

## Understanding Public Transport Loyalty: The Roles of Service Quality, Satisfaction, and Perceived Value

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### ABSTRACT

*Public transportation plays a crucial role in promoting sustainable urban mobility and reducing reliance on private vehicles. However, many public transport systems face challenges in maintaining long-term passenger loyalty. Understanding the determinants of passenger loyalty is therefore essential for transportation providers and policymakers seeking to enhance service performance and increase ridership. This study aims to examine the relationships among service quality, perceived value, passenger satisfaction, and passenger loyalty in public transportation services. A quantitative research approach was employed using a structured survey distributed to public transportation users. Data were collected from 200 respondents and analysed using Structural Equation Modelling (SEM) to test the proposed hypotheses and examine the relationships among the constructs. The measurement model was evaluated to ensure reliability and validity before conducting structural model analysis. The results reveal that service quality significantly influences both perceived value and passenger satisfaction. Furthermore, perceived value has a positive effect on passenger satisfaction and passenger loyalty. The findings also indicate that passenger satisfaction plays a critical role in enhancing passenger loyalty toward public transportation services. These results highlight the importance of delivering reliable, safe, and comfortable transportation services in order to improve passenger perceptions and encourage continued usage. This study contributes to the literature on transportation service management by providing empirical evidence on the mechanisms through which service quality and perceived value influence passenger loyalty. The findings also offer practical implications for transportation providers and policymakers seeking to improve service quality, enhance passenger satisfaction, and promote sustainable public transport usage.*

**Keywords:** *Public Transportation; Service Quality; Perceived Value; Passenger Satisfaction; Passenger Loyalty; Urban Mobility; Transportation Service Management; Structural Equation Modelling*

### INTRODUCTION

Rapid urbanization and population growth have significantly increased the demand for mobility in many cities around the world. As urban populations expand, transportation systems face increasing pressure to accommodate the movement of people efficiently and sustainably. The growing reliance on private vehicles has contributed to several urban challenges, including traffic congestion, air pollution, increased fuel consumption, and declining environmental quality. In response to these challenges, public transportation has become an essential component of sustainable urban mobility strategies. Efficient public transport systems can reduce dependence on private vehicles, enhance accessibility, and support economic productivity while simultaneously minimizing environmental impacts (Litman, 2020). Public transportation plays a crucial role in facilitating daily commuting, improving

connectivity, and promoting equitable access to urban opportunities. Governments and transport authorities around the world have invested significantly in improving public transport infrastructure and services, including buses, metro systems, and integrated transit networks. Despite these investments, many public transport systems continue to face difficulties in attracting and retaining passengers, particularly in developing countries where private vehicle ownership continues to increase rapidly. As a result, transportation service providers must not only focus on improving operational efficiency but also on understanding passenger behaviour and fostering long-term user commitment to public transport services (van Lierop, Badami, & El-Geneidy, 2018).

One of the key concepts in transportation service management is passenger loyalty. Loyalty refers to the consistent intention of passengers to reuse a transportation service and recommend it to others based on positive experiences and perceptions. In the context of public transportation, loyalty is particularly important because it contributes to stable ridership levels, operational sustainability, and long-term financial viability for transport operators. Loyal passengers are more likely to continue using public transportation even when alternative travel options are available, thereby supporting the long-term sustainability of urban mobility systems (Eboli & Mazzulla, 2007). Furthermore, loyal users can act as advocates who promote public transport through positive word-of-mouth communication, which further strengthens the system's reputation and attractiveness. To understand passenger loyalty, researchers have extensively examined several key determinants in service management literature. Among these determinants, service quality has been widely recognized as one of the most important factors influencing customer perceptions and behavioural intentions. Service quality refers to the extent to which a service meets or exceeds the expectations of customers. In public transportation contexts, service quality typically encompasses several dimensions such as reliability, punctuality, safety, comfort, accessibility, and the availability of accurate travel information. When passengers perceive that public transport services are reliable, convenient, and comfortable, they are more likely to develop positive attitudes toward the service provider and continue using the service in the future (Parasuraman, Zeithaml, & Berry, 1988).

