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Public Transport Accessibility and Information to Nature Tourism Destinations in Lagos, Nigeria

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Abstract

Visits to nature-based tourism destination can be measured using attributes of transportation system and information accessibility. Structured questionnaire was used to gather data from tourists to Lekki Conservation Centre (LCC) and Lufasi Nature Park (LNP), both in Lagos, Nigeria. Qualitative descriptive analysis was used to verbally summarize information on demographic profile. Several inferential statistics were used for comparison of mean differences of telecommunication system use for tourists and accessibility to LCC and LNP; and assessment of use of telecommunication system and transport accessibility using educational status of tourists. Results of the study revealed that in LCC, most respondents (55.7%) had secondary education, while in LNP most of them (68.1%) had tertiary education. Roads to the two destinations were in good conditions, and there were signages in strategic locations to direct tourists, but tourist's movement to the destinations has always resulted into traffic congestions. None of the variables on use of telecommunication system for tourists was significant in influencing visitation of tourists to the destinations. Transportation accessibility between the tourism destinations were statistically significant in influencing tourists' visitation.

It was concluded that transport accessibility and its information management to nature tourism destinations in Lagos, Nigeria should be seriously overhauled so as to maximize tourist visit.

Key Words: Accessibility, Information, Nature Tourism, Public, Transport

Introduction

The importance of the tourism sector in turning around the fortune of any nation cannot be underestimated. But it is hard to think of this contribution without a mention of the transportation sector. Mobility of tourists is strategic to the development of the tourism industry (Prideaux, 2000; Gronau and Kagermeier, 2007; Thompson and Schofield, 2007), as transportation has been known to assist a tourist in meeting their desired expectations in any destination (Gutiérrez and Miravet, 2016). Especially, transport connectivity has been reported to have great influence on tourist flow (Yang *et al*., 2017). Getting information about transportation system of any area to newcomers as well as making the system accessible has been reported as ways of improving the public transportation system (Kinsella & Caulfield, 2011; Le-Klähn and Hall, 2015). If there is no information about transportation to a particular tourist destination, the tourist may perceive that the journey will take longer period (Liu *et al*., 2017).

Literature Review

According to Duval (2007), public transport is an additional tourism product, the performance evaluation of which could have influence on customer visit to a tourist destination (Thompson and Schofield, 2007). The quality of transport system, and how accessible they are, are important in encouraging tourists to visit and enjoy leisure activities (Xiao *et al*., 2012). During peak tourism season, resident population especially suffered from increased traffic congestion, and it is only an efficient transport system that makes it possible to manage increase in traffic volume (Albalate & Bel, 2010). Kinsella and Caulfield (2011) reported that local users of public transport and visitors differ in their needs and use of the system. Some tourists are more concerned with provision of information and reliability of services and are less concerned about service quality and safety. Tourism businesses are now caught up in the wave of telecommunication system to drive global tourism economy as the behaviours of providers and consumers alike keep changing under the influence of this system (Werthner, 2004; Paraskevas, 2005; Standing *et al*., 2014; Januszewska *et al*., 2015). The most important factor of telecommunication that influences the tourism industry is direct and easy access to information on the internet (Buhalis & Zoge, 2007). According to Stradling *et al*., (2007), age and frequency of use are more influential on tourist satisfaction than demographic variables of household income, gender, and car availability. However, Kuo (2002) argued that effective visitor management strategy of putting signage at strategic locations to direct tourists to tourism destination helps them to adopt more appropriate behaviour that can sustain tourism development.

The construction of infrastructures such as roads and airports and other facilities for tourism activities can have negative impacts on the environmental resources that tourism depends (Md. Ghulam Rabbany, 2013), with visitor and traffic congestion in many tourist destinations being discovered as serious environmental hazards of tourism growth (Sidles, 1997). The expansion and use of ICT has made environment of the tourism industry to be more competitive and strategic for tourism business development (Leung *et al.,* 2012; Berné *et al*., 2015). Transport is an essential element in tourism systems, and public transport plays a vital role in sustainable tourism development. However, there is little information on mobility of tourist and use of

public transport at tourist destinations and how they get information on transportation about tourism destination. The mobility of tourists (Gutiérrez et al., 2016) and how they access information about transport to their destination is an activity that has so far received very little attention from researchers.

