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INTERCITY TRANSPORT SERVICE PATRONAGE AND CUSTOMER SATISFACTION IN OWERRI METROPOLIS, IMO STATE, NIGERIA

[1]Okere, D.C., [2]Oludele, S.A. and [3]Salihu, U.

[1]Department of Geography, University of Nigeria Nsukka
[2]Department of Transport Studies, Olabisi Onabanjo University, Ago-Iwoye
[3]Department of Urban and Regional Planning, Nuhu Bamalli Polytechnic, Zaria

Corresponding Author's Email: **chibykkevin@gmail.com**

Abstract

Intercity bus transport service is very important for all big and emerging cities. Its success largely depends on understanding customers' needs and demands in order to meet their satisfaction. Customer satisfaction with intercity bus transport services can be influenced by the service quality that consists of many factors. This study sought to analyze the patronage and customer satisfaction with intercity bus transport service in Owerri metropolis, Imo State. Convenience sampling method was used to administer questionnaire to 390 passengers waiting to be boarded in each of the 24 selected intercity bus transport service company. Frequency table and Principal Component Analysis (PCA) were used to analyse the data. Findings of the study revealed that most that 53.3% of the respondents are males while 46.7% are females with 55.1% having tertiary level of education. It was found that above half of the respondents earn less earn ₦40,000 monthly. The PCA on customer satisfaction with service quality showed six components namely; safety and timeliness (16.9%), journey time and cheapness of bus fare (12.9%), comfort and cleanliness (10%), physical accessibility to loading points (7.6%), improved travel information (6.5%), and experienced and competent drivers (6.4%) with eigenvalues greater than 1. These components explained 60.3% of the total variance. Conclusively, service quality influenced customer satisfaction with intercity bus transport service is the dominant route to achieving customer satisfaction at different degrees. It is recommended that companies to conduct daily routine check of the vehicles, use trained drivers, improve schedules of buses and display bus service timetables electronically as well as ticketing system should be more accessible in terms of location and operating hours.

Keywords: Customer Satisfaction, Intercity Bus, Service Quality, Patronage

1.1 Introduction

The intercity bus transport industry plays a prominent role in the transportation sector, more specifically, in the passenger movement. As part of the public transport system, it contributes to the enhancement of mobility and has helped in solving traffic problems such as pollution and traffic jam created by the excessive use of private motor vehicles in recent years. Intercity bus in the view of Woldeamonuel cited in Ojo, Mireku and Dauda (2014) originated from Carl Eric Wickman in 1913 that was fed up with his inability to sell a seven-passenger

automobile on the showroom floor of the dealership where he worked. He then started using it to transport miners between Hibbing and Alice, Minnesota, United States. This was later used to provide service regularly in what started as a new company (Greyhound) and industry. In Nigeria, public involvement in the provision of intercity bus transport could be traced to the introduction of mass transit in 1988. However, in the view of Ikya (1993) prior to the introduction of the mass transit in 1988 in Nigeria, several urban centres were already being served by conventional mini-buses, taxis and adapted vehicles known as "*molues*" particularly in Lagos.

The Federal Transit Administration [FTA] (2007) defines intercity bus service as regularly scheduled bus service for the general public that operates with limited stops over fixed routes connecting two or more urban areas not in close proximity, that has the capacity for transporting baggage carried by passengers, and that makes meaningful connections with scheduled intercity bus service to more distant points, if such service is available. Mudenda and Guga (2017) asserted that unlike municipal bus, an intercity bus carries passenger in significant distances between cities with frequent stops throughout the city. Intercity bus transport in this paper is conceptualized as regularly bus service for passengers with limited stops or waiting for long to pick passengers over a long-fixed route connecting two or more cities.

