

Public Transport Service and Passengers' Satisfaction in Kogi State: An Empirical Investigation

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Abstract

This study aimed at the effects of Public Transport Service Quality on passengers' satisfaction in Kogi State. The study examined the effect of perceived unreliability of transportation service, service frequency, fare level, comfortability and perceived safety uncertainty on the perceived satisfaction of passengers in Kogi State. Research survey design was adopted. The sample size of the study was 362. Data were analyzed using descriptive and Binary Logit Regression Model. Findings show that perceived unreliability of transportation service, fare level and comfortability significantly relate with the perceived satisfaction of passengers in Kogi State. The study concluded that there are some variables that the users of Public Transport Service are considering for their satisfaction. The study recommended that drivers/transportation companies should ensure reliability of transportation service, moderate fare level and boost comfortability in order to achieve the satisfaction of passengers in Kogi State.

Keywords: *Public Transport Service; Passengers' Satisfaction; Perceived Unreliability; Service Frequency; Fare Level; Perceived Safety Uncertainty*

JEL Classification: *R41; R410; M10*

Introduction

The economic challenge of Kogi State appears to have increased the crowd of taxi users at bus terminals. This among others has made demand for transport service to increase above its supply. Increase in the price of premium motor spirit (fuel) has affected the purchasing power of the people, and many car owners alternatively seek public transport. This has also created Public Transport Service (PTS) backdrop in Kogi State. There are resultant consequences of these challenges. For instance, drivers are not able to meet the service demand of passengers, convenience, reliability, safety, travel time, fare level and the satisfaction of passengers. As far as frequency is concerned, frequent services increase satisfaction and urban transportation patronage (Taylor, Miller, Iseki and Fink, 2008). In case there is frequent service failure, Mammo (2010) expressed that many people will be waiting for transport service for long time and there is hard struggle to get the service. Available vehicle for transportation service may be overcrowded and overloaded, and this may expose passengers to accident, suffocation, pick pocketing and communicable diseases. In other word, the less privilege, aged, pregnant and sick people may be denied of quality transportation service. Principally, there have always been

issues bordering around Public Transport Service (PTS) and customer's satisfaction in Kogi State. The population is increasing, and both drivers and customers continue to witness changes caused by the economic hit of Kogi State. On the other hand the National Union of Road Transport Workers (NURTW) appears to be constantly reviewing decisions, and the customers (passengers) perceived being marginalized. On a general note, the satisfaction of passengers is observed to have suffered setback.

According to Oña and Oña (2014), the link between Public Transport Service Quality (PTSQ) and the level of passenger's satisfaction is unclear. This is a confusion established by previous researches. In literature, the argument as to the mutual relationship between PTSQ and the level of passenger's satisfaction continues to gain momentum. Scholars and researchers (such as Chen, 2008; Chou and Kim, 2009) uphold that some authors' thought is that passenger's satisfaction has causal effect on perceived quality, and on the contrary, other authors believe that PTSQ is instrumental to passenger's satisfaction. Meanwhile, the priority of NURTW is to establish a balance between PTSQ and the level of passenger's satisfaction. However, this study believes that PTSQ has significant effects on passenger's satisfaction in Kogi State. With regards to the dimension of PTSQ, Morton, Caulfield and Anable (2016) discovered that perceived convenience, service frequency, availability, reliability and stability have a significant positive explanatory power over perceived satisfaction. This is worthy of investigation in Kogi State.

Drivers are fond of delaying passengers before takeoff to their various destinations in Kogi State. In fact, other issues around passengers' dissatisfaction are ill-manner of drivers, lack of good relationship, drinking habit and money-driven behaviour among others. Anderson, Baggett and Widener (2007) supported that these are indications of operation failure, and they affect passenger's satisfaction seriously. Islam, Chowdhury, Sarker and Ahmed (2014) added that some of these factors create bias to passengers, resulting in dissatisfaction. The inverse of these factors is likely to cause the satisfaction of passenger. Hence, there is need to research on the level of satisfaction of passengers (Islam *et al.*, 2014), taking perceived unreliability of transportation service, service frequency, fare level, comfortability and perceived safety uncertainty as the explanatory variables. Thus, the major objective of the study was to investigate the effects of PTSQ on passengers' satisfaction in Kogi State. The specific objectives of the study were to:

- examine the effect of perceived unreliability of transportation service, service frequency, fare level, comfortability and perceived safety uncertainty on the perceived satisfaction of passengers in Kogi State;
- assess the factors affecting the expectation of passengers in PTS in Kogi State.

