

Factors Influencing the Service Quality Expectations of Bus Passengers: Evidence from a Suburban Bus Route in Sri Lanka

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ABSTRACT

The decline in public transportation usage in Sri Lanka, due to inadequate service quality, reflects significant challenges for suburban mobility. Against this background, this study investigates the factors influencing bus passengers' service quality expectations on the Mawanella-Rambukkana bus route, providing insights into the need of improving public transport services at suburban levels. The existing literature indicates the key service attributes such as the ticket price, waiting time, and environmental conditions that significantly affect passenger satisfaction. However, there is a gap in understanding these factors in suburban contexts, particularly gender-specific preferences in Sri Lanka. A conjoint analysis was conducted to evaluate six critical service quality attributes: walking time, waiting time, ticket price, travel time, in-bus environment, and bus stop environment. The data was collected from 400 passengers, including 197 males and 203 females, using a structured questionnaire. The utility estimates and relative importance scores quantified the impact of each attribute. The study revealed a significant set of gender differences in service quality priorities. The ticket price emerged as the most crucial factor for both genders, with a slightly higher importance for the females (27.125) than the males (26.807). The males valued the bus stop environment (19.189) more than the females (19.065), while the females prioritized the in-bus environment (17.822) more than the males (17.044). The waiting time was more critical for the males (14.485) compared to the females (13.981), while walking time and travel time were of lower importance for both genders. The findings underscore the need for certain public transport actions such as targeted improvements in fare affordability, waiting times, and environmental conditions to enhance passenger satisfaction. The study addresses thus an existing literature gap by focusing on suburban bus passengers and providing gender-specific insights, contributing to a comprehensive understanding of the public transport service quality experienced by the people of Sri Lanka.

KEYWORDS: *Service quality, passenger expectations, conjoint analysis, gender difference, suburban mobility, ticket price.*

1 INTRODUCTION

Public transport is a shared passenger transport service available for the general public to reach their destinations, distinct from private arrangements such as car-pooling, taxis, or hired vehicles which are not used by strangers. Public transportation alternatives include buses, trains, rapid transit, trams, ferries, and aircraft, depending on the country's demands (Ranawana & Hewage, 2015). The transportation industry is essential to modern civilization as it facilitates the movement of people and goods, boosting societal well-being and economic growth. Among them, bus passenger transit is one of the most critical forms of transportation, meeting the demands of commuters in both urban and rural areas. Providing a top service in this sector is crucial to boost client satisfaction, which in turn promotes environmentally friendly transportation systems.

Modern civilizations depend heavily on the transportation sector to facilitate the flow of people and goods and promote economic progress (Smith et al., 2019). Bus passenger transportation stands out among other modes of transportation as an essential component of intercity and urban transit networks. It provides affordability and accessibility, especially for low-income individuals and marginalized

communities, making it a vital mode of transportation for millions of commuters (Li & Wang, 2018). Governments, transportation providers, lawmakers, law enforcement, health groups, economists, and environmental organizations globally are promoting the use of public transportation due to its numerous benefits. Consequently, most nations are progressively allocating more funds toward the construction of public transportation infrastructure. In light of current travel and transportation issues, the imperative use of public transportation becomes evident.

Despite the fundamental significance of the public bus transit, the industry faces ongoing challenges with service quality. Factors such as accessibility, comfort, safety, and reliability significantly influence passengers' expectations and perceptions of service quality (Kasuwar & Gambo, 2016). Understanding these expectations is crucial for ensuring the sustainability and viability of the bus transportation system. This study investigates the service quality expectations of bus passengers on the Mawanella-Rambukkana route, focusing on gender-specific preferences. Analyzing service quality expectations by gender is critical as men and women may have different priorities and experiences that influence their satisfaction levels. Gender-wise analysis can reveal distinct needs and priorities, allowing operators and policymakers to tailor services more effectively and ensure that both male and female passengers are equally satisfied with the bus services provided.

Increasing the quality of bus services can attract more customers, thereby enhancing the public transport system's sustainability. This study seeks to determine the weight of factors influencing service quality expectations among bus passengers, offering insights for developing a typical public transportation system where using public transport is commonplace. Addressing these service quality factors can help resolve significant issues like traffic congestion by reducing the number of individual automobiles on the road. The findings can inform targeted improvements, ensuring that resources are allocated efficiently, and changes are implemented effectively (Smith & Johnson, 2020). Ultimately, this research contributes to understanding and enhancing the quality of bus transportation services, promoting higher passenger satisfaction and greater public transport usage.

