

## **Service Quality Factors Affecting Passenger Satisfaction in Public Bus Transportation: a case study of Kegalle District Passenger Bus Transportation Service Sector reforms for Economic Development**

**I. D. C. Wijerathna<sup>1</sup>**

### **Introduction**

The goal of transport research should not be limited to theoretical analysis but needs to include the development of practical tools that improve the quality of people's mobility and daily life (Maria Morfoulaki, et al 2007). Public transport is a shared passenger transport service available for the use of general public for the purpose of travelling from an origin to a destination. Public transport modes may include buses, trains, rapid transits, trams, ferries and air carriers, depending on countries' requirements (Ranawana and Hewage, 2015). For the current research study, bus transportation was considered more relevant than other categories as a majority of passengers are transported by public and private passenger transport services.

An improvement of supplied service quality can attract additional users from other modes of transport such as private transport modes. This would also resolve many problems (for example by helping to reduce traffic congestion, air and noise pollution, and energy consumption) as individual transport would be used less (Laura Eboli , Gabriella Mazzulla, 2007). Generally, people tend to be satisfied when their perceptions of the service they receive match their expectations, and these expectations could be subjective or objective. When service quality falls short of expectations they tend to be dissatisfied (Mintesnot G. Woldeamanuel, Rita Cyganski, 2011). Therefore for the development of public transport, customer satisfaction analysis is necessary.

It is also notable that less emphasis has been placed on user perception in influencing and guiding policies of public transport (SEVANATHA organisation, 2002). Therefore in this research study, the researcher mainly focuses on user perception about public bus transport service quality, and its impact on passenger satisfaction, making recommendations for policy makers to solve the quality issues travellers face in public bus transport services.

This study is based mainly on two research problems;

1. What are the factors affecting passenger satisfaction in public transport?
2. What are the problems travelers face in the current transport system?

---

<sup>1</sup> SANASA Campus Limited

Research objectives of the study,

1. To find and analyse factors affecting the satisfaction of passengers in public bus transport sector
2. To identify problems which passengers face in the current transport System.
3. To give recommendations to transport operators and regulators to enhance the service quality of public transport service.

Through this research, the researcher intends to make an important academic contribution to the public transport sector in Sri Lanka which is an area less focused upon in Sri Lankan academic research.

### **Literature Review**

The study by Ranawana and Hewage, (2015) found factors affecting service quality in public bus transportation and their effect on development of public bus transport sector. In this research study factors used to measure service quality are vehicle safety, physical design of station, physical quality of vehicle, information regarding timetable, travel time/delay, frequency of departures, ticket system etc.

An empirical study based on urban buses in the city of Larissa, Greece by Arris-Panagiotis Kostakis and Ipsilandis Pandelis (2009) dealt with satisfaction in urban transportation. In particular, it tried to identify the important factors which affect customer satisfaction in the city of Larissa.

Laura Eboli and Gabriella Mazzulla (2007) proposed a tool for measuring customer satisfaction in public transport. More specifically, a structural equation model was formulated to explore the impact of the relationship between global customer satisfaction and service quality attributes. In this research study 16 service quality factors have been tested for their impact on passenger satisfaction.

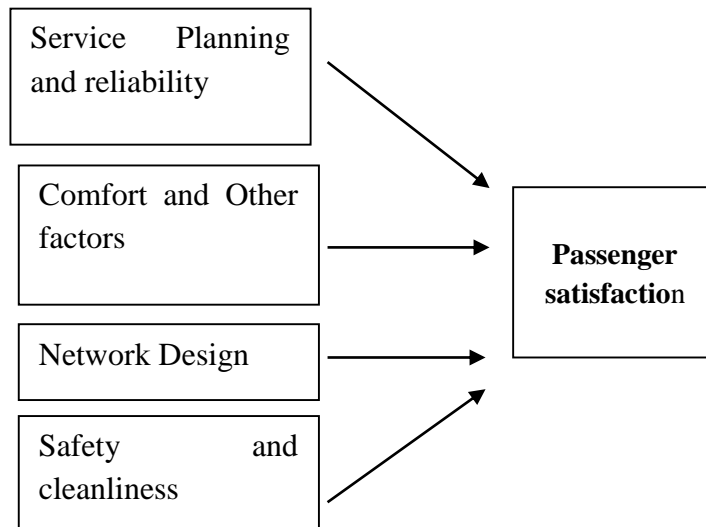
### **Research Methodology**

In the current study, the researcher has chosen to use a mix of qualitative and quantitative method as his data analysis technique. The researcher has mainly used primary data to achieve the research objectives. Kegalle district has been selected as a case study and 100 passengers were used for the survey. Research was carried among 100 of people in the SANASA campus including students, lecturers, administrative staff and minor staff who travel to the campus from various areas in the Kegalle district. A structured questionnaire with a five-point Likert scale was used to gather data. SPSS software was used for statistical analysis.

