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Influence of road transport quality on urban dwellers' satisfaction

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ABSTRACT

BACKGROUND AND OBJECTIVES: The significance of road mobility in any nation cannot be far-fetched or beyond economic purpose, spatial interaction and social integration. It contributes enormously to the livelihood of human existence most especially by facilitating regional complementarity of trade, intervening opportunities, and spatial transferability. The objective of this study was to examine the influence of road transport quality on urban dwellers' satisfaction in Kogi state, Nigeria.

METHODS: The study adopted a survey research design and systematic sampling method to elucidate primary data through questionnaire from 1215 respondents.

FINDINGS: It was revealed that the status of the road network has an influence on the transport rate charge per trip at a correlation value of 0.998 and significant value of 0.000; and on the comfort derived from the passengers at correlation value of 0.545 and significant value of 0.000. The provision of transport scheme has an influence on the transport rate charge per trip at the correlation value of 0.905 and significant value of 0.000; and on the quality of road transport comfort at a correlation value of 0.523 and significant value of 0.000. The timely response of road maintenance and sub road infrastructure maintenance has an influence on the transport rate charge per trip at a correlation value of 0.545 and significant value of 0.000; and on the quality of road transport comfort at correlation value of 0.912 and significant value of 0.000. The communication link between the agencies in charge of road transport and the people in the study area influences the compliance of road transport operators with road safety rules and regulations at a correlation value of 0.565 and significant value of 0.000.

CONCLUSION: The condition of the vehicle has a great impact on the level of comfort.

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INTRODUCTION

There have been issues that surround the elongation of systems and components that enhance the livelihood of the human being. The systems are energy supply system, water supply system, medical system, sewage disposal system, and transportation system. Also, the damage or disruptions that are attributed to the systems are predominant during natural disasters, such as heavy rainfall, earthquakes, and storms. Among the systems is the transportation system which is the life-wire of any nation because it shoulders and catalyzes the socio-economic and political development of the nation. In the study conducted by Hopkins *et al*., (1991), it was identified that the transportation system is the most crucial lifeline system because it restores the majority of the other lifeline systems. This study dwells more on road transportation which is among the modes of the transportation system. The modes of transportation available to urban dwellers in Kogi state, Nigeria include road and water transportation. The transport service operating in the area can be categorized into a public passenger bus that is operated and managed by both private and public service providers; private hired vehicles that range from buses to three-wheeler vehicles; personal vehicles such as motor cars among others; cycling and walking. It is pertinent to note that the last category is the policy direction of most developed countries in the actualization of sustainable living because of its significance to health and the environment. The dominant mode of public transport operation in Kogi state is the public transport service which is both managed by the public and private sector. The officials of the sector are saddle with the responsibility of ensuring adequate safety of passengers and vehicles used for transport service operation to ensure the safe, reliable, adequate, accessible, and acceptable standard. Despite the various structural and systemic transformations in the public passenger transport service in the past, road transport has been well criticized concerning quality. It is important, to note that passengers' care, passengers' safety, bus service availability, timeliness of bus service, cleanliness, attitudes of the staff, and frequency of bus service are the main areas that had to generate criticisms, which may not have been properly communicated electronically (Olorunfemi, 2020). At the micro-level, there is a need to accurately measure the quality of road transport to understand its variations amongst the various indices all through the service. Among the options available to measure road quality, customer (passenger) satisfaction is widely used in modern research since it has a direct link with the demand for the road transport service and road situation. When passenger satisfaction level is perceived as an alternative to passenger welfare level, an increment in the level of passenger satisfaction will result in a corresponding increase in the level of passenger welfare for individual passengers that experienced the road transport service (Johnson *et al.,* 2001). In Kogi state, virtually all the urban dwellers that are also the passengers of the public transport have various experiences about the situation of road quality and how it has affects their welfare most especially when plying the road. Quality of service can be made clear in several dimensions. In the traditional perspective, quality is measured/ captured based on tangible criteria. Since the judgment of customers was identified to be more pertinent in the quality assessment, the quality was perceived based on the urban dwellers' perspective (Paraskevas, 2001). Furthermore, there seems to a shift from capturing quality measurement from the single indicator to measuring quality on the totality of indicators or dimensions, which may not have properly given enough clues to the policymakers and analysts. To address this issue, there is a need for policymakers to address the assessment of quality from the series or breakdown of quality dimensions (Olorunfemi and Adeniran, 2019). It can be noted that the perception of quality by urban dwellers gives room for identification of pertinent areas of road network attributes that needs urgent attention because of dissatisfaction. Therefore, this study is carried out to address the issues associated with the improvement of road transport quality and aimed to examine the influence of road transport quality on urban dwellers' satisfaction in Kogi state, Nigeria. To achieve this, the road transport attributes and the drivers of satisfaction that should be prioritized for enhancing urban dwellers' satisfaction were identified. The results that emanate from this study will be significant for improving the quality of road transport from urban dwellers' judgment.

