




Determinants and perception of visitors' satisfaction in Nigerian protected areas

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Abstract

Visitors' satisfaction is an important component of conservation that could be used to improve protected area management in order to increase conservation efficiency. Therefore, this study assessed visitors' perception and some demographic factors, park interpretation and human relations in regard to their influences on tourist satisfaction in Okomu National Park and Yankari Game Reserve, Nigeria. The data was collected through the use of questionnaire randomly administered to 45 visitors in each protected area. The questionnaire was designed to cover the respondents' demographic characteristics, perception of park interpretive service, level of human relations and level of visitors' satisfaction. Data collected were analyzed descriptively in form of frequency counts, percentages means and standard deviation. Results revealed that Satisfaction of visitors with park services was significantly influenced by sex ($p < 0.01$), marital status ($p < 0.01$) religion ($p < 0.01$), age ($p < 0.05$) and educational status ($p < 0.05$). Park interpretation and human relations to tourists had a significant correlation ($r = 0.482$, $p \leq 0.01$) with the satisfaction of visitors with park service. The study concludes that the socio-economic status, beliefs and expectations of the tourist in terms of demographic influence should be planned for in order to meet their needs and thus obtain their support as well as meet the expectations of the visitors.

Keywords: Park interpretation, Human relation, Protected area, Visitors' satisfaction, Nigeria

INTRODUCTION

Park management strategies in the past did not involve any potential human support and were often focused on imposing strict rules regarding access to the protected area (PA) and the use of natural resources from the protected areas' territory (Weladji *et al.*, 2003 and Vodouhe *et al.*, 2010; Jacob *et al.*, 2020a). However, enlistment of popular support in the management of natural resources have always proved to be more successful than otherwise (Muhumuza and Balkwill, 2013). The use of PAs by the public could be both non-consumptive and consumptive. To a large extent non-consumptive use relates to ecotourism and/or game viewing and recreation. Many countries of the world identify ecotourism as a major industry of the National economy (Roche and Wallington, 2014). Ecotourism tends to serve as a viable approach to conserve both natural and cultural resources towards sustainable development. Ecotourism generates revenues for conservation of protected areas, affects national economy and offer

economic value to neighboring communities (Omonoma and Kayode, 2011; Roche and Wallington, 2014).

In Nigeria, ecotourism is one of the important ways the country can harness the gains of its wildlife resources. However, the tourism industry in the country is faced with serious challenges such as natural disasters among them are flooding and drought caused by climate change; unsustainable utilization of the available renewable natural resources and conflict of interests arising from increased human population with its attendant economic pressures (Ogogo *et al.*, 2010); and recently, the fear of attacks of popular destinations by terrorists and bandits due to ethnic, racial, economic and religious conflicts., unacceptable government policies, vengeance and high level of intolerance and restiveness among the youths due to economic hardship in the country (Jacob *et al.*, 2011; 2013; 2018a, b, c; 2019; 2020b). Considering the aforementioned scenarios, disruptions in eco-destination businesses are bound to occur if the key players need in the sector are not understood and tended to in order to encourage them or rather restore their patronage and while meeting their satisfaction for sustainability. This is especially important now as most important ecotourism sites are laden with risk from terrorists' attacks.

Understanding the peculiarity of visitors is essential in ensuring tourists' compliance and support, and is crucial for favorable outcome of conservation efforts (Szell, 2012). However, there is little research in this element of protected area management in the areas understudied. Very little is known about what typifies visitors' visitation to the parks for its wildlife resources as well as the unique attributes that influences their satisfaction and responses to management actions. Visitor's satisfaction is said to be influenced by three antecedents (Shahrivar, 2012). They are the perceived quality, the price (perceived value) and expectation. Also, Huh (2002) noted that cultural factors as well as the socioeconomic, demographic, and behavioral pointers, such as age, gender, income, marital status occupations, education, or ethnic background are important factors for about a visitor's satisfaction, hence they must be taken into account for long-term economic sustainability, high quality experience by tourists and ecological sustainability of the wildlife tourism industry.

According to Bennett (2000), human relations contributes to a balanced service provision. A personal relationship is the ability of service providers to relate to customers as people, to establish rapport with them and to meet their specific needs (Bennett, 2000). Some components that contribute to personal relations are attributes, body language and tone of voice, attentiveness, guidance and problem solving. In similar vein, Moreri-Toteng (2007) research on variables contributing to satisfaction in wildlife tourism contends that, the human aspect of the service delivery system is a vital contribution to service quality. Amongst others, important human aspects of the delivery system are clear communication of expectations to staff, trained staff, clear recruitment policies and strategies, specified tourists' roles, good human relations skills and problem solving skills. The presence of the listed elements in service provision would ensure that staff are committed towards providing quality services (Moreri-Toteng, 2007). According to Moreri-Toteng (2007), understanding of human relations in the tourism industry is necessary because service is a result of the interaction between tourists and the service system, that is, staff, environment and facilities.

Also, a visitor's satisfaction in a park is influenced by the level of knowledge he/she gets to know about park, hence the use of interpretation by parks to spur their visitors (Higginbottom, 2004; Shahrivar, 2012).

The original definition of interpretation provided by Tilden states that interpretation is: 'an educational activity which aims to reveal meanings and relationships through the use of original objects, by firsthand experience, and by illustrative media, rather than simply to communicate factual information' (Higginbottom, 2004). Other definition describes it as 'the process of communicating to people the significance of a place or object so that they enjoy it more, understand their heritage and environment better; and develop a positive environmental attitude toward conservation (Markwell and Weiler, 1998 and Moