buses' conditions reflect prolonged physical exposure during travel, terminal environments shape experiences around departure and arrival, while en-route stops introduce additional physical encounters during breaks. Recent evidence supports this distinction. Ganji et al. (2021), Salisu et al. (2024) and Hussain et al. (2025) demonstrate the relevance of terminal physical facilities to passenger evaluations, while Çelik et al. (2024) identified rest areas as a distinct dimension of intercity bus service quality. The present study extends this literature by integrating the three environments into a single higher-order construct and showing that each contributes separately to overall tangible quality.

Customer satisfaction further explains how tangible quality translates into behavioural intentions. Both the direct effect of tangible quality on behavioural intentions and the indirect effect through customer satisfaction were positive and statistically significant, indicating complementary partial mediation. Tangible quality therefore operates through two reinforcing pathways: physical service conditions are directly associated with travellers' behavioural intentions, while favourable tangible experiences also strengthen satisfaction, which subsequently promotes favourable behavioural intentions. This finding aligns with Hizam et al. (2021), who reported partial mediation of customer satisfaction between service quality and behavioural intentions, and with Hamzah et al. (2023), who identified positive indirect behavioural intentions effects through satisfaction. It differs from de Oña (2021), who reported complete mediation in European public transport systems. These differences suggest that transport setting, journey duration and exposure to physical conditions may influence the strength with which satisfaction transmits service quality influences.

The importance-performance results provide further insight into the practical relevance of the tangible dimensions. En-route bus stop tangible quality occupies a comparatively high-importance, high-performance position, suggesting that current standards should be maintained. Bus terminal tangible quality also displays relatively high importance but lower performance, identifying terminal conditions as an area where improvement may offer greater practical value. Attention should therefore centre on waiting environments, sanitation, seating, signage and general terminal conditions that shape passengers' physical service experience. Intercity bus tangible quality shows lower relative importance, with performance closer to the overall average, suggesting less immediate improvement potential than terminal conditions. These results indicate that service improvement priorities should consider the combined position of importance and performance rather than relying solely on statistical significance or performance levels when allocating limited resources across the intercity travel chain.

The findings extend conventional treatments of tangibles by showing that intercity passengers evaluate physical service quality across several connected environments rather than within a single service setting. The significant formative outer weights indicate that tangible quality at the bus, terminal and en-route stop each contributed to overall tangible quality, while the structural model shows that this higher-order construct influences behavioural intentions. Complementary partial mediation further demonstrates that tangible quality operates both directly and through customer satisfaction. The study therefore advances a travel-chain perspective in which tangible quality represents an integrated, multidimensional service experience formed across successive physical encounters. This perspective extends service-quality research by showing that travellers' behavioural intentions emerge from the combined evaluation of physical conditions experienced throughout the journey and the satisfaction generated from those encounters within Tanzania's intercity public road passenger transport context.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The study concludes that tangible quality has a significant positive influence on travellers' behavioural intentions in Tanzania's intercity public road passenger transport. This influence extends across the travel chain, with the physical conditions of intercity buses, terminal facilities and en route bus stops jointly contributing to overall tangible quality. The findings further show that tangible quality influences behavioural intentions both directly and indirectly through customer satisfaction, indicating complementary partial mediation. Passengers' future behavioural intentions are shaped by the physical conditions they experience and the satisfaction derived from those experiences. The study emphasises investment in tangible service attributes across buses, terminals and en route stops. By conceptualising tangibility as a multidimensional travel-chain construct, the study broadens existing perspectives on service quality and more clearly explains how physical service environments influence travellers' behavioural intentions within Tanzania's intercity transport system.

5.2 Recommendations

The study recommends that transport operators, terminal and en-route bus stop managers, service providers, and regulatory authorities manage tangible quality as an integrated travel-chain experience covering intercity buses, bus terminals, and en-route bus stops. Service improvements should prioritise cleanliness, comfort, sanitation, passenger facilities, and other visible conditions that influence travellers' evaluations throughout the journey. Particular attention should be given to bus terminal conditions, while maintaining acceptable standards of buses and en-route stops through inspection, passenger feedback, and coordinated service standards. Customer satisfaction should be systematically monitored alongside improvements in tangible quality, as it partly mediates the influence of tangible quality on behavioural intentions and can support continued use, positive word of mouth and recommendations. Future research should examine whether these relationships vary across routes, operators, traveller groups, and transport contexts, using longitudinal or comparative designs.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Funding Declaration

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

REFERENCES

Abdela, M. (2023). *Examining bus terminal service quality in Ethiopia, Addis Ababa* [Master's thesis, Kotebe University of Education]. https://nadre.ethernet.edu.et/record/7492

Bell, E., Harley, B., & Bryman, A. (2022). *Business research methods* (6th ed.). Oxford University Press.

