



Volume: 02 Issue: 03 | March 2021 ISSN: 2660-454X

www.centralasianstudies.org/index.php/CAJITMF

An analysis of tourist satisfaction toward public transportation – the case study of Samarkand, Uzbekistan

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Received 10th February 2021,
Accepted 21th February 2021,
Online 27th March 2021

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ABSTRACT: The paper has the aim of analyzing the use of public transport by tourists in Samarkand. There were not many studies on tourist satisfaction with public transport. This research conducted the interview and survey to approach by utilizing tourist's satisfaction questionnaire that was implemented to 53 inbound and outbound tourists in Samarkand, Uzbekistan.

Respondent's levels of satisfaction were found to be highest in the ticket price, and the lowest was found concerning comfort and IT technologies used in public transport. Service aspects satisfaction namely seat availability, cleanliness, safety, and other factors have been identified in the research, as well as the factors that are highly influencing visitor contentment, have been identified. The research has shown that tourist's expectations are high, and current public transportation is unable to meet the visitor's needs. We believe that findings from this paper can contribute to the tourism industry of Samarkand. It means that a well-developed and compact public transport can attract more tourists and can provide a more positive experience to them.

Keywords: tourist satisfaction, public transportation, transport services, service frequency, transport punctuality.

Introduction

Public transportation that is used by people has many economic, environmental, and social benefits. Public transport is used not only by local people but by tourists as well. There have been many research studies on public transport use by local people, but there have been only several studies on

public transport that have been undertaken on visitors. This is why studying the use of public transportation by visitors is an important topic.

Even though most tourists prefer using their car (Regnerus, Beunen, and Jaarsma 2007; Guiver et al. 2007), problems such as air pollution, traffic jams, and demands for sustainable transport practices have led to a renewed focus on the significance of public transportation for tourism advancement. To encourage locals and tourists to use public transport more, a city must have a well-developed and compact transport system. People use public transport when it meets passenger needs and want, Therefore it is important to study passenger behavior on public transportation. However, studying customer behavior is a complex and ongoing process. Many researchers have conducted studies on this topic in foreign countries, but this topic is untapped in Samarkand city.

This study aims to study the use of public transport by tourists in Samarkand, Uzbekistan. In this study, public transport types are buses, taxis, and trams. Firstly this paper will investigate tourist satisfaction with public transportation, analyzes the factors that are influencing visitor satisfaction. This study will also offer recommendations for improvements to the public transport system.

2. Literature review

2.1 Tourist Satisfaction

Tourist satisfaction is one of the essential concepts that has been studied in tourism. The higher the tourist satisfaction, the greater the development of tourism. Transportation is considered to be an element of tourism that brings visitors to tourism destinations, to travel around different attractions, and to leave the place when the travel is over (Sorupia, 2005). That is why countries need to have modern and well-developed transport systems to meet visitor needs. Many studies have emphasized that there is a positive correlation between tourism and transportation systems. The connection between public transportation practices and tourism destination should be considered as an essential prerequisite in tourism industry development (Le-Klahn & Hall, 2014). A well-developed public transportation system with the latest IT technologies can lead to the further development of tourism (Nur Iman Hashim & NAdzirah Mohd Fauzi, 2019).

2.2 Public Transportation

A transport organization must know what are the customer expectations and ways to improve their transport activities. In this regard, measuring tourist' satisfaction with public transportation is important to improve the services and to increase the number of transport users. A transport organization usually undertakes surveys to determine customer fulfillment and to gain valuable information from customers and make new strategies to meet these needs. Eboli and Mazulla (2007) investigated the relationship between tourist satisfaction and service quality attributes of bus transit services. The study found that reliability and service planning aspects have a higher influence on visitor satisfaction. Thompson and Schofield (2007) studied the relationship between public transport practices and destination satisfaction and investigated the "ease of use" of the service aspect which was found to have a greater influence on tourist satisfaction than efficiency and safety of transport.