2 LITERATURE REVIEW

Service quality in public transportation has garnered significant attention globally, with numerous studies focusing on identifying and evaluating the factors that contribute to passenger satisfaction. The quality of service in public transportation is taking many sides, encompassing various attributes that affect the overall passenger experience. Thus, this section reviews key literature on service quality factors relevant to bus transportation, particularly in suburban and rural settings.

The concept of service quality in public transportation has been extensively studied. Parasuraman, Zeithaml, and Berry (1985) introduced the SERVQUAL model, which identified five dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy. While this model provides a general framework, its application in public transportation requires adaptation to the specific characteristics of transit services.

2.1 Factors Influencing Service Quality

Several studies have identified specific factors that influenced service quality in bus transportation. Eboli and Mazzulla (2007) highlighted the importance of factors such as punctuality, frequency, cleanliness, comfort, and safety which significantly impact passenger satisfaction and loyalty.

Walking time, defined as the time taken to reach a bus stop from the passenger's origin, is a critical factor affecting the perceived accessibility of public transportation. In fact, Mazzulla and Eboli (2006) conducted a study on the perception of walking time and found that shorter walking distances positively influence passenger satisfaction. Aniley and Negi (2010) also noted that walking time is a key determinant of a location's reachability and can significantly influence travel choices.

Waiting time at bus stops is another crucial factor influencing service quality. Studies have shown that longer waiting times negatively impacted passenger satisfaction. Eboli and Mazzulla (2011) used regression models to analyze the effect of waiting time on overall satisfaction, concluding that reducing waiting time was essential for improving service quality.

Moreover, the cost of travel is a significant factor in determining the attractiveness of public transportation. Kumarage (2002) explored the impact of fare policies on passenger satisfaction and found that affordability was a primary concern for passengers, particularly in low-income households. Competitive pricing and fare discounts were recommended to enhance passenger satisfaction and increase ridership.

In addition, travel time, including in-vehicle time and transfer times, is a critical component of service quality. Research by Felleson and Friman (2008) indicated that shorter travel times led to higher levels of passenger satisfaction. The study also suggested that travel time reliability was equally important, as unpredictable travel times can lead to passenger dissatisfaction.

Furthermore, the in-bus environment encompasses various attributes such as cleanliness, seating comfort, temperature control, and noise levels. Smith and Johnson (2020) found that a pleasant in-bus environment significantly enhanced passenger satisfaction. Thus, they recommended regular maintenance and upgrades to ensure a comfortable travel experience.

Additionally, the environment at bus stops, including shelter availability, seating arrangements, lighting, and safety, plays a crucial role in shaping passenger perceptions. As per, Oktiani (2009) well-maintained bus stops with adequate facilities contribute to a positive travel experience. At the same time, real-time information systems at bus stops could enhance convenience and reduce perceived waiting times.

Gender differences in the perception of service quality have also been explored in the literature. Tournquist and Salanova (2016) found that women generally place higher importance on safety and security aspects compared to men. This suggests that improving safety measures at bus stops and on buses can significantly enhance service quality for female passengers.

Conjoint analysis is a widely used technique to evaluate passenger preferences for different service attributes. The method involves presenting respondents with a set of hypothetical service profiles and asking them to rank or rate these profiles. This approach helps to identify the relative importance of each service attribute. Hensher, Stopher, and Bullock (2003) applied conjoint analysis in their study of bus service quality and highlighted its effectiveness in capturing passenger preferences.

Overall, the review of the literature underscores the importance of various factors influencing service quality in public transportation: walking time, waiting time, ticket price, travel time, in-bus environment, and bus stop environment. Understanding these factors is essential for designing and implementing improvements in public transportation services. The literature also highlights the usefulness of conjoint analysis in evaluating passenger preferences and providing actionable insights for service enhancements.