However, the remaining sections of this study are review of relevant literature (in which concepts were clarified, pillars of sustainable transport were outlined and levels in Public Transportation Service Quality were discussed), research methods, data analyses and results, discussion of findings, conclusion and recommendations.

Literature Review

Two concepts make up the subject matter "transportation service and customer's satisfaction". The two concepts are discussed individually. There are two popular transportation means (road and water) in Kogi State, Nigeria. Transportation service in these aspects covers bus, ferry and vehicle hiring. Ogwude (2016) added that transportation consists of "shared taxis, mini-buses, motorcycles and converted motorcycles, locally known as kekenapep". Thus, road transportation is the focused of this study. According to Olubomehin (2012), the first road transport services in Nigeria were provided by the colonial government and a few private individuals. Since this time, the question is that what extent is the quality of road transport

services in Kogi State and how satisfied are the users? The satisfaction of passengers is often short-changed. Meanwhile, the satisfaction of passengers tells about the PTSQ in Kogi State. Felleson and Friman (2008) noted that satisfaction is an important concept that deserves utmost interest. It is pertinent to note that dissatisfaction about poor PTS lead to passengers' perception of the inefficiency of the NURTW.

Studies (such as Solanke 2005, 2013) have viewed 'public transport' as the pictorial expression of how cities work. Their view appears to be bias. This is because the rural areas were not captured in their definition. Cities are not in isolation from the rural areas, and as such public transport creates a systemic view of how a place like Kogi State is networked. Public transport is a public utility which facilitates the supply of essential goods and services. By this definition, it is seen that the economy of Kogi State has so much reliance on transportation. This may be the reason Ogwude (2016) argued that transport is one of the social overhead capitals which must be developed to a critical minimum level in order to facilitate the development of the other sectors of the economy. Understanding this fact, Owoputi and Kanyio (2017) called the inability of the stakeholders to ensure that transportation contribute to the socio-economic development and growth a "dilemma". World Bank (World Resources Institute, 2004) also noted the three pillars of sustainable transport as:

- Economic and Financial Sustainability: This is concerned with economically and financially sustainable cost-effective transport and continuously responsive to changing demands.
- Environmental Sustainability: This assumes that transport has significant effects on the environment and these effects should be addressed explicitly in the design of programmes and the systems in general. This entails making better use of reliability and cost effective technology but not in itself sufficient. Thus, more strategic action is also required in form of long-term planning of land use and stricter management of demand and congestion changes to correct the relative prices of public transport.
- Social Sustainability: This is concerned with equity. It seeks transport strategies that provide the poor with better physical services. In addition, consumer satisfaction is ingredient in creating a social sustainable transport system.

In a similar vein, population growth, increased economic activity and growing incomes combine to generate higher demand for PTS which has some negative implications for development (Ugboaja, 2013). Consequently, it is unsurprising that a large body of research exists concerning quality of service in the transport sector (Redman et al. 2013).

The Public Transportation Service Quality (PTSQ) is expected to be high and considerable to the passengers in Kogi State. The PTSQ in Kogi State appears to be low. If PTSQ must be pursued, strategic, tactical and operational involvement must be considered. In their work, Barabino and Di Francesco (2016) regarded these involvements as levels, and discussed them as follows:

- Strategic Level: This level demands the involvement of all that are concerned about the transportation service quality. Barabino and Di Francesco (2016) categorized those that are concerned into current and potential users. This category of stakeholders is interested in the satisfaction of service desired, and as such bus operators must be interested in planning and providing a service subject to economic and social objectives. Other non-users like academics, policy makers and customer associations need more involvement in the quality process of transport service. This is strategic to establishing reliable transport service quality in Kogi State.
- Tactical Level: This level requires a small range of users' participation. The rationale behind this is to get things right in the transportation planning process. The opinion and contributions of these users alongside that of the NURTW is very much important to establishing a fair transport service quality.

- Operational Level: This level only requires the NURTW to constantly overhaul the transport service quality. The idea behind this is to ensure that the standard set by the union to ensure comfort of all passengers is not derailed. Satisfaction of passengers may be measured by way of questionnaire or interview; to know the status of transport service quality in Kogi State. Furth, Hemily, Muller and Strathman (2006) emphasized on the use of parameters (such as Archived Automatic Vehicle Location-AVL and Automatic Passenger Counter-APC) to enhance improved performance; establish perfect knowledge about transportation service quality and how passengers perceive it. Barabino and Di Francesco (2016) complained that regardless of any parameters used, transport service quality will still be measured in the NURTW oriented way.