Attributes that have been used to expose a destination to tourists among others include accessibility of information especially about transport system (De Keyser and Vanheove, 1994; Go and Govers, 1999). Review of the relationship between transportation and tourism has not really considered transportation as a contextual component of the tourism offering especially at the destination (Lumsdon, 2000; Van Truong and Shimizu, 2017). This study therefore is aimed at evaluating how information about public transport get to tourists in nature destinations.

Hypotheses

In this study, the following hypotheses were formulated to address the effectiveness of telecommunication system and transport accessibility on competitiveness of Lekki Conservation Centre (LCC) and Lufasi Nature Park (LNP):

H_1: Tourists' visitation to nature tourism destination is not significantly influenced by the use of telecommunication system

H_2: Use of telecommunication systems by tourists is not significantly predicted by the educational status of tourists

H_3: Transport accessibility to LCC and LNP is not significant in influencing tourists' visit to the destinations

H_4: There is no significant association between the transportation accessibility to LCC and LNP

Research Objectives

This research is for the

- ➢ assessment of transport conditions in Lekki Conservation Centre (LCC) and Lufasi Nature Park (LNP);
- ➢ assessment of the importance of ANOVA for linear regression in investigating linear relationship between one or more independent variables on a single dependent variable.

Methodology

Data collection

Structured questionnaire was used to gather data from staff and tourists to LCC and LNP, both in Lagos, Nigeria a week prior to the Easter celebration in 2018. A total of 300 copies of questionnaire were administered from which 231 copies of questionnaire were attended to by respondents of both destinations. Out of the 128 copies were administered among tourists, while 103 copies were administered among staff of both destinations. Questions on demographic characteristics were included. Dang and Huang (2014) used demographic characteristics to compare overall satisfaction and it was found that nationality, age, occupation and monthly income has no significant impact on it, but, significant difference in satisfaction was found by education. Therefore, in the linear regression, hypothesis was formulated about the means of the groups on the dependent variable of educational status of tourists which differentiated individual tourists and staff on some quantitative (continuous) dimensions. Questions were also

asked to address use of telecommunication system by tourists and accessibility between the two nature-based tourism sites.

Qualitative descriptive analysis was used to verbally summarize information on demographic profile. One-way ANOVA was employed for comparison of mean differences of use of telecommunication system by tourists and transportation in influencing tourists' visit to LCC and LNP. Regression analysis was carried out to predict the use of telecommunication system using educational status of tourists. Relationship in transportation system between the two nature-based tourism sites was also analyzed using Pearson chi-square and cross tabulation of 2×2 contingency table. The analysis was based on not assuming the null hypothesis. Fisher's exact test was conducted to examine the contingent association between the nature-based tourism sites.

Results and Discussion

Demographic profile

The demographic profile of tourist respondents in LCC revealed that sampled respondents were almost equally split among males (48%) and females (52%). Most respondents (55.7%) had secondary education, while the rest (44.3%) had primary education. The age distribution of respondents showed that majority (49.2%) of them were within the age range of 26-35 years, 42.6% within 46-55 years, 4.9% within 18-25 years, while 3.2% were within 56-65 years. Most of the respondents (78.7%) were Nigerians, while 21.3% were foreigners.

The demographic profiles of respondents in LNP revealed that majority of respondents were males (52.2%), while 47.8% were females. Most respondents (68.1%) had tertiary education, 24.6% had secondary education, while 7.2% had primary education. The age distribution of respondents showed that majority (42.0%) of them were within the age range of 56-65 years, 24.6% within 46-55 years, 13.0% within 26-35 years, 11.6% were within 18-25 years, while 8.7% were above 60 years of age. Most of the respondents (92.8%) were Nigerians, while 7.2% were foreigners.

The finding of this study revealed that in LCC, women were discovered to participate more in nature tourism than men. This is in tandem with the finding of Tangeland *et al.* (2013) and Kumar (2015). For LNP, men were found to participate more in nature tourism than men, and this agreed with the findings of Mason and Cheyne (2000) and Harrill and Potts (2003) who found more women opposed to tourism development. The participation of both genders in nature tourism in the two destinations showed that there is no discrimination in gender for participation in nature tourism. Also, in the two destinations most of the respondents had at least secondary education, which showed that the educated elites participate more in nature tourism more than the uneducated ones. This result is in tandem with the finding of Bello *et al.* (2017). The age distribution that participated in nature tourism for this study were the youthful and early adulthood group, which agreed with the finding of Stradling *et al.* (2007) that age is one of most influential factors in significantly meeting the satisfaction of tourists with transport.