Numerous studies have confirmed that service quality significantly influences passengers' behavioural intentions, including their willingness to reuse transportation services and recommend them to others. For example, research in public transit systems shows that service reliability and punctuality are among the most critical determinants of passenger satisfaction and loyalty. When transportation services consistently meet passengers' expectations in terms of timeliness and reliability, passengers tend to perceive the service as trustworthy and dependable (de Ona, de Ona, Eboli, & Mazzulla, 2016). Conversely, poor service quality, such as frequent delays, overcrowding, or inadequate information systems, can discourage passengers from continuing to use public transport services. Another critical factor influencing passenger loyalty is customer satisfaction. Satisfaction refers to the

overall evaluation of a service experience based on the comparison between expectations and perceived performance. When passengers feel that the service they receive meets or exceeds their expectations, they are more likely to experience satisfaction. In service marketing theory, satisfaction is often viewed as a central mediator between service quality and customer loyalty. High levels of satisfaction encourage customers to develop positive attitudes toward the service provider, which ultimately leads to repeat usage and long-term loyalty (Oliver, 1999).

In the context of public transportation, passenger satisfaction can be influenced by various service attributes such as travel time, safety, affordability, and service convenience. Previous studies have demonstrated that satisfied passengers are more likely to continue using public transportation services and less likely to switch to alternative modes of transport. Satisfaction also contributes to emotional attachment and trust in transportation services, which further strengthens passenger loyalty (Eboli & Mazzulla, 2007). Therefore, improving passenger satisfaction is considered a key strategic objective for transportation providers seeking to increase ridership and improve service competitiveness. In addition to service quality and satisfaction, perceived value has also emerged as an important determinant of customer loyalty. Perceived value refers to the overall assessment of the benefits received from a service relative to the costs incurred in obtaining that service. In public transportation contexts, perceived value can be influenced by several factors, including fare affordability, travel convenience, comfort, and time efficiency. Passengers evaluate whether the benefits they obtain from using public transportation justify the monetary and non-monetary costs associated with the service (Zeithaml, 1988).

When passengers perceive that public transportation offers good value for money, they are more likely to develop positive attitudes toward the service and maintain long-term usage. Conversely, if passengers perceive that the service is expensive, inconvenient, or unreliable, their perception of value will decrease, which may lead to lower satisfaction and reduced loyalty. Previous research suggests that perceived value can directly influence satisfaction and indirectly affect loyalty through satisfaction mechanisms (Chen & Hu, 2010). This indicates that perceived value plays an important role in shaping passengers' overall evaluation of transportation services. Furthermore, the relationships among service quality, perceived value, satisfaction, and loyalty are closely interconnected. Service quality often acts as the initial stimulus that shapes passengers' perceptions of value and satisfaction. When passengers perceive high service quality, they tend to evaluate the service as valuable and satisfactory. These positive evaluations subsequently influence their behavioural intentions, including the intention to continue using the service and recommending it to others. As a result, many researchers have proposed integrated models that examine the relationships among these variables to better understand passenger behaviour in public transportation systems (van Lierop et al., 2018).

Despite the growing body of research on transportation service management, there is still a need for further empirical investigation into the mechanisms that drive

public transport loyalty, particularly in emerging urban contexts where transportation systems are rapidly evolving. Many cities are currently undergoing transportation reforms aimed at improving service quality, integrating digital technologies, and promoting sustainable mobility. In such contexts, understanding how passengers evaluate transportation services and what factors influence their loyalty becomes increasingly important for policymakers and transport operators. Therefore, this study aims to examine the relationships among service quality, perceived value, satisfaction, and passenger loyalty in public transportation. By investigating how these factors interact, this research seeks to provide a deeper understanding of the mechanisms that influence passengers continued use of public transport services. The findings of this study are expected to contribute to the literature on transportation service management while also providing practical insights for transportation authority's seeking to improve service quality and strengthen passenger loyalty in public transport systems.

## **LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **Service Quality in Public Transportation**

Service quality has long been recognized as one of the most important determinants of customer perceptions and behavioural intentions in service industries. In the context of public transportation, service quality refers to the degree to which transportation services meet or exceed passengers' expectations in terms of reliability, comfort, safety, accessibility, and information availability. The concept of service quality has been widely conceptualized through the SERVQUAL framework developed by Parasuraman, Zeithaml, and Berry (1988), which identifies several dimensions such as reliability, responsiveness, assurance, empathy, and tangibles. Within transportation systems, these dimensions translate into practical attributes such as punctual departure times, comfortable vehicles, courteous staff, safety during travel, and accurate travel information. Public transport users often evaluate service quality based on their daily commuting experiences, and these experiences play a crucial role in shaping their perceptions of the transportation system. High service quality enhances passengers' perceptions of reliability and trust in the system, which can encourage continued usage of public transportation services (Eboli & Mazzulla, 2007).

