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Modelling the Influence of Service Quality of Travel Mode on Tourism Satisfaction in Lagos State, Nigeria. A Tourist-Based Perception Study

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Abstract Tourism has remained a vital component of the economies of many major destination nations around the world due to its attributed benefits and opportunities, including economic diversification, improved quality of life, revenue generation, job creation, and sustainability of the ecosystem. Tourism can only achieve all these benefits with adequate provisioning and viable operations, maintenance, and management of transport systems. Unfortunately, the provision and operations of the transport system, especially travel modes for tourism activities in Lagos State, are faced with various challenges and externalities that consequently affect tourists' experiences and intentions to recommend and revisit as well as overall tourism satisfaction. Meanwhile, there is a paucity of empirical studies on the quality of travel modes and tourism satisfactions in fast-growing cities, including Lagos, Nigeria. It is against this background that this study modeled the influence of service quality and travel modes on tourism satisfaction in Lagos State, Nigeria. This study is anchored on a cross-sectional survey research design, and a multistage sampling technique was used to administer 2,250 copies of a questionnaire to tourists across the study area. Both descriptive (frequency percentage table, weighted-mean index analysis) and inferential (binary logistic regression, BLR) statistics were used to achieve the data analysis. Major findings revealed that the majority of the respondents were male (above 60%), within the active age group of 18–53 years, and committed between 10% and 20% of their income to tourism annually. Most respondents spent most on transportation and equally rated transportation as the most complicated tourism component of their vacation in Lagos. Furthermore, findings revealed a poor rating of most of the service quality attributes of travel modes for tourism activities and aggregately rated three (reliability, trust, and empathy dimensions) out of the five evaluated dimensions as poor and unsatisfactory in meeting their expectations. However, despite the poor ratings for the service quality of travel modes, most (about 60%) are satisfied with the quality of tourism activities experienced in Lagos State. The result of the BLR model revealed that the service quality of travel modes statistically influences tourism satisfaction in Lagos State ($\chi 2 = 586.893$, $p = 0.000 < 0.05$). This study concludes that there is a need to improve the service quality of travel modes, especially public transport modes, and thus recommends the best strategies to improve the service quality of travel modes for tourism activities in Lagos State, Nigeria.

Keywords Lagos State, Nigeria, service quality of travel mode, tourism activities, transport system, tourist satisfaction.

JEL R40, R49, Z30, Z32

1. Introduction

Tourism remains a vital component of the economies of many major destination cities and nations around the world [27, 29]. Considering the importance of tourism to national development, countries endowed with many natural tourist attractions and destinations continue to invest in the sector to boost not only the tourism development, experiences, image, and sustainability of tourism activities in diverse ways but also open opportunities for economic diversification, improved quality of life, and sustainability of the ecosystem [8, 26]. Ref. [23] observed that tourism has contributed immensely to the development and growth of popular destinations such as Paris (France), London (Great Britain), Rome (Italy), and Bali (Indonesia).

As one of the fastest-growing and most significant industries in the global economy, tourism contributes to job creation, revenue generation, and economic development in countries around the world [31]. The United Nations World Tourism Organization (UNWTO) reported that international tourist arrivals reached 1.4 billion in 2018, representing a 6% increase from the previous year [30, 31]. Worthwhile, the tourism industry's growing importance in the global economy has made it a key contributor to the economic growth and development of many countries. The relationship between tourism and global economic activity is multifaceted.

Accordingly, Ref. [4, 13] opined that tourism has the potential to not only create jobs and stimulate economic growth but also contribute to foreign exchange earnings and improve a country's balance of payments. In addition, Ref. [8, 26] observed that tourism has the potential to diversify the economy and reduce dependence on traditional industries, including agriculture, manufacturing, and the public health

sector. Ref. [7, 31] affirmed that the importance and benefits of tourism to the global economy have been recognized by many countries, leading to increased investment in the tourism industry across the globe. For example, in 2019, China launched a project investment worth $1.4 trillion in tourism infrastructure and its development for the next five years of project completion [31]. This investment highlights the significant role that tourism plays in the global economy and that it remains a viable one, serving as a potential for continued growth and development of the tourism industry towards improving countries' gross domestic products and relative socioeconomic opportunities.

Since time immemorial, transport systems, especially the transport infrastructure, have been fundamental to the development, functionality, and sustainability of tourism-related activities across the globe. Transport systems have remained a crucial component in the growth and development of any economy and the functioning and survival of various economic sectors, including the tourism industry. Cities and every other community around the world rely on transport systems to perform both mobility and accessibility functions, such as moving materials for manufacturing goods, distributing finished goods to consumers, locating and connecting places of work, markets, business activities, leisure, religion, medical activities, and homes. Without a transport system, interaction among geographical locations, spatial units, and socioeconomic activities including tourism would be merely impossible [3, 6, 25]. However, there has been an established symbiotic relationship between tourism and the transport system, upon which various modal options such as road, rail, ferry, and aviation ensure seamless satisfaction of tourists, boosting the tourism image, and sustainability of the tourist destinations over the years. Precisely, without transport, no tourism activities can be undertaken in the right direction [17, 26]. Specifically, it is primarily saddled with the basic responsibilities of bringing the tourists and other tourism beneficiaries to the destination zones, moving around the attraction places during the period of the tour, and taking them back to their respective origins once the tour is over [26].

Despite the significant benefits of transport systems for tourism activities, they become a bane when operations and management are deluged with various challenges. Unfortunately, the level of transport system development, especially the infrastructure and travel modes for tourism activities in Lagos State, is undesirable, low, and unsatisfactory in terms of its provisions, operations, maintenance, and management. Ref. [2] observed that the travel modes that support socioeconomic functions in Nigerian cities are not only inadequately provided, but they are characterized by various operational issues that compromise their quality of service. Ref. [20] noted that the modal operations and management of travel modes across Nigerian cities and other communities faced several constraints that could be categorized under basic factor constraints, underlying factor constraints, and signs and symptoms constraints. According to Ref. [19], the major transport system challenges in Lagos State include a congested road network, poor road conditions, and insufficient public transport services. Meanwhile, Ref. [26] noted that these observed constraints, which summed up to aggravate the transport system operational and management challenges, consequently constrain Lagos State and many tourism states in Nigeria from benefiting meaningfully from the lucrative tourism industries, promoting tourism's fluctuating revenue, mitigating tourism patronage, and improving tourism's image and tourist experiences.

Consequently, the growing externalities experienced from the use of travel modes, especially the public transport modes, during tourism activities, including unpredictable travel costs, unquantified urban stress, and excessive traffic delay, among others, may overwhelm the tourists' experiences, resulting in the recommendation of Lagos as a destination, the intention to revisit, the tourism image, satisfaction, and sustainability of tourism activities in Lagos State, Nigeria. It is against this background that this study modelled the influence of service quality and travel mode on tourism satisfaction in Lagos State, Nigeria. Meanwhile, there is a paucity of empirical studies on the quality of the transport system and tourism satisfaction in Lagos State, a fast-growing city with various meaningful international standard tourist attractions known for its vibrant culture, beautiful beaches, and historical landmarks. The quest to address this gap was another reason for this study. Given these, this study examined the profile of the tourists, the travel characteristics of the tourists, the factors influencing the travel mode choice of the tourists for tourism activities, the service qualities of travel modes, and the satisfaction with the quality of tourism activities in Lagos State, Nigeria, as well as modelling the influence of the service quality of travel modes on the satisfaction with the quality of tourism activities in Lagos State, Nigeria, with the view to understanding areas of travel mode service quality that require urgent attention for improving the quality of tourism activities, which affect the tourists' satisfaction, their intention to recommend, and revisit.

2. Theoretical Review

2.1. System theory

The term "system" has meaning in every form of organized research and learning. Referring to the human body, we commonly use the terms "skeletal system", "nervous system", "digestive system", etc., and in astronomy, we talk about the solar system. In a business firm, there are production and inventory systems, as well as information systems and decision systems. In a building construction, structural and plumbing systems exist, while the relationship of man to his environmental setting can be seen in systematic terms in terms of ecosystem. As a result, the concept of system is relevant to all disciplines. Systems are made up of sets of components that work together for the overall objective of the whole [3, 5, 27]. The system approach means looking at each component part in terms of the role it plays in the large system. A particular characteristic of this approach is that it

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attempts to arrive at decisions not only for the individual parts or elements but for their total ordering as well, through a logical, organised arrangement of steps [11]. This involves understanding problems in terms of their detailed processes so that they can be organised for solution in a manner that can be explained and repeated.