The intercity bus transport service is very important for all emerging cities as it believed that passengers appreciate cities with customer friendly intercity bus

transport system. Zamazalová (2009) stated that a high consumer satisfaction rate contributes significantly to consumer loyalty to the service provider, as a result service provider should try to achieve the maximum user satisfaction with services. This implies that the patronage of intercity bus transport services depends on the number of passengers which the system is able to attract and retain vis-à-vis customer satisfaction. Customer satisfaction according to (Shiau and Luo, 2012) has been described as the difference between passenger expectation and actual satisfaction. Customer satisfaction with public transport services can be influenced by the service quality that consists of many factors (de Oña, de Oña, Eboli and Mazzulla, 2013). Sachdev and Verma (2004) asserted that service quality can be measured in terms of customer satisfaction, among others. Conclusively, Ekinci (2003) stated that the evaluation of service quality leads to customer satisfaction. Pawlasová (2015) was of the view that in measuring service quality from the customers´ perspective, the most important is the passengers´ perceptions about each factor characterizing the service. Customer satisfaction with intercity bus operation is judged by factors such as speed, adequacy, safety, frequency of service, regularity, capacity, cheapness, comfort and reliability.

Several attempts have been made to assess satisfaction on service quality from customer perspective. Examples include de Oña, de Oña, Eboli and Mazzulla (2013) who found that the variable service including speed, frequency, punctuality of transport and information, is the factor which influences users' satisfaction in the

highest rate. Antonucci (2014) applied in their study an explorative factorial analysis and a structural equation model and they found that punctuality, regularity and short waiting time are very important factors determining the customer satisfaction. Also, Mouwen (2015) focused on customer view on public city transport and also on drivers of customer satisfaction with public transport services in the Netherlands. The study revealed that on-time performance, travel speed and service frequency, followed by personnel attributed (driver behaviour) and vehicle cleanliness were the factors influenced the overall satisfaction with public city transport. In Indonesia, Dyah, Trismi and Mohammed (2013) study on service satisfaction of intercity bus revealed that the unsatisfactory service quality attributes of intercity bus were facilities in the bus the material brochures services, leisure facilities, departure and arrival punctuality, ability to assist customers difficulties, intention or effort to build customer interest and willingness to accept criticism and suggestions. Similarly, factor analysis was used by Noor, Nasrudin and Foo (2014) to examine the determinants of customer satisfaction of service quality on city bus service in Kota Kinabalu, Malaysia. The study found that there was a slight difference in satisfaction between the

minibus and bus transit, but users agreed that overcrowded and felt unsafe during the night were among the most significant attributes that affected their satisfaction. A perusal of the reviewed empirical evidence revealed a dearth of studies on customer satisfaction of intercity bus transport service in eastern Nigerian cities particularly in Owerri metropolis. It is this gap in knowledge that this study intends to fill.

Owerri metropolis is one of the emerging cities in Nigeria, which serve as the administrative, commercial and educational centre of Imo state. Majority of the residents do depend on intercity bus transport services provided by both the public and private companies to fulfill their transport needs. Recently, observable are several intercity bus transport companies in Owerri metropolis that were once providing the transport service but surprisingly went into extinction and are no longer operating. On the other hand, the highly competitive nature of the industry, has led to intercity bus service companies struggling to improve their service quality in order to meet customers satisfaction. The aim of this paper is to examine the patronage and customer satisfaction with intercity bus transport services in Owerri metropolis, Imo state.

1.2   Materials and Method
1.2.1   The study area
Owerri metropolis politically consisting of Owerri West, Owerri North, and Owerri Municipal Local Government Areas [LGAs] lies within latitude 5° 15' 30″ - 5° 34' 00″ of the Equator and longitude 6° 51' 00″ - 7° 18' 00″ of the Greenwich Meridian. It is bounded on the east by Aboh Mbaise LGA, on the west by Ohaji/Egbema LGA; and on the north by Mbatoli and Ikeduru LGAs, while Ngor Okpala LGA lies to the south (Figure 1). The study area is approximately 40 square miles (100km²) in area. The metropolis encompasses other smaller towns and villages like

Orji, Nekede, Mbieri, Egbu, Amakohia, Akwakuma among others. Historically, the growth of Owerri could be traced to during the Nigerian civil war which made it the capital of the Republic of Biafra in 1969. The capital of the secessionist state was continuously being moved as Nigerian troops captured the older capitals. Owerri has grown become an emerging city in the state and serve as the seat of government.

