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An Analysis of the Factors Influencing Tourist Satisfaction with Public Transport in Goa

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ABSTRACT

This paper investigates the use of public transport by tourists in Goa. It seeks to understand how tourists perceive public transport services and which factors influence their level of satisfaction. A questionnaire was designed to explore the level of satisfaction of the users of public transport. Data was collected by interviewing tourists using convenience sampling. The data obtained was analyzed using descriptive statistics and factor analysis. Factor analysis resulted in four different service dimensions - service reliability and planning, safety and comfort, convenience of service and availability of services. Tourists were found to be generally satisfied with public transport services in Goa.

Keywords: tourist satisfaction, tourist use of public transport, service dimensions.

INTRODUCTION:

Transport services are basic tourist services and are commonly regarded as a dynamic factor affecting tourist movement at the tourist destination (Milewski 2013). Tourism cannot be considered without transportation, as the tourist's experience starts and ends with transportation (Mammodov 2012).

In most transportation and tourism studies, measuring customer satisfaction is an important topic of research (Chen 2008; Eboli and Mazulla 2007, 2009; Felleson and Friman 2008, 2009; Lai and Chen 2011; Joewono and Kubota 2014). However, it is also important to explore factors influencing satisfaction and their impact on customer satisfaction (Le-Klahn 2014). Tyrinopoulos and Antoniou (2008) defined user satisfaction in public transport system as, "the overall level of attainment of a customer's expectation, measured as the percentage of the expectation actually fulfilled". Satisfaction level of these services is an aggregate measure of the satisfaction perceived by the user for different aspects of transportation system, which can be overall or global satisfaction as well as satisfaction with specific features of the transportation system (Castillo and Benitez 2012).

Even though customer satisfaction is one of the most frequently examined topics in tourism and also significantly influences the choice of destination (Neal and Gursoy 2008), it is a challenge for transport service providers to identify the requirements of the tourist, as any tourist visiting a destination will be comparing these services with the services available at their native place. To promote the use of public transport by tourists, it is necessary to identify the factors influencing tourist satisfaction with public transport.

This paper investigates the use of public transport by tourists in Goa. It seeks to identify their level of satisfaction and factors influencing the quality of their experience with public transport. Public transport mentioned in the study refers to private and Govt. bus transport, taxi or cab, auto rickshaw and motorcycle taxi. The paper highlights the important service aspects determining overall satisfaction and ends with recommendations for further improvements.

REVIEW OF LITERATURE:

Tourist satisfaction is considered to be the most important factor related to destination management and tourism related sectors. High tourist satisfaction is likely to contribute positively in the development of the destination (Mingfang 2011). Measuring customer satisfaction with public transportation services is an important topic in transportation research and practice (Le-Klahn 2014).

User Satisfaction with public transportation:

Service quality is a measure of how well the service level delivered matches customer expectation, while delivering quality service means conforming to customer expectations on a consistent basis (Transportation Research Board 1999). Customers express their point of view about the service by providing judgment on some service aspects by means of satisfaction surveys (Eboli and Mazulla 2009). Eboli and Mazulla (2007) explored the impact of relationship between customer satisfaction and service quality attributes of bus transit services and found that service planning and reliability variable has greater effect on customer satisfaction. Felleson and Friman (2008) conducted a study to identify the dimensions of perceived service satisfaction with public transport using factor analysis and identified System, Comfort, Staff and Security as four satisfaction dimensions. L'dell' Olio et.al (2011) identified waiting time, cleanliness and comfort as the desired service quality variables from an efficient and safe public transport. Tyrinopoulos and Antoniou (2008) developed a methodology for analyzing the variability of user behavior and their level of satisfaction from the use of diverse transit systems and the most important satisfaction attributes across transit operators identified were service frequency, vehicle cleanliness, waiting conditions, transfer distance and network coverage. However the results varied among transit systems. Thompson and Schofield (2007) examined the relationship between public transport performance and destination satisfaction and found that public transport's ease-of-use has a greater impact on satisfaction than efficiency and safety.