In a sense, the system approach is simply a way of thinking and approaching problems that involves looking at the whole problem rather than concentrating on one or more parts to the exclusion of everything else [21]. A basic objective of the system approach is to discover those components whose measures of performance are truly related to the measures of performance of the overall system. Then, when the measure of performance of a component increases and all the others remain equal, the measure of performance of the total system should also be increased. Otherwise, the component is not truly contributing to the system's performance. The system theory, on the other hand, emphasizes the importance of viewing objects as whole units (systems) made up of interconnected and interacting parts, as well as maintaining an organic relationship with other environmental systems. System theory has been used to synthesize and simplify the real-world complexity of tourism-related issues [11, 21]. This is because the system theory can accommodate a variety of perspectives as it does not assume a predetermined view of tourism.

A system that has a set of elements or parts that are connected to each other by at least one distinguished principle, consisting of three main components of input, output, and external factors conditioning the system. According to Ref. [12], the tourism system consists of a tourist or traveler, generating regions or tourism destination regions, and transit routes for tourists travelling between generation and destination areas, and the travel and tourism industry (e.g., transport, accommodation, and the firms and organizations supplying services and products to tourists). Transport, therefore, is the external factor that is an integral part of the tourism system connecting the tourist from both the generating and destination regions together, represented in terms of the rate of accessibility and volume of travel for effective tourism planning, development, and sustainability. Ref. [11] used the system theory to explain the significance of the transport system in tourism development, and his study revealed that the transport system is one of the main sub-systems after tourism attractions that articulates and make possible tourism development and sustain the tourism industry. Likewise, Ref. [21] corroborates this and highlighted the importance of the actual process of travel transport as an integral part of the tourist experience, even though it is perceived as less important than the activities and pursuits of tourists in the destinations.

Accordingly, geographers are interested in the spatial expression of tourist transport as a vital link between tourist generation and tourist receiving areas. They are equally concerned with the pattern of transport facilities, including accessibility and mobility, in relation to tourist travel demands and how these different processes lead to the formulation and understanding of the pattern of tourist travel on different scales, ranging from world to national, regional, and local levels. The use of various modes of transport in getting to a tourist destination has several consequences associated with the distance traveled, the amount of time involved in travelling and the mode of transport used. Ref. [21] observed that transport infrastructure and modal operations have been acknowledged to have altered the patterns of tourist accessibility and flow volumes and consequently affected the tourists experience, satisfaction and the global tourism system's development. Thus, tourism system theory relies on the transport system at different scales to give vivid explanation and clarity of what forms of access, modes, and types of operation (e.g., scheduled and non-scheduled), spatial processes, patterns, and networks are required to facilitate tourism activities including tourist travel satisfaction, tourist destination planning, quality access, development, and sustainability.

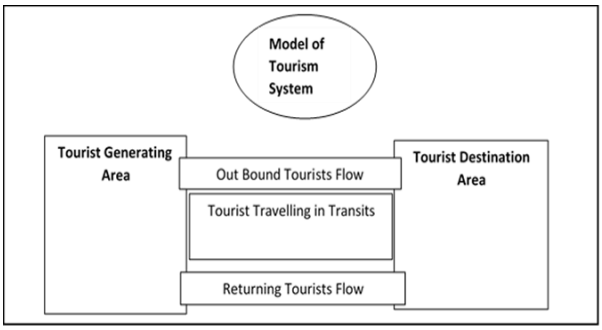

Figure 1. Tourism system [21]

3 Material and Methods

3.1 Scope of the Study

The scope of the study is discussed under location and subject scope. Specifically, this study cover the entire five (5) administrative divisions of Lagos State. It was delimited to all the local government areas with notable tourist attractions, which are mostly patronized by both local and international tourist under the five (5) administrative division of Lagos State (Fig. 1.1). The justification for selecting Lagos State is based on the fact that the state, out of the 36 states in Nigeria, only Lagos State is captured among the global most visited cities in the global destination cities assessment report. On the subject scope, the study was limited operationally to matters relating to the relationship between transport infrastructure (all available modes of transport used for or supporting tourism activities air, road, rail, water and telecommunication) and sustainable tourism issues in Lagos State. However, the study rely only on the perception of the tourists (both international and domestic) as respondents.

3.2 The Study Area "Lagos State, Nigeria"

Lagos State, which is the most populous state in Nigeria, estimated at a population figure of 15,388,00 [9], is located in the southwestern part of Nigeria on the Atlantic Coast in the Gulf of Guinea and west of Niger & River Delta at longitude $3^0$45E and latitude $6^0$35N (Figure 2). This state is

bounded in the east and north by Ogun state; in the west by the Republic of Benin; and in the south by the Atlantic Ocean, which gives several opportunities for tourism and water transport potential. Lagos state is classified into five (5) five regional divisions: Ikeja, Ikorodu, Lagos Island, Epe and Badagry with twenty (20) twenty local government areas (LGA) and 57 local council development areas (LCDA) in 2003. Specifically, Lagos state is characterized by six (6) transport modes, namely road, water (inland water and maritime), air, rail, pipeline and cable transport (still under construction), with several travel means including Bus Rapid Transit and noticeable transport infrastructure. In terms of tourism potential, Lagos state is home to several attractions classified as historical monuments, beaches, museums, cultural and annual festivals, with a total score of more than 150 [9].The state is blessed with several hotels and guest apartments for tourist accommodation, which are world-class standards and equally blessed with beautiful architectural looks but with complex traffic situations.

3.3 Methods

The research methods in this study is discussed under the following sub-headings: the research design, sources of data used, study population and sample size, sampling procedure and sampling techniques, questionnaire design and reliability test, methods of data collection, method of data presentation and analysis and the postulated research hypothesis.

3.3.1 The Research Design

This study is anchored on a cross-sectional research design that combined both qualitative and quantitative approaches in achieving research objectives. The qualitative approach gave the researchers the opportunity of getting in-depth information relevant in addressing the research objectives from the sample unit that is the tourists. The quantitative approach gave the researchers the opportunity to transpose the qualitative data into quantitative data as well as analysed numerical data obtained from the sample units and used for analysis.

3.3.2 Sources of Data

This study employed data from both primary and secondary sources. The primary data was sourced through questionnaire administration on tourists and complemented by field observation. While, the secondary data was sourced through consultation of relevant published and unpublished materials that formed the literature reviewed.

3.3.3 Study Population and Sample Size

The study population comprised of the tourist population in all the notable attractions, mostly patronized by both international and domestic tourists, which amount to ninety (90) in number within the Lagos State. A total of forty-five (45), equivalent to 50% of these tourist attractions, were selected across the five (5) regional divisions of the study area as the sample frame. Meanwhile, a total of two thousand two hundred and fifty (2,250) tourists as respondents "sample units" participated in this study.

3.3.4 Sampling Procedure and Techniques

This study adopted a probability sampling procedure in achieving the research objectives, and a multistage sampling technique was used in achieving the administration of the research questionnaire. In the first stage, stratified sampling was used to identify the ninety (90) notable tourist attractions drawn across the Lagos State's five (5) regional divisions, which included Ikeja, Ikorodu, Lagos Island, Badagry, and Epe. All the tourist attractions were assigned numerical numbering to allow for possible random selection. At the second stage, simple random sampling was used in selecting fifty percent (50%) of the delineated tourist attractions in each of the regional divisions. Aggregately, a total of 45 tourist attractions were randomly picked for the study. At the third stage, a convenient sampling technique was used in sampling the tourists found available at the randomly selected tourist attractions. The opinions of the available people on visit at each selected tourist attraction were sampled to confirm those who were tourists or excursionists. In other words, those on excursion (less than 24 hours) were excluded and did not participate, while those on vacation (more than 24 hours) were encouraged to participate in the study.

3.3.5 Questionnaire Design and Reliability Test

The questionnaire was segmented into four sections with section A focusing on tourist profiles, which included location of attraction visited, sex, age, highest educational level, employment status, place of residence, nationality, average monthly income, percentage of annual income spent on tourism, and form of tourism visit etc. Section B focuses on tourist travel characteristics such as vehicle ownership, travel distance, nature of travel mode, form of travel mode, major modes of transportation used to access tourist destinations, and frequency of tourist visit. Section C contained questions on factors influencing travel modal choice for tourism ac-tivities, and Section D addressed questions on the service quality of travel modes for tourism activities and the overall satisfaction with the tourism activities in Lagos State.

The questionnaire design took the form of close-ended questions. The study used Cronbach Alpha for the reliability test, and the value of the scale used for sections C and D was 0.86 and 0.88, respectively. The content validity of the research questionnaire was confirmed by engaging twelve professionals from academic and industry. Six copies of the questionnaire were shared among professors and senior lectures within the research interests, while the remaining copies were shared among tourists and tour operators.