It was further investigated that tourists and local transport users are very different in terms of their expectations while using public transport (Kinsella and Caulifield, 2011). According to this study, information availability and transport service reliability were the most important aspects for visitors. Service quality and safety were considered to be less important for them. On the contrary, local public transport users preferred punctuality, frequency, and waiting time aspects as the most important. Ali,

Nwosu, Okpe (2019) concluded that there were five transport elements such as accessibility, comfort, security, traveling information, and customer services that affected visitor satisfaction with public transport services in the city. Tourist destinations with excellent accessibility for customers reduced the expense for visitors and enabled them to travel greater distances to visit other destinations which led to more enjoyment and satisfaction (Omisore and Akande, 2009). The effects of public transport performance on destination satisfaction in the Turkish city of Eskisehir found that transport infrastructure, ease of use, transport speed, and the physical condition affected visitor satisfaction (Yukseka, Akkoç, Bayerc R.U., 2016). This research found that the local transport system had a huge impact on tourist satisfaction and experience. Traveling information was one of the key elements for travelers. Visitors require more transport information than locals while they travel to the destinations (Radnovic, Maric, Radnovic, Ilic, Lukas, 2015). Comfortable bus stops and railway stations are another consideration for visitors, who prefer to stay in clean, attractive, and accessible bus stops (Nwachukwu, Gladys, Chikezie, 2019).

The study aims to analyze tourist satisfaction with public transportation in Samarkand, Uzbekistan.

3. Research questions

The research examines how tourists are satisfied with the current Samarkand transportation system and determine the advantages and disadvantages of the transport system at the moment. 3 main questions are addressed in this study:

1. How are visitors satisfied with the city's public transportation system?
2. How can the transport system be improved?

3.1 The methodology of the research

The following section will explain the method and format of the proposed survey. In this study, to investigate tourist satisfaction with public transport in Samarkand, questionnaire surveys (exploratory and explanatory) were chosen as the most appropriate method to get the primary data. The method is chosen due to its structured and repetitive process for analyzing and identifying a comprehensive set of studies, which can meet the specific aim of this study. The general process of the research is based on two main phases; first, a set of literature is gathered by an extensive search in Scopus Journals and Transport Research International Documentation to figure out the basic interest of international tourists before deciding on the survey questions to be asked. The second step was distributing the surveys and having interviews with the participants in the process of gathering data.

3.2 Questionnaire Design

A self-administrated questionnaire was used to gather information for this study. We have based questionnaire on the study by authors Diem-Trinh Le-Klahn, Michael Hall, Regine Gerike "Analysis of Visitors Satisfaction with Public Transport in Munich. There are two main sections (A and B) which are demographic and test items sections. Section A of the questionnaire consists of demographic questions to determine demographic information about the tourist. Section B contains questions about tourist use of public transportation and their satisfaction toward the public transport system. Tourists were filtered by asking this question "Have you used public transport during your travel in Samarkand?". If yes, users of public transport then were asked to choose the level of satisfaction and then answered further questions.

A five-point Likert scale was used (1=Very Unsatisfied, 2=Unsatisfied, 3=Neutral, 4=Satisfied, 5=Very Satisfied).

3.3 Data collection

3.3.1 Population and data resources.

Data collection process: Data for the analysis were collected through both online and offline surveys. The research obtained 53 respondents, including 38 offline answers and 15 online respondents. A total of 70 questionnaires were distributed but only 53 questionnaires were usable, resulting in a response rate of 80%.

Participants: The population for this study is international and domestic (outbound and inbound) tourists who visited Samarkand city for different purposes and stayed for various duration. The international and domestic tourist was chosen because:

- The study is about tourist satisfaction towards the public transport that could just be valuable and achievable for the study here in Samarkand where is visited by many tourists
- The tourist is target participants as these people are using public transports and have the basic knowledge and requirements to provide relevant answers.

The population has three characteristics that impact the generalizability of this study and as a result, it will be addressed in the remaining section.