Service quality is viewed in this study as a multidimensional construct. Similarly, Oña and Oña (2014) identified that a very large number of attributes have been used to evaluate service quality. Though, transport service quality is yet to receive a consensus regarding its dimensions. The study of Jen, Tu and Lu (2011) only mentioned that transport service quality is multilevel or hierarchical, and this appears to be inappropriate for analytical purpose.

Establishing a relationship between transport service quality and passengers' satisfaction is conceived very important. This follows the assertion of Oña and Oña (2014) that the relationship between transport service quality and passengers' satisfaction remains questionable. This may imply that the relationship between transport service quality and passengers' satisfaction is yet to receive research attention, and carrying out such research in Kogi State may be appreciated. In another vein, transport service quality and satisfaction may be drawn from the measure of value by the passengers. The monetary evaluation of the level of transport service quality may determine the extent of passengers' satisfaction under normal circumstances. Ogwude (2016) posited that transportation in Nigeria is largely an unregulated market and small scaled. There is need for the government to engage in the regulation of road transportation in Kogi State, Nigeria. This understanding may represent an important issue in developing policies to improve passenger's satisfaction and retention and to implement strategies aimed at producing a competitive advantage in service delivery. Felleson and Friman (2008) added that satisfaction is a key to future development of transport, both in theory and in practice. In transport research, satisfaction is sometimes touched upon from a policy perspective (Hensher, 2007).

Barabino and Di Francesco (2016) outlined the possible dimensions of PTSQ as desired quality, based on passenger's expectations; targeted quality set by Public Transport Companies (PTCs); delivered quality, that is, the quality of service provided by PTCs; and perceived quality, that is, passengers' subjective perception of service quality. It is important to note that the authors consider dimensions of PTSQ based on what was perceived at their end. Though, this is also a replica of an advance setting. For example, passengers in Anambra State in Nigeria expect that their comfortability be guaranteed by transport companies. Dabholkar, Shepherd and Thorpe (2000) had argued that 'the different dimensions of service quality (tangibles, reliability, responsiveness, assurance and empathy) represent antecedents to an overall evaluation of service quality'. Abdullah, Jan and Manaf (2012) also found that the dimensions of tangibility, reliability and assurance to be the most important in the evaluation of service quality by passengers. Satisfaction of passengers emerges when the passengers' expectations reached equilibrium with the delivered quality by PTCs (in terms of safety, convenience, reliability and so on). In the literature, aspects such as reliability, frequency, travel time and fare level (Hensher, Stopher and Bullock, 2003; Tyrinopoulos and Aifadopolou 2008), comfort and cleanliness (Eboli and Mazzulla, 2007), network coverage/distance to stop (Eriksson, Friman and Gärling, 2009; Tyrinopoulos and Antoniou 2008), and safety issues (Fellesson and Friman 2008) are considered important dimension of PTSQ. Reliability, service frequency, fare level, comfortability and safety are best measures of perceived PTSQ. Reliability in PTSQ may be in terms of good state of the commercial car and availability of transport service. Service

frequency has to do with easy accessibility of public transport. Thus, the question is how many times can average commercial car take turn without disappointment? The issue of fare level has to do with reasonable amount of money being paid by passengers (that is equivalently measured with their level of satisfaction). Comfortability in this study may mean convenience. The questions relating to comfortability are: how overloaded is the commercial car? Is there enough ventilation in the car? Is the car in good shape? Safety issue has to do with the speed limit of each driver, the shape of the road and the drug habit of the drivers.

Research Methods

Research survey design was adopted for the purpose of this study. The population of the study comprised of passengers of registered commercial cars in selected Local Governments (Ankpa, Idah, Bassa, Igalamela and Ibaji) in the Eastern Senatorial District of Kogi State. Breakdown of the study's population is given in the table below:

Table 1. Population Frame

S/N	Branches	Number of registered cars	Number of passengers in car	Total Population
1	Ankpa	480	6	2880
2	Idah	175	6	1050
3	Bassa	144	6	864
4	Igalamela	155	6	930
5	Ibaji	184	6	1104
Total		1138		6828