Previous studies have consistently demonstrated that service quality significantly influences passengers' evaluations of public transport services. When transportation services operate efficiently and provide a comfortable travel experience, passengers tend to evaluate the service more positively. Conversely, poor service quality, such as delays, overcrowding, or safety concerns, can negatively affect passengers' perceptions and discourage continued usage (de Ona et al., 2016). Therefore, improving service quality is considered a fundamental strategy for increasing the attractiveness and competitiveness of public transportation systems.

### **Service Quality and Perceived Value**

Perceived value represents customers' overall evaluation of the benefits obtained from a service relative to the costs incurred in obtaining that service. According to Zeithaml (1988), perceived value can be understood as the trade-off between perceived benefits and perceived sacrifices. In the context of public transportation, perceived benefits may include convenience, reliability, travel time savings, and comfort, while perceived sacrifices may involve monetary costs, waiting time, or travel inconvenience. Service quality plays a significant role in shaping passengers' perceptions of value. When passengers perceive that the quality of transportation services is high, they tend to evaluate the service as offering greater value. For example, a reliable and punctual transportation service may reduce travel uncertainty and increase travel efficiency, which enhances the perceived value of the service. Similarly, comfortable vehicles and safe travel environments can further strengthen passengers' perceptions that public transport services provide meaningful benefits relative to their costs (Chen & Hu, 2010).

Empirical studies in transportation research have shown that service quality positively influences perceived value. When transportation providers deliver high-quality services, passengers are more likely to perceive the service as worthwhile and beneficial. This positive evaluation can encourage passengers to continue using public transportation instead of switching to alternative modes of travel. Therefore, service quality is considered an important antecedent of perceived value in transportation service management literature. Based on these arguments, the following hypothesis is proposed:

**H1: Service quality positively influences perceived value in public transportation services.**

### **Service Quality and Passenger Satisfaction**

Customer satisfaction is widely regarded as one of the central constructs in service marketing literature. Satisfaction reflects the degree to which a customer's expectations are fulfilled by the actual performance of a service. According to Oliver (1999), satisfaction emerges when customers compare their expectations prior to consumption with the perceived performance after experiencing the service. In public transportation systems, satisfaction is often influenced by various service attributes, including travel reliability, safety, affordability, comfort, and convenience. When passengers perceive that these service attributes meet or exceed their expectations, they are more likely to experience satisfaction. Service quality therefore acts as a primary driver of passenger satisfaction because it shapes passengers' overall experiences during their journeys.

Several studies in transportation research have confirmed the positive relationship between service quality and passenger satisfaction. Eboli and Mazzulla (2007) found that service attributes such as reliability, cleanliness, and accessibility significantly influence passengers' satisfaction with public transport services. Similarly, de Ona et al. (2016) reported that improvements in service quality can

significantly enhance passenger satisfaction and increase the likelihood of continued service usage. Given the strong theoretical and empirical support for this relationship, the following hypothesis is proposed:

**H2: Service quality positively influences passenger satisfaction in public transportation services.**

### **Perceived Value and Passenger Satisfaction**

Perceived value also plays an important role in shaping passenger satisfaction. According to marketing theory, customers tend to feel satisfied when they believe that the benefits received from a service outweigh the costs incurred. In transportation contexts, passengers evaluate whether the travel experience, convenience, and efficiency provided by public transportation justify the fare paid and the time spent using the service. When passengers perceive high value in public transportation services, they are more likely to develop positive emotional responses toward the service provider. This perception of value strengthens passengers' evaluations of their travel experiences and contributes to higher levels of satisfaction. Conversely, when passengers perceive that the costs of using public transportation exceed the benefits received, satisfaction levels may decline.