Literature review

Conventionally, service quality was determined based on financial performance and other physical performance criteria using single or simplistic

approaches in line with the organizational scope. Paraskevas (2001) observed that with time, service in its entirety became customer-oriented. Amid the recent trend, attributes of service that are required for customer attraction were embedded in the measure of service quality. In the present time, service quality is extensively measured with performance analysis on a multi-dimensional scale from the customer angle (Mosahab *et al*., 2010). In several related studies, the construct of service quality has been defined concerning user-based assessment to determine the extent to which service is being dished out while measuring the service level (Caruana, 2002).In this study, the satisfaction of road transport quality is measured on a Likert-scale. Urban dwellers, being the customers of the transport services most especially in the urban areas are expected to possess several service attributes from the quality of road transport they use. According to Oliver (1980), a conceptual basis for explaining the satisfaction was provided. This is similar to the approach that an individual's perceived future events, they will establish perceptions concerning the quality of products or services that they intended to purchase. In this study, urban dwellers will establish perceptions concerning the quality of road transport infrastructures. When urban dwellers purchase road transport service, the psychological phenomenon dictates their realized perceptions with their preconceived expectations. Given this, the perceived quality of the services procured is a confirmation of the contradiction of the preconceived expectations. It can be stated that psychological satisfaction predominantly emanates when expectations are met during the use of road transport. When urban dwellers are satisfied with the level of road transport quality, they are likely to be frequent on the road. In a situation where there are no substitutes for a particular road transport network, urban dwellers that are dissatisfied may continue to ply the same infrastructure even if they feel that the quality of that road is good or bad. Nevertheless, when the road transport is constructed by the public sector, the infrastructure can be concessioned to the private stakeholders for management to enhance the long life span of the road infrastructure and increase the welfare of the urban dwellers (Olorunfemi, 2020). Parasuraman *et al*., (1985) initiated the service quality (SERVQUAL) model or gap model and later several marketing researchers applied the model in their research. Shahin and Samea (2010) argued that there is no need to get the gap scores from expectation-perception analysis because the perception is well definable and comprehensive to explain the opinion of customers. Virtually, it is more expedient for the researcher to consider only the perception of road transport quality. This study adopts only the perception of urban dwellers on assessing road transport quality. Urban dweller satisfaction is captured by the nature of the road network (Road condition), timely response to the maintenance of the road and sub road infrastructure, provision of transport scheme, communication link between the agency in charge of road transport, and the people. Quality of road transport is captured by the level of safety, comfortability, availability of seat, time delay at the park, overloading and over speeding, condition of the vehicle, compliance with road safety rules and orders, and cost charge per trip. The interconnectivity model revealed in Fig. 1 depicts the indicators or attributes of urban dwellers' satisfaction and road transport quality side-by-side. According to this model, there are four main drivers of urban dwellers' satisfaction in Kogi state, and there are eight main drivers of road transport quality.

Furthermore, this model will be analyzed based on each attribute for specific constructs. Questions were generated based on the attributes of the two constructs, and the relationships will be established on the aggregated and disaggregated levels. The attributes will be identified and analyze with survey data.

Empirical review

Previous studies on the quality of transport were established based on the SERVQUAL model and quantitative and qualitative research in several countries of the world either developed or developing. The construct of service quality has been appraised majorly based on five different service dimensions which are: reliability, assurance, tangibles, empathy, and responsiveness (RATER) (Ramseook-Munhurrun *et al*., 2010). Research pieces of evidence revealed that the study on service quality enhances the policymakers to take a vibrant decision that will better the sustainable livelihood. The study of Le-Klahn (2012) conducted in Germany revealed that passengers were mostly satisfied with service reliability, service punctuality, the network connection of service, and frequency of service in public transport. Also, the passengers were dissatisfied with the service and attitude of staff,

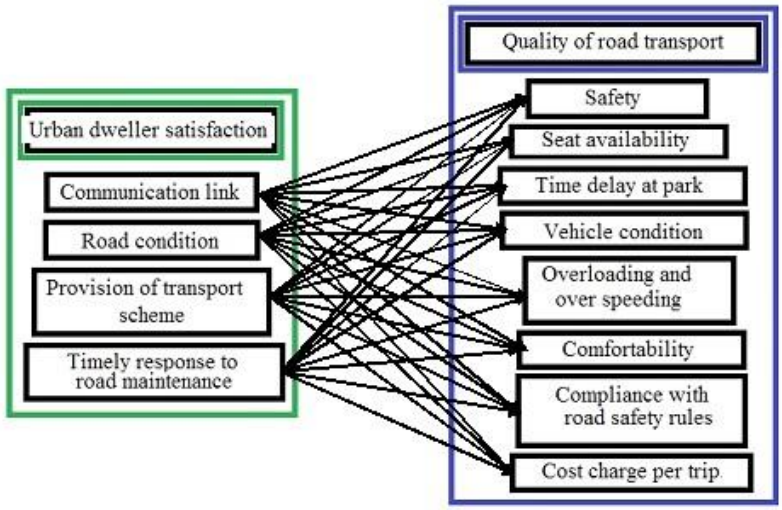

Fig. 1: The interconnectivity model of urban dwellers' satisfaction and road transport quality (Olorunfemi and Adeniran, 2020

comfort at the bus terminal, and the bus ticket price. The study of Antonucci *et al*., (2014) conducted in Italy revealed that service punctuality, service regularity, waiting time, the safety of operation, reliability of operations; comforts accrued during service offering, cleanliness, staff professionalism and courtesy were significant factors of passenger satisfaction. The study of Barabino *et al.,* (2012) in Italy identified that cleanliness, On-board security, frequency, bus-reliability are more crucial in determining the level of service quality. The study of Kostakis and Pandelis (2009) in Greece also found that safety, personnel service, bus interior service, time, availability, and the frequency of routes are highly important that influence customer satisfaction in urban transport. In the United States of America, Transportation Research Board (1995) analyzed that some service attributes such as attitude and courtesy of bus drivers, seat availability, bus safety, bus availability, bus accessibility, and justification of bus fares concerning the service rendered. The study of Hossain *et al*., (2012) in Dhaka found that waiting time and the level of comfort are the main factors that influence passengers' shift from public to private bus transport service. The study of Kamaruddin *et al.,* (2012) in Malaysia found that passengers' expectations of public transport services are largely attributed to safety. In the studies of Kumarage (2004) and Dhingra (2011), it was revealed that some developing cities were faced with the deteriorating quality of public transport services which made passengers shift from considering public transport to private vehicles. The study of Govender (2014) found that the improvement of perceived service dimensions can result to increase in the demand for public buses and a reduction in the use of private motor cars. The study of Morton *et al.,* (2016)found that perceived convenience, frequency of service, bus availability, bus stability and bus reliability have a significant positive explanation on perceived satisfaction. The studies reviewed above are studies carried out in developed countries, there is a need to review some studies carried out in the developing countries as it mostly associates with this study. The study of Sabir *et al*., (2014) in Pakistan investigated the quality of transport and found that empathy of bus staff has the strongest positive relationship with customer satisfaction. The study of Nwachukwu (2014) in Nigeria found that comfort, accessibility, adequacy, and bus terminal facilities had the most significant impact on the overall passengers' satisfaction based on the following rank (1st, 2nd, 3rd, and 4th) respectively. Conversely, the attributes identified may be different concerning country norms, social characteristics, and policy directions. Despite the few scholarly articles on urban dwellers' satisfaction in Kogi state, Nigeria, Akeem *et al*., (2020) investigated public transport service and passengers' satisfaction in Kogi State using a descriptive and binary logit regression model. Their study found that perceived unreliability of transportation service, fare level, and comfortability are significantly related to the perceived satisfaction of passengers. Therefore, while pointing out the research gap, the literature review confirms the pertinence of

improving the quality of road transport. This study is a bit different as it delved into road transport quality based on infrastructures. The current study has been carried out in the nine listed urban centres (Adavi, Okenne, Ankpa, Dekinna, Mopa-Amuro, Kabba/Bunu, Lokoja, Ajaokuta, and Bassa) in Kogi state, Nigeria between2018 and 2020.