Black, J. (2025). *A history of Britain's transport*. Pen & Sword.

Brady, M. K., & Cronin, J. J., Jr. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing, 65*(3), 34–49.

Brohi, S., Kalwar, S., Memon, I. A., & Ghaffar, A. (2021). Using the theory of planned behavior to identify the behavioral intention to use public transportation service: The case study of Karachi circular railway. *International Journal of Emerging Technologies, 12*(6), 317–322.

Bubalo, T., & Rajsman, M. (2020). Quality of transport service in intercity road passenger transport: A literature review. *Journal of Traffic and Logistics Engineering, 8*(1), 18–28.

Çelik, S., Ercan İştin, A., & Ertaş, F. (2024). Developing a new scale for service quality in intercity buses: IBUSQUAL. *Advances in Hospitality and Tourism Research (AHTR), 12*(4), 391–420. https://doi.org/10.30519/ahtr.1382785

de Oña, J. (2021). Service quality, satisfaction and behavioral intentions towards public transport from the point of view of private vehicle users. *Transportation, 49*(1), 237–269. https://doi.org/10.1007/s11116-021-10175-7

Doyle, E., & O'Flaherty, J. (2013). The impact of education level and type on moral reasoning. *Irish Educational Studies, 32*(3), 377–393.

Ganji, S., Ahangar, A., Awasthi, A., & Bandari, S. J. (2021). Psychological analysis of intercity bus passenger satisfaction using Q methodology. *Transportation Research Part A: Policy and Practice, 154*, 345–363.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM).* Sage.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24.

Hair, J. F., Sarstedt, M., Ringle, C. M., Sharma, P. N., & Liengaard, B. D. (2024). Going beyond the untold facts in PLS–SEM and moving forward. *European Journal of Marketing, 58*(13), 81–106.

Hamzah, M. I., Wahab, S. N., Abd Rashid, M. H., & Voon, B. H. (2023). Switching intention, WOM and quality of public transport services: A case of the Kuala Lumpur conurbation. *Multimodal Transportation, 2*(3), 100082.

Haron, S., Noor, S., & Sadullah, F. (2015). New dimension of bus service quality performance measure. *Proceedings of International Conference on Advances in Civil and Environmental Engineering (ACEE 2015).*

Hidayat, A. M., & Choocharukul, K. (2023). Passengers' intentions to use public transport during the COVID-19 pandemic: A case study of Bangkok and Jakarta. *Sustainability, 15*(6), 5273.

Hizam, S. M., Ahmed, W., Akter, H., & Sentosa, I. (2021). Understanding the public rail quality of service towards commuters' loyalty behavior in Greater Kuala Lumpur. *Transportation Research Procedia, 55*, 370–377.

Hussain, A., Shafiq, A., Awan, M. U., & Hashmi, J. I. (2025). A text mining study of online reviews to understand intercity bus service quality. *Transport Policy, 162*, 325–335.

Igembe, N., & Matonya, J. (2024). Influence of service quality on customer satisfaction: Empirical evidence from Dar es Salaam Rapid Bus Transit. *African Development Finance Journal, 7*(1), 125–144.

Javid, M. A., Tahir, Q., Khan, B., Ammar, M., Mehdi, Y., & Ali, N. (2024). Customers' satisfaction and intentions with public transportation in Faisalabad, Pakistan: Implications for a bus rapid transit service. *Transportation Science, 15*, 28–39.

Ladhari, R. (2008). Alternative measures of service quality: A review. *Managing Service Quality: An International Journal, 18*(1), 65–86.

Laisak, A. H., Rosli, A., & Sa'adi, N. (2021). The effect of service quality on customers' satisfaction of inter-district public bus companies in the Central Region of Sarawak, Malaysia. *International Journal of Marketing Studies, 13*(2). https://doi.org/10.5539/ijms.v13n2p53

Land Transport Regulatory Authority. (2023). *Land transport statistics report for the financial year 2022/2023*. https://www.latra.go.tz/uploads/documents/sw-1712504237-Annual%20Statistics%20Report%202022%202023%20(1).pdf

Li, W., & Lay, Y. F. (2024). Examining the reliability and validity of measuring scales related to informatization instructional leadership using PLS-SEM approach. *Dinamika Jurnal Ilmiah Pendidikan Dasar, 16*(1), 12–32.

Li, X., Wang, Y., Tang, J., Shi, L., Zhao, T., & Chen, J. (2022). Emotional wellbeing in intercity travel: Factors affecting passengers' long-distance travel moods. *Frontiers in Public Health, 10*, 1046922.