Figure 1: Study Area
Source: Administrative Map of Imo State

According to the National Population Commission [NPC] (2009), Owerri metropolis has a population of about 403,425 people with 197,944 males and 205,481 females. The year 2018 projected population of Owerri using exponential formula with 3.35% inter-census growth rates gave a total population 603,044 people. Owerri metropolis is predominantly made up of the Igbos a major ethnic group in southern Nigeria. The major activity centres in the city are government public buildings like the state secretariat and medical health centres and centres of higher education like Imo State University (IMSU), Alvan Ikoku

Federal College of Education (AIFCE), Federal University of Technology (FUTO), Federal Polytechnic, Nekede (FEDNEK), School of Nursing and Midwifery, Imo State Polytechnic (Chinebuli and Ikeogu, 2013). The several economic activities within and outside the metropolis require movement which makes intercity bus transport service a necessity. Some operators of intercity bus transport include Imo Mass Transit, Abia Line Network Transit Limited, Rivers Transport Company, ABC Transport, Benn Way Links, Cross Country Transport Company and Ekeson Transport Company Limited.

1.2.2 Methods

This study adopted the assertion of Churchil and Iacobucci (2004) that one-third of the total study population can be obtained and used for any empirical research in the selection of intercity bus transport service companies. With seventy (70) registered intercity bus service companies, a total of twenty-four (24) was selected. This consisted of three (3) public and twenty-one (21) private owned intercity bus transport service operators. The estimated 15, 357 volume of passengers moved daily by the 24 selected intercity bus transport companies was used to determine the sample size. Yamane (1967) formula was applied to calculate the sample size of 390 respondents. Convenience sampling was used to administer the questionnaire to passengers waiting to be boarded in each of the selected intercity bus service company. Descriptive statistics such as frequency tables was used to show the socio-economic background information of the customers while Principal Component Analysis [PCA]

was employed to assess customers' satisfaction with intercity bus services. The PCA is a multivariate technique that analyzes a data table in which observations are described by several inter-correlated quantitative dependent variables. Its goal is to extract the important variables and represent it as a set of new orthogonal variables called principal components, and to display the pattern of similarity of the observations and of the variables as points in maps. It extracts the most important information from the data table. Given a data matrix with p variables and n samples, the data are first centered on the means of each variable. This ensured that the cloud of data is centered on the origin of our principal components, but does not affect the spatial relationships of the data nor the variances along our variables. The first principal components (Y1) is given by the linear combination of the variables X1, X2, ...,Xp

$$Y1 = a11X1 + a12X2 + ... + a1pXp$$

The first principal component was calculated such that it accounts for the greatest possible variance in the data set. The second principal component was calculated in the same way, with the condition that it is uncorrelated with (perpendicular to) the first principal component and that it accounts for the next highest variance. This continues until a total of p principal components have been calculated, equal to the original number of variables. The 16 service quality variables considered in this study include; frequency of service, punctuality, short travel time, experience and competent drivers, cleanliness of bus, overcrowding of bus, comfort of seat inside the bus, cheap fare charges, good physical condition of bus, better travel information on bus, availability of shelter/seats for passengers before boarding, short waiting time at bus loading point, security against crime inside the bus, easy access to bus loading point, security against crime at the bus loading point and courteous behaviour of drivers and bus assistants.

1.3   Results and Discussion
1.3.1   Demographic and Socio-economic Characteristics of Respondents

The demographic and socio-economic characteristics of the respondents as presented in Table 1 revealed that 53.3% of the respondents are males while 46.7% are females. This implies that male commuters patronize intercity bus services more when compared with their female counterparts. It was also revealed that 50.3% of the respondents were of the age ranges of 20-39 years, followed by those of age range of 40-59 years (32.3%) while the least were those of 50 years and above. The marital status of respondents revealed that 50.3% are single, whereas 43.3% are married.