Source: NURTW, 2018

Table 1 shows that there are 480 registered commercial cars in Ankpa Local Government (with the expected passengers' population of 2880); 175 registered commercial cars in Idah Local Government (with the expected passengers' population of 1050); 144 registered commercial cars in Bassa Local Government (with the expected passengers' population of 864); 155 registered commercial cars in Igalamela Local Government (with the expected passengers' population of 930); and 184 registered commercial cars in Ibaji Local Government (with the expected passengers' population of 1104). The sample size of this study was determined from the population using the Minimum Returned Sample Size Table for Continuous and Categorical data propounded by Bartlett, Kotrlik and Higgins (2001). Thus, three hundred and sixty two (362) was used as the sample size of this study. The reason for choosing categorical data at a margin of error of probability of 0.05 (and $t = 1.96$) is because the margin of error shown is appropriate for this study. The researchers used multi-stage methods in selecting the sample size. Firstly, Bowley (1926)'s Proportional Allocation Method were used to categorize samples for the NURTW branches. The method is as follows:

$$n1 = \frac{n(n1)}{N} \quad (1)$$

Where n = Overall sample size; $n1$ = Sub-population or unit branch population; N = The Total Population.

Thus, registered commercial cars were allotted 152 questionnaires in Ankpa Local Government; 56 questionnaires in Idah Local Government; 46 questionnaires in Bassa Local Government; 49 questionnaires in Igalamela Local Government; and 59 questionnaires in Ibaji Local Government. A pilot study was conducted to test-run the validity of the study's instrument and

to detect flaws in the data collection process. To establish the instrument's reliability, the Cronbach Coefficient alpha (α) was used.

Table 2. Reliability of constructs

S/N	Constructs	Cronbach's Alpha	No of Items
Perceived Passenger's Satisfaction			
1	Transport service promptness	.711	2
2	Confidence and trust	.712	2
3	Transport service costs	.748	2
4	Safety assurance on transit	.725	2
Dimensions of PTSQ			
5	Reliability	.780	2
6	Service frequency	.820	2
7	Fare level	.753	2
8	Comfortability	.855	2
9	Safety	.788	2

Source: Field Survey, 2018

Table 2 shows the reliability results of constructs for both perceived passenger's satisfaction and PTSQ dimensions. The table shows transport service promptness ($\alpha= 0.711$); confidence and trust ($\alpha= 0.712$); transport service costs ($\alpha= 0.748$); safety assurance on transit ($\alpha= 0.725$); reliability ($\alpha= 0.780$); service frequency ($\alpha= 0.820$); fare level ($\alpha= 0.753$); comfortability ($\alpha= 0.855$); and safety ($\alpha= 0.788$). Zikmund, Babin, Carr and Griffin (2010) recommended that the estimate of a multiple-item scale with the coefficient of 0.70 and above should be considered reliable. With respect to this, all the constructs are reliable. Data were analyzed using descriptive statistics, Binary Logit Regression and Multiple Regression. Logit Regression provides empirical ground for estimating the effects of factors on the binomial dependent variable.

Data Analysis and Results

Table 3. Questionnaire administration

Questionnaire	Frequency	Percentage
Administered	362	100.00
Returned	292	80.66
Unreturned	70	19.34

Source: Field Survey (2018)

Table 3 indicates that 362 questionnaires (100%) were administered; 292 questionnaires (80.66%) were returned while 70 questionnaires (19.34%) were not returned. Based on the result, the study analyzed data on the returned questionnaires.

Table 4. Showing the demographic characteristics of respondents

Variables	Responses	Frequency	Percent
Years of PTS experience	Below 1 Year	16	5.5
	1-2 Years	12	4.1
	3-4 Years	21	7.2
	5-6 Years	88	30.1
	7-8 Years	92	31.5
	9-10 Years	51	17.5
	Above 10 Years	12	4.1
	Total	292	100.0

Table 4 (cont.)

Sex	Male	188	64.4
	Female	104	35.6
	Total	292	100.0
Marital status	Single	74	25.3
	Married	138	47.3
	Divorced	48	16.4
	Widow	13	4.5
	Widower	19	6.5
	Total	292	100.0
Level of education	No formal education	9	3.1
	Primary education	38	13.0
	Secondary education	156	53.4
	Tertiary education	89	30.5
	Total	292	100.0

Source: Field Survey, 2018

The Table 4 shows that 16 respondents (5.5%) have the experience below 1 year; 12 respondents (4.1%) have the experience of 1 to 2 years; 21 respondents (7.2%) have the experience of 3 to 4 years; 88 respondents (30.1%) have the experience of 5 to 6 years; 92 respondents (31.5%) have the experience of 7 to 8 years; 51 respondents (17.5%) have the experience of 9 to 10 years; and 12 respondents (4.1%) have the experience above 10 years. It is posited that majority of respondents in the study area has the experience of 7 to 8 years in PTS.