From the literature review, it can be understood that different aspects of service dimensions have been studied and identified to have an impact on user satisfaction. Since Goa is a well- known international tourist destination, with many tourists visiting Goa every year, a study to identify the factors influencing tourist satisfaction will be relevant and useful.

Public transport in Goa:

Goa is one of the most important tourist destinations in India. A large number of international as well as domestic tourists visit Goa every year. Goa can be conveniently reached from any part of the country and is well connected by air; rail and road network hence travelling around Goa is fairly easy. There is an extensive road network which connects most places in Goa with motorable roads.

The Public transport system in Goa comprises of the following modes;

Bus:

A bus that is owned by the state government or even private tour operators to tour Goa is available. They charge a considerable fee for their services and tourists can travel to all major tourist attractions in Goa. Tourists can choose from the normal buses to the air- conditioned deluxe coaches.

Taxi/Cab:

Tourists can also opt for a taxi or a cab in Goa a. They can hire the taxi for an entire day or just from one place to another by fixing the price. There is also the option of renting a car and driving it yourself around Goa.

Motorcycle Taxi:

This kind of taxi is unique to Goa. It consists of a man riding a yellow-and-black two wheeler, who takes a passenger as the pillion rider. This mode of transport is quite swift and useful in heavy traffic. Goa's motorcycle taxi riders are popularly known as 'pilots.'

Auto Rickshaw:

An Auto rickshaw is a three wheeler. There is a seat for a single person i.e. the driver in front and the back seat is wide enough to accommodate 3 people.

METHODOLOGY:

To understand tourist use of public transport and identify the factors influencing satisfaction, data was collected from a visitor survey. The study has adopted the Questionnaire- based survey method, which is a standard method to research customer behaviour.

Measurement Instrument:

Respondents were filtered by the question "Have you used public transport in Goa during this visit?" Users of public transport were then asked to indicate their level of satisfaction with 19 service aspects of public transport in Goa. This list of attributes was developed based on the literature review outlined above. A five-point Likert scale was used (1= very dissatisfied to 5 = very satisfied). "How satisfied are you with the following aspects of public transport in Goa? Was preceded by the question, "In general, how satisfied are you with public transport in Goa?" to examine whether tourist satisfaction with particular service dimensions is correlated with their satisfaction with the total service as a whole.

DATA COLLECTION AND ANALYSIS:

The data was collected by interviewing tourists who were leaving Goa and waiting at the Margao railway station or the bus station. The researcher personally approached 120 tourists and requested them to fill the questionnaire after taking their consent to participate. 91 respondents willingly filled the questionnaires of which 86 were usable for analysis and 5 were rejected because the questionnaire was not properly completed and several questions were skipped.

The data was analyzed using SPSS version 22. In order to identify the underlying dimensions of public transport service variables and for the purpose of reducing the items to a set of delineated dimensions, factor analysis was conducted using principal component as the method of extraction, with Varimax rotation method. Principal component analysis was selected as the appropriate strategy since there were no a priori hypotheses about the components (factors) and it is a useful exploratory method of revealing the probable number and nature of factors in the set of variables (Tabachnik and Fidell; 1996 quoted by Thompson and Schofield 2007).

Factors were extracted using the following criteria: an Eigen value greater than 1 and factor loading greater than 0.5. A reliability analysis (Cranach's alpha) was used to assess the correlation between variables of each identified factor. All factors with reliability above 0.50 were accepted for the purpose of this study.

FINDINGS:

Respondents' Demographic Profile:

The survey sample included 86 respondents, of whom 81 percent (70 tourists) have used public transport in Goa during their visit. As shown in Table No.1,

- 51 percent of the respondents were male and in the 18-39 age group.
- Most public transport users are educated.
- Majority of the users are domestic visitors (67%),
- 77 percent had previously visited Goa.
- A stay of 4-6 days is most common (45.7%), followed by 2-3 days (22.9%).
- Most of them travelled with their friends (62.9%), or alone (15.7%).
- 40 per cent of the visitors used public transport once or twice a week at their residence whereas 32.9 percent used almost every day.
- 62.9 percent of the respondents possessed valid driving license and 50 percent owned a car.
- The majority of tourists visited Goa on holiday (82.9%)