MATERIALS AND METHODS

Kogi State, Nigeria was carved out of Kwara State and Benue State in 1991 and is one of the major States in the Central Region of Nigeria with a population of 3,314,043. Kogi State is located between latitudes $7^{o}3^{0}1N$ - $7^{o}521N$ and longitudes $6^{o}381E$ – $6^{o}421E$. Kogi State consists of twenty-one (21) local government areas and these are Adavi, Ajaokuta, Ankpa, Bassa, Dekina, Ibaji, Idah, Igalamela-Odolu, Ijumu, Kabba/ Bunu, Koton-Karfe, Lokoja, Mopa-Muro, Ofu, Ogori/ Magongo, Okehi, Okene, Olamaboro, Omala, Yagba East and Yagba West (Fig. 2).The modes of transportation in the state include road and water transportation. For this study, the following urban centres which also the Local Government headquarters in the State have been selected for the study. These are Adavi, Ajaokuta, Okenne, Lokoja, Kabba-Bunu, Mopa-Muro, Ankpa, Bassa and Dekinna. The reasons for choosing these locations are:

i. They are the principal and major urban centres in the state;
ii. They are the hub of economic and commercial activities; and
iii. They generate huge passengers and cargo traffic due to the presence of high commercial activities.

The research relied on both primary and secondary data sources. The primary data sources used to consist of personal observation and questionnaire administration. The secondary data used was the population census figure of Kogi State sourced from the Population Census Commission in Lokoja. To determine the sample size for the research, the population census results of 2006 of the selected urban centres in the study area were determined and put at 1,717,087 (National Population Commission, 2006). This was projected to 2017 at a growth rate of 2.8%; this amount to 2,321,140 from which 1,658 of the household heads were sampled as shown inTable 1.

From Table 1 above, it was noted that 1215 questionnaires were retrieved from the sample respondents. This implies that a total of 1215 (One thousand, two hundred and fifteen) households head were sampled for the study using a systematic sampling method. The data were presented using descriptive statistics. The variables considered in the study were measured on a five-point Likert scale. Primary data was used to achieve the correlation coefficient which will enhance interconnections between variable constructs.

RESULTS AND DISCUSSIONS

From Table 2, the satisfaction attributes are SA1 (road network status), SA2 (provision of transport scheme), SA3 (timely response to the maintenance of road and sub road infrastructure), and SA4 (communication link between the agencies in charge of road transport and the people in the study area). Also from in Table 2, the quality of service attributes are QA1 (compliance with road safety rules and others), QA2 (cost charge per trip), QA3 (overloading and over-speeding), QA4 (condition of the vehicle), QA5 (comfortability), QA6 (availability of seat), QA7 (time delay at the park), and QA8 (safety).

From the analysis in Table 2, one thousand two hundred and fifteen (1215) respondents reacted successfully to the questionnaires distributed for data analysis and reporting. It was revealed that the satisfaction of urban dwellers regarding the status of the road network has an influence on the transport rate charge per trip at R: 0.998 and *p. value*: 0.000. Also, the satisfaction of urban dwellers regarding the provision of transport scheme has an influence on the transport rate charge per trip at R: 0.905 and *p. value*: 0.000. The satisfaction of urban dwellers regarding the timely response of road maintenance and sub road infrastructure maintenance has an influence on the transport rate charge per trip at R: 0.545 and *p. value*: 0.000. This implies that the level of road condition or status of road condition, provision of transport scheme, and timely response of road maintenance and sub road infrastructure maintenance are crucial determinants when setting the transport rate. According to Bennett and Greenwood (2001); Thagesen (1996), the status of the road network of road condition is the nature of vertical and horizontal alignment of the road surface, the type of road surface, road roughness, road-width and sight distance. This corroborates the study of Berdica *et al*., (2003) which adopt Paramics model to examine the effect of shutting down a part of the road