Table 4 shows that 188 respondents (64.4%) were male; and 104 respondents (35.6%) were female. The implication of this is that majority of respondents in the study area were male.

Table 4 shows that 74 respondents (25.3%) were single; 138 respondents (47.3%) were married; 48 respondents (16.4%) were divorced; 13 respondents (4.5%) were widow; and 19 respondents (6.5%) were widower. The implication of this is that majority of respondents in the study area were married.

Table 4 shows that 9 respondents (3.1%) have no formal education; 38 respondents (13.0%) were primary education certificate holders; 156 respondents (53.4%) were secondary education certificate holders; and 89 respondents (30.5%) were tertiary education certificate holders. Majority of respondents in the study area were secondary education certificate holders.

Table 5a. Showing descriptive statistics of factors influencing passenger's satisfaction

Factors	N	Minimum	Maximum	Mean	Std. Deviation
Lack of coherent transportation	292	1.00	3.00	2.1336	.66785
Unpleasant transport policy	292	1.00	3.00	2.3253	.62064
Weak transport management	292	1.00	3.00	2.2534	.67158
Use of obsolete facilities	292	1.00	3.00	2.3253	.66862
Bad roads due to lack of maintenance	292	1.00	3.00	2.2432	.64679
Transport service failure	292	1.00	3.00	2.2192	.69355
Insufficient communication	292	1.00	3.00	1.5788	.79342
Unruly attitude of drivers	292	1.00	3.00	2.0240	.77511
Past experience of passenger	292	1.00	3.00	2.2671	.73490
Personal needs of passenger	292	1.00	3.00	2.3459	.75996

Source: Field Survey, 2018

Table 5a indicates that lack of coherent transportation (mean=2.1336; standard deviation = 0.66785), unpleasant transport policy (mean=2.3253; standard deviation = 0.62064), weak transport management (mean= 2.2534; standard deviation = 0.67158), use of obsolete facilities (mean= 2.3253; standard deviation = 0.66862), bad roads due to lack of maintenance (mean= 2.2432; standard deviation = 0.64679), transport service failure (mean= 2.2192; standard deviation = 0.69355), insufficient communication (mean= 1.5788; standard deviation = 0.79342), unruly attitude of drivers (mean= 2.0240; standard deviation = 0.77511), past experience of passenger (mean= 2.2671; standard deviation = 0.73490), and personal needs of passenger (mean= 2.3459; standard deviation = 0.75996) were factors influencing passengers' satisfaction. Unpleasant transport policy, use of obsolete facilities and personal needs of passenger are selectable factors that have the most critical influence on passengers' satisfaction. Weak transport management, bad roads due to lack of maintenance, transport service failure and past experience of passenger have medium or less critical influence on passengers' satisfaction. Unruly attitude of drivers and insufficient communication have the least critical influence on passengers' satisfaction.

Table 5b. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.706
Bartlett's Test of Sphericity	Approx. Chi-Square	2233.682
	Df	45
	Sig.	.000

Source: Field Survey, 2018

Table 5b shows that the Bartlett's Test of Sphericity ($p < 0.01$) and the Kaiser-Meyer-Olkin (KMO) measures of sampling adequacy index (with the value of 0.706) confirms that the data fit in for the Principal Component Analysis (PCA). The KMO value of 0.706 is closer to 1, and it is believed to be a good one. Therefore, the KMO end result is considered important and sufficient enough. The simple implication of Bartlett's Test of Sphericity ($p < 0.01$) is that the correlation matrix significantly varies from identity matrix (in which the correlation among variables is equal to zero).

Table 5c. Communalities

Factors	Initial	Extraction
Personal needs of passenger	1.000	.557
Past experience of passenger	1.000	.934
Unruly attitude of drivers	1.000	.803
Insufficient communication	1.000	.842
Transport service failure	1.000	.855
Bad roads due to lack of maintenance	1.000	.822
Use of obsolete facilities	1.000	.731
Weak transport management	1.000	.874
Unpleasant transport policy	1.000	.578
Lack of coherent transportation	1.000	.711
Extraction Method: Principal Component Analysis		

Source: Field Survey, 2018

Table 5c indicates that the communalities analysis of variables (in which each of the variable has the value above 4%). Communalities show the relationship between the variable and all other variables. For principal component extraction, the initial communalities value is always equal to 1.0 for correlation analyses. Extraction communalities are estimate of the variance in each variable accounted for by the components. The Table 5c shows the communalities for

personal needs of passenger (0.557), past experience of passenger (0.934), unruly attitude of drivers (0.803), insufficient communication (0.842), transport service failure (0.855), bad roads due to lack of maintenance (0.822), use of obsolete facilities (0.731), weak transport management (0.874), unpleasant transport policy (0.578) and lack of coherent transportation (0.711) are all high. Since the values are more than 0.4 (4%), it is a sign that the extracted components represent the variables very well.