Li, X., Zhang, S., Wu, Y., Wang, Y., & Wang, W. (2021). Exploring influencing factors of intercity mode choice from view of entire travel chain. *Journal of Advanced Transportation, 2021*, 9454873.

Mani, K., & Zainuddin, S. (2021). Bus rapid transit (BRT) in Malaysia: Passengers satisfaction on service quality and price. *International Journal of Innovation and Business Strategy (IJIBS), 15*(2), 19–37.

Matanda, E. (2022). *Research methods and statistics for Cros: Handbook for multidisciplinary research*. African Books Collective.

Moslem, S., Alkharabsheh, A., Ismael, K., & Duleba, S. (2020). An integrated decision support model for evaluating public transport quality. *Applied Sciences, 10*(12), 4158.

Msumanje, G., & Runyoro, A. (2021). Public transport service reliability in Dar es Salaam City, Tanzania: A case of bus rapid transit (BRT). *Journal of Logistics, Management and Engineering Sciences, 3*(1), 22–31.

Muya, F., Kabugumila, M., Shatta, D. N., & Mabina, B. (2017). Assessment of InterCity's bus passengers satisfaction with technical safety and quality of service standards (TESQUASS) in Tanzania. *Journal of Logistics, Management and Engineering Sciences, 1*(2), 66–75.

Naveen, B., & Gurtoo, A. (2020). The cause-effect relationship model of service quality in relation with overall satisfaction. *Transportation Research Procedia, 48*, 1694–1721.

Nguyen-Phuoc, D. Q., Su, D. N., Nguyen, T., Vo, N. S., Tran, A. T. P., & Johnson, L. W. (2022). The roles of physical and social environments on the behavioural intention of passengers to reuse and recommend bus systems. *Travel Behaviour and Society, 27*, 162–172.

Nguyen-Phuoc, D. Q., Tran, A. T. P., Van Nguyen, T., Le, P. T., & Su, D. N. (2021). Investigating the complexity of perceived service quality and perceived safety and security in building loyalty among bus passengers in Vietnam: A PLS-SEM approach. *Transport Policy, 101*, 162–173.

Parasuraman, A., Zeithaml, V. A., & Berry, L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12–40.

Robinson, P., & Cameron, H. (2023). *Coach travel: An illustrated history*. Amberley Publishing Limited.

Salisu, U. O., Gafar, M. O., Akanmu, A. A., Sanni, S. M., & Fasina, S. O. (2024). Users' satisfaction with intercity bus terminal quality in Lagos State, Nigeria. *Scientific Journal of Silesian University of Technology. Series Transport, 123*, 277–302. https://doi.org/10.20858/sjsutst.2024.123.14

Sarstedt, M., Hair, J. F., Pick, M., Liengaard, B. D., Radomir, L., & Ringle, C. M. (2022). Progress in partial least squares structural equation modeling use in marketing research in the last decade. *Psychology & Marketing, 39*(5), 1035–1064.

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 587–632). Springer.

Shatta, D. N., & Myamba, B. (2024). Determinants of passengers' satisfaction in public transport in Tanzania: A mediating effect of efficiency of public transport services. *Journal of Industrial Engineering & Management Research, 5*(4), 25–39.

Swalehe, K. S. (2019). *Assessment of passenger's satisfaction with public transport services: A case of Dar es Salaam Bus Rapid Transit Services (DBRT) in Tanzania* [Master's thesis, The Open University of Tanzania]. http://repository.out.ac.tz/id/eprint/2645

Tengecha, N. A., & Mwendapole, M. J. (2021). The challenges and opportunities of Dar es Salaam City Bus Rapid Transit on implementation and operations. *Developing Country Studies, 11*(17), 27–35.

Tian, G., & Tolford, T. (2024). Users' willingness to ride an intercity passenger rail: A case study from Louisiana. *Public Works Management & Policy, 29*(3), 364–391.

Vujičić, M., & Prester, J. (2019). Assessing service quality of public tram transport in Zagreb city using P-TRANSQUAL model. *Zbornik Ekonomskog Fakulteta u Zagrebu, 17*(1), 19–31.

William, F. K. A. (2024). Delving into the principles and application of positivism in research: A guide for scholars. *International Journal of Research Publications, 146*(1). https://doi.org/10.47119/ijrp1001461420246237

Wonglakorn, N., Chantaratang, A., Suksiripattanapong, C., Sritha, K. N., Aunphoklang, W., Ninjinda, N., & Keerakittisakul, W. (2023). The development of service metrics indicators of a public transportation service case study: Intercity trains in Nakhon Ratchasima Province, Thailand. *Sustainability, 15*(15), 11739. https://doi.org/10.3390/su151511739

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through websites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science, 30*(4), 362–375.