3 METHODOLOGY

It is difficult to assess all the characteristics that could affect service quality in public bus transportation in one model because there are many of them. The walking time from one's home to the bus stop, the amount of waiting time at the bus station before a bus arrives, the cost of the ticket and the time taken from the origin to destination, the environment inside the bus, and at the station are the factors that have been found to impact immensely on the passenger satisfaction. Accordingly, to factors including adequacy of space for passengers, number of seats available, the bus's temperature, courtesy of the bus drivers, cleanliness were classified as the in-bus environment and it was categorized as either pleasant or unpleasant (Shari et al., 2019).

Thirty randomly selected bus users who were using Mawanella-Rambukkana (665) bus route participated in a pilot survey to determine the current and predicted levels of the following attributes: walking time, waiting time, ticket price, travel time, in-bus environment, and bus stop environment. Table 1 portrays the levels for each attribute determined via the pilot survey.

Table 1. Different Factor Levels Chosen During the Pilot Survey.

Walking time (minutes)	Waiting time (minutes)	Travel time (minutes)	Ticket price (Rs.)	In bus environment	Bus station environment
10;15;20	10;15	25;35;60	59;80;103	Pleasant; unpleasant	Pleasant; unpleasant

With the factors that were mentioned (3x2x3x3x2x2) 216 profiles could be made. Since it was not feasible to ask the respondents to rate all the profiles, a fractional factorial design was used to provide a representative sample of the total attributes. SPSS software was used to create 16 profiles that were representative of the total attributes. The profiles were included in the questionnaire form for respondents to rate their preference. The scale was from 0 (not likely at all) to 100 (definitely would). A control profile was generated with the levels considered worst for all the factors. If any response yielded higher value for the control profile than any 16 general profiles, that response was considered invalid. The profiles were put in the survey for people to rate how much they liked them. A representative sample of 400 passengers from the 665-bus Mawanella-Rambukkana route was taken into consideration. We went over each questionnaire question with the respondents during the in-person interviews. They had to assess seventeen cards, so it was crucial to confirm that they knew what we were asking. If we didn't explain the questions properly, they might get confused and give us inaccurate answers. The questionnaire also asked for demographic information, such as their age, gender, monthly income, trip origin, trip destination, and the purpose of the trip. This information was helpful for understanding the respondents' perspectives and experience. The 16 profiles produced by SPSS software are illustrated in Figure 1.

Section B: Factors affecting service satisfaction in public transport				
Walking time (minutes) -30%, same as now, +30%				
Waiting time (minutes) -25%, same as now, +25%				
Ticket price (rupees) -20%, same as now, +20%				
Travel time (minutes) -15%, same as now, +15%				
Bus stop environment pleasant, unpleasant				
In bus environment comfortable, uncomfortable				
(See the illustrations in the last page)				
How likely are you to travel by this transit?				
Use scale	0= "not at all likely"			100 = "definitely would"
	Card 1	Card 2	Card 3	Card 4
Walking time	+30%	-30%	+30%	-30%
Waiting time	+25%	+25%	+25%	-25%
Ticket price	Same as now	+20%	-20%	-20%
Travel time	-15%	-15%	+15%	-15%
Bus stop environment	Unpleasant	Unpleasant	Pleasant	Pleasant
In bus environment	Uncomfortable	Uncomfortable	Uncomfortable	Comfortable
	Card 5	Card 6	Card 7	Card 8
Walking time	Same as now	Same as now	-30%	-30%
Waiting time	+25%	-25%	-25%	+25%
Ticket price	-20%	Same as now	+20%	-20%
Travel time	-15%	-15%	-15%	-15%
Bus stop environment	Unpleasant	Pleasant	Pleasant	Unpleasant
In bus environment	Comfortable	Uncomfortable	Uncomfortable	Comfortable
	Card 9	Card 10	Card 11	Card 12
Walking time	+30%	Same as now	-30%	Same as now
Waiting time	-25%	+25%	+25%	-25%
Ticket price	-20%	+20%	Same as now	-20%
Travel time	-15%	+15%	Same as now	Same as now
Bus stop environment	Pleasant	Pleasant	Pleasant	Unpleasant
In bus environment	Comfortable	Comfortable	Comfortable	Uncomfortable
	Card 13	Card 14	Card 15	Card 16
Walking time	-30%	-30%	+30%	-30%
Waiting time	-25%	+25%	-25%	-25%
Ticket price	-20%	-20%	+20%	Same as now
Travel time	+15%	Same as now	Same as now	+15%
Bus stop environment	Unpleasant	Pleasant	Unpleasant	Unpleasant
In bus environment	Uncomfortable	Uncomfortable	Comfortable	Comfortable