Table 5d. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.844	48.441	48.441	4.844	48.441	48.441
2	1.617	16.172	64.613	1.617	16.172	64.613
3	1.245	12.447	77.060	1.245	12.447	77.060
4	.859	8.594	85.654			
5	.491	4.908	90.563			
6	.360	3.602	94.164			
7	.249	2.488	96.653			
8	.157	1.570	98.222			
9	.116	1.159	99.381			
10	.062	.619	100.000			

Extraction Method: Principal Component Analysis.

Source: Field Survey, 2018

In Table 5d, the 'Total' column illustrates the amount of variance in the original variables accounted for by each component. The % of variance column gives the exact ratio, which is expressed as a percentage of the variance accounted for by each of the component to the total variance in all of the variables. The cumulative % column gives the percentage of variance accounted for by the first n components. The table above indicates that the first, second and third factors have the Eigenvalue value of 4.844; 1.617; and 1.245. The value is equal or greater than 1, and this shows more variance. The percent of the explained variance are 48.441; 16.172; and 12.447. Other factors ranging from 4 to 10 have Eigenvalue value less than 1. Therefore, they are explained as lesser variance.

Table 6. Binary Logit Regression Model of Factors Affecting the Expectation of Passengers in PTS in Kogi State

Variable	Beta coefficient	Std. Error	Wald statistic: significance
(Constant)	-1.328		.001
Lack of coherent transportation (X_1)	.300	.377	.000
Unpleasant transport policy (X_2)	.429	.117	.000
Weak transport management (X_3)	.532	.107	.003
Use of obsolete facilities (X_4)	-.002	.179	.988
Bad roads due to lack of maintenance (X_5)	-.692	.114	.000
Transport service failure (X_6)	.605	.131	.000
Insufficient communication (X_7)	-.820	.071	.000
Unruly attitude of drivers (X_8)	.497	.116	.000
Past experience of passenger (X_9)	.075	.123	.543
Personal needs of passenger (X_{10})	.200	.123	.010

Table 6 (cont.)

Model Fitting Information			
Model	-2 Log Likelihood	Chi-Square	Sig.
Intercept Only	773.871		
Final	264.593	509.278	.000
Goodness-of-Fit			
	Chi-Square	Df	Sig.
Pearson	1497434.702	204	.000
Deviance	253.620	204	.010
Pseudo R-Square			
Cox and Snell			.825
Nagelkerke			.881
McFadden			.632

Source: Field Survey, 2018

The Binary Logit Regression on the Table 6 shows lack of coherent transportation (0.300; $p=0.01$), unpleasant transport policy (0.429; $p=0.01$), weak transport management (0.532; $p=0.01$), use of obsolete facilities (-0.002; $p>0.05$), bad roads due to lack of maintenance (-0.692; $p=0.01$), transport service failure (0.605; $p=0.01$), insufficient communication (-0.820; $p=0.01$), unruly attitude of drivers (0.497; $p=0.01$), past experience of passenger (0.075; $p>0.05$) and personal needs of passenger (0.200; $p=0.01$).

Lack of coherent transportation, unpleasant transport policy, weak transport management, transport service failure, unruly attitude of drivers and personal needs of passenger are observed to be having positive relationship with the expectation of passengers in PTS in Kogi State. For instance, results show that 30% increase in lack of coherent transportation will bring about proportional increase in the expectation of passengers in PTS; 42.9% change in unpleasant transport policy will cause proportional change in the expectation of passengers in PTS; 53.2% increase in weak transport management will cause proportional increase in the expectation of passengers in PTS; 60.5% increase in transport service failure will amount to the same increase in the expectation of passengers in PTS; 49.7% increase in unruly attitude of drivers can lead to almost the same increase in the expectation of passengers in PTS; and 20% change in personal needs of passenger will often account for proportional change in the expectation of passengers in PTS. Apart from weak transport management, transport service failure and unruly attitude of drivers (with significantly strong relationship), other factors appear to have weak significant influence on the expectation of passengers in PTS. However, past experience and personal needs of passengers are too weak factors that influence the expectation of passengers in PTS in Kogi State.