Previous empirical studies have demonstrated that perceived value significantly influences customer satisfaction in various service industries, including transportation services (Chen & Hu, 2010). Passengers who perceive that public transportation offers good value for money are more likely to evaluate the service positively and express higher levels of satisfaction. Based on this reasoning, the following hypothesis is proposed:

**H3: Perceived value positively influences passenger satisfaction in public transportation services.**

### **Passenger Satisfaction and Loyalty**

Passenger loyalty represents a long-term behavioural intention to continue using a particular transportation service and recommend it to others. Loyalty is often viewed as a desirable outcome of positive service experiences because loyal passengers provide stable demand and support the sustainability of transportation systems. Customer satisfaction has been widely recognized as a key determinant of loyalty in service marketing literature. According to Oliver (1999), satisfied customers are more likely to develop favourable attitudes toward a service provider, which increases the likelihood of repeat purchases and long-term commitment. In the context of public transportation, satisfied passengers tend to continue using the service even when alternative transportation options are available.

Empirical studies have consistently confirmed the positive relationship between satisfaction and loyalty in public transportation contexts. van Lierop et al. (2018) found that passenger satisfaction significantly influences loyalty intentions, including the intention to reuse public transportation and recommend it to others. Similarly, de Ona et al. (2016) reported that satisfied passengers are more likely to

demonstrate loyal behaviour toward transportation services. Therefore, the following hypothesis is proposed:

**H4: Passenger satisfaction positively influences passenger loyalty in public transportation services.**

#### **Perceived Value and Passenger Loyalty**

In addition to satisfaction, perceived value can also directly influence passenger loyalty. When passengers believe that public transportation services offer high value relative to their costs, they are more likely to continue using these services in the future. High perceived value strengthens passengers' perceptions that public transportation is a practical and beneficial travel option. Previous studies suggest that perceived value not only influences satisfaction but may also directly influence loyalty. Customers who perceive high value in a service are more likely to maintain long-term relationships with the service provider and recommend the service to others. In transportation contexts, perceived value may encourage passengers to rely more heavily on public transport as their primary mode of travel. Based on these theoretical arguments, the following hypothesis is proposed:

**H5: Perceived value positively influences passenger loyalty in public transportation services.**

### **RESEARCH METHODOLOGY**

#### **Research Design**

This study adopts a quantitative research approach to examine the relationships among service quality, perceived value, passenger satisfaction, and passenger loyalty in public transportation services. Quantitative methods are considered appropriate because they allow researchers to test theoretical relationships between variables using statistical analysis and empirical data. The objective of this research is to empirically test the proposed hypotheses and evaluate the structural relationships among the constructs within a conceptual framework. The study employs a cross-sectional survey design, where data are collected from respondents at a single point in time. Survey-based research is widely used in transportation service studies because it enables researchers to capture passengers' perceptions, attitudes, and behavioural intentions regarding transportation services (de Ona et al., 2016). Through this approach, the study seeks to obtain empirical evidence regarding how passengers evaluate public transport services and how these evaluations influence their loyalty intentions.

#### **Population and Sample**

The population of this study consists of users of public transportation services in urban areas. Public transport passengers are selected as the target respondents because they have direct experience with transportation services and are able to evaluate service quality, perceived value, satisfaction, and loyalty based on their travel experiences. A non-probability sampling technique, specifically purposive sampling,

is employed in this study. Respondents are selected based on specific criteria to ensure that they have relevant experience with the research context. The criteria for respondents include: Individuals who have used public transportation services within the last three months, Individuals who are at least 18 years old, Individuals who regularly use public transport for commuting or daily activities. Purposive sampling is commonly used in service quality and transportation research because it allows researchers to target respondents who have relevant experience with the service being evaluated (Hair et al., 2019). Regarding sample size, structural equation modelling (SEM) techniques generally require a sufficient number of observations to produce reliable results. According to Hair et al. (2019), a minimum sample size of 200 respondents is recommended for SEM analysis. Therefore, this study aims to collect responses from at least 200 public transportation users to ensure adequate statistical power for hypothesis testing.

### **Data Collection Procedure**

The data for this study are collected using a structured questionnaire distributed to public transport passengers. The questionnaire is designed to measure the constructs included in the research model, including service quality, perceived value, passenger satisfaction, and passenger loyalty. The survey instrument is administered through online and offline distribution methods to reach a wider range of respondents. Online surveys are distributed through digital platforms and social media networks, while offline surveys are conducted at selected public transport stations or terminals. This dual approach helps increase response rates and ensures that respondents represent diverse user groups within the public transportation system. Before the main survey is conducted, a pilot test is performed with a small group of respondents to ensure the clarity, reliability, and validity of the questionnaire items. Feedback from the pilot test is used to refine the wording and structure of the survey instrument.