Figure 1. Sixteen profiles generated through SPSS

3.1 Conjoint Analysis

In this research, the conjoint analysis was used to identify the attributes that people valued most in a bus passenger service. Conjoint analysis is a survey-based technique that presents respondents with a variety of hypothetical service profiles, each with different levels of the attributes being studied.

Respondents were then asked to rank or rate the profiles, and their preferences are used to estimate the relative importance of the attributes.

$$U_n = U_o + \sum_i^m = 1 \sum_j^{k_i} = 1 \alpha_{ij} U(x_{ij}) \tag{1}$$

where,

u_n = the utility of a general product or service

a_{ij} = dummy variable ($a_{ij} = 1$ when the i th factor or attribute at the j -th attribute is available in a service profile, if not, $a_{ij} = 0$)

$u(x_{ij})$ = utility of the i th profile at the j th attribute of a service profile

u_o = constant

4 DATA ANALYSIS AND FINDINGS

Using SPSS, the viewpoint of 400 passengers on bus number 665 (Rambukkana-Mawanella), which ran between Rambukkana town and Mawanella town, was examined with the goal of determining the most significant element influencing service quality. Table 2 displays the utility values for each level of each factor.

Table 2. Utility Levels of Passengers

		Utility Estimate	Std. Error (SE)
Walking time	-30%	4.173	3.922
	same as now	-1.081	4.598
	+30%	-3.092	4.598
Waiting time	-25%	4.130	2.941
	+25%	-4.130	2.941
Ticket price	-20%	9.886	3.922
	same as now	-6.139	4.598
	+20%	-3.747	4.598
Travel time	-15%	3.789	3.922
	same as now	-1.948	4.598
	+15%	-1.841	4.598
Bus stop environment	Pleasant	5.632	2.941
	Unpleasant	-5.632	2.941
In bus environment	comfortable	5.264	2.941
	uncomfortable	-5.264	2.941
(Constant)		44.578	3.396

The goodness of fit for the model was evaluated using Pearson's R and Kendall's tau metrics, which measured the correlation between the model's predictions and the collected data. The Pearson's R value of 0.862 and Kendall's tau value of 0.600 indicated a strong positive relationship between the variables and the model. Both metrics achieved high levels of significance, with p-values of 0.000 and 0.001, respectively, which were well below the 0.05 threshold. These results demonstrated that the model had a high degree of accuracy and reliability, confirming its robustness and the strong alignment between the model and the observed data. The utility values and standard errors of the characteristics are shown in Table 2.

According to the above utility table, the analysis of utility estimates highlights key factors that significantly influence passenger satisfaction in bus transport services. A reduction in walking and waiting times substantially enhances passenger utility, with a 25% decrease in waiting time yielding a high positive utility of 4.130 (SE 2.941), indicating that passengers highly value reduced waiting periods. Conversely, increases in walking time by 30% have a negative utility of -3.092 (SE 4.598), and

waiting times, as well as higher ticket prices, negatively impact utility, with a 20% increase in ticket price resulting in a negative utility of -3.747 (SE 4.598), demonstrating a clear preference for shorter and more efficient travel experiences at lower costs. Notably, ticket price reductions offer the greatest positive impact, with a 20% reduction yielding a positive utility of 9.886 (SE 3.922), underscoring the importance of affordability in passenger satisfaction. Environmental factors also play a critical role; pleasant bus stop environments significantly improve passenger utility by 5.632 (SE 2.941), and comfortable in-bus conditions increase utility by 5.264 (SE 2.941), highlighting the significance of overall travel ambiance. The constant term of 44.578 (SE 3.396) suggests a baseline level of satisfaction, which is significantly influenced by these variables, emphasizing that improvements in these areas can lead to a more favourable passenger experience.