Table 1: Socio-economic Characteristics of Respondents (N = 390)

Sex	Frequency	Percentage
Male	208	53.3
Female	182	46.7
Age (years)		
Less than 20	48	12.3
20-39	197	50.5
40-59	126	32.3
Over 59	19	4.9
Marital Status		
Married	169	43.3
Single	196	50.3
Widowed	15	3.8
Divorced	10	2.6
Educational Level		
No formal education	6	1.5
Primary school	40	10.3

Secondary school	129	33.1
Tertiary	215	55.1
Occupation		
Civil service	73	32.1
Trading	137	35.1
Farming	37	9.5
Artisans	143	18.7
Monthly Income		
Less than ₦20000	90	23.1
₦20000 - ₦39999	134	34.4
₦40000 - ₦59999	85	21.7
₦60000 - ₦79999	42	10.8
₦80000 and Above	28	7.2
No Fixed Income	11	2.8

Source: Authors, 2020

Table 1 revealed that 55.1% had tertiary level of education, 33.1% had secondary education while 1.5% were respondents with no formal education. It was found that 35.1% of the respondents are involved in trading/business, 32.1% are civil servants while other forms of occupations such as artisans accounted for 18.7%. Income is a major determinant of standard of living. As revealed in Table 2, 34.4% of the respondents earn ₦20000 - ₦39999 monthly, 23.1% earn less than ₦20000 monthly, 21.7% earn ₦40000 - ₦59999 monthly, 10.8% earn a monthly income of ₦60000 - ₦79999 while 7.2% earn ₦80000 and above.

1.3.2 Utilization of Intercity Buses Services

Table 2 shows that close to three-quarter of the respondents are regular patrons of intercity bus transport services while about a quarter are first time users. Most of the respondents have used intercity bus for 1-5times as attested by 42.8% of the respondents while about 27% confirmed 6-10times usage. The reliability of commuters on a particular bus company is a product of several factors, of which service delivery is paramount. This is closely agreed by Freitas (2013) where the researcher opined that the increasing requirements from customers concerning service quality attributes put into check the service provided by intercity bus companies and can further contribute to the proliferation of competitors.

Table 2: Utilization of Intercity Bus Transport Services

First Timer	Frequency	Percentage
Yes	99	25.4
No	291	74.6
Total	**390**	**100**
Number times of use		
1-5 times	167	42.8
6-10 times	104	26.7
11-15 times	14	3.6
16-20 times	05	1.3
Above 20 times	01	0.3
Total	**291**	**100**
Frequency of Usage		
Daily	21	5.4
Twice weekly	23	5.9
Thrice weekly	21	5.4
Weekends only	95	24.4
Monthly	128	32.8
Others	102	26.1
Total	**390**	**100**

Source: Authors, 2020

Table 2 revealed that most (32.8%) of the respondents patronize intercity bus services monthly, 26.1% patronize the intercity bus companies in other times such as yearly, seasonally or during festive periods while 24.4% patronize the intercity bus companies on weekends. The monthly patrons are predominantly civil servants who work in neighboring towns while the weekend patrons are mostly traders who visit their families weekly for relaxation.

1.3.3 Period of Intercity Buses Services Usage

Figure 2 depicts that more than half of the respondents use the bus companies in the morning only, next to this were respondents that use the companies both morning and evening, while the least were respondents

that use the companies at afternoon only. The usage of the bus companies more in the morning is to meet up with early working hours and business schedules. The result agrees with Okere (2014) findings that high

