Satisfaction of Tourists with Public Transport System in Sri Lanka

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Introduction

Tourism can be defined as voluntary short term movements of people through time and space, either, between home places and destination or within the destination. Transport system is an essential factor to maintain tourists' mobility to reach their destinations. Various transportation systems including private and public transport modalities can be used for tourist transportation.

However, the concept of sustainable tourism has been identified as a major concept of current tourism. It covers several aspects such as environmental protection, ecology protection and minimized air and land pollution. To achieve sustainable tourism, sustainable mobility of tourists is essentially needed to be achieved. Sustainable mobility can be attained with the use of public transportation systems which have less ecological damages than use of several private transportation methods which may collectively cause extra negative ecological externalities. According to Banister (2008) sustainable mobility is not only objective based transport planning system, but also it needs public acceptability. Public acceptance can be estimated via satisfaction on various elements of transportation systems. In developed countries, public transportation systems are more organized with variety of facilities than developing countries (Iles, 2005). As a developing country, Sri Lankas' public passenger transport system has not yet well developed and remains highly criticized in terms of quality of the

service (Sevenatha, 2002). Therefore, it is essential to evaluate presence of aforementioned objective based transport system with public acceptability in Sri Lanka in order to create positive future changes. After evaluation of tourists' satisfaction on Sri Lankan public transport, we can evaluate the level of quality of public transport system as they usually answer by comparing the level of their transport experience in their countries. Thus, these feedbacks will help on future development of public transport systems in Sri Lanka. As a result, higher tourism satisfaction with public transport would lead to attract more tourists to public transport and to the country, making it a better centre for tourism.

However, the satisfaction on tourists with public transport in Sri Lanka is remaining to be assessed. According to previous studies conducted in Sri Lanka, Sri Lankan passengers are not satisfied with public bus transport system (Kumarage, 2008). Further, according to Sevenatha (2002), some reasons for low passenger satisfaction regarding Sri Lanka bus service are lacks of punctuality, reliability, passenger information and properly planned bus halts. Nonetheless, there is no previous study, conducted which fully examined tourists' opinion on Sri Lankan public transport. On this Study, tourist satisfaction on different aspects of public transport is assessed.

Objectives

The main objectives of this study to understand tourists' satisfaction with public transport system in Sri Lanka. It compares tourists' satisfaction between public bus transport service and railway transport service in Sri Lanka and provide practical recommendations for promoting the public transport in the country.

Methodology

This research adopts questionnaire survey by personal interviews with international tourists during their visit to Sri Lanka. Random sampling

method was used to gather data. Due to the time constraints and resources, the data were collected only in Colombo district, which is the capital city of the Sri Lanka. To generate the highest number of respondents, the survey was carried in locations which considered as tourist sites in Colombo. Those are Colombo Fort, Colombo Central Bus Stand and Mount Lavinia beach from 18th April to 2nd May in 2016.Totally, 86 questionnaires were collected, 80 were usable and 06 were rejected because some of self-administered questionnaires were not completed properly.

The service aspects of bus transport system verses train transport system are analyzed with Wilcoxon Signed Rank Test. To compare the significant difference between demographic factors with service attributes, Mann-Whitney U Test was used. In this test the null hypothesis was there is no significant difference between the satisfaction of public bus transport and train transport while alternative hypothesis was that there is a significant differences between the satisfaction of public bus transport and train transport.

Results and Discussion

Table 1, shows a comparison between public bus transport and train transport. The researcher aims to find which service elements have significant difference. Availability of information, reliability of the service, punctuality of the service, comfort on bus stops and train stations, space on the bus and train and traffic and waiting time while on the journey are the service elements which shows the significance difference between public bus service verses train service. Remain twelve service elements such as easy of the payment, cleanliness of the buses and trains, convenience of the time schedule etc. are not showing significant difference.

Table 1: Satisfaction of public transport vs. train transport

Satisfaction of public bus transport vs. train transport - Wilcoxon Signed Rank Test	
	P value
Availability of the information	0.003
Convenience of the time schedule	0.907
Accessibility to bus stops and train stations	0.328
Time frequency of buses and trains	0.056
Reliability of the service	0.016
Punctuality of the service	0.041
Staff behavior	0.116
Safety and security onboard	0.078
Safe and security at bus stations and train stations	0.079
Comfort on bus stops and train stations	0.036
Cleanliness of buses and trains	0.916
Space on bus and train	0.023
Crowding	0.217
Noise	0.697
Seat availability	0.565
Ticket price	0.674
Easy of Payment	1.000
Traffic and waiting time while on journey	0.004
General satisfaction on services	0.336

It is clear that the public train transport service has significantly higher satisfaction level on aforementioned service elements which were having significant difference. The results of Mann- Whitney U Test revealed that tourist's from developing countries show statistically higher satisfaction level on following service attributes than developed countries tourists those are convenience of the bus time schedule, accessibility to bus stops, time frequency of buses, punctuality of the bus service, bus staff behavior, safety and security onboard on buses, safe and security at bus stations, comfort on bus stops, bus seat availability, bus ticket price, time frequency of trains, reliability of the train service, punctuality of the train service, train staff behavior, safety and security onboard on train, safe and security at train stations,

comfort on train stations, cleanliness of trains, train noise, train ticket price and easy of payment on train. Moreover, male tourists show higher satisfaction levels on following service attributes than female tourists. Those are spaced on the bus and crowding on the bus. However, female tourists show higher satisfaction levels on the service attribute; convenience of the train time schedule. As well, graduate tourists have less satisfaction level than high school tourists regarding following service attributes. Those are time frequency of buses, bus ticket price, easy of payment on bus, accessibility to the train stations and time frequency of trains.