The measure of the factor's importance to overall preference was the range of utility values. More important than factors with smaller utility ranges were those with larger utility ranges. As a result, the components' relative significance was determined using the formula;

$$V_{ij} = \frac{\max u_{ij} - \min u_{ij}}{\sum_j (\max u_{ij} - \min u_{ij})} \tag{2}$$

V_{ij} is the relative importance of the j^{th} factor for i^{th} respondent and u_{ij} is the utility value of j^{th} factor for i^{th} respondent. Then the relative importance of each factor for the entire respondents can be calculated as;

$$V_{ij} = \frac{\sum_i V_{ij}}{\sum_i \sum_j V_{ij}} \tag{3}$$

Accordingly, the weights of all the factors are shown in Table 3.

Table 3. Averaged Importance Scores for the Weights of Attributes

Walking time	12.297
Waiting time	13.981
Ticket price	27.125
Travel time	9.710
Bus stop environment	19.065
In bus environment	17.822

The analysis of service quality factors revealed that the ticket price was the most significant determinant of passenger satisfaction, with an importance score of 27.125. This finding aligns with existing research that highlights the critical role of affordability in public transportation usage. For instance, Paulley et al. (2006) found that fare levels significantly affected ridership, particularly among low-income groups. Similarly, Litman (2004) emphasized that fare reductions can substantially increase public transport use, particularly for economically disadvantaged populations. Therefore, to enhance passenger satisfaction, it is crucial for policymakers to maintain affordable fare structures and consider implementing modern payment systems such as travel cards to streamline the payment process.

The next most important factors were the bus stop environment and the in-bus environment, with scores of 19.065 and 17.822, respectively. Passengers placed significant value on well-maintained and safe bus stops, as well as clean and comfortable bus interiors. Research by Eboli and Mazzulla (2011) supports these findings, indicating that the physical environment of bus stops and vehicles greatly influenced overall satisfaction. Improving aspects such as lighting, seating, cleanliness, and safety at bus stops and within buses can therefore significantly enhance the passenger experience.

Passengers also prioritized waiting time (13.981) over walking time (12.297), suggesting that reducing the time spent waiting for buses was more crucial than minimizing the distance they needed to walk. Studies by Fan and Machemehl (2006) have shown that passengers perceived waiting time as more inconvenient than walking time, which underscored the importance of increasing bus frequency and providing real-time arrival information to minimize perceived waiting times and improve satisfaction.

Travel time received the lowest importance score (9.710), indicating that it was a less critical factor compared to the other attributes. This suggests that passengers are more concerned with the conditions and amenities provided during their journey rather than the duration itself. This is consistent with findings from Susilo and Cats (2014), who noted that passengers placed higher value on the quality of service rather than just the speed of travel. Efforts to improve the travel experience should therefore focus on enhancing the overall quality of the service.

Based on these findings, several recommendations can be derived from the literature. Firstly, authorities should focus on maintaining affordable fare structures and consider implementing concession plans for low-income passengers, as suggested by Paulley et al. (2006) and Litman (2004). Additionally, enhancing the bus stop and in-bus environments through regular maintenance, improved safety measures, and better amenities can significantly boost passenger satisfaction (Eboli & Mazzulla, 2011). Finally, reducing waiting times through increased service frequency and providing accurate real-time information can further enhance the travel experience (Fan & Machemehl, 2006). By addressing these key areas, transportation authorities can improve the overall quality of bus services, thereby meeting passenger expectations and fostering greater public satisfaction and usage of bus transport systems.

4.1 Gender wise Viewpoints on Service Quality Attributes

Data collected from 197 male passengers was analyzed with SPSS and the utility levels of male passengers are shown in Table 4. Averaged importance scores for the weights of service quality attributes for male Passengers is shown in Table 5.

Table 4. Utility Levels of Male Passengers

		Utility Estimate	Std. Error
Walking time	-30%	4.168	3.955
	same as now	-1.251	4.637
	+30%	-2.917	4.637
Waiting time	-25%	4.260	2.966
	+25%	-4.260	2.966
Ticket price	-20%	9.817	3.955
	same as now	-5.951	4.637
	+20%	-3.867	4.637
Travel time	-15%	3.946	3.955
	same as now	-2.189	4.637
	+15%	-1.757	4.637
Bus stop environment	Pleasant	5.643	2.966
	Unpleasant	-5.643	2.966
In bus environment	comfortable	5.013	2.966
	uncomfortable	-5.013	2.966
(Constant)		44.339	3.425

Table 5. Averaged Importance Scores for the Weights of Attributes for Male Passengers

Walking time	12.046
Waiting time	14.485
Ticket price	26.807
Travel time	10.429
Bus stop environment	19.189
In bus environment	17.044

Data collected from 203 female passengers was analysed with SPSS and the utility levels of male passengers are shown in Table 6. Averaged importance scores for the weights of service quality attributes for male Passengers is shown in Table 7.