Furthermore, 69.2% increase in bad roads due to lack of maintenance will bring about almost the same proportional decrease in the expectation of passengers in PTS; and 82% change in insufficient communication will inversely bring about proportional change in the expectation of passengers in PTS in Kogi State. These factors have significantly negative relationship with the passengers' expectation in PTS. Meanwhile, factors such as use of obsolete facilities and past experience of passengers have no significant relationship with the expectation of passengers in PTS in Kogi State.

The Logit Analysis procedure (in table 6) shows the Pearson goodness-of-fit chi-square ($\chi^2=1497434.702$) which tested the null hypothesis. From the result, it appears that the model adequately fits the data. The assumption of equal slopes across factor levels is reasonable. Cox and Snell $R^2 = .825$ has the theoretical value of less than 1.

Cox and Snell's Pseudo R^2 shows 0.825 based on the log likelihood for the model. The theoretical maximum value is below 1, which is a sign of a good model. Nagelkerke's Pseudo

R^2 shows 0.881. This is an improvement over Cox and Snell's Pseudo R^2 that adjusted the scale of the statistic to cover the full range from 0 to 1. McFadden's Pseudo R^2 shows 0.632; which is based on the log-likelihood kernels for the intercept-only model and the full estimated model. Generally, the pseudo R-squared statistics are all above 50%; the implication of this is that the model fits the data well. However, the Nagelkerke's Pseudo R^2 of 0.881 is chosen. This implies that 88.1% of the variation in the expectation of passengers in PTS in Kogi State is explained by the predictor variables. The remaining 11.9% of the unexplained variation indicates that there are other predictor variables that can account for the variation in the expectation of passengers in PTS in Kogi State.

Table 7. Multiple Regression Model

S/N	Variables	Standardized Coefficients		F	Sig.
		Beta	Std. Error		
(X ₁)	Perceived Unreliability of PTS	-.366	.150	5.960	.003
(X ₂)	Service Frequency	-.021	.147	.020	.888
(X ₃)	Fare Level	.247	.056	19.767	.000
(X ₄)	Comfortability	.752	.083	81.135	.000
(X ₅)	Perceived Safety Uncertainty	-.219	.178	1.509	.220
F-Statistics (Sig. - 0.001)			222.737		
Adjusted R Square			.842		
R Square			.846		
Multiple R			.920		

Source: Field Survey, 2018

Table 7 shows the coefficients of perceived unreliability of transportation service ($\beta = -0.366$; P-value = .003), service frequency ($\beta = -0.021$; P-value = 0.888), fare level ($\beta = 0.247$; P-value = .001), comfortability ($\beta = 0.752$; P-value = .001) and perceived safety uncertainty ($\beta = -0.219$; P-value = 0.220). It is observed that perceived unreliability of transportation service, fare level and comfortability are statistically significant. Thus, 36.6% change in perceived unreliability of transportation service will bring about significantly negative proportional change in the satisfaction of passengers in Kogi State; 24.7% change in fare level will bring about significantly positive proportional change in the satisfaction of passengers in Kogi State; and 75.2% change in comfortability will bring about significantly positive proportional change in the satisfaction of passengers in Kogi State. Service frequency and perceived safety uncertainty have no significant relationship with the perceived satisfaction of passengers in Kogi State. The Multiple Coefficient of Determination ($R = 0.920$) in Table 7 indicates strong linear relationship between the variables. The coefficient of determination ($R^2 = 0.846$) shows the spread of data on the regression line. The R-square indicates that 84.6% variation in the perceived satisfaction of passengers in Kogi State is explained by the predictor variables (such as perceived unreliability of transportation service, service frequency, fare level, comfortability and perceived safety uncertainty). The remaining 15.4% shows that there are other variables that account for variations in the perceived satisfaction of passengers. The F-Statistics (222.737) gives strong confidence about the model. Therefore, perceived unreliability of transportation service, service frequency, fare level, comfortability and perceived safety uncertainty generally have significant effects on the perceived satisfaction of passengers in Kogi State.

Discussion of Findings

Findings show that lack of coherent transportation, unpleasant transport policy, weak transport management, use of obsolete facilities, bad roads due to lack of maintenance, transport service failure, insufficient communication, unruly attitude of drivers, past experience of passenger, and personal needs of passenger are factors affecting public transport service's satisfaction. However, unruly attitude of drivers is found to be the strongest factors affecting public transport service's satisfaction in Kogi State. Perceived passenger's satisfaction are attached to transport service time expected, behavior of drivers that provides passengers with confidence and trust, low transport costs and assurance of safety on transit. Out of these factors, passengers give credence to assurance of safety on transit as a trigger to their satisfaction.