capacity public bus services in the Federal Capital Territory are mostly used in the morning.
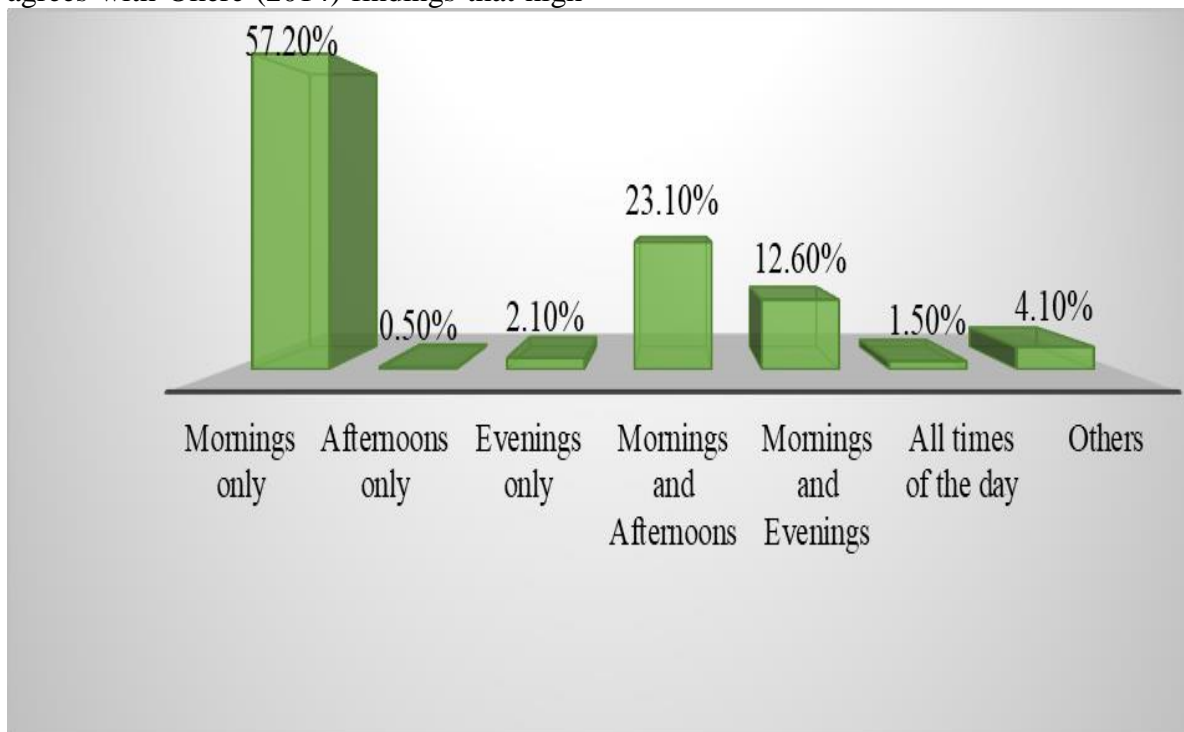

Figure 2: Period of Usage of Intercity Buses Transport Services
Source: Authors, 2020

1.3.4 Customer Satisfaction with Intercity Bus Transport Services

As shown in Table 3, the variances of the extracted components indicate that 60.3% of the total variance accounted for by the PCA shows six (6) components with eigen values greater than 1. It shows that component one has an eigen value of 5.09 accounting for 22.2% of the total variance explained with component two having an eigen value of

3.83 representing 16.7%, component three having an eigen value 3.22 accounting for 13.9%, component four having an eigenvalue 2.11 accounting for 9.2%, component five having an eigen value 1.89 accounting for 8.2%, component six having an eigen value 1.58 accounting for 6.9% and the seven components having an eigen value 1.09 accounting 4.8%.

Table 3: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.711	16.942	16.942	2.711	16.942	16.942
2	2.068	12.923	29.865	2.068	12.923	29.865
3	1.602	10.011	39.876	1.602	10.011	39.876
4	1.218	7.612	47.489	1.218	7.612	47.489
5	1.036	6.475	53.963	1.036	6.475	53.963
6	1.018	6.360	60.324	1.018	6.360	60.324
7	.944	5.898	66.222			
8	.923	5.766	71.987			
9	.799	4.994	76.981			
10	.744	4.650	81.631			
11	.657	4.105	85.737			
12	.600	3.753	89.490			
13	.507	3.171	92.661			
14	.488	3.048	95.709			
15	.353	2.209	97.918			
16	.333	2.082	100.000			