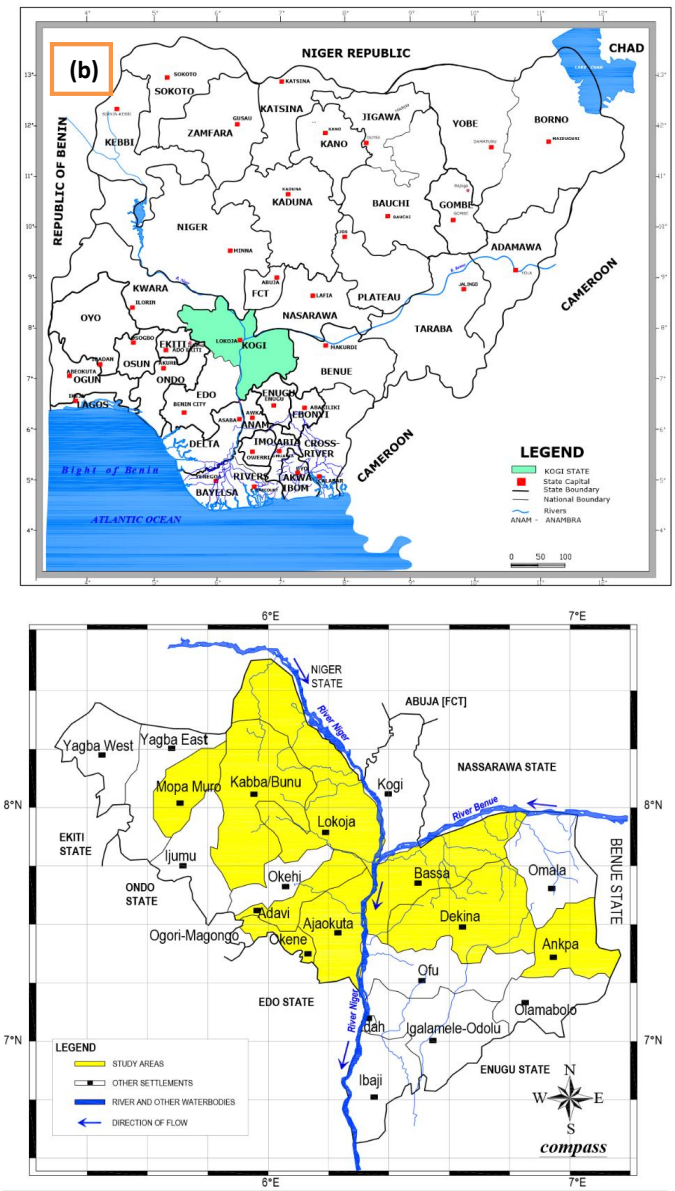

Fig. 2: Geographic location of the study area in Kogi State (a) Geographic location of Kogi State in Nigeria (b) Geographic location Showing Selected Urban Centers (MWUD, 2018)

network in Christchurch, New Zealand for a short term on transport rate of other alternative networks that will experience higher demand of traffic and public increment in the fares of public transport. It is pertinent to note that transport rates are the price (usually monetary) of transportation services that are paid by transport users for moving a passenger or a unit of freight from a specific origin and destination (Adeniran, 2016; Jean-Paul *et al.*, 2006). The effect of road condition, transport scheme provision, and the response of road maintenance on transport rates alone may not be well identified but will have a significant effect on the transport costs as the poor road condition causes significant loss on the side of the transport service provider. Transport cost covers the monetary measure that a transport provider must incur tomake transport service realizable. It may be in the form of fixed costs on infrastructure, and variable costs on operation and

Table1: Projected Population of selected Urban Centers in Kogi State from 2006-2017

S/N	Name of Settlements	X1 2006 Population Figure	X2 2017 Projected Population Figure	X4 Household Heads to be Sampled	X6 0.005% of Household Heads (Sample Size)	X7 Number of Questionnaires Received
1	Adavi	217,219	294,332	10,512	210	150
2.	Okenne	325,623	434707	15,525	311	205
3	Ankpa	266,176	360,668	12,881	258	200
4	Dekinna	260968	353,612	12,629	253	195
5	Mopa-Amuro	43,760	59,295	2,117	42	35
6	Kabba/Bunu	144,579	195,905	6,997	140	80
7	Lokoja	196,643	266,451	9,516	190	150
8	Ajaokuta	122,432	165,895	5,925	119	100
9	Bassa	139,687	189,276	6,761	135	100
	Total	1,717,087	2,321,140	82,863	1,658	1, 215