Table 1: Respondents' Profile

		No. of resp.	%			No. of resp.	%
Gender	Male	36	51.4	**First trip to Goa**	Yes	54	77.1
	Female	34	48.6		No	16	22.9
	Total	**70**	**100.0**		**Total**	**70**	**100.0**
Age	18-29	30	42.9	Trip duration	One day	1	1.4
	30-39	30	42.9		2-3 days	16	22.9
	40-54	8	11.4		4-6 days	32	45.7
	55-64	2	2.9		7-14 days	8	11.4
	Total	**70**	**100.0**		>14 days	12	17.1
					NA*	1	1.4

		No. of resp.	%			No. of resp.	%
	HSC	4	5.7		**Total**	**70**	**100.0**
Educational level	Graduate	46	65.7				
	Post Graduate	20	28.6	**Travel partners**	Alone	11	15.7
	Total	**70**	**100.0**		Friends	44	62.9
					Partner	6	8.6
Type of tourist	Domestic	47	67.1		Family or relatives	8	11.4
	Foreign	23	32.9		Colleagues	1	1.4
	Total	**70**	**100.0**		**Total**	**70**	**100.0**
Use of public transport at place of residence	Rarely or never	13	18.6	**Main purpose of trip**	Visiting friends and relatives	5	7.1
	Once or Twice per week	28	40.0		Business	3	4.3
	Almost everyday	23	32.9		Holiday	58	82.9
	NA*	6	8.6		Education	3	4.3
	Total	**70**	**100.0**		NA*	1	1.4
					Total	**70**	**100.0**
Driving license	Yes	44	62.9				
	No	26	37.1	**No. of times public transport used in Goa**	Once	5	7.1
	Total	**70**	**100.0**		Few times	41	58.6
					For all the trips I made in Goa	24	34.3
Car Ownership	Yes	35	50.0		**Total**	**70**	**100.0**
	No	35	50.0				
	Total	**70**	**100.0**				

*NA= Not answered

Tourist Satisfaction with Public Transport:

58.6 Percent of the respondents had used public transport a few times, whereas 34.3 per cent depended completely on public transport for all their trips in Goa. 68.6 percent of the respondents used public transport mainly to move or tour around Goa and 88.6 percent to visit attractions. Thus tourists used public transport mainly for tourism-related purpose. Taxi appeared to be the most popular public transport mode - used by 75.7 per cent respondents, followed by government bus transport (61.4%).

Respondents were asked to indicate how satisfied they were with public transport with regard to 19 service dimensions. A comparison of the service aspects by mean, median and mode (in descending order of means) is shown in Table no 2.

Table 2: Descriptive Statistics of service aspects based on mean median and mode

Service aspects	Mean	median	Mode
Cleanliness of the vehicle	4.17	4	5
Seat availability	4.16	4	4
Service frequency	4.06	4	4
Safety on board	3.99	4	4
Ease of use	3.91	4	4
Space on vehicle	3.89	4	4
Staff service	3.80	4	4
Convenience of the time schedule	3.74	4	4
Accessibility of the train stations and bus stops	3.72	4	4
Ticket price	3.70	4	5

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Service aspects	Mean	median	Mode
Comfort while waiting at the bus stops or train stations	3.67	4	4
Accessibility of the vehicles	3.67	4	3
Information	3.63	4	4
Driving behaviour (driving performance of the driver)	3.62	4	4
Punctuality	3.61	4	4
Reliability	3.61	4	4
Waiting time at transfer points	3.54	4	3
Network connection	3.53	4	4
Distance between transfer points	3.51	3	3
In general, how satisfied are you with public transport in Goa	3.63	4	4

From Table 2, it is clear that;

- Tourists tended to be satisfied with service aspects of public transport in Goa, as indicated by the fact that all items have a score above 3.0.
- Cleanliness of the vehicle, seat availability and service frequency are the service aspects highly appreciated by tourists (mean score is >4).
- Waiting time at transfer points, network connection, and distance between transfer points have received low score.
- Tourists also gave comments and suggestion for improvement of these services.