## **Model**

The conceptual framework of the study is based on literature, chief among them the framework proposed by Laura Eboli and Gabriella Mazzulla (2007). When constructing the model researcher has added the variable of safety and cleanliness which is not tested in the model of Laura Eboli and Gabriella Mazzulla (2007). The model of the study can be depicted as follows:

Figure 01



Researcher constructed hypotheses for the study as follows.

H1: There is a significant impact from service planning and reliability on passenger satisfaction.

H2: There is a significant impact from comfort and other factors on passenger satisfaction.

H3: There is a significant impact from safety and cleanliness on passenger satisfaction.

H4: There is a significant impact from network design on passenger satisfaction.

## **Data analysis**

As per the research methodology, the researcher affirms data reliability through cronbach's alpha. The tested cronbach's alpha 0.752 shows high reliability of the responses given by the respondents of the study.

Table 01: ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.711	4	3.678	11.009	.000 <sup>b</sup>
	Residual	31.737	95	.334		
	Total	46.448	99			

a. Dependent Variable: Passengers satisfaction

b. Predictors: (Constant), Network design, Service planning and reliability, Safety and Cleanness, Comfort and other factors

Table 2:Coefficients for Regression analysis

Model		Unstandardized		Standardized		Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta	t	
1	(Constant)	.043	.448		.097	.923
	Service planning and Reliability	.348	.125	.254	2.779	.007
	Comfort and Other Factors	.056	.125	.048	.444	.658
	Safety and Cleanness	.182	.116	.162	1.578	.018
	Network Design	.448	.106	.369	4.234	.000

a. Dependent Variable: Passengers satisfaction

Table 1 ANOVA results show the overall model fit of the study. The significant P value which is 0.0000 proves high level of model fit. Table 2 regression analysis results shows the significance of tested variables, according to which service planning and reliability, safety and cleanliness, and network design are statistically significant predictor variables of passengers satisfaction. Test results of the model shows comfort and other factors are less significant.

**Hypothesis Testing**

Hypothesis	Result
H1: There is a significant impact of service planning and reliability on passenger satisfaction.	Supportive
H2: There is a significant impact of comfort and other factors on passenger satisfaction.	Non Supportive
H3: There is a significant impact of safety and cleanliness on passenger satisfaction.	Supportive
H4: There is a significant impact of network design on passenger satisfaction.	Supportive

## **Conclusion**

The researcher could identify the major issues faced by passengers of public transport system in relation to the number of bus turns, information sharing system, complaint management, facilities and the maintenance of the bus stops and terminals, overcrowding, cost and ticketing process, cleanliness of buses and poor road infrastructure. The researcher recommends that it should improve the service quality of public bus transport in relation to service planning and reliability, safety and cleanliness and network design. The researcher believes that this study will be a source for successful future research on the public transport system.

## **References**

- Laura Eboli and Gabriella Mazzulla,. (2007). Service Quality Attributes Affecting Customer Satisfaction for Bus Transit. *Journal of Public Transportation*, , Vol. 10, No. 3.
- Arris-Panagiotis Kostakis, Ipsilandis Pandelis. (2009). Measuring Customer Satisfaction in Public Transportation An empirical study based in urban buses in the city of Larissa (Greece)- “The MUSA methodology”. *MIBES* , 260-275.
- HWMIS Ranawana, D Hewage. (2015). Factors Affecting Service Quality in Public Bus Transportation in Sri Lanka. *Proceedings of 8th International Research Conference, KDU*., Colombo.
- Maria Morfoulaki, Yannis Tyrinopoulos, and Georgia Aifadopoulou. (2007). Estimation of Satisfied Customers in Public Transport Systems: A New Methodological Approach. *Journal of the Transportation Research Forum*, , Vol. 46, No. 1 , pp. 63-72.
- Mintesnot G. Woldeamanuel, R. C. (2011). FACTORS AFFECTING TRAVELLERS’ SATISFACTION WITH ACCESSIBILITY TO PUBLIC TRANSPORTATION. *Association For European Transport and Contributors* .
- SEVANATHA organization. (2002). Partnership to Improve Access and Quality of Public Transport – Case Study, Colombo. Colombo.