Influence of Telecommunication System Use on Tourists Visitation to LCC and LNP

On use of telecommunication system by tourists, result of ANOVA in Table 1 showed that the critical value for the three constructs under consideration for the two destinations were greater than 0.05. The null hypotheses for the constructs were therefore not rejected. Thus, access to

the use of telecommunication system; instant access to information via telecom and; telecommunication system influencing tourists' visit to the destinations were not significant in attracting tourists' visitations.

Awareness about tourism destination has a great influence on the decision of tourists and their behaviour towards that destination (Lai and Vinh, 2012). Electronic media has come to be one of the most important sources of consumer information, with Telecommunication Technology changing the behaviours of both providers and consumers in the tourism industry (Beritelli *et al*., 2007; Zins, 2007; Lai and Vinh, 2012). The expansion and use of Information Communication Technology (ICT) has made environment of the tourism industry to be more competitive and strategic for tourism business development (Leung *et al.,* 2012; Berné *et al*., 2015).

Direct and easy access to information on the internet according to Buhalis and Zoge (2007) has been the most important factor of ICT that influences the tourism industry. The intentions of many customers to purchase tourism products and services are now being affected by the image and usability of destination websites (Chiang & Jang, 2006; Law & Cheung, 2006b; Law & Hsu, 2006). Internet use is related to awareness creation about accommodation and its marketing (Coenders *et al*., 2016). According to Xiang & Gretzel (2010) social media, as a platform for sharing travel information and experiences has been a major influence on tourism. At all stages of the holiday cycle, social media has found its feet according to the finding of Fotis *et al*. (2011).

Table 1. Use of Telecommunication System by Tourists in LCC and LNP

Model	Effectiveness of Telecommunication System for Tourists										
		Lekki Conservation Centre					Lufasi Nature Park				
	Groups Effect	SS	Df	MS	F	Sig.	SS	Df	MS	F	Sig.
Access to use of telecommu nication system	Between	0.700	1	0.700	0.507	0.479	1.460	12	0.122	1.184	0.325
	Within	81.528	236	1.382			26.828	260	0.103		
	Total	82.228	237				28.288	272			
Instant access to information via telecom	Between	0.000	1	0.000	0.000	0.000	0.552	12	0.046	0.664	0.577
	Within	0.000	228	0.000			18.000	260	0.069		
	Total	0.000	229				18.552	272			
Telecommu nication system influence your visit to this destination	Between	0.084	1	0.021	1.265	0.265	0.356	12	0.030	0.521	0.669
	Within	3.852	236	0.016			14.720	260	0.057		
	Total	3.936	237				15.072	272			

Source: Authors' field survey

Use of Telecommunication System by Tourists as Predicted By their Educational Status

The results of multiple regressions on hypotheses for testing the use of telecommunication system by tourists in LCC and LNP are presented in Table 2. When all 3 predictors were regressed with the dependent variable which was educational status of the staff, the model was found to be fit. The overall strengths of the relationship for LCC (R = 0.168) and LNP (R = 0.149) were however weak, but still acceptable (R = 0.168). The estimate of the strength of relationship (R^2) between the model and the response variable for LCC was 0.07%, while that of LNP was 0.02%. These coefficients of multiple determinations were low, but, in some fields, it is entirely expected that the R-squared values will be low. The F-value for LCC (0.809) and LNP (0.495), as well as the F-test overall for LCC (0.450) and LNP (0.687) all showed that the

relationship between educational status and effectiveness of telecommunication system was not statistically significant.

Prediction of use telecommunication system by tourists visiting nature tourism destinations using the educational status of respondents are as presented in Table 2. The result showed that for both LCC and LNP, all three variables had positive relationships with the independent variables. But none of the variables was, however significant in predicting use of telecommunication system by tourists visiting LCC and LNP. The p-values for all the variables were all greater than 0.05, and so the null hypotheses were all accepted for all the variables.