X1 - National Population Commission 2006; X2, X3, X4 and X5 - Author's Computation, 2018

Table 2: Correlations between satisfaction and quality of service

		QA1	QA2	QA3	QA4	QA5	QA6	QA7	QA8
SA1	Pearson Correlation	-.129(**)	.998(**)	.411(**)	.998(**)	.545(**)	.006	.003	-.076(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.834	.914	.008
SA2	Pearson Correlation	-.142(**)	.905(**)	.311(**)	.905(**)	.523(**)	.043	.014	-.059(*)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.137	.626	.041
SA3	Pearson Correlation	-.062(*)	.545(**)	.050	.545(**)	.912(**)	-.019	-.041	-.067(*)
	Sig. (2-tailed)	.030	.000	.079	.000	.000	.510	.150	.020
SA4	Pearson Correlation	.565(**)	-.080(**)	-.089(**)	-.080(**)	-.025	-.101(**)	.318(**)	.119(**)
	Sig. (2-tailed)	.000	.005	.002	.005	.390	.000	.000	.000
	N	1215	1215	1215	1215	1215	1215	1215	1215

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
SPSS Version 20 (2020)

management, but it is dependent on several factors such as geography (distance and accessibility), energy, infrastructure, administrative barriers, among others. In the case whereby the road is in bad condition as a result of geographical issues, it will result in more energy consumption, which will result in high transport rates on the part of the passengers. It was also revealed in the study of Berdica *et al*., (2003)that the condition of the road network that warrants repairs and will result into traffic congestion, poor transport schemes, and poor road maintenance because of the poor condition, and if closed down, it will result into congestion and an overall increase in travel time on an alternative route. In the studies of Bennett and Greenwood (2001) and Ellis and Hine (1998), the poor road condition leads to increased fuel and lubricants consumption, high maintenance costs, quick worn-out of vehicle tyres, and increasing labour costs. From the same analysis in Table 2, the satisfaction of urban dwellers regarding the status of the road network influences the comfort derived from the passengers at R: 0.545 and *p-value:* 0.000.Also, the satisfaction of urban dwellers regarding the provision of transport scheme influences the quality of road transport comfort at R: 0.523 and *p-value*: 0.000. The satisfaction of urban dwellers regarding the timely response of road maintenance and sub road infrastructure maintenance influences the quality of road transport comfort at R: 0.912 and *p-value*: 0.000. The term "comfort" is among the important attributes for measuring the quality of public transport services (Eboli and Mazzula 2011), it often results to the increasing demand of public transport service as evidenced in China where the quality of comfort in public transport is oftentimes increasing. It is important to note that the bad condition of the road network, poor road maintenance, and the unplanned scheme will have