Source: Authors, 2020

The significance of these component loadings provides a clear explanation of the passengers' satisfaction with intercity bus transport service factors which has been reduced to six classes with eigen values greater than 1. Figure 3 shows a scree plot depicting the component loadings to identify the manner in which the explained variation is distributed.
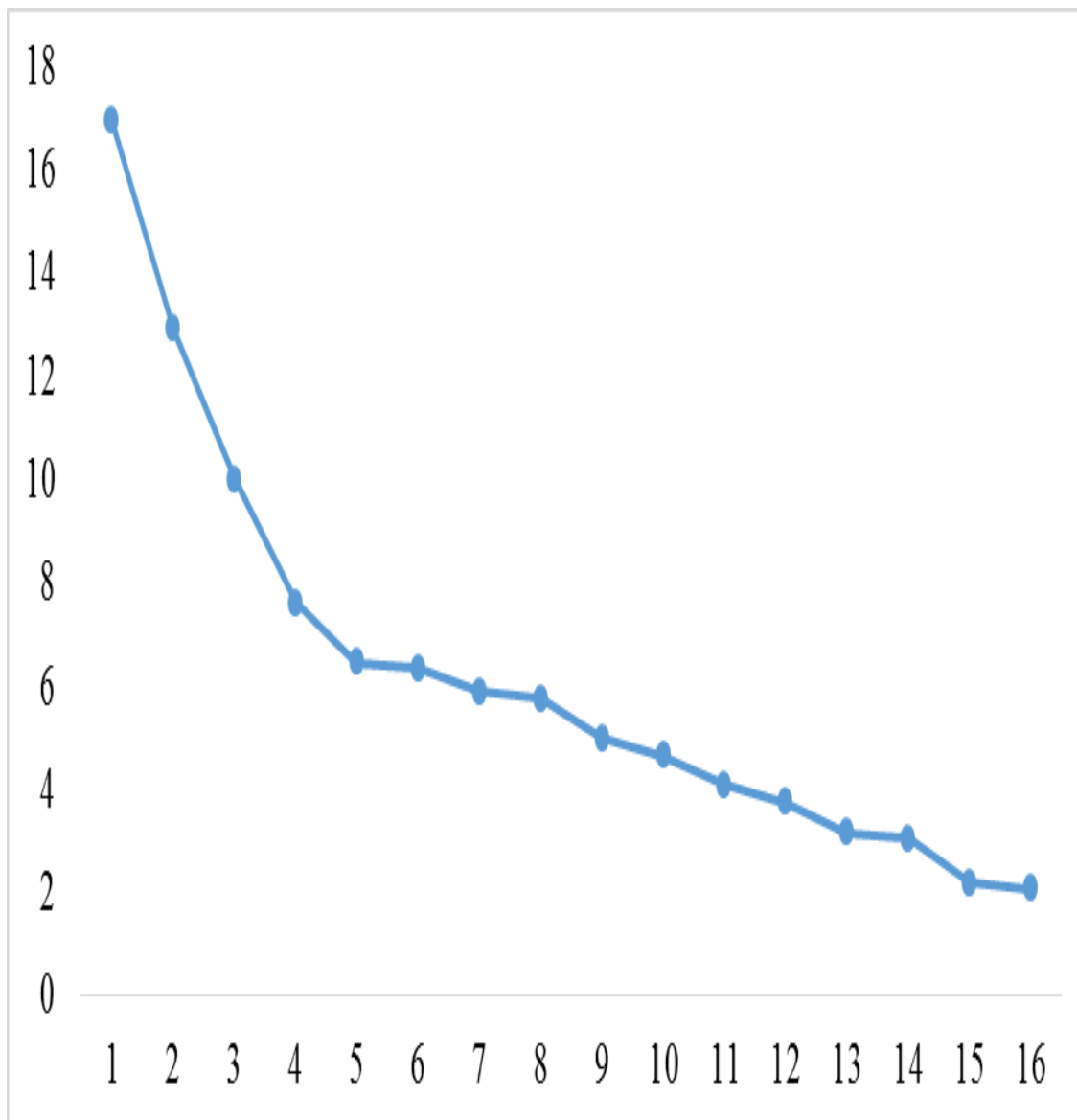
Figure 3: Distribution of Components Loadings
Source: Authors, 2020