Conclusion and Policy Recommendations

According to the frequency bar charts, generally tourists have a somewhat satisfaction level regarding public transport system in Sri Lanka. Tourists showed higher satisfaction with train service regarding some service attribute. Those are availability of information, reliability of the service, punctuality of the service, staff behavior, safety and security on board, safe and security at train stations, cleanliness of the trains, space availability, ticket price and traffic and waiting time while on the journey. On the contrary, tourists showed higher satisfaction with bus service those are accessibility to the bus stops, service frequency, crowding, noise and ease of payment. Nearly same satisfaction level is shown for the convenience of the time schedule regarding both transport services. Mann Whitney U Test revealed that tourists from developing countries show higher satisfaction than tourists from developed countries regarding some service elements. Further, male tourists show higher satisfaction than female tourists and graduate tourists have less satisfaction than high school tourists for some attributes of service. Tourists proposed a number of recommendations such as adding more buses to late night services, providing more comfortable buses and trains, improving connectivity between transport modes. Further, they suggested that they would like to pay more for getting a comfortable travel experience. Therefore, it is

suggested that responsible authorities should take necessary actions to improve Sri Lankan public transport services.

References

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Group 1: Table 02: Availability of Information - Wilcoxon Signed Rank Test (P value: 0.003)

Availability of the Information	Number of Tourists
Train < Public bus	5
Train > Public bus	21
Train = Public bus	31

Table 02**:** Reliability of the service - Wilcoxon Signed Rank Test **(**P value: 0.016**)**

Reliability of the Service	Number of Tourists
Train < Public bus	9
Train > Public bus	23
Train = Public bus	25

Table 03: Punctuality of the service - Wilcoxon Signed Rank Test **(**P value: 0.041**)**

Punctuality of the Service	Number of Tourists
Train < Public bus	10
Train > Public bus	22
Train = Public bus	25

Table 04: Comfort on bus stops and train stations - Wilcoxon Signed Rank Test **(**P value: 0.036**)**

Comfort on bus stops and train stations	Number of tourists
Train < Public bus	10
Train > Public bus	20
Train = Public bus	27

Table 05: Space on bus and trains - Wilcoxon Signed Rank Test **(**P value: 0.023**)**

Space on bus and trains	Number of tourists
Train < Public bus	10
Train > Public bus	20
Train = Public bus	27

Table 06: Traffic and waiting time while on journey – Wilcoxon Signed Rank Test **(**P value: 0.004**)**

Traffic and waiting time while on journey	Number of tourists
Train < Public bus	6
Train > Public bus	24
Train = Public bus	27

Group 2:

Table 01: Satisfaction of public transport among developing vs. developed countries tourists- Mann-Whitney Test

	Developing countries mean ranks	*Developed countries mean ranks*	*P* value
Convenience of the time schedule - bus	39.77	25.96	0.001
Accessibility to bus stops	38.5	27.73	0.014
Time frequency of buses	37.76	28.77	0.038
Punctuality of the service - bus	37.94	28.52	0.033
Staff behavior - bus	40.32	25.2	0.001
Safety and security onboard - bus	39.76	25.98	0.001
Safe and security at bus stations	39.26	26.68	0.005
Comfort on bus stops	39.04	26.98	0.005
Seat availability - bus	37.92	28.54	0.040
Ticket price - bus	39.62	26.18	0.003
Time frequency of trains	41.73	29.27	0.005
Reliability of the service - train	40.07	30.93	0.035
Punctuality of the service - train	40.27	30.73	0.033
Staff behavior - train	42.20	28.80	0.003
Safety and security onboard - train	42.63	28.37	0.001
Safe and security at train stations	40.57	30.43	0.020
Comfort on train stations	42.43	28.57	0.002
Cleanliness of trains	39.89	31.11	0.049
Noise - train	40.07	30.92	0.042
Ticket price - train	43.83	27.17	0.000
Easy of Payment - train	42.09	28.91	0.003

Table 02: Satisfaction of public transport among male vs. female tourists- Mann-Whitney Test

	Male mean rank	Female mean rank	P value
Space on bus	38.18	26.98	0.014
Crowding - bus	37.39	28.30	0.046
Convenience of the time schedule - train	31.57	44.07	0.008

Table 03: Satisfaction of public transport among different education levels (Graduate vs. High School) of tourists- Mann-Whitney Test

	High School mean rank	Graduate mean rank	P value
Time frequency of buses	39.77	25.96	0.001
Ticket price - bus	38.5	27.73	0.004
Easy of Payment - bus	37.76	28.76	0.001
Time frequency of trains	37.94	28.52	0.009
Reliability of the service - train	40.32	25.20	0.003