3.3.6 Method for Data Collection

The questionnaire instrument was used as the method of data collection method. This is complemented by researchers' field observations. The questionnaire was administered on

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carefully screened tourists found at the selected tourist attractions. The data for this study was collected between June and August 2022 in Lagos State. The questionnaire administration was conducted with the support of 12 research assistants spread across the five regional divisions of Lagos State. It is worthy to note that the research questionnaire was administered using the on-spot administration method and retrieved immediately after completion since it takes an average of 15 minutes to be completed.

3.3.7 Method of Data Presentation and Analysis

This study adopted both descriptive and inferential statistics in presenting and analysing the collected data from the field. The descriptive statistics were used in presenting the findings of objectives one to four using simple frequency and percentage distribution tables, cross-tabulation analysis, and index analysis. The index analysis that relies on the summation of weighted value SWV, relative mean index RMI, and mean index value MIV was employed on the five-point Likert's scale and a four-point Likert's scale with three (3) different forms of gradation value consisting of No at all influential =1, Slightly influential =2, Somewhat influential = 3, Very Influential = 4, and Extremely influential =5 for the five-point Likert's scale, and Strongly Disagree = 1, Disagree = 3, and Strongly Agree =4 as well as Strongly Dissatisfied =1, Dissatisfied = 2, Satisfied =3, and Strongly Satisfied =4 for the four-point Likert's scale. In line with Ref. [24], the SWV for each of the variables was obtained through the addition of the product of the number of responses to each of the indices of the variable identified and the respective weight value attached to each rating. Mathematically, it is expressed as:

$$SWV = \sum_{i=1}^{4} X_i Y_i \quad (1)$$

Where:
SWV = Summation of Mean Weighted Value
X_i = number of respondents to rating i,
Y_i = the weight assigned a value (i= 1, 2, 3, 4)

Meanwhile, the Relative Mean Index [RMI] for each of variable was arrived at by dividing the SWV by the total number of responses. Mean Index Value [MIV] is obtained by dividing the sum of RIM by the number of examined variables. This is mathematically expressed as

$$RMI = \frac{SWV}{\sum_{i=1}^{4} X_i} \quad (2)$$

The inferential statistical techniques of binary logistics regression were used in testing the research hypothesis which states that whether or not the quality of travel modes statistically influences the overall satisfaction with travel modes for tourism activities in Lagos state, Nigeria. The study identified 28 service quality parameters that could influence tourists' satisfaction with travel modes for tourism activities from the literature [14, 15, 18, 22, 28]. In other words, the study adopted the use of the statistical package for social sciences (SPSS) IBM version 25 for data computation and analysis.

3.4 Research Hypothesis

H_0: There is the statistical significance relationship between the service quality of travel mode for tourism activities and the overall satisfaction with the tourism activities in Lagos State, Nigeria. The research hypothesis was tested using Binary Logistic Regression.

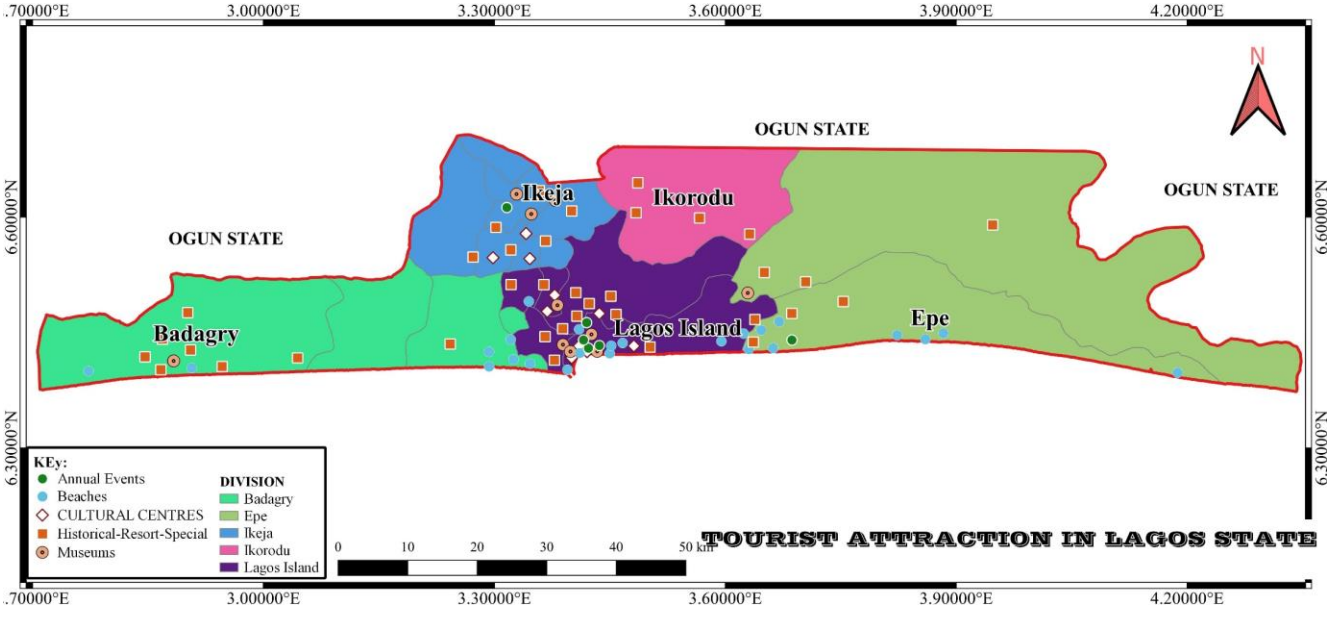

Figure 2. Lagos State showing the location of notable tourist attractions across the 5 administrative divisions

4. Results and Discussion

This sub-chapter presents the results and discussion in line with the study objectives.

4.1 Tourist Profile

Understanding the socio-economic status (SES) of tourists is important as it helps in understanding the behaviour and dispositions of the sampled tourists within the context of Lagos State, Nigeria. Table 1 presents the SES of the sample tourists, where findings on the gender, age group, educational level, employment status, marital status, average monthly income, and annual percentage of income committed to tourism were presented. The findings on the gender of the sampled tourists showed that the majority, about 60%, were male, while a slight above 40% were female. By implication, the male gender is more involved in tourism activities than their female counterparts in Lagos state, Nigeria. These findings are in tandem with the findings of Ref. [16]. Of the age groups of the respondents, the age group between 18 and 35 years accounted for more than one-third (38.5%), which was the largest. This was followed by the age group between 36 and 53 years, which represented 28.4% of the respondents. Those between the age group of 54 and 70 years accounted for less than a quarter (18.3%), while those over 70 years accounted for one-tenth (10.4%) of the respondents. The remaining 3.3% were those of the age group below 18 years and represented the least. A vivid observation of Table 1 of age distribution showed that the dominance of the respondents' age group is between 18 and 53 years, which indicates the most economically active group that represents major actors within the society.

Table 1 also revealed the educational level of respondents. A greater proportion, about half of the respondents (44.7%), were either university or polytechnic graduates, the equivalent of a first degree. This is followed by those who obtained the senior secondary school certificate, which represented a little more than a quarter (26.6%). Those who obtained a higher degree of post-graduate diploma, Masters, and or Ph.D. accounted for 22.8%, which is less than a quarter of the total respondents, while the primary school leaving certificate and its equivalent were less than one-tenth (4.4%). The remaining 1.4% of the respondents were those with no formal education, and accounted for the least group. The findings on the level of educational attainment of the sampled tourists in Lagos state indicated a high level of literacy for the respondents. This reflects the good literacy situation of tourists.

The structure of the average monthly income of the tourists in Lagos State showed that a greater proportion, and the majority, representing about half (43.5%) of the respondents, earned above N200,000 monthly. This is followed by those who earn between N150,001 and N200,000, which accounted for less than one-third (29.9%) of the respondents. Those who earned between N100,001 and N150,000 accounted for less than a quarter of the total respondents, 13.4% and 9.1%, respectively. Those who earned less than N50,000 accounted for less than one-tenth (4.1%) and represented the least dominant. By implication, these findings show that most of the respondents earn far above the national minimum wage of N30,000 per month in Nigeria and can afford to engage in tourism activities. These findings corroborate the findings of Ref. [1, 16].

Table 1 shows the percentage of income committed by the respondents to tourism. A majority of almost half of the respondents (43.7%) committed between 10% and 20% of their annual income to tourism activities. This was followed by those who committed less than 10% and between 21% and 30%, which accounted for more than one-third (36.4%) of the respondents; and more than one-tenth (13.4%), respectively. Those who committed more than 30% of their annual income to tourism accounted for less than one-tenth (6.5%) of the respondents and represented the least dominant committed income structure.