This plot demonstrates the distribution of the variance among the components graphically. The 'elbow' shape of the curve shows that higher order components contribute a decreasing amount of additional variance with a marked decrease after the sixth component. This implies that the passengers' satisfaction with intercity bus transport service factors is explained by the first six components. Table 4 shows the dominant loading for each of the component using Varimax with Kaiser Normalization.

Table 4: Rotated Component Matrixᵃ

Factors	Component					
	1	2	3	4	5	6
Frequency of service	-.038	.299	.240	-.116	.194	.494
Punctuality	.619*	.042	.302	.164	.028	.230
Short travel time	.125	.774*	-.133	.103	.023	-.021
Experience and competent drivers	.072	-.179	-.066	.033	-.021	.807*
Cleanliness of bus	.252	-.057	.657*	.114	.041	.192
Overcrowding of bus	.375	-.064	-.055	.509*	.012	-.136
Comfort of seat inside the bus	.002	.061	.750*	.028	-.022	.022
Cheap fare charges	.060	.715*	-.004	.320	.229	-.087
Good physical condition of bus	.050	-.202	.624*	-.052	.051	-.097
Better travel information on bus	.169	-.045	-.074	.093	.768*	.164
Availability of shelter/seats for passengers before boarding	-.103	.104	.357	-.355	.616*	-.160
Short waiting time at bus loading point	.689*	.139	.156	-.198	-.149	.034
Security against crime inside the bus	.736*	-.027	-.014	.102	.359	-.032
Easy access to bus loading point	.188	-.233	-.143	-.799*	.038	-.068
Security against crime at the bus loading point	.629*	-.484	-.046	.002	.086	-.082
Courtesy behaviour of drivers and bus assistants	.225	-.694*	.073	.201	.244	-.010

Extraction Method: Principal Component Analysis. *0.05 Significant level

Rotation Method: Varimax with Kaiser Normalization.

Table 4 shows the rotated component matrix loading of each of factors that influence respondent's choice of intercity bus companies. Component 1 has significant loadings on 4 variables which include; punctuality, short waiting time at bus loading point, security against crime at the bus loading point, security against crime inside the bus having the highest of 0.736 matrix loading. This indicates that given the disturbing trend of armed banditry and fear for lives and security, passengers will be

satisfied with a bus company that guaranteed security. Short waiting time at bus loading point (0.689) is another factor with high loading. A preference for transporting is the earliness of arrival at destination. There if a transport service company could reduce waiting time for passengers, there will be a perceived high level of satisfaction. Security against crime at bus loading points with 0.629 is equally high. A distasteful activity in public transport is disorderliness in motor parks which makes luggage thieves and hoodlums operation in parks. A transport company that can seriously minimize this will be preferred by passengers. The last factor on component one is punctuality (0.619). Passengers are usually satisfied with a transport company that are timely since early take-off (all things being equal) will leads to early arrival. When all the significant variables are viewed together, Component 1 can be called "Safety and Timeliness". This component is an important satisfactory index and transport companies like ABC transport company with an established case of reduced turnaround time and fairly good level of "in-park" and "in-bus" security is preferred to others. Indeed, all transport companies should aim at meeting the two goals for them to have a sustainable share in the transport enterprise.