After analyzing the tourist satisfaction with service aspects of public transport services, factor analysis was used to identify the factors influencing tourist satisfaction. The results are shown in Table 3

Table 3: Factors influencing tourist satisfaction

Service Aspects	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1:Service reliability and planning				
Reliability	0.909			
Ticket price	0.691			
Punctuality	0.679			
Staff service	0.628			
Service frequency	0.579			
Information	0.546			
Factor 2:Safety and comfort				
Space on vehicle		0.854		
Seat availability		0.752		
Network connection		0.743		
Safety on board		0.631		
Convenience of the time schedule		0.622		
Factor 3:Convenience of service				
Comfort while waiting at the bus stops or train stations			0.789	
Distance between transfer points			0.699	
Cleanliness of the vehicle			0.689	
Waiting time at transfer points			0.519	
Factor 4: Availability of services				
Accessibility of the train stations and bus stops				0.835
Accessibility of the vehicles				0.705

Service Aspects	Factor 1	Factor 2	Factor 3	Factor 4
Ease of use				0.653
Driving behavior (driving performance of the driver)				0.537
Eigen value	8.045	2.473	1.567	1.263
Variance (%)	42.341	13.018	8.248	6.649
Cumulative Variance (%)	42.341	55.359	63.608	70.257
Reliability coefficient	0.762	0.847	0.790	0.817
Extraction Method: Principal Component Analysis. **Rotation Method:** Varimax with Kaiser Normalization. [a]				
a. Rotation converged in 23 iterations.				

The 19 service aspects were subjected to factor analysis, which resulted in four factors, explaining 70.3 percent of the total variance (Table 3). Each factor was labelled according to the appropriateness of the individual items included.

1. Factor 1 Service reliability and planning (α= 0.762) explains 42% of the variance. It includes six variables (Reliability, Ticket price, Punctuality, Staff service, Service frequency and Information) and reflects the service reliability and planned provision of the service to the users. The respondents demonstrated high satisfaction with these service aspects.
2. The second factor Safety and comfort (α= 0.85) explains 13 percent of variance and includes five items - Space on vehicle, Seat availability, Network connection, Safety on board and Convenience of the time schedule, which indicates that the tourists prefer travelling safely and comfortably and were satisfied.
3. The third factor Convenience of service(α=0.79)includes five items Comfort while waiting at the bus stops or train stations, Distance between transfer points, Cleanliness of the vehicle and Waiting time at transfer points. This factor indicates that the tourists are satisfied with the convenience of service available to them. It explains 8.248 percent of the total variance.
4. The fourth factor Availability of services(α=0.82) includes Accessibility of the train stations and bus stops, Accessibility of the vehicles, Ease of use and Driving behavior (driving performance of the driver) and explains 6.649 percent of the total variance. This factor indicates that tourist are satisfied with the availability of services for their internal movements within the destination and found them easily accessible.

DISCUSSION AND CONCLUSION:

To summarize, the present paper tried to bring to light the important factors influencing tourist satisfaction with public transport services provided by different operators in the state. Literature in the area has identified several dimensions of public transport service. In this paper, four dimensions identified are service reliability and planning, safety and comfort, convenience of service and availability of services. A comparison of the present findings with previous research shows some similarities as well as differences.

Eboli and Mazulla (2007) identified that service planning and reliability has greater effect on customer satisfaction, which is confirmed by this study. Felleson and Friman (2008) identified comfort and safety as important dimensions of satisfaction. This study identified that tourists always need a comfortable trip at any destination. The study shares some similarities with the dimensions identified by Tyrinopoulos and Antoniou (2008) such as service frequency, waiting conditions, transfer distance and network coverage, Thompson and Schofield (2007) ease of use and Le-Klahn (2014) accessibility dimension. Behaviour of personnel specifically the driver, frequency of service, reliability of service and waiting time are dimensions which are of more concern to the tourists is also proved by literature.

In conclusion, the paper has identified the factors influencing the tourist satisfaction and found that tourists were relatively satisfied with the public transport services. However improvement in some dimensions will enhance tourist satisfaction. There is scope for future studies to investigate the relationship between the tourists' use of transport facilities and tourist satisfaction at the destination.

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