Table 1 also presents the nationality of the sampled tourists. The findings showed that a majority, more than two-thirds of the respondents (67%), are Nigerians and represented the largest group of respondents. This is followed by those who have their nationality within other African countries, which accounted for less than a quarter (19.1%), while the least number of respondents are those who are not Nigerians or from other African countries but from countries outside Africa. They accounted for 13.1%, which is more than one-tenth of the total sampled respondents. By implication, it is clear to report that the sample of tourists is spread across both international and domestic tourists.

The results on the form of tourism visited by the respondents were equally presented in Table 1. The findings showed that the majority of tourists on recreational/leisure visits accounted for more than two-thirds of the respondents (68.0%), representing the most dominant form of tourism visit in Lagos State. This is followed by those tourists on business visits, which accounted for more than one-tenth (10.2%) of the respondents. Those who came for sports/adventure-related visits, historical/cultural visits (educational related visits), and medical/health-related visits also accounted for less than one-tenth of the respondents, 8.1%, 7.9%, and 5.0%, respectively. Those who accounted for the least type of tourism visit were those whose religion-related visits represented less than 1% (0.8%). By implication, the nature of tourism attractions in the state, especially the beaches and the resorts, which are quite unique to the study area, attracts more visitors. Hence, the findings of this study differ from the findings of Ref. [16]

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Table 1. Tourists Profile

Tourists Profile	Lagos Island		Ikorodu		Ikeja		Badagry		Epe		Grand Total	
Gender	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Female	435	19.3	42	1.9	195	8.7	108	4.8	133	5.9	913	40.6
Male	615	27.3	58	2.6	155	6.9	242	10.8	267	11.9	1337	59.4
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0
Age Group	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Less than 18 years	15	7.0	4	0.2	17	0.8	15	0.7	24	1.1	75	3.3
18-35 years	297	13.2	13	0.6	106	4.7	179	8.0	271	12.0	866	38.5
36-53 years	262	11.6	61	2.7	147	6.5	102	4.5	90	4.0	662	28.4
54-70 years	258	11.5	17	0.8	70	3.1	54	2.4	13	0.6	412	18.3
Above 70 years	218	9.7	5	0.2	10	0.4	0	0.0	2	0.1	235	10.4
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0
Educational Level	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
No formal education	7	0.3	7	0.3	5	0.2	8	0.4	5	0.2	32	1.4
Primary	65	2.9	9	0.4	18	0.8	4	0.2	4	0.2	100	4.4
Secondary	295	13.1	11	0.5	76	3.4	103	4.6	114	5.1	599	26.6
First degree	373	16.6	20	0.9	176	7.8	194	8.6	242	10.8	1005	44.7
Higher degree	310	13.8	53	2.4	75	3.3	41	1.8	35	1.6	514	22.8
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0
Average Monthly Income	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Less than ₦50,000	41	1.8	29	1.3	2	0.1	9	0.4	12	0.5	93	4.1
₦50,000 - ₦100,000	154	6.8	11	0.5	27	1.2	9	0.4	4	0.2	205	9.1
₦100,001 - ₦150,000	104	4.6	7	0.3	75	3.3	58	2.6	58	2.6	302	13.4
₦150,001 – ₦200,000	269	12.0	26	1.2	114	5.1	113	5.0	150	6.7	672	29.9
Above ₦200,000	482	21.4	27	1.2	132	5.9	161	7.2	176	7.8	978	43.5
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0
Percentage of Income Committed to Tourism	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Less than 10%	377	16.8	43	1.9	108	4.8	145	6.4	147	6.5	820	36.4
10% - 20%	511	22.7	38	1.7	121	5.4	153	6.8	160	7.1	983	43.7
21% - 30%	114	5.1	11	0.5	71	3.2	36	1.6	69	3.1	301	13.4
Above 30%	48	2.1	8	0.4	50	2.2	16	0.7	24	1.1	146	6.5
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0
Nationality	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Nigerian	786	34.9	67	3.0	275	125.2	288	12.8	111	4.9	1527	67.9
Other African	87	3.9	27	1.2	19	0.8	41	1.8	255	11.3	429	19.1
Non-African	177	7.9	6	0.3	56	2.5	21	0.9	34	1.5	294	13.1
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0
Form of Tourism Visit	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Recreation/leisure	704	31.3	1	0.0	197	8.8	308	13.7	319	14.2	1529	68.0
Cultural/historical	16	0.7	29	1.3	53	2.4	42	1.9	38	1.7	178	7.9
Medical/health-related	35	1.6	25	1.1	34	1.5	0	0.0	19	0.8	113	5.0
Sport/Adventure	83	3.7	45	2.0	31	1.4	0	0.0	24	1.1	183	8.1
Business	194	8.6	0	0.0	35	1.6	0	0.0	0	0.0	229	10.2
Religion	18	0.8	0	0.0	0	0.0.	0	0.0	0	0.0	18	0.8
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0

4.2. Travel Characteristics of Tourists

Worthwhile, understanding the travel characteristics of tourists tangential to understanding the vacation travelers' behavior. Importantly, Table 2 presents the results of the travel characteristics of the sampled tourists during their vacation to Lagos State. On the insight into the respondents' choice of travel mode used to access the destination city for the vacation. Individuals that used public transport accounted for more than half (56.8%) of the respondents and represented the majority. The remaining percentage accounted for those who use private transport to get to their destinations. By implication, most of the tourists on vacation in Lagos State cannot do without public transport usage.

The results on the distribution of respondents on the form of transport for the tourism activities in Lagos State showed the dominance of the mono mode, that is, the use of a single mode of transport to accomplish their activities during the vacation, which represented 50.4%. This is closely followed by those who use intermodal transport services, that is, the use of more than one means of transport, which accounted for more than one-third (35.1%) of the respondents. Those who visited using multimodal, which accounted for less than a

quarter (14.6%), represented the least. Table 2 also presented the distribution of respondents' length of stay for the vacation. Respondents who booked for 2 days, which accounted for more than one-third (36.70%), represented the majority. This is closely followed by those who were staying for 3 days and above, which accounted for more than a quarter (33.7%) and less than a quarter (20.5%) respectively. The remaining percentage, which accounted for less than one-tenth (9.1%), are those staying for a day (one night), representing the smallest group. By implication, sample respondents have at least an overnight stay at or around the attraction during the vacation, thus confirming their true nature of being tourists and not excursionists.

Furthermore, Table 2 presented the distribution of the distance covered from home to the destination by the respondents. It is interesting to note that those who traveled and covered over 80 km from home to the destination, which accounted for more than one-third (38.2%), presented the most dominant. This is closely followed by those who cover between 61 and 80km, 41 and 60km, and 20 and 40km, which accounted for less than a quarter of the total, 21.4%, 19.8%, and 11.7%, respectively. Those who spent less than 20 km from their home to the destination accounted for less than one tenth (8.9%) and represented the least dominance.

The results on the distribution of the respondents on major travel means used to access the tourist destinations of interest within the study area were presented in Table 2. The findings showed that those who used private car or SUV to access their interested attractions in the destination city "Lagos State", which accounted for more than one-third of the respondents (39.5%), represented the most dominant travel means. This is followed by those who navigated the tourist attractions by bus, ride hailing, ferry/boat, mini-bus, and power bike/motor cycle, which accounted for less than a quarter of 16.9%, 15.6%, 12.5%, 11.8%, and 3.7%, respectively. It is interesting to note that no tourists travelled by BRT or trains to access their destinations. By implication, the BRT and train facilities are not linked to major tourist attractions mostly visited by tourists.