Component 2 has the highest significant loadings on short travel time with 0.774 component matrix. Although, bus travel time is naturally unstable since a small disturbance, such as a delay in boarding or alighting, can start a vicious cycle that results in long travel time. Therefore, in order to encourage the use of intercity bus transport, it is of utmost significance to enhance the reliability of bus services by improving both the dwelling (boarding and alighting at bus stops, including doors opening and closing) and driving time. Cheap fare charges (0.715) is another service quality factor with high loading. Traditionally, under a competitive market environment the rival intercity bus companies adjust their bus fares to lower rate especially those owned and operated by the government to win more market shares hence enjoy more patronage. Passengers of government owned intercity bus companies such as Imo City Transport declared that they do not change bus fare whether it is peak or off-peak season unlike the privately owned as such they often patronize their services. Similarly, courtesy behaviour of drivers and bus assistants was the least significant factor that loaded in this component. Considering the three factors that loaded in Component 2 could be termed "Journey Time and Cheapness of Bus Fare"

As indicated in Table 4, Components 3 had the highest significant loading on in-bus seat comfort (0.750). On this component cleanliness of bus (0.657), and good physical condition of bus (0.624) as well had high loading. The three factors that loaded significantly in this component may perhaps be named "Comfort and Cleanliness" Comfort plays a significant role in the sustained patronage of intercity bus transport services although it varies from one individual to another. When the level of discomfort is higher than the passengers' acceptable level, they tend to be dissatisfied with the intercity bus transport services provided and may prefer private car usage because of its convenience and comfort. This corroborates the assertion of Eboli and

Mazzulla (2007; 2009) that comfort is one of the key factors leading to high service quality and significantly influences passenger satisfaction with bus transits.

Component 4 loaded mostly on easy access to bus loading point with -0.799 component matrix. Also, overcrowding of bus (0.509) is another factor with high significant loading. Crowding of buses affects not only the physical comfort but also psychological issues, such as anxiety, stress, and feelings of one's privacy being invaded. This often affect passengers' choice of intercity bus use and satisfaction with the service quality. The significant factors that loaded in this component possibly may be considered as "Physical Accessibility to Loading Points"

Better travel information was found to have the highest significant loading of 0.768 in Component 5. The users of intercity bus services usually find it difficult to obtain reliable information regarding the transport service provided by intercity bus companies prior to travel due to the fact that, they do not use user-friendly printed material such area-based timetables, posters and brochures. It was also discovered that all the companies except ABC do not have website and email address to communicate easily and more rapidly. The absence of these means of communication causes many of the passengers not to have access to better bus information which would have improved their satisfaction with intercity bus transport services. The last significant factor on Component 5 is the availability of shelter and seats for passengers before boarding. When these two significant factors are viewed together, Component 5 can be named "Improved Travel Information"

Component 6 has significant highest loading on experienced and competent drivers. The driver has a very important role in the safety of intercity bus transportation, because the driver controls the vehicle. Maneuvering of vehicles on the highway depends largely on the attitude, behaviour and experience of the driver as such the vehicle maneuver depends on the perception of the driver in maintaining traffic conditions on the highway. In addition, the character of the driver's response style in maneuvering is also very influential on passenger comfort and safety vis-a-vis the customer satisfaction with intercity bus service quality.

1.4 Conclusion and Recommendations
This paper focuses on the patronage and customers satisfaction with intercity bus transport service in the Owerri metropolis. Among the service quality variables that significantly influenced customer satisfaction include safety and timeliness, journey time and cheapness of bus fare, comfort and cleanliness, physical accessibility to loading points, and improved travel information. The study recognized that service quality is the dominant route to achieving customer satisfaction. It is therefore imperative for intercity bus transport companies operating in Owerri metropolis to improve their service quality to meet customer satisfaction. To improve customer satisfaction, there is the need for the companies to conduct daily routine check of the vehicles before commencement of operations and the use of trained drivers which will improve the safety level of their operations. Similarly, the management of the intercity bus companies should improve on their schedules of buses and display

service timetables electronically. The ticketing system should be more accessible in terms of location as well as operating hours. Conclusively, improvement in service

quality will increase intercity bus transport ridership which is a traditional strategy to improving customer satisfaction thus a clear step toward sustainable transport.

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