Research Paper

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A Study on Future Preferences & Satisfaction Level of BRTS Customers with Special Reference to Ahmedabad City.

Management

KEYWORDS : BRTS, Customer Satisfaction, Services, factor analysis, ANOVA.

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ABSTRACT

The purpose of this paper is to know BRTS customers' future preference & satisfaction level of Ahmedabad city. Convenience sampling method is used for knowing preferences & satisfaction level of BRTS customer. Research instrument is unstructured questionnaire. Sample size is 150 BRTS customer of Ahmedabad city. Implications of this study will be useful for BRTS service provider for knowing BRTS customers' future preference. It is found that most of the BRTS customers are satisfied with the current services of BRTS but there future preference for BRTS is for concession to smartcard users, controller in BRTS, 24 hour services, music system & it should be Double Decker.

1. INTRODUCTION

BRT is "a rapid mode of transportation that can combine the quality of rail transit and the flexibility of buses"(Thomas, 2001).BRTS, which started with a fleet of 12 buses, has 75 buses today and the figures will increase to 150-200 buses by next year. "Presently, 1.4 lakh passengers travel on BRTS bus daily and the income generated is Rs8.25 lakh. With the increase in number of buses, we are expecting our income to reach Rs13-14 lakh on daily basis and our total passengers will increase to 2 lakh," stated Pedia.

The Government of Gujarat had declared 2005 the Year of Urban Development' (Shaheri Vikas Varsh). During this particular year, the urban development department undertook various initiatives to resolve urban issues such as traffic management, and the introduction and enhancement of a city transport system. The Gujarat Infrastructure Development Board (GIDB), AMC and Ahmedabad Urban Development Authority (AUDA) jointly drafted a comprehensive urban mobility plan keeping in mind the needs of Ahmedabad as a mega city, and included in it, the implementation of the Bus Rapid Transit System (BRTS) and the planning of the regional rail and metro for future years.

Started in 2009, BRTS today has ambitious projections for the future to make the citizens' lives smoother. The service which began with just a 12.5 km stretch in 2009 is spread over 45 km today benefiting around 1.4 lakh passengers daily.

Bus Rapid Transit System or BRTS is a bus based high quality, high capacity rapid transit system that delivers fast, comfortable and cost effective urban mobility. In a BRT system, vehicles travel in exclusive lanes, thus avoiding congestion. There is provision of segregated right-of-way infrastructure, rapid and frequent bus operations, easy boarding and alighting facilities for the passengers and excellence in marketing and customer service.

BRT combines the performance and amenities of a modern rail based transit system with the flexibility and cost advantages of roadway transit. BRT can be built in phases with future expansion options. BRT is a cost effective transit option available to improve the environment, enhance mobility and promote livable cities.

➢ Characteristics of a BRTS System

1) A flexible, high performance rapid transit mode that combines a variety of physical, operating and system elements into a permanently integrated system with a quality image and unique identity
2) Some of the characteristics of a BRT system which distinguishes it from a normal bus service are:
3) Segregated bus lanes
4) Prepaid/Automated ticketing systems
5) Safe, secure and accessible station
6) Platform level boarding
7) Quality service

2. LITERATURE REVIEW:

Gronoos (1884) considers technical, functional, and reputational quality; Lehtinen and Lehtinen (1982) consider interactive, physical, and corporate quality; and Hedvall and Paltschik (1989) focus on willingness and ability to serve and the physical and psychological access to the service.

In conceptualizing the basic service quality model, **Parasuraman et al. (1985)** identified 10 key determinants of service quality as perceived by the service provider and the consumer, namely, reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding/ knowing the customer, and tangibility to formulate a service quality framework, SERVQUAL.

Ribiere et al. (1999) identified customer satisfaction with hospital information systems in terms of timeliness, accuracy, and completeness. Yet another study on satisfaction with hospital services included communication with patients, competence of staff, staff demeanor, quality of the facilities, and perceived costs (Andaleeb 1998)

Pucher et al. (2005) describes the public transport reforms in Seoul and assesses their impacts on safety, speed, costs, passenger levels, and overall customer satisfaction.