Table 2. Travel Characteristics of Tourists

Tourists Profile	**Lagos Island**		**Ikorodu**		**Ikeja**		**Badagry**		**Epe**		**Grand Total**	
Length of Stay	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
1 day	70	3.1	17	0,8	69	3.1	36	1.6	13	0.6	205	9.1
2 days	530	23.6	46	2.0	117	5.2	80	3.6	52	2.3	825	36.7
3 days	337	15.0	27	1.2	87	3.9	134	6.0	173	7.7	758	33.7
Above 3 days	113	5.0	10	0.4	77	3.4	100	4.4	162	7.2	462	20.5
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0
Distance Covered to Destination	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Less than 20km	33	1.5	10	0.4	5	0.2	101	4.5	51	2.3	200	8.9
20-40km	48	2.1	17	0.8	70	3.1	39	1.7	89	4.0	263	11.7
41-60km	121	5.4	7	0.3	119	5.3	68	3.0	131	5.8	446	19.8
61-80km	309	13.7	15	0.7	80	3.6	22	1.0	55	2.4	481	21.4
Above 80km	539	24.0	51	2.3	76	3.4	120	5.3	74	3.3	860	38.2
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0
Nature of Mode for the Visit	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Private transport	532	23.6	15	0.7	215	9.6	148	6.6	62	2.8	972	43.2
Public transport	518	23.0	85	3.8	135	6.0	202	9.0	338	15.0	1278	56.8
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0
Form of Transport Used	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Mono	431	19.2	14	0.6	231	10.3	220	9.8	237	10.5	1133	50.4
Intermodal	462	20.5	55	2.4	83	3.7	67	3.0	122	5.4	789	35.1
Multimodal	157	7.0	31	1.4	36	1.6	63	2.8	41	1.8	328	14.6
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0
Major travel means Used to Access Tourist Attractions	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Power bike/ motorcycle	67	3.0	0	0.0	14	0.6	1	0.0	1	0.0	83	3.7
Ferry/ boat	175	7.5	8	0.4	70	3.1	14	0.6	14	0.6	281	12.5
Car/SUV	354	15.7	90	4.0	140	6.2	151	6.7	154	6.8	889	39.5
Mini-bus	179	8.0	2	0.1	24	1.1	29	1.3	32	1.4	266	11.8
Bus (organized group)	102	4.5	0	0.0	65	2.9	85	3.8	129	5.7	381	16.9
Charter flight	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ride hailing	173	7.7	0	0.0	37	1.6	70	3.1	70	3.1	350	15.6
Train (organized group)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Bus Rapid Transit	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0

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4.3Factors Influencing the Travel Mode for Tourism Activities

Table 3 presents the findings on the factors influencing the modal choice of tourists for tourism activities in Lagos State using the Likert's scale measurement, which were graded based on five (5) points captured as: Not at all Influential = 1, Slightly Influential = 2, Somewhat Influential = 3, Influential = 4, and Extremely Influential = 5. The respondents were made to assess the factors that influence their travel mode for tourism activities in Lagos state and their responses were analyzed. From Table 3 presented, ten (10) factors were analyzed using Weighted Index Analysis in line with equations 1 and 2 presented in the methodology. The analysis produced a relative mean index of 30.076 and a mean index value of 3.0077 (Table 3). A close review of table 3 shows that 7 factors out of the ten (10) evaluated have a Relative Mean Index (RMI) greater than the MIV. According to the findings, the majority of the factors, more than two-thirds (70%), are good fits to influence respondents' modal choice for tourism activities along and within the destinations, while the remaining less than one-third are less influential factors.

Specifically, findings presented in Table 3 revealed that the choice of destination (3.9898), safety and security of travel mode (3.7080), and comfort and convenience of travel mode (3.5573) ranked as the top-three most influential factors among the ten (10) evaluated factors influencing modal choice for tourism activities. This is closely followed by travel mode availability (3.3924), length and nature of journey (3.3676), access to travel information (3.3924), and travel mode affordability (3.2760). However, the level of information available on tourism activities (2.0036), speed of travel mode (2.0000), and the organization of travel mode and trip characteristics were the least ranked influential factors affecting the decision on modal choice for tourism activities. By implication, the choice of the travel mode for tourist activities in Lagos State is greatly influenced by the choice of the destination in terms of where and how the destination or attractions activities are prepared, planned, and situated. These findings corroborate the study carried out in developed cities of the European continent as revealed by Ref. [10, 14, 30]. The safety and security level of the travel mode, the comfort and convenience of the travel mode are also crucial factors that influence modal choice for tourism activities, availability of the mode, the length and nature of the journey, the accessibility to travel information, as well as the affordability of the travel mod

Table 3. Factors Influencing the Travel Modal Choice for Tourism Activities

Factor	No at all influential	Slightly influential	Somewhat influential	Very Influential	Extremely influential	TWV	RIM	MIV	MD	RK
Length and nature of journey	227	680	1011	4284	1375	7577	3.3676	30.0769/10= 3.0077	0.36	5
Affordability of travel mode	222	950	2121	608	3470	7371	3.276		0.27	7
Organisation of travel mode and trip	1535	812	927	0	0	3274	1.4551		-1.55	10
Speed of mode	1072	880	1587	336	625	4500	2.0000		-1.01	9
Comfortability and convenient of travel mode	384	892	483	200	6045	8004	3.5573		0.55	3
Access to information	443	272	1164	3232	2375	7486	3.3271		0.32	6
Availability of transport mode	466	436	588	2828	3315	7633	3.3924		0.38	4
Choice of destination	19	424	492	4932	3110	8977	3.9898		0.98	1
Level of information available	1346	686	405	236	1835	4508	2.0036		-1.00	8
Safety and security of transport mode	116	634	1956	752	4885	8343	3.7080		0.70	2

4.4 Service Quality of Travel Modes and Satisfaction with Tourism Activities

4.4.1 Service Quality of Travel Mode

The service quality of travel modes for tourism activities was examined based on the perception of tourists using a Travel Mode Service Quality Index (TMSQI). The parameters used to develop the TMSQI were adopted and modified from the existing literature [14, 15, 18, 22]. Table 4 presents the findings on the service quality of travel modes for tourism activities (TMSQI) in Lagos State using the Likert's Scale measurement, which were graded based on four (4) points captured as strongly disagree = 1, strongly disagree = 2, agree = 3, and strongly agree = 4. Twenty-eight (28) variables across five (5) dimensions [Tangibility (6),

reliability (6), responsiveness (5), trust (5), and empathy (6)] were analyzed using Weighted Index analysis in accordance with equations 1 and 2 in the methodology. The analysis produced a weighted sum of 65.2550 and a mean index value (MIV) of 2.3305 for the TMSQI (Table 4)

Findings on the tangibility dimension revealed 5 out of 6 (90%) parameters in the TMSQI ranked above the MIV. It further revealed that the majority of the sampled tourists ranked travel modes with sufficient and comfortable seating (3.2818) as first, while travel modes with up-to-date facilities (1.9831) as the least quality of service of travel modes under tangibility. By implication, all travel modes are equipped with comfortable seating, but the facilities, including the seats and information, are not updated. Findings on the reliability dimension revealed that 2 out of 6 (one-third) ranked above the MIV. It further revealed that travel modes are dependable and do not breakdown (2.6280) and travel modes are timely and follow the route plan and schedules (1.4862) as the first and least service quality variables under the reliability of travel modes, respectively. By implication, travel modes do not breakdown and are dependable, but with poor transit time and route planning. Next to this is the findings on the responsiveness dimension, which revealed 3 out of 5 (60%) variables in the TMSQI ranked above the Mean Index Value MIV. Findings revealed that the majority of the respondents ranked terminal maintenance and support facilities in good condition for effective service delivery (2.5471) as the first and travel modes providing ease of ticketing and seat allotment (1.9076) as the least service quality variables under responsiveness. From these findings, it can be deduced that the travel modes are with good and well-maintained terminals, but ticketing and seating within the terminal are still poor. Findings on the trust dimension revealed 2 out of 5 (more than one-third) of the variables as a measure of TMSQI ranked above the MIV. Findings also revealed that the majority of tourist-ranked travel modes are not overcrowded enough to make the trip unpleasant (3.4044) and that travel modes provide up-to-date information on travel and traffic situations (1.6729) as the first and least variable service quality under trust. By implication, it can be deduced that travel modes in the study area are not overcrowded but are without updated travel and traffic information under the trust dimension. Findings on the empathy dimension revealed 1 out of 5 (less than a quarter) variables in the TMSQI ranked above the MIV. Table 4 further revealed that the majority of the tourists ranked travel modes according to frequency of service on various routes (3.3680) and travel modes with entertainment facilities (1.915) as the 1st and least service quality variables and empathy. From the findings, it can be deduced that although travel modes maintain a frequency of service on various transit routes, they do not have enough entertainment facilities, such as television and radio, to make trips pleasurable.