Contrary to the finding of Karen and Peter (2007), it has been revealed in this study that the educational status of respondents was unable to significantly predict use of telecommunication system by tourists. Finding of this study has also confirmed the importance of ANOVA (Table 1) in linear regression (Table 2) as ANOVA is known to consist of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance (Platt, 1998). It also indicated that ANOVA is also a linear model. ANOVA has shown that the overall regression model was not significant, since there was no effect between any of the predictors and the dependent variable.

Table 2. Effectiveness of Telecommunication System for Tourists as Predicted by Educational Status of Respondents

Model	Effectiveness of Telecommunication System for Tourists									
	Lekki Conservation Centre					Lufasi Nature Park				
	Unstandardized Coefficients		Standardized Coefficients	T	**Sig.**	Unstandardized Coefficients		Standard-ized Coefficie-nts	T	**Sig.**
	B	**Std. error**	**Beta**			**B**	**Std. error**	**Beta**		
(Constant)	0.784	0.536		1.462	0.149	2.885	0.489		5.897	0.000
Access to use of telecommunication system	0.067	0.112	0.079	0.598	0.553	0.168	0.243	0.088	0.689	0.494
Telecommunication system influence your visit to this destination	0.541	0.509	0.141	1.064	0.292	-0.082	0.328	-0.032	-0.251	0.802
Instant access to transport information via telecom						-0.311	0.304	-0.132	-1.022	0.310
	R 0.168					R 0.149				
	R² 0.028					R² 0.022				
	R² adjusted -0.007					R² adjusted -0.023				
	Standard Error of the Estimate 0.502					Standard Error of the Estimate 0.621				
	F-Value 0.809					F-Value 0.495				
	F-sig 0.450					F-sig 0.687				

Source: Authors' field survey

Assessment of Transport Conditions in LCC and LNP

Result in Table 3 showed that there were direct flights into both LCC and LNP, as the two destinations were close to port of entry. Visitors did not get stranded in getting to any of the destinations. However, in LCC there were no enough vehicles to transport visitors as there were in LNP. Roads to the two destinations were, however, in good conditions, but tourist's movement to the destinations has always resulted into traffic congestion. Transport workers were not hostile to tourists along LCC route, but, were unusually hostile along LNP route. The

vehicles plying LCC route were not in good conditions, but, those of LNP were in good conditions. There was signage in strategic locations to direct tourists, and there was presence of tourist information centre that provide quality tourist service in the two destinations.

The importance of availability of direct international flight to tourism destination has been highlighted by Pasape and Mujwiga (2017) which is a function of nearness to port of entry. To avoid visitors being stranded in getting to tourist destinations, Page (2005) has asserted the quality of transportation infrastructure and accessibility. Where the transportation system is good and there are enough vehicles to transport visitors, according to Albalate & Bel 2010), few tourists would need to hire private transport. Transportation infrastructure (Brida *et al.*, 2014) such as good road is a key variable in developing tourist destination. But with poor transportation system, tourism movement may result into traffic congestion as revealed in the findings of Victor (1992) and Kantawateera *et al.*, (2015) that Increase in visitors and residents who use the transportation system and lack of public transportation brings about traffic jams in many tourist destinations which affect a country's tourist image. The conditions of vehicles plying tourism destination routes in terms of space and cleanliness (Le-Klähn *et al.*, 2014b) have to be given utmost consideration in relation to the problems they might possibly cause. Apart from the fact that tourists especially foreign visitors may not want to use rickety vehicles, the challenges posed by vehicles that are not in good conditions according to Dubois *et al.,* (2011) and Gössling (2013) such as contribution to congestion, and rapidly growing emission levels may interfere with global climate. Tourist information centre will continue to play a significant role in information dissemination to tourists. Putting up signage at strategic locations to direct tourists according to Kuo (2002) is effective in helping tourists to adopt more appropriate behaviour for sustaining tourism development. According to Arana *et al.*, (2015), visitors place higher values on information services received through personal interaction tourism information centre than through automated processes based on new technology.