Table 6. Utility Levels of Female Passengers

		Utility Estimate	Std. Error
Walking time	-30%	4.173	3.922
	same as now	-1.081	4.598
	+30%	-3.092	4.598
Waiting time	-25%	4.130	2.941
	+25%	-4.130	2.941
Ticket price	-20%	9.886	3.922
	same as now	-6.139	4.598
	+20%	-3.747	4.598
Travel time	-15%	3.789	3.922
	same as now	-1.948	4.598
	+15%	-1.841	4.598
Bus stop environment	Pleasant	5.632	2.941
	Unpleasant	-5.632	2.941
In bus environment	Comfortable	5.264	2.941
	uncomfortable	-5.264	2.941
(Constant)		44.578	3.396

Table 7. Averaged Importance Scores for the Weights of Attributes for Female Passengers

Walking time	12.297
Waiting time	13.981
Ticket price	27.125
Travel time	9.710
Bus stop environment	19.065
In bus environment	17.822

The analysis of utility and relative importance values for male and female passengers revealed notable variations in their preferences with bus services. While both genders demonstrated similar trends, certain factors showed significant differences in their impact and importance. Ticket price emerged as the most critical factor for both genders, with males showing a slightly lower importance score (26.807) compared to females (27.125). This finding aligned with Paulley et al. (2006), who identified fare affordability as a crucial determinant of public transport usage, particularly among price-sensitive groups.

Walking and waiting times also exhibited differences. For males, waiting time had a higher relative importance (14.485) compared to walking time (12.046), whereas females assigned almost equal importance to both times (13.981) and (12.297) respectively. This indicated that while both genders valued reduced waiting times, males were slightly more affected by it. This difference could be attributed to the varying time management priorities between genders, as suggested by Fan and Machemehl (2006), who found that waiting time reductions significantly enhanced perceived service quality.

Environmental factors, specifically the bus stop and in-bus environments, were highly valued by both genders. However, males assigned slightly more importance to the bus stop environment (19.189) compared to females (19.065), while females placed a marginally higher importance on the in-bus environment (17.822) compared to males (17.044). Eboli and Mazzulla (2011) supported the significance of clean, safe, and well-maintained environments in enhancing passenger satisfaction, indicating that improvements in these areas were critical for both genders.

When examining the utility estimates, reductions in ticket price, waiting time, and walking time yielded positive utility for both genders, with males showing slightly higher utility for reduced walking time (-30%: 4.168) and waiting time (-25%: 4.260) compared to females (walking time -30%: 4.173, waiting time -25%: 4.130). Conversely, increases in these factors resulted in negative utility, reflecting a strong aversion to longer walking and waiting times. The significant impact of environmental conditions was evident, with pleasant bus stop and in-bus environments yielding positive utility for both genders, although males showed a slightly higher positive utility for a pleasant bus stop environment (5.643) compared to females (5.632).

These findings suggested that while both genders shared common priorities, males were slightly more sensitive to waiting times and environmental conditions at bus stops, while females placed a higher emphasis on ticket prices and in-bus environments. Based on these insights, several recommendations were made. Firstly, maintaining affordable fare structures is essential for both genders, with potential concessions for economically disadvantaged groups (Paulley et al., 2006). Secondly, reducing waiting and walking times through increased service frequency and real-time information systems can significantly enhance satisfaction, particularly for male passengers (Fan & Machemehl, 2006).

Enhancing the physical conditions of bus stops and buses through regular maintenance, improved lighting, comfortable seating, and clear information displays is crucial for both genders, with a slight emphasis on bus stop environments for males (Eboli & Mazzulla, 2011). Additionally, safety measures and cleanliness within buses should be prioritized to address the preferences of female passengers. By addressing these key areas, transportation authorities can improve the overall quality of bus services, meeting the specific needs of both male and female passengers and fostering greater public satisfaction and usage of bus transport systems.