A vivid observation of Table 4 on the assessment of the TMSQI revealed that a half-equivalent to 50% of the total evaluated parameters (28) ranked above the MIV of 2.3305. The findings show that the travel modes available for tourism activities in Lagos state are: not overcrowded to make trips unpleasable (3.4044); maintains frequency of service on various routes (3.3680); maintains sufficient and comfortable seating (3.2818); drivers appear friendly, neat, and smart (2.9262); accessible to all categories of tourists (2.8516); drivers behaviour install safety and confidence in passengers (2.6844); dependable and does not breakdown (2.6280); spacious, safe, and comfortable (2.5862); terminals' maintenance and supportive facilities are in good condition for effective service delivery (2.5471); modal services are always available (2.5342); appropriate number of stops with shield (2.4636); service providers and drivers are trained and responsive (2.4520); vehicles' condition is good, neat, with an odorless interior (2.4298); and with facilities that are always readily available for use (2.3618), both of which scored above the MIV and ranked 1st-14th). However, four variables were ranked below the MIV of 2.3305, including: travel modes are timely and operationally effective for tourism activities (2.2227); environmentally friendly (2.1480); transport information is readily available and easily accessible by tourists (2.1356); passenger interest and satisfaction are prioritized (2.0676); are with up-to-date facilities and operational information (1.9831); with affordable fare charges (1.9640); with adequate functional entertainment facilities (1.9151); provide ease of ticketing and seat allotment (1.9076) and maintain security measures against crime (1.9049). Other parameters with the lowest rankings are: travel mode maintaining a timely and straight procedure for handling complaints (1.8369); maintaining a special treat for vulnerable groups (1.7600); with a timely and effective complaints handling procedure at the terminal (1.7316); providing information on travel and traffic situations (1.6729); and timely and following the route plan schedules (1.4862). Furthermore, it is interesting to note that the quality of service of the existing travel modes for tourism activities in the study area is of poor service quality and unsatisfactory as three (3) out of the five (5) evaluated service quality dimensions (reliability, trust, and empathy), an equivalent 60%, are rated as unsatisfactory, while the remaining 40% are rated satisfactory, which are tangibility and responsiveness of travel mode. Hence, the service quality of these modes does not meet the expectations of tourists. The reason for the increasing use of personal cars and vehicles for tourism activities in Lagos state is not far-fetched from the findings. To achieve sustainable tourism activities, there is a need to improve the quality of services offered by travel modes, most especially the public transport modes which area always appropriate for choice and captive riders tourists and other tourism beneficiaries.

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Table 4. Service Quality of the Travel Mode

Factor	SD	D	A	SA	TWV	RIM	MIV	MD	RK
Tangibility: Travel mode is accessible to all categories of tourists	556	292	1872	3696	6416	2.8516		0.52	1
Travel mode is spacious, safe and comfortable	801	94	2052	2872	5819	2.5862		0.26	8
Travel mode is in good condition, neat with odorless interior	910	94	2127	2336	5467	2.4298		0.10	13
Drivers appear friendly, neat and smart	442	172	2754	3216	6584	2.9262		0.60	4
Travel mode maintains sufficient and comfortable seating	34	18	4488	2844	7384	3.2818		0.95	3
Travel mode is with up-to-date facilities and information	1217	472	1245	1528	4462	1.9831		-0.35	19
Reliability: Travel mode is timely, follows up the route plan/schedule	1686	394	612	652	3344	1.4862		-0.84	28
Travel mode is dependable and does not breakdown	681	8	3108	2116	5913	2.6280		0.30	7
Travel mode fare charges are affordable	1339	76	1464	1540	4419	1.9640		-0.37	20
Service providers and drivers are trained and responsive	878	246	1809	2584	5517	2.4520		0.12	12
Complaints-handling procedure at terminal is time effective	1288	946	882	780	3896	1.7316		-0.60	26
Maintains timely and straight procedure for handling complaints	1277	726	930	1200	4133	1.8369		-0.49	24
Responsiveness: Travel mode service is always available	685	436	2421	2160	5702	2.5342		0.20	10
Travel mode service is timely and operational effective	980	520	1617	1884	5001	2.2227		-0.11	15
Travel mode provide ease of ticketing and seats	1269	604	891	1528	4292	1.9076		-0.42	22
Travel mode terminals maintenance and supportive facilities are in good condition for effective repair and service delivery	763	400	1740	2828	5731	2.5471		0.22	9
Travel mode has appropriate number of stops with shield	807	456	1740	2540	5543	2.4636		0.13	11
Trust: Travel mode maintains security measures against crimes	1114	986	1158	1028	4286	1.9049		-0.43	23
Drivers behavior install safety and confidence in passengers	585	432	2319	2704	6040	2.6844		0.35	6
Travel mode is not overcrowded to make trip unpleasable	22	160	3342	4136	7660	3.4044		1.07	1
Travel mode provide information on travel and traffic situation	1425	860	303	1176	3764	1.6729		-0.66	27
Travel mode maintains a special treat for vulnerable groups	1305	898	681	1076	3960	1.7600		-0.57	25
Empathy: Transit information is readily available and easily accessible	1043	582	1452	1728	4805	2.1356	65.2553/ 28 = 2.3305	-0.19	17
Passenger interest and satisfaction is prioritized	1006	616	2142	888	4652	2.0676		-0.26	18
Travel mode facilities are always readily for use	832	434	2268	1780	5314	2.3618		0.03	14
Travel mode maintain frequency of service on various routes	20	230	3396	3932	7578	3.3680		1.04	2
Travel mode is environmental friendly	1033	596	1416	1788	4833	2.1480		-0.18	16
Availability of entertainment facilities (radio, TV)	1148	826	1263	1072	4309	1.9151		-0.42	21

4.4.2 Satisfaction with the quality of tourism activities

Further investigations were conducted to establish tourists' satisfaction with the quality of the experienced tourism activities in Lagos State, Nigeria, and the results of this analysis are presented in Table 5 based on the regional delineation and aggregate scores. It is interesting to note that findings on regional delineation showed that the majority of the respondents—over 60%—were satisfied with the quality of tourism activities in Lagos Island (65%), Ikeja (64%), and Epe (62%), while more than half of the respondents were not satisfied with the quality of tourism activities in Ikorodu (51%), and Badagry (74%). In summary, more than half (over 57%) of the respondents were satisfied with the quality of tourism activities in Lagos State, Nigeria, while the remaining 43% were not satisfied with the quality tourism activities in Lagos State. The reason for the relatively close percentage between those who were satisfied (57%) and unsatisfied (43%) is not far-fetched from the poor tourism experience, which is directly linked to the complex traffic situation and unpredictable cost of transportation, unavoidable mobility difficulties, and complex and corrupt immigration and customs procedures. By implication, the quality of travel mode and tourism activities, affects the expectations and satisfaction tourists as well as affects their experience and tourism image of Lagos State.

Table 5. Overall satisfaction with quality of tourism activities

Overall Satisfaction with quality of tourism activities	Lagos Island		Ikorodu		Ikeja		Badagry		Epe		Grand Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Strongly Dissatisfied	88	3.9	19	0.8	46	2.0	136	6.0	38	1.7	327	14.5
Dissatisfied	282	2.5	32	1.4	81	3.6	124	5.5	114	5.1	633	28.1
Satisfied	490	21.8	24	1.1	172	7.6	65	2.9	184	8.2	935	41.6
Strongly Satisfied	190	8.4	25	1.1	51	2.3	25	1.1	64	2.8	355	15.8
Sub-total	1050	46.7	100	4.4	350	15.6	350	15.6	400	17.8	2250	100.0
Sum of Weighted Value	5818											
Mean	2.5858											

Source: Authors' fieldwork, 2022

4.5 Hypothesis Testing

Hypothesis statement in null form:

H0: There is no significant relationship between the service quality of travel modes and the overall satisfaction with the quality of tourism activities in Lagos State

In a bid to test the postulated hypothetical statement three, which is examined to understand the statistically significant relationship between the service quality of travel modes and the overall satisfaction with the quality of tourism activities in Lagos State, Nigeria, further investigations were conducted using binary logistic regression (BLR) analysis. The logit regression analysis measures and defines the relationship between the dependent variable and independent variables as it establishes and explains the extent of the relationship between a binary outcome and a group of predictors, or independent variables. In other words, the BLR Analysis was used to determine whether or not there is a statistically significant relationship between the service quality of travel modes and the overall satisfaction with the quality of tourism activities. That is, it established the extent to which the tourists' overall satisfaction with the quality of tourism activities is explained by the quality of travel modes for tourism purposes in the study area. The dependent variable, which is the variable to be predicted (tourists' overall satisfaction with tourism activities), was dichotomously recoded and transformed into dummy or binary variables of 0 and 1 (from the four-point Likert's scale as very dissatisfied/dissatisfied = 0 and satisfied/very satisfied = 1). The independent variables or predictors (the service quality of travel mode), which are twenty-eight (28) variables captured under five (5) dimensions (tangibility, reliability, responsiveness, trust, and empathy), were also transformed to a dichotomous binary digit of 0 and 1 (strongly disagree/disagree = 0 and agree/strongly agree = 1). In other words, using the variable defined above, the logit regression equation for this hypothetical statement is expressed as:

$$\text{Logit (y)} = Log\left\{\frac{P}{IP}\right\} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + - - - + \beta_{28} X_{28} \ldots (3)$$

Where:

Logit (y) = the binary outcome dependent variable indicating failure or success of the overall tourist satisfaction with quality of tourism activities

β1, β2, β3, β4, β5…….. β28 = the parameters of the model

$X_1, X_2 X_3, X_4, X_5$ ……. X_{28} = the predictors or the independent variables

P= the probability of failure or success of the independent variable.