a significant effect on reducing the level of comfort for urban dwellers. In a situation whereby the vehicle suddenly entered the pothole that is poorly maintained, the passengers will complain. Also, in the case whereby the public transport is not from the park, the comfort of passengers will be undermined as the operators will tradeoff passenger welfare for profit-making. Comfort is among the major social factors that must be measured when determining the adequacy of the effectiveness of public transport policy formulation test before absolute implementation (Xianghao *et al*., 2016; Sekulic*et al*., 2013; Castellanos and Fruett, 2014; Zhang *et al*., 2014; Akhuewu, 2010).Furthermore, in the study of Vovsha *et al*., (2014), it was revealed that in the situation where a passenger has a less than 40 per cent probability of getting a seat, he or she feels uncomfortable. If the seat is not properly positioned especially during galloping, the passenger feels uncomfortable. Clinton *et al.* (2017) are of the view that passengers enjoyed comfort from the transport service providers in the developed because where operations properly scheme such that they operate in accordance to time table whether fully loaded or not. In the study of Litman (2008) it was discovered that in a situation where a bus offers comfortable riding, passengers often perceived that journey time is not up to the actual journey time. This is mostly brought about by good condition of the road network, frequent road maintenance, and planned transport scheme. Furthermore, the satisfaction of urban dwellers regarding the communication link between the agencies in charge of road transport and the people in the study area influences the compliance of road transport operators with road safety rules and regulations at R: 0.565 and *p-value*: 0.000. Globally, the compliance of road transport operators to safety is quite questionable as the high rate of accident is usually recorded. According to Ssewanyana and Niyitegeka (2014), a road traffic accident was estimated to 1.2 million death and 50 million injuries per year, out of which about 85 per cent happen in the developing countries (Derek *et al*., 2012). From the record, road accident is mostly caused by human error which accounted for about 80-90 per cent of the road fatalities. This includes; over speeding, reckless driving, incompetent driving, driving under the influence of alcohol, among others (Derek *et al*., 2012). All these can be attributed to the lack of compliance of road transport operators with road safety rules and regulations. This study reveals a need for the effective communication link between the agencies in charge of road transport operators to enhance safety compliance of road transport operators; this is in agreement with Derek *et al*., (2012). The public and private transport agencies at different levels are required to massively invest (monetary and effort) in promoting road safety awareness. This will shape the dynamics of road transport operators towards compliance with safety rules and regulations, and thereby making road safety a watchword. Road safety awareness is identified as one of the most crucial ways of persuading road operators to comply with the road safety rules and regulations (Delhomme *et al*, 2009).The Federal Road Safety Corps (FRSC) only adopts electronic equipment such as walkie-talkies, breath analyzers and speed guns to enforce road safety rules and regulations, and they seem inadequate for collecting electronic data that would be germane for effective communication and the road safety awareness programs. There is need for the use of fundamental management systems such as car tracking device, a navigation device, traffic signal control devices, automatic number plate recognition, speed cameras, security systems, and others that will enhance live data recording and feedback. It will give information about driver profiles, vehicle profiles, parking guidance, weather information, among others for road safety enhancement. From the aggregate perspective, the level of urban dwellers' satisfaction regarding the status of the road network, provision of road transport scheme, timely response to road maintenance and sub road infrastructure, and communication link between the agencies in charge of road transport and the people in the study area mostly influence transport rate charge per trip, the condition of the vehicle, and the quality of road transport comfort. It is pertinent to observe that the condition of the vehicle has a huge significance on the level of comfort being provided.

CONCLUSION

This study examined the influence of road transport quality on urban dwellers' satisfaction in Kogi state, Nigeria. One thousand two hundred and fifteen (1215) respondents reacted successfully to the questionnaires distributed through a systematic sampling method for data analysis and reporting. The variables considered in the study were measured on a five-point Likert scale. Primary data was used to achieve correlation coefficients which enhanced interconnections between variable constructs. It was revealed that the status of the road network has an influence on the transport rate charge per trip at R: 0.998 and p. value: 0.000; and

on the comfort derived from the passengers at R: 0.545 and p. value: 0.000. The provision of transport scheme has an influence on the transport rate charge per trip at R: 0.905 and p. value: 0.000; and on the quality of road transport comfort at R: 0.523 and p. value: 0.000. The timely response of road maintenance and sub road infrastructure maintenance has an influence on the transport rate charge per trip at R: 0.545 and p. value: 0.000; and on the quality of road transport comfort at R: 0.912 and p. value: 0.000. The communication link between the agencies in charge of road transport and the people in the study area influences the compliance of road transport operators with road safety rules and regulations at R: 0.565 and p. value: 0.000. Finally, the level of urban dwellers' satisfaction regarding the status of the road network, provision of road transport scheme, timely response to road maintenance and sub road infrastructure, and communication link between the agencies in charge of road transport and the people in the study area mostly influence transport rate charge per trip, the condition of the vehicle, and the quality of road transport comfort. It is pertinent to observe that the condition of the vehicle has great importance on the level of comfort being provided.

AUTHOR CONTRIBUTIONS

S.O. Olorunfemi prepared the manuscript, performed the literature review, compiled the data, and proofread the article. A.O. Adeniran helped in the literature review, prepared the manuscript text, manuscript edition, analyzed the data, and interpreted the data.

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CONFLICT OF INTEREST

The authors declare no potential conflict of interest regarding the publication of this work. Also, the ethical issues including plagiarism, informed consent, misconduct, data fabrication and, or falsification, double publication and, or submission, and redundancy have been completely witnessed by the authors.

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