Table 3. Assessment of Transport Conditions in LCC and LNP

S/No	Variable	LCC		LNP	
		Yes (%)	No (%)	Yes (%)	No %)
1	Any direct flight into tourism destination	70	30	72	28
2	Destination close to any port of entry	97	3	68	32
3	Visitors get stranded in getting to this destination?	95	5	74	26
4	Enough vehicles to transport visitors to this destination?	5	95	68	32
5	Roads to this tourist destination in good condition	97	3	75	25
6	Tourist movement to this destination has always resulted into traffic congestion	93	7	70	30
7	Transport workers are unusually hostile to tourists along this route	2	98	75	25

8	Vehicles plying this route in good condition?	5	95	74	26
9	Signage in strategic locations to direct tourists to this destination	100	-	70	30
10	Any tourist information centre that can provide quality tourist service	100	-	68	32

Influence of Transportation to LCC and LNP on Tourists' Visitation

Results of Analysis of Variance (ANOVA) in Table 4 showed that direct flight to both LCC and LNP was significant in influencing tourists' visit to the destination (F (1,128) = 28.903, P = 0.000). Destinations being close to any port of entry was also significant in influencing tourists' visit to both destinations (F (1,128) = 102.96, P = 0.000). On the variable that visitors always get stranded in getting to destinations, result showed that the variable was also significant (F (1,128) = 11.494, P = 0.001). Availability of enough vehicles to transport visitors was significant in influencing tourists' visit to both destinations (F (1,128) = 92.791, P = 0.000). Also, the roads leading to LCC and being in good condition was also significant in influencing tourists' visit to both destinations (F (1,128) = 12.821, P = 0.000). That tourism movement has always resulted into traffic congestion was also significant for the two destinations (F (1,128) = 12.879, P = 0.000). The variable that transport workers were unusually hostile to tourists along destination route was significant too (F (1,128) = 163.276, P =0.000). The result further showed that for vehicles plying destinations' route were in good condition, the variable was significant for the two destinations (F (1,128) = 133.246, P =0.000). Signage in strategic locations to direct tourist was also significant for the two destinations (F (1,128) = 26.277, P = 0.000). Also, availability of tourist information centre for LCC and LNP was significant in influencing tourists' visit to both destinations (F (1,128) = 28.114) P = 0.000).

Results have shown that the transport system for accessing LCC and LNP was significant in influencing tourists' visit to both destinations. This result differs with the finding of Kinsella and Caulfield (2011) that local users of public transport may differ in their need and use of the system. Moreover, getting information about transportation system of any area to newcomers as well as making the system accessible has been reported as ways of improving public transportation system (Kinsella and Caulfield, 2011; Le-Klähn and Hall, 2015).

Table 4. Influence of Transport Accessibility on Visitation to LCC and LNP

Variables	Effects	Sum of Squares	Df	Mean Square	F	Sig.
Direct flight to tourism destination	Between Groups	5.974	1	5.974	28.903	0.000
	Within Groups	26.457	128	0.207		
	Total	32.431	129			
Destination close to any port of entry	Between Groups	13.611	1	13.611	102.967	0.000
	Within Groups	16.920	128	0.132		
	Total	30.531	129			
Visitors always get stranded in getting to this destination	Between Groups	1.451	1	1.451	11.494	0.001
	Within Groups	16.157	128	0.126		
	Total	17.608	129			
	Between Groups	12.931	1	12.931	92.791	0.000

Enough vehicles to transport visitors	Within Groups	17.838	128	0.139		
	Total	30.769	129			
Roads to destination in good condition	Between Groups	1.477	1	1.477	12.821	0.000
	Within Groups	14.746	128	0.115		
	Total	16.223	129			
Tourism movement always resulted into traffic congestion	Between Groups	1.846	1	1.846	12.879	0.000
	Within Groups	18.346	128	0.143		
	Total	20.192	129			
Transport workers are unusually hostile to tourists along this route	Between Groups	17.597	1	17.597	163.276	0.000
	Within Groups	13.795	128	0.108		
	Total	31.392	129			
Vehicles plying this route in good condition	Between Groups	15.987	1	15.987	133.246	0.000
	Within Groups	15.238	127	0.120		
	Total	31.225	128			
Signage in strategic locations to direct tourist to this destination	Between Groups	2.999	1	2.999	26.277	0.000
	Within Groups	14.609	128	0.114		
	Total	17.608	129			
Availability of tourist information centre	Between Groups	3.291	1	3.291	28.114	0.000
	Within Groups	14.986	128	0.117		
	Total	18.277	129			