It is worth knowing that the model, through the goodness-of-fit statistics (omnibus tests of model coefficients), explained the chi-square results and significance values presented in Table 6, was used to determine where the model adequately describes the data in the model and explain the overall significance of the predictors' variables in the BLR analysis. Significantly, the results show a chi-square value of 586.893, which reaches a significant level with a p-value of 0.000 less than the table value of 0.05 alpha level. From this analysis, it is crystal clear that the dependent variable (overall tourists' satisfaction with the quality of tourism activities) is statistically significantly predicted by the predictor variables. Given this, the model is showing a good fit. This implies that there is a statistically significant relationship between the service quality of the travel modes and the overall tourist satisfaction with the quality of tourism activities. Hence, these findings established that the overall satisfaction with the quality of tourism activities in Lagos State, Nigeria, is statistically significantly explained and predicted by the service quality of the travel modes (or is a function of the service quality of the travel modes) for tourism activities in Lagos State, Nigeria. The decision on this hypothetical statement is to accept H1 (the alternative hypothesis) and reject H0 (the null hypothesis). By implication, the better the service quality of the travel mode for tourism activities, the more satisfaction the tourists would derive from the tourism activities in the study area. Thus, the greater the satisfaction with tourism activities, the greater the intention to return and recommend them, as well as the tourism image of Lagos State, Nigeria.

Furthermore, the findings through the mode summary show the Cox & Snell R Square and NagelKerke R Square results in Table 6, sometimes referred to as the pseudo-R Square value, and explain similar results and findings of the R Square and Adjusted R Square in multiple regression analysis to show the level of explained variation in the

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dependent variable. In other words, the Cox & Snell R Square value shows 0.320 and NagelKerke R Square shows 0.409. As a result, the explained variation in the dependent variable ranges from 32% to 41% of Cox & Snell R-square and NagelKerke R-square, respectively, indicating a strong relationship between predictors and the outcome, that is, a strong relationship between the service quality of travel modes and overall satisfaction with the quality of tourism activities, as shown in Table 6.

Also, the results presented under the classification table in Table 6 explain the modal prediction level. In other words, Table 6 shows the percentage of cases correctly classified and predicted by the model, as well as the percentage of cases established from the dependent variable assessed, as well as the effectiveness of the predicted classification versus the actual classification. Hence, the results from the classification table show that 592 are observed to be 1 (very satisfied and satisfied) and are correctly predicted as 1. 1,014 cases are observed to be 1 (very satisfied and satisfied) but predicted to be 0, 289 cases are observed to be 0 (very dissatisfied and dissatisfied) and are correctly predicted as 0, and 335 cases are observed to be 0 but predicted as 1. In summary, the overall percentage of the cases correctly predicted by the model is 71.4, indicating that the model was able to classify 71% of all the cases correctly.

Furthermore, the results displayed under the variables in the equation table presented in Table 6 show the contribution of each independent variable to the models through the Wald Test in the Wald column. The Wald Test results explain the significant and non-significant predictor variables that contribute to the model at the alpha level of 0.05. From the results, 18 variables out of the twenty eight (28) predictors contributed significantly to the model prediction, while the remaining 10 predictors didn't contribute significantly to the model prediction. By implication, this findings revealed that a unit change and improvement in the service quality of travel modes which include travel mode is spacious, safe and comfortable (TANGSPACIOUS2, Sig. = 0.011), driver appear friendly, neat and smart (TANGFRIEND4, Sig. = 0.000), travel mode is timely and follow the root plan/schedule (RELTIME7, Sig. = 0.001), travel mode is dependable and does not breakdown (RELDEPEN8, Sig. = 0.000), service providers and drivers are trained and responsive (RELSERVEPROV10, Sig. = 0.000), complaints-handling procedure at the terminal is timely and effective (RELHAND11, Sig. = 0.000), maintain timely and straight procedure for handling complaints (RELMAINT12, Sig. = 0.046), travel mode service is always available (RESPMODESERVICE13, Sig. = 0.000), travel mode is timely and operational effective (RESPTIMELY14, Sig. = 0.000), travel mode provide ease of ticketing and seat allotment (RESPEASETICK15, Sig. = 0.000), travel mode terminals, maintenance and supportive facilities are in good condition for effective service delivery (RESPTERMINAL16, Sig. = 0.008), travel mode has appropriate number of stop with shied (RESPOAPPRSTOPS17, Sig. = 0.000), driver behaviour install safety in passenger/tourist (TRUSTBEHAV19, Sig. = 0.000), travel mode provide information on travel and traffic situation (TRUSTTRAFFICSITU21, Sig. = 0.000), travel mode maintain a special treat for vulnerable group (TRUSTSPECIALTREAT22, Sig. = 0.000), transit information is readily available and easily accessible (EMPTRANSITINFO23, Sig. = 0.033), travel mode facility are always readily available for use (EMPFACIL25, Sig. = 0.000), availability of entertainment facility (EPNENTERTAIN28, Sig. = 0.000) will increase overall satisfaction with tourism activities in Lagos State. Improvements in the tangibility, dependability, responsiveness, trust, and empathy of the travel mode for tourism activities along and within destinations will thus increase satisfaction with tourism activities in the study area.

Table 6. Binary logistic regression of the statistical relationship between the service quality of travel mode and the overall satisfaction with the quality of tourism activities in Lagos State

omnibus Tests of Model Coefficients				
		Chi-square	Df	Sig.
Step 1	Step	586.893	28	.000
	Block	586.893	28	.000
	Model	586.893	28	.000
Model Classification				
		Overall satisfaction with travel mode (Predicted)		
		Strongly Dissatisfied/Dissatisfied (0)	Satisfied/ Strongly Satisfied (1)	Percentage Correct
Overall satisfaction with travel modes (Observed)	Strongly Dissatisfied/Dissatisfied (0)	1014	289	77.8
	Satisfied/ Strongly Satisfied (1)	335	592	62.5
Overall Percentage				71.4
Model Summary				
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square	Step
1	2475.705[a]	.320	.409	1
a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.				

Variables in the Equation							
Step 1[a]		B	S.E.	Wald	Df	Sig.	Exp(B)
	TANGACCESS1	.181	.116	2.436	1	.119	1.198
	TANGSPACIOUS2	.244	.135	3.263	1	.041	1.276
	TANGGOODCOND3	-.134	.138	.944	1	.331	.874
	TANGFRIEND4	-.705	.142	24.708	1	.000	.494
	TANGTRAVELMODEMA5	.464	.373	1.548	1	.213	1.590
	TANGFACI6	-.008	.123	.004	1	.950	.992
	RELTIMELY7	.533	.161	11.027	1	.001	1.704
	RELDEPEN8	-.662	.121	29.915	1	.000	.516
	RELFARE9	.060	.127	.227	1	.634	1.062
	RELSERVPROV10	.588	.121	23.686	1	.000	1.801
	RELHAND11	-.744	.142	27.389	1	.000	.475
	RELMAINT12	.372	.186	3.994	1	.046	1.450
	RESPMODESERVICE13	1.012	.123	67.664	1	.000	2.752
	RESPTIMELY14	-1.080	.131	68.291	1	.000	.340
	RESPEASETICK15	.485	.133	13.277	1	.000	1.625
	RESPTERMINAL16	.304	.115	6.977	1	.008	1.356
	RESPOAPPRSTOPS17	.845	.132	41.040	1	.000	2.328
	TRUSTSECMEANS18	-.188	.129	2.119	1	.145	.829
	TRUSTBEHAV19	.576	.123	22.052	1	.000	1.778
	TRUSTOVERCOW20	.518	.304	2.895	1	.089	1.678
	TRUSTRAFFICSITU21	.633	.144	19.438	1	.000	1.884
	TRUSTSPECIALTREAT22	.847	.133	40.456	1	.000	2.334
	EMPTRANSITINFO23	.295	.139	4.527	1	.033	1.344
	EMPASSENGERINT24	-.196	.132	2.228	1	.136	.822
	EMPFACIL25	-.437	.117	14.005	1	.000	.646
	EMPFREQMODE26	-.333	.260	1.643	1	.200	.717
	EMPENVFRIENDL27	.058	.122	.231	1	.631	1.060
	EMPENTERTAIN28	.928	.123	56.775	1	.000	2.530
	Constant	-2.270	.558	16.524	1	.000	.103