Zheng and Jiaqing (2007) present the actuality of South-Centre Corridor Bus Rapid Transit line of Beijing in China, and summarize and analyze the application effect from the management condition, service level, and social benefit. After the regular bus lines at Beijing South-Centre Corridor being adjusted stage by stage, the operation environment has been greatly advanced, and the volume as well as speed of vehicles has obviously improved; with the improvement of the service level, the reduction of traveling time of the passenger, the improvement of the satisfaction level, the improvement of the bus speed, the reduction of delay, the improvement of the punctuality rate, the BRT is exactly "the third mode" existing between orbit transit and regular bus transit.

Aworemi et al. (2008) look at the impact of socioeconomic characteristics of formal and informal public transport demand in Kwara State, Nigeria and suggest that government must totally support the informal and formal public transport sectors (private transport companies) by providing well-articulated policies to improve the performance of operations and services. One

necessary condition for the realization of quality and the creation of value added is quality meas

Eboli and Mazzulla (2007) measured customer satisfaction in the context of bus service on various factors including availability of shelter and benches at bus stops, cleanliness, overcrowding, information system, safety, personnel security, helpfulness of personnel, and physical condition of bus stops. TCRP Report 100 identifies the following elements at bus stations for efficient service: shelters, waiting rooms and seating, doorways, stairways, escalators, signage and information displays, public address systems, and passenger amenities,

3. RESEARCH OBJECTIVES:

Primary objective:

- To know customer satisfaction & preferences of BRTS customers in Ahmedabad city.

Secondary objective:

- To know percentage of the people who uses their own vehicle or AMTS or sharing vehicle for their daily transportation mode.
- To know which facility is more important for BRTS customers in Ahmedabad city.
- To know impact of service quality on customer satisfaction level
- To know the future preference of different customer segmentation.
- To know the problem faced by different BRTS customer segmentation.

4. RESEARCH METHODOLOGY:

Data sources:

- Primary data: Qualitative method which includes personal questionnaire method.
- Secondary data: Magazines, internet, research paper and reference books.

Sampling Technique: Filling up questionnaires with 18 questions of BRTS customers in Ahmedabad city. The samples are selected on the basis of convenience sampling.

Sample Size:150 customers of Ahmedabad's BRTS customers.

Data collection Method:

1) Secondary Data: A depth study is done from the various sources such as Books like marketing research by Naresh Malhotra and Magazines like Business Today.
2) Primary Data: The primary data was collected by means of a survey. Questionnaires Ire prepared and customers of BRTS customers in Ahmedabad city Ire approached to fill up the questionnaires.

5. DATA ANALYSIS & INTERPRETATION

Ho = There is no impact of annual income on the fare of BRTS bus.
H1= There is impact of annual income on the fare of BRTS bus.

- **ANOVA TEST :**

	Sum of			Mean			
Fare	Squares	df		Square	F		Sig.
BetIen							
Groups	3.168		3	1.056		0.8	0.496
Within Groups	192.705		146	1.32			
Total	195.873		149				

Here sig value is 0.496 greater than p-value so our Ho is accepted.0.496 > 0.05 so it is concludes that there is no impact of annual income on the fare of BRTS bus.

Factor analysis:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.701
Bartlett's Test of Sphericity	Approx. Chi-Square	921.218
	Df	276
	Sig.	.000

The test of validity of data is examined with the help of a Kaiser-Meyer-Ohlin (KMO) measure of sample adequacy and Barlett's test of sphericity. These two tests satisfied the validity of data for factor analysis

KMO and Bartlett's Test:

KMO test value is 0.701 which is higher than 0.5 so it is concluded that Factor analysis is possible .0.701>0.5.And from Bartlett's test significance value is very low so factor analysis is possible from this data.