Findings show that perceived unreliability of transport service, fare level and comfortability significantly relate with the perceived satisfaction of passengers in Kogi State. The relationship between perceived unreliability of transport service and the perceived satisfaction of passengers in Kogi State seems to be negative based on the coefficient value of -0.366 (that is, 36.6%). This advances the assertion of Burböck (2014) that reliability of transport service influences the satisfaction of passengers. When the fare level increases by 24.7%, the satisfaction of passengers in Kogi State is also expected to increase in almost the same percentage. This implies that drivers or transportation companies seem to pursue passengers' satisfaction, having known that the passenger will want value for their money. In addition, the comfortability of passengers during the PTS also positively influences their satisfaction level. Service frequency and perceived safety uncertainty have no significant relationship with the perceived satisfaction of passengers in Kogi State. On the general note, the variation in the satisfaction of passengers in Kogi State is significantly explained by unreliability of transportation service, fare level and comfortability. This aligns with the position of Morton *et al.* (2016) that all the factors are linked to passengers' satisfaction.

Conclusions and Recommendations

There are some variables that the users of PTS are considering for their satisfaction. Few of these variables are reliability of the PTS, considerable fare level, comfortability, service frequency and safety. It is empirically evident that only reliability of transport service, fare level and comfortability significantly influence the satisfaction of passengers in Kogi State. The scientific investigation proves that unreliability of transport service has negative influence on the satisfaction of passengers in Kogi State; but fare level and comfortability of passengers have positive effects on the satisfaction of passengers in Kogi State. It is deduced that the low satisfaction of passengers in Kogi State is a reflection of unreliable transport service in the state. Meanwhile, the fare level and comfortability in PTS have not been compromised to a reasonable extent. This accounts for the reason why passengers have not raised serious issues regarding satisfaction; relating to fare level and comfortability in PTS. For instance, a comfortable passenger is likely to be satisfied with the PTS, and increased fare level may be coupled with additional services that passengers find beneficial.

However, the expectation of passengers in PTS in Kogi State seems to be marred by some factors. For instance, the empirical investigation shows that lack of coherent transportation, unpleasant transport policy, weak transport management, transport service failure, unruly attitude of drivers and personal needs of passenger affect the expectation of passengers in PTS in Kogi State. The more the level of incoherent transportation the higher the expectation of passengers in PTS; the more unpleasant the transport policy is the more the expectation of passengers in PTS; the more transport management becomes weak the more the expectation of passengers in PTS; when there is continuous transport service failure the expectation of

passengers becomes higher; the more the unruly attitude of drivers increase the more the passengers seek redress in the attitude of drivers; and change in personal needs of passenger has often brought about change in the expectation of passengers in PTS. Increasing bad roads due to lack of maintenance is attributed to decreased expectation of passengers. The fact is that passengers are aware that the drivers have little or no control over the bad road network in Kogi State.

Based on the findings of the study, the following recommendations are made:

- Drivers/transportation companies should ensure reliable transport service, moderate fare level and boost comfortability in order to achieve the satisfaction of passengers in Kogi State. The more reliable the PTS, the more likely the sustainability of the satisfaction of passengers in Kogi State. Considerable fare level can facilitate the satisfaction of passengers in Kogi State. If passengers' comfortability is guaranteed, there is likelihood that their satisfaction level will skyrocket.
- Lack of coherent transportation should be minimized by the drivers, unpleasant transport policy should be aborted by the NURTW, transport management should be strengthened by the transportation companies/drivers, transport service success should be pursued by the companies/drivers, drivers should avoid unruly attitude and passengers should put their needs moderate in Kogi State.

Limitations of the Study

The study faced no serious limitations. This is because the passengers were keen to express the level of their satisfaction regarding PTSQ in Kogi State. Ethical issues were addressed through anonymity of respondents. The only observed limitation was unplanned breakdown of cars of already served drivers. This was addressed given the list of registered cars and their contact. The researchers patiently administered the questionnaires. In the case where the broken car took too long to be revived, the questionnaires shared were disbanded from the study.

Suggestions for Further Study

In the course of the study, some findings seem to be against the a-priori expectation of the study. Based on this, future studies need to be conducted to affirm these findings.

- Studies should be conducted to investigate the effect of perceived comfortability on passengers' satisfaction with respect to Public Transport Service Quality in Kogi State. Equally, the difference between perceived comfortability and expected comfortability in Public Transport Service Quality in Kogi State should be investigated.
- There is need to investigate 'assurance of safety on transit' as a trigger of passengers' satisfaction in the PTS in Kogi State.

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