(1) A few numbers Tourists that tend to come again to visit Samarkand

(2) International and domestic tourists who are required to be able to access and use Samarkand public transportation

(3) Only in the touristic places located in Samarkand, Uzbekistan.

The reason that the study focuses on small and medium-sized touristic places is that there is a lack of consistency of tasks and being in the progress of implementing and completing better transportation systems and developing them for the public, which will contribute effectively to our gathering information.

The survey was carried out at three main locations in Samarkand: Registan Square, Gur-Emir Mausoleum, and Samarkand Railway station. We approached the visitors, introduce ourselves, briefly explain the research study and then invite them to participate in completing the questionnaire.

4. Findings

4.1 The profile of the respondents.

The survey was conducted from February 7 to 16, 2021. Overall, 53 visitors responded to the questionnaire and 44 out of 53 tourists have used public transportation in Samarkand. According to table 1, 32 or 60.4% of respondents were male, and 21 respondents were female. Around 36 % of visitors were at the age of 31-40 and only 1 respondent was over 60. Out of 53 tourists, 30 visitors were domestic visitors and only 43.4 % of respondents were foreigners. Half of the respondents were first-time visitors. Approximately 47% of visitors' trip duration consists of 1-2 days. The small number of tourists stayed more than 30 days. About half of the visitors visited Samarkand with the purpose of the holiday. The business was in the second place in the visitors' purpose of visit. 1/3 respondents visited Samarkand alone and the other 2/3 parts with partners. 23 respondents indicated ownership of the car. Most of the visitors (83%) used public transport during their visit to Samarkand. The majority of the visitors used taxis and buses mainly and the percentages were 64% and 32% respectively. 73% of visitors answered that they used public transport frequently.

Table 1. Analysis of visitor satisfaction towards public transportation

Characteristic s: demographic	n umber		Characteristics: demographic	n umber	
Gender			Purpose of visit		
male	3		Business	1	
	2	0.4		4	6.4
female	2		Holiday	2	
	1	9.6		7	0.9
			Education	3	
					.7
Age			Visiting relatives	7	
					3.2
Between 18 and 20	6		Other	2	
		1.3			.8
Between 21 and 30	1				
	2	2.6			
Between 31-40	1		Travelling partner		
	9	5.8			
Between 41-50	8		Alone	1	
		5.1		8	4%
Between 51-60	7		With partners	3	
		3.2		5	6%
Over 60	1				
		.9			
			Car ownership		
Country of residence			Yes	2	
				3	3.4
Domestic	3		No	3	
	0	6.6		0	6.6
Overseas	2				
	3	3.4			
			Usage of public transportation in Samarkand		
First time visitor in Samarkand			Yes	4	
				4	3
Yes	2		No	9	
	7	0.9			7
No	2				
	6	9.1			

			The main type of public transport usage in Samarkand		
The number of visits			Bus	1 4	1.8
One	2 5	7.2	Tram	2	.5
Two	4	.5	Taxi	2 8	3.6
Three	7	3.2			
many	1 7	2.1	Frequency of the usage of Public transportation		
			Frequently	3 2	2.7
Trip duration			Occasionally	1 2	7.3
1-2 days	2 5	7.2	Never		
3-4 days	8	5.1			
5-6 days	1 0	8.9			
7-30 days	7	3.2			
More than 30 days	3	.7			

4.2 Visitor's Satisfaction towards Public Transport in Samarkand

Analyzing visitor satisfaction toward public transport services is an important topic in the tourism industry. To improve and provide better services to visitors, transportation organizations need to understand how much visitors'

expectations have been fulfilled. Therefore this paper investigates the usage of public transportation by tourists.

Visitors were asked to answer how satisfied they were towards public transport concerning 16 service aspects. Table 2 demonstrates a comparison of the service aspects by means, median, mode, and standard deviation. It seems that the majority of visitors are not satisfied with public transportation services in Samarkand. According to table 2, 11 service aspects have a score less than 3 (either no opinion or unsatisfied). Aspects that got the lowest scores were WIFI, It technologies, the convenience of the schedule, comfort, reliability, and punctuality. Characteristics of public transport

in Samarkand that was appreciated include only ticket price. For the question about their general satisfaction towards public transportation, the respondents mentioned that they are neither satisfied nor unsatisfied.