5. Conclusion and Recommendations

This study revealed and concluded that the quality of service of travel modes is a pre-condition for sustaining tourism activities through tourists' satisfaction in Lagos State, Nigeria. Adequate provision, planning, regulation, and management of operations, as well as adequate facility maintenance of travel modes would: facilitate tourist ease of accessibility to and out of destinations; provide quality transport services within the destinations; boost tourism image; enhance tourists' intention to visit and revisit destinations; improve ease of linkage and fulfilment of tourist demands to tourism support facilities and services including accommodation, shopping, and other hospitality requirements not only in Lagos State but in both other states in Nigeria with similar tourism potential. Despite these, it is worth knowing from the major findings of this study that tourists are not satisfied with the quality of services and travel modes available for tourism activities in Lagos State. Although the tourists are fairly satisfied with the tangibility and responsiveness dimensions of the service quality of the travel mode, they mostly found the dimensions of the reliability, trust, and empathy of travel modes to be of poor service quality and thus not satisfactory. Meanwhile, the findings of the hypothetical statement show that the variables in the model that are the parameters of the service quality of travel mode best predict the overall satisfaction with travel modes of tourism activities in the study area. Therefore, there is a need for urgent and huge investment in technical and measures to improve the quality of travel modes in Lagos State towards mitigating the challenges attributed to travel modes' performance, such as congestion, unpredictable cost of commuting and travel time, and poor accessibility of travel public transit for tourism activities, as well as to benefit tremendously from the potential attributed to tourism activities.

To achieve an increased tourist's satisfaction with tourism activities and facilitate sustainable tourism through improved service quality travel modes in Lagos State, Nigeria, there is a need for immediate action on measures to minimize both the operational characteristics and management issues attributed to the existing travel modes. These measures include continuous improvement in transport infrastructure provision that would facilitate efficient service quality of the travel modes, especially reliability, trust, and empathy; strengthening the implementation of transport and traffic policies; collaboration of transport and tourism institutions in projects and program development and execution that would

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improve the quality of tourism activities through travel modes; and involvement of private participation in infrastructure support provision and investment; and establishing a special institutional framework for tourist transport planning. The Lagos State would improve its tourism attractiveness to both domestic and international tourists, resulting in an increase in international arrivals, overnight stays, revenue generation, tourism image, and tourism contribution to GDP.

REFERENCES

[1] Adeleke, B.O. and Ayantoyinbo, B., "Correlate of transport and tourism infrastructure development in Nigeria", International Journal of Advanced Research, vol.7, no.2, pp.311-320, 2019.

[2] Adeniji, K., "Transport challenges in Nigeria in the next two decades", Monograph of Nigeria Institute of Social and Economic Research (NISER), vol.1, no.3, pp.40-67, 2000.

[3] Badejo, B.A., "Transporting the future today: portrait of Nigeria", Inaugural lecture, Olabisi Onabanjo University, Ago-Iwoye, Ogun State, 2014.

[4] Bramwell, B., and Lane, B., "Getting from here to there: Systems change, behavioural change and sustainable tourism", Journal of Sustainable Tourism, vol.21, no.1, pp.1–4, 2013.

[5] Ezeuduji, I. O., and Onyeagba, J. O., "Transport infrastructure and tourism development in Lagos State, Nigeria", Journal of Sustainable Development in Africa, vol.21, no.2, pp.59-73, 2019.

[6] Hibbs, J., "An introduction to transport studies. The Institute of Logistic and Transport (3rd ed.)", Kogan Page Limited, London, 2000.

[7] Kantawateera, K., Naipinit, A, Sakolnakorn, T. P. N., and Kroeksakul, P., "Tourist transportation problems and guidelines for developing the tourism industry in KhonKaen, Thailand", Asian Social Science, vol.11, no.2, pp.89-95, 2015.

[8] Kovačić, M. and Milošević, T., "Interdependence of transport and tourism", Pomorski zbornik, vol.52, pp.99-111, 2016.

[9] Lagos State Government, "Lagos State official report", Lagos State Government, Ikeja, 2022.

[10] LaMondia, J., Snell, T., and Bhat, C.R, "Traveler behavior and values analysis in the context of vacation destination and travel mode choices: European Union studies", The 88th Annual Meeting of Transportation Research Board, Washington DC, 2009.

[11] Laws, E., "Tourism marketing: Service quality and management perspectives". Stanley Thornes, Cheltenham, 1991.

[12] Leiper, N., "Tourist attractions systems". Annals of Tourism, vol.17, pp.384–387, 1990.

[13] Li, X., Li, X., and Hudson, S., "Tourism and the economy: A global view", In S. F. Witt & L. Moutinho (Eds.), Tourism marketing: A strategic approach (pp. 77-95). Sage Publications, 2013.

[14] Litman, T., "Valuing transit service quality improvement", Journal of PublicTransportation, vol.11, no.2, pp.43-63, 2008.

[15] Madu, J.C. and Madu, S.N., "Destination attributes affecting tourist readiness to recommend Lagos State (Nigeria) for tourism", SAJEMS, vol.5, no.3, pp.663-682, 2002.

[16] Murambi, D.N. and Bwisa, H.M., "Service quality and customer satisfaction in public transport sector of Kenya: A survey of shuttle travelers in Kitale terminus", International Journal of Academic Research in Business and Social Sciences, vol.4, no.9, pp.402-412, 2014.

[17] Ndikom, O.B., "Element of transport management", Bunmico Publishers, Lagos, 2008.

[18] Noor, H., Nasrudin, N. and Foo, J., "Determinants of customer satisfactions of services quality: city bus services in Kota Kinabalu, Malaysia", Procedia- Social and Behavioral Science, vol.153, pp.595-605, 2014.

[19] Okoli, C. I., Okafor, C. O., and Agunanne, I. O., "Analysis of transportation infrastructure and tourism development in Lagos State, Nigeria", Journal of Tourism and Hospitality Management, vol.6, no.2, pp.19-27, 2018.

[20] Oyesiku, K.O., "Transport and logistics in Nigeria", Ibadan: HEBN Publishers, Ibadan, 2021.

[21] Page, S., "Transport and Tourism: Global Perspectives". Harlow, Pearson Prentice Hall, 2009.

[22] Parasuraman, A., Zeithaml, V.A. and Berry, L.L., "SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality". Journal of Retailing, vol.64, no.1, pp.1-7, 1998.

[23] Pratiwi, A., "Popular Destinations in Tourism: Case Study of TripAdvisor", Advances in Social Science, Education and Humanities Research, vol.426, pp.359-363, 2018.

[24] Salisu, U. O., Akanmu, A. A., Sanni, S. M., Fasina, S. O., Ogunseye, N. O., Ogunsesan, A.S., and Olatunji, O. M., "COVID-19 related socio-economic impacts and palliative care deliveries during lockdown in Nigeria: A case study", International Journal of Logistics Research and Applications, pp.1-31, 2021. DOI: 10.1080/13675567.2021.1939665

[25] Salisu, U.O., "State of transport administrative structure in Lagos, Ogun and Oyo states, Nigeria", Journal of Spatial and Organizational Dynamics, vol.VII, no.1, pp.68-85, 2019.

[26] Salisu, U.O. Odewumi, S.G., Abdul-Azeez, F.I, "Understanding the nexus between transport infrastructure and sustainable tourism development in Nigeria: A review of concepts", Nigeria Journal of Logistics and Transport, vol.1, pp.117-151, 2022.

[27] Sorupia, E., "Rethinking the role of transportation in tourism", Proceedings of the Eastern Asia Society for Transportation Studies, vol.5, pp.1767-1777, 2005.

[28] Transport for London, "Bus customer satisfaction", 2015. Available at http://content.tfl.gov.uk/stp 20150715-part-1-item10-bus-customer-satsfaction.pdf

[29] Truong, N.V. & Shimizu, T., "The effect of transportation on tourism promotion: a Literature review on application of the Computable General Equilibrium (CGE) Model", Transportation Research Procedia, vol.25, pp.3096–3115, 2017.

[30] United Nations World Tourism Organization [UNWTO], Sustainable development of tourism conceptual definition. United Nations World Tourism Organization, Madrid, 2018.

[31] United Nations World Tourism Organization, "UNWTO Tourism Highlights 2019 Edition", 2019. https://www.e-unwto.org/doi/pdf/10.18111/9789284421152.