Factor Loading of Variables :

Factors	Variables	Factor loading	Eigen value	% of variation Explained
1)Announcement	Clarity of announcement	0.644	2.726	9.745
	It cause irritation	0.445		
	Accuracy of announcement	0.377		
2)Basic Features of BRTS	Timely availability	0.775	4.915	17.569
	Speed	0.736		
	Comfort	0.720		
	Distance you need to travel	0.759		
	Availability of bus in your area	0.700		
3)Safety in BRTS	Steps to reduce accident	0.665	2.305	8.239
	Controller in BRTS	0.445		
	Different door for exit /entry	0.377		
4)Security	Security of self	0.716	2.0701	7.402
	Security of luggage	0.824		
5)Basic facilities	Fare	0.876	1.839	6.573
	frequency	0.401		
	Seating Arrangement	0.424		
	Smart card	0.738		

6)Future Preferences	TV	1.121	1.569	5.603
	Music	0.567		
	Double Decker	0.655		

From the factor analysis, it is found that above factors are more important for customer 'satisfaction & future preferences of RBTS customers. So following factors are more important for BRTS customers. 1) Announcement 2) Basic Feature of BRTS 3) Safety in BRTS 4) Security 5) Basic facilities 6) future preference.

6. FINDINGS

From study it is known that 50.7% of total respondents are using AMTS, 31.3% of total respondents are using sharing vehicle& 36.7 % of total respondents are using personal vehicles along with BRTS bus.

1) 50.7% of total respondents are using BRTS on daily basis &49.3% of total respondents are using BRTS occasionally.
2) 38.7% of total respondents are not satisfied with the fare of BRTS bus.36.7% of total respondents are satisfied with fare of BRTS &24.7% of total respondents are neutral for this.
3) 48.7% of total respondents are agree for to increase frequency of buses ,20.7% of total respondents are disagree for this & 30.7% of total respondents are neutral for this.
4) 57.3% of total respondents are agree about BRTS should take step to reduce accident at crossing.
5) Most of BRTS customers do not prefer TV in BRTS but 73.3% of total respondents are preferred music system in BRTS.
6) It is known from our study that there should not be different buses for male &female.
7) 69% of total respondents have the preference for the 24 hour service of BRTS.
8) 58.7% of total respondents prefer that BRTS should be Double Decker.
9) 63.3% of total respondents think that smart card is better for customer &they think that smart card users should be given special concession.
10) Most of total respondents of BRTS think that clarity &accuracy of announcement are good, but it cause little bit irritation to them.
11) 70% of total respondents are thinking that BRTS buses are overcrowded.
12) 57.4% of total respondents prefer controller in BRTS to check chaos.
13) 74% of total respondents prefer different door for entry &exit.
14) 88% of BRTS customer's age lies between 20-40 years.
15) 82.7% of BRTS customers' income is less than 2 lakh
16) Following table represent BRTS users 'satisfaction for different features of BRTS services.

Factor	Agree (%)	Disagree (%)
Timely availability	74%	12%
Speed	74.3%	8.9%
Comfort	62.9%	12.7%
Distance you need to travel	65.3%	9.3%
Availability of bus in your area	68%	14%

7. CONCLUSION:

From study it is concluded that along with BRTS, most of the customers are using AMTS & personal vehicle as the other mode of commutation. And majority of BRTS customers are using BRTS services on daily basis. And most of the BRTS customers are not satisfied with fare of BRTS .And there is no need to increase frequency but it should be Double Decker. Seating arrangement is proper .for entertaining the customers, music facility should be provided. It should be for 24 hour services. And smart card users should be given special concession. People prefer more BRTS other than AMTS because of salient feature of BRTS like timely availability, speed, comfort & reach of the bus. BRTS customers feel safety & security while they are using BRTS service. From study and by using various statistical tools , it is known that Announcement , Basic Feature of BRTS, Safety in BRTS Security , Basic facilities , future preference for Bus services are important factors for the further improvement of BRTS services

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