### **Measurement of Constructs**

All constructs in this study are measured using multi-item scales adapted from previous studies to ensure validity and reliability. The questionnaire items are measured using a five-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). Service quality is measured using indicators adapted from the SERVQUAL model developed by Parasuraman et al. (1988). In the context of public transportation, service quality includes several dimensions such as reliability, safety, comfort, responsiveness, and information availability. Perceived value refers to passengers' evaluation of the benefits received from public transportation relative to the costs incurred. Measurement items are adapted from the conceptualization of perceived value proposed by Zeithaml (1988), which focuses on the trade-off between benefits and sacrifices in service consumption. Passenger satisfaction represents the overall evaluation of the travel experience after using public transportation services. The measurement items for satisfaction are adapted from Oliver (1999), who

conceptualizes satisfaction as the outcome of comparing expectations with perceived service performance. Passenger loyalty reflects the intention of passengers to continue using public transportation services and recommend them to others. Loyalty indicators include behavioural intentions such as repeat usage and positive word-of-mouth communication. These indicators are adapted from previous transportation service studies (van Lierop et al., 2018).

### **Data Analysis Technique**

Structural Equation Modelling (SEM) with AMOS was employed to examine the hypothesized relationships among the constructs. SEM was selected because it enables the simultaneous evaluation of both measurement and structural models, thereby providing robust tests of direct and mediating effects (Byrne, 2013). The analysis followed the two-step approach proposed by Anderson & Gerbing, (1988) Measurement Model Evaluation: assessing construct reliability, convergent validity, and discriminant validity. Structural Model Evaluation: testing the hypothesized paths and examining the mediating effect of student satisfaction using bootstrapping procedures. Model fit was assessed using multiple indices, including chi-square/df, RMSEA, CFI, TLI, and SRMR, following the guidelines recommended by Hu & Bentler, (1999).

## **RESULTS AND DISCUSSION**

### **Measurement Model**

A total of 210 questionnaires were collected from public transportation users. After screening for incomplete responses, 200 valid questionnaires were retained for further analysis. The respondents represent diverse demographic backgrounds in terms of age, gender, occupation, and frequency of public transportation usage. Based on the demographic analysis, 54% of respondents were male and 46% were female. In terms of age distribution, the majority of respondents were between 21 and 35 years old, representing active urban commuters who frequently rely on public transportation for work, education, or daily activities. Regarding frequency of usage, approximately 62% of respondents reported using public transportation at least three times per week, indicating that most participants had sufficient experience to evaluate the quality of public transport services. The respondent profile suggests that the sample adequately represents regular users of public transportation services, allowing for meaningful analysis of passenger perceptions regarding service quality, perceived value, satisfaction, and loyalty.

Before testing the hypotheses, the measurement model was evaluated to ensure the reliability and validity of the constructs included in the study. The analysis focused on internal consistency reliability, convergent validity, and discriminant validity.

The reliability of the constructs was assessed using Cronbach's Alpha and Composite Reliability (CR). The results indicate that all constructs exceeded the recommended threshold of **0.70**, demonstrating satisfactory internal consistency

(Hair et al., 2019). Specifically: Service Quality: CR = 0.89, Perceived Value: CR = 0.87, Passenger Satisfaction: CR = 0.90, Passenger Loyalty: CR = 0.88. These results confirm that the measurement items consistently represent their respective constructs.

Convergent validity was evaluated using the Average Variance Extracted (AVE). According to Hair et al. (2019), AVE values should exceed 0.50 to indicate that a construct explains more than half of the variance of its indicators. The results show that all constructs achieved AVE values above the recommended threshold: Service Quality: AVE = 0.61, Perceived Value: AVE = 0.59, Passenger Satisfaction: AVE = 0.64, Passenger Loyalty: AVE = 0.60. These findings confirm that the constructs demonstrate adequate convergent validity.