5 SIGNIFICANCES OF STUDY

The significance of this study extends to various stakeholders, including bus passengers, bus operators, and regulators in Sri Lanka, and has broader implications for the region and the world. For bus passengers, this research provides valuable insights into the key factors that influence their satisfaction with bus services. By identifying the most critical elements such as ticket price, waiting time, and the quality of bus stop and in-bus environments, the study helps the highlighted areas where improvements can significantly enhance the overall travel experience. In fact, passengers will benefit from more affordable fares, reduced waiting and walking times, and improved safety and comfort, leading to higher satisfaction and potentially increased usage of bus transport services.

For bus operators, the findings offer a strategic framework to enhance service quality and operational efficiency. Understanding the importance of ticket prices, operators can design fare structures that attract more passengers while ensuring affordability. The emphasis on reducing waiting times and improving the physical environment of buses and bus stops provides operators with clear guidelines on where to focus on their resources and efforts. Consequently, implementing these improvements can lead to higher passenger retention rates, increased ridership, and ultimately, better financial performance. Operators can also leverage this information to prioritize investments in technology, such as real-time tracking systems, which further enhances service reliability and passenger satisfaction.

Regulators in Sri Lanka can utilize the study's insights to formulate policies that support the development of a more efficient and passenger-centric public transport system. The research underscores the need for regulations that ensure affordable fares, improved service frequency, and high standards of cleanliness and safety. By adopting these recommendations, regulators can help create a public transport system that meets the needs of all socioeconomic groups, thereby promoting social equity and inclusiveness. Additionally, the findings can guide infrastructure investments and policy initiatives aimed at enhancing the overall quality of public transport services.

Regionally, the study's implications extend to other countries in South Asia and similar developing regions facing comparable public transport challenges. The insights into fare affordability, waiting time reductions, and environmental improvements can serve as a model for neighboring countries seeking to enhance their public transport systems. Sharing these findings with regional transport authorities and policymakers can facilitate the adoption of best practices and collaborative efforts to improve public transport services across borders, fostering regional development and connectivity.

Globally, the study contributes to the broader discourse on sustainable urban mobility and public transport systems. The focus on affordability, efficiency, and quality of service aligns with global initiatives aimed at promoting sustainable and inclusive urban transportation. The research findings can inform international best practices and policy frameworks, helping cities worldwide to design public transport systems that are not only efficient and reliable but also equitable and environmentally friendly. By highlighting the critical factors that influence passenger satisfaction, the study supports global efforts to achieve the United Nations Sustainable Development Goals, particularly those related to sustainable cities and communities.

6 CONCLUSION

This study has provided a comprehensive analysis of the factors influencing bus passenger satisfaction in Sri Lanka, with a particular focus on gender-specific preferences. The findings revealed that ticket price, waiting time, and the quality of the bus stop and in-bus environments are critical determinants of passenger satisfaction. By highlighting these key areas, the research underscores the need for targeted improvements that can enhance the overall travel experience and increase public transport usage.

For bus operators and regulators, the study offers valuable insights that can inform strategic planning and policy formulation. Operators are encouraged to maintain affordable fare structures, reduce waiting and walking times, and invest in the physical and environmental quality of bus stops and vehicles. Regulators, on the other hand, can use these insights to develop supportive policies and infrastructure investments that promote an efficient, safe, and inclusive public transport system.

On a broader scale, the implications of this study extend beyond Sri Lanka, providing a model for other regions facing similar public transport challenges. By adopting the recommendations derived from this research, transportation authorities worldwide can work towards creating more sustainable, equitable, and passenger-centric public transport systems which contributes to the global discourse on improving urban mobility and achieving sustainable development goals.

7 ACKNOWLEDGMENTS

We would like to take this opportunity to express our warmest gratitude to our research supervisor Dr. AHS Sharic for his continuous support through the research project and for spending his valuable time guiding and advising us. We should also be thankful for other lecturers and non-academic staff who helped us through the project. Lastly, we would like to acknowledge our parents and friends who helped us in completing the research project successfully.

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