Source: Authors' field survey

Test of Relationship between Accessibility of LCC and LNP

Results of Chi-square and Fisher's exact tests in Table 5 showed that there was positive and significant relationship between LCC and LNP with regards to all variables under consideration ($p<0.05$): as there were increases in responses to the variable of direct flight to tourism destination in LCC, so there were in LNP. The same goes for destination close to any port of entry; visitors always get stranded in getting to this destination; enough vehicles to transport visitors; roads to destination in good condition; tourism movement always resulted into traffic congestion; transport workers are hostile to hostile along this route; vehicles plying this route in good condition; Signage at strategic locations to direct tourists and; availability of tourist information centre.

According to Van Aalst and Boogaarts (2002) cultural organizations are built in close proximity to one another, which allows visitors to seek different types of experiences either walking to them or using public transportation conveniently.

Table 5. Test of Relationship for Accessibility between LCC and LNP

S/No	Model	Chi-Square Tests	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
1	Direct flight to tourism destination	Pearson Chi-Square	23.948[a]	1	0.000		
		Fisher's Exact Test				0.000	0.000
2	Destination close to any port of entry	Pearson Chi-Square	57.955[a]	1	0.000		
		Fisher's Exact Test				0.000	0.000
3		Pearson Chi-Square	10.712[a]	1	0.001		

	Visitors always get stranded in getting to this destination	Fisher's Exact Test				0.001	0.001
4	Enough vehicles to transport visitors	Pearson Chi-Square	54.635ᵃ	1	.000		
		Fisher's Exact Test				0.000	0.000
5	Roads to destination in good condition	Pearson Chi-Square	11.836ᵃ	1	0.001		
		Fisher's Exact Test				0.001	0.000
6	Tourism movement always resulted into traffic congestion	Pearson Chi-Square	11.884ᵃ	1	0.001		
		Fisher's Exact Test				0.001	0.000
7	Transport workers are hostile to tourists along this route	Pearson Chi-Square	72.872ᵃ	1	0.000		
		Fisher's Exact Test				0.000	0.000
8	Vehicles plying this route in good condition	Pearson Chi-Square	66.048ᵃ	1	0.000		
		Fisher's Exact Test				0.000	0.000
9	Signage at strategic locations to direct tourists	Pearson Chi-Square	22.142ᵃ	1	0.000		
		Fisher's Exact Test				0.000	0.000
10	Availability of tourist information centre	Pearson Chi-Square	23.411ᵃ	1	.000		
		Fisher's Exact Test				0.000	0.000

Conclusion

The study concluded that there was no discrimination in gender participation in nature park tourism, however the educational status of tourists influenced the use of telecommunication in getting information about nature park tourism destinations. Traffic congestion and insufficient number of vehicles constituted some problems for accessibility of tourists to nature tourism destinations. Also, transport workers were unusually hostile to visitors along LNP route, while vehicles along LCC were not in good conditions. It was also found that there was no much dissimilarity in the manner tourists accessed the two nature parks.

Transport is very vital to sustainable tourism development and as such the mobility of tourists to tourism destinations and how they access information about this can go a long way in the development of any nature-based tourism destination.

Recommendations

Information about the transport system to tourist destinations in Lagos should be provided by relevant authorities so as to improve the public transport system.

Enough vehicles should be provided along LCC, as this would help to reduce traffic congestion along both routes. Transport workers along LNP should be properly educated on human relationship with the commuters. Transporters should be encouraged to use good and sound vehicles in moving commuters along LCC.

Research should be conducted on public transportation system that will link tourist attractions within Lagos and same for other metropolis in Nigeria for tourists who do not have private transportation or who would not want to use it.

Studies are also to be conducted on

- how demographic variables influence tourist use of public transport
- on route guidance, alternate route selection, optimum route selection and route diversion systems to tourism destinations so as to ease traffic congestions
- in remote tourist attractions so as to provide a better picture of tourist perception about transport system
- how foreign and local users of public transport differ in their need and use of transport system.

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