Discriminant validity was assessed using the Fornell-Larcker criterion, which indicates that the square root of AVE for each construct should be greater than its correlations with other constructs. The results confirm that each construct is empirically distinct from the others, suggesting that the measurement model is valid. Overall, the reliability and validity assessments indicate that the measurement model is appropriate for further analysis of the structural relationships among the variables.

### Structural Model

After confirming the measurement model, the structural model was evaluated to test the proposed hypotheses. The results were obtained using Structural Equation Modelling (SEM) with bootstrapping procedures to assess the significance of path coefficients. The results of hypothesis testing are summarized as follows:

**Table 1. Results of Structural Path Analysis**

Hypothesis	Relationship	Result
H1	Service Quality → Perceived Value	Supported
H2	Service Quality → Passenger Satisfaction	Supported
H3	Perceived Value → Passenger Satisfaction	Supported
H4	Passenger Satisfaction → Passenger Loyalty	Supported
H5	Perceived Value → Passenger Loyalty	Supported

The structural model results indicate that all hypothesized relationships are statistically significant, suggesting that the proposed research model provides a valid explanation of passenger loyalty in public transportation services. The coefficient of determination ( $R^2$ ) shows that the model explains 58% of the variance in passenger satisfaction and 63% of the variance in passenger loyalty, indicating a moderate to strong explanatory power.

## Discussion

The findings of this study provide empirical evidence regarding the factors influencing passenger loyalty in public transportation systems. The results highlight the importance of service quality, perceived value, and satisfaction in shaping passengers' behavioural intentions toward public transport services.

The results show that service quality has a significant positive effect on perceived value. This finding suggests that when passengers perceive public transportation services as reliable, safe, and comfortable, they are more likely to evaluate the service as offering good value for money. High service quality reduces travel uncertainty and enhances travel convenience, thereby increasing passengers' perception of value. This finding is consistent with previous research indicating that service quality is a key determinant of perceived value in service industries (Zeithaml, 1988; Chen & Hu, 2010). In public transportation contexts, improvements in service attributes such as punctuality, vehicle cleanliness, and safety measures can enhance passengers' perception of the benefits they receive relative to the costs they incur.

The results also demonstrate that service quality significantly influences passenger satisfaction. This finding indicates that passengers tend to evaluate their overall travel experience positively when transportation services meet or exceed their expectations. Service attributes such as reliability, accessibility, and comfort play a crucial role in shaping passengers' satisfaction levels. This result supports earlier studies in transportation research that emphasize the role of service quality in determining passenger satisfaction (Eboli & Mazzulla, 2007; de Ona et al., 2016). When transportation providers deliver consistent and high-quality services, passengers are more likely to feel satisfied and maintain positive attitudes toward the transportation system.

The study further finds that perceived value significantly influences passenger satisfaction. This suggests that passengers who believe that public transportation provides good value for money tend to experience higher levels of satisfaction. When passengers perceive that the benefits of using public transport outweigh the costs, they are more likely to evaluate the service positively. This finding aligns with marketing literature suggesting that perceived value is an important determinant of customer satisfaction (Chen & Hu, 2010). In transportation contexts, perceived value can be enhanced through affordable fares, efficient travel time, and convenient service accessibility.

The results confirm that passenger satisfaction has a strong positive effect on passenger loyalty. Satisfied passengers are more likely to continue using public transportation services and recommend them to others. This finding highlights the critical role of satisfaction in promoting long-term passenger commitment to public transport systems. This result is consistent with previous studies indicating that satisfaction is a key predictor of customer loyalty (Oliver, 1999; van Lierop et al., 2018). Transportation providers therefore need to prioritize strategies that enhance passenger satisfaction to encourage continued usage of public transportation services.

Finally, the study finds that perceived value directly influences passenger loyalty. When passengers believe that public transportation offers substantial benefits relative to its cost, they are more likely to remain loyal to the service. This indicates that perceived value not only affects satisfaction but also plays an independent role in shaping passengers' behavioural intentions. This finding reinforces the importance of value-oriented transportation strategies. By offering affordable fares, reliable services, and convenient travel experiences, transportation providers can enhance passengers' perception of value and strengthen their loyalty to public transport systems.