Table 2. Analysis of tourist satisfaction towards public transportation.

Service aspect	mean	median	mode	SD
Seat availability	3.32	4	4	0.97
Cleanliness	2.73	3	3	0.86
Space in vehicle	3.27	4	4	0.86
Safety	3.1	3	4	0.86
Comfort	2.27	2	2	0.75
Punctuality	2.32	2	2	0.63
Reliability	2.68	3	2	0.76
The convenience of the schedule	2.29	2	2	0.62
Frequency	2.57	2	2	0.91
IT technologies	2.14	2	2	0.73
WIFI	2.09	2	2	0.73
Ease of use	2.77	3	3	0.85
Information service	2.89	3	2	0.83
Ticket price	4.02	4	4	0.78
Staff service	3.52	4	4	0.89
Satisfaction in general	2.86	3	3	0.81

5. Implication

As we can see from table 2, visitor's satisfaction is too low, and almost all service aspects should be improved in the future. In the 21st century, developed countries are using ITS (intelligent transportation systems) for improving transportation systems. This includes technologies such as GPS navigation, wireless equipment, traveler information system, automatic vehicle location, electronic ticketing, etc. These technology services are helping people get where they are going quickly, easily, safely, and affordable (Tony D, Travis M, Phineas B. 2013.). I believe that adopting these technologies in the Samarkand transport system would be helpful in the following way:

- Increase mobility of locals and visitors
- Less damage to the environment
- Decrease the traffic accidents
- Better transport system management
- Allow for better planned, faster travel
- Less congestion in peak hours.

With the usage of ITS, current public transportation can be improved drastically and encourage the commuters to use public transports instead of private cars.

The government should focus on all service dimensions which are shown in table 2.

5.1 Practical Implication For buses:

- Purchase modern buses with more seats
- Using WIFI network system in the buses and each station
- Create an online bus schedule for each station (In Uzbek and English language)
- Install the sensor plastic card machine for non-cash payment
- Create a special card for payment (Tmoney)
- Install the cash box for cash payment purposes
- Give transfer discounts to the customers if they transfer for 30 minutes.
- Create navigating the bus system in the Uzbek and English language (an online app which shows the info about real-time bus location, price, which bus to choose, km and others. Example is KAKAO MAP).
- Offer unlimited travel cards for tourists
- Using voice announces inside the bus to announce the name of the station for each station.

5.2 Practical Implication for Taxis.

- Install sensor plastic machine to all taxis
- Using the same Timoney card (for buses, trains, and taxis) for online payment.
- Create a system, which allows customers to pay only by traveling kilometers

6. Triangulation and conclusions

Satisfaction is essential to understand public transport from the customer's perspective since they are the main users. However, there is a problem when the subjective assessments of the users are conflicted with the objective conditions of the transport system which is provided. As has been shown, a high level of satisfaction does not necessarily demonstrate an objectively "better" system and vice versa. Instead, satisfaction scores should be indicated in their wider context, thereby enabling a further contextualization of the objective conditions as well. This is particularly pivotal when comparisons are made between different cities. However in the research, only one city is taken as a research destination, so the satisfaction of the tourists is a relative concept and not a measure of absolute success in public transport in the whole country. Understanding the links between satisfaction, service quality, and extra amenities is a key management challenge that requires a genuine understanding of how the transport system functions, from the point of view of both the customer and service providers. Such a dual understanding will provide an inseparable foundation for developing a better public transport systems of tomorrow. Once the subjective and partially independent nature of the satisfaction measures is admitted, their potential value to transport managers and policymakers can be realized. Concerning the overall satisfaction of the tourists, more alterations are supposed to be implemented.

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