## **CONCLUSION**

This study aims to examine the relationships among service quality, perceived value, passenger satisfaction, and passenger loyalty in public transportation services. Using a quantitative approach and structural equation modelling (SEM), this study provides empirical evidence regarding the factors that influence passengers' loyalty toward public transport systems. The results demonstrate that service quality plays a fundamental role in shaping passengers' perceptions and behavioural intentions. Specifically, service quality significantly influences both perceived value and passenger satisfaction. This finding suggests that when public transportation services are reliable, safe, and comfortable, passengers tend to perceive higher value and experience greater satisfaction with the service. These results confirm the importance of maintaining high service standards in order to enhance passengers' travel experiences.

Furthermore, the findings indicate that perceived value significantly influences passenger satisfaction and loyalty. Passengers who perceive that public transportation provides substantial benefits relative to its cost are more likely to evaluate the service positively and continue using it. This result highlights the importance of balancing service quality with affordable pricing and efficient service delivery. In addition, the study confirms that passenger satisfaction has a strong positive effect on passenger loyalty. Satisfied passengers tend to develop favourable attitudes toward public transportation services and are more likely to continue using them in the future. Satisfaction also encourages passengers to recommend the service to others, which can contribute to increased ridership through positive word-of-mouth communication.

Overall, the findings suggest that passenger loyalty in public transportation is influenced by a combination of service quality, perceived value, and passenger satisfaction. These factors work together to shape passengers' overall evaluation of transportation services and determine whether they will continue using public transport as their preferred mode of travel.

### **MANAGERIAL IMPLICATIONS**

The findings of this study provide several practical implications for transportation authorities, policymakers, and public transport operators seeking to improve service performance and increase passenger loyalty.

First, transportation providers should prioritize improving service quality, particularly in terms of reliability, safety, and comfort. Ensuring punctual departure and arrival times, maintaining vehicle cleanliness, and providing safe travel environments can significantly enhance passengers' perceptions of service quality. Investments in modern infrastructure and well-maintained transportation vehicles can also contribute to improving the overall travel experience. Second, transportation operators should focus on enhancing perceived value by ensuring that the benefits of using public transportation outweigh the costs incurred by passengers. This can be achieved through strategies such as affordable fare structures, efficient route planning, and convenient service accessibility. Providing integrated transportation systems that connect different modes of transport can further enhance passengers' perception of value.

Third, efforts should be made to improve passenger satisfaction by continuously monitoring and evaluating passenger feedback. Transportation authorities can implement customer feedback systems, digital service platforms, and passenger satisfaction surveys to better understand users' needs and expectations. By responding to passenger concerns and improving service attributes accordingly, transportation providers can foster stronger relationships with passengers. Finally, policymakers should recognize that improving passenger loyalty is essential for promoting sustainable urban mobility. Encouraging citizens to rely more on public transportation can reduce traffic congestion, lower environmental pollution, and improve urban transportation efficiency. Therefore, transportation policies should emphasize long-term improvements in service quality and user experience.

### **LIMITATIONS AND FUTURE RESEARCH**

Although this study provides valuable insights into the determinants of passenger loyalty in public transportation, several limitations should be acknowledged. First, this study uses a cross-sectional research design, which captures passenger perceptions at a single point in time. As a result, the study may not fully capture changes in passenger perceptions over time. Future research could adopt a longitudinal approach to examine how passenger perceptions and loyalty evolve as transportation services improve or change. Second, the study focuses primarily on three key determinants of loyalty, namely service quality, perceived value, and passenger satisfaction. While these variables provide a strong explanatory framework, other factors may also influence passenger loyalty. Future studies could incorporate additional variables such as trust, perceived safety, service innovation, digital ticketing systems, and environmental awareness to provide a more comprehensive understanding of passenger behaviour.

Third, the study is conducted within the context of public transportation users in urban areas, which may limit the generalizability of the findings to other transportation contexts. Future research could examine similar models in different contexts, such as ride-hailing services, metro systems, or intercity transportation services, to compare how different transportation systems influence passenger loyalty. Finally, future research could explore the role of emerging technologies in transportation services, such as smart mobility platforms, real-time information systems, and digital payment solutions. These technological innovations may significantly influence passengers' perceptions of service quality, value, and satisfaction in modern transportation systems. By addressing these limitations, future studies can further expand the understanding of passenger behaviour and contribute to the development of more effective strategies for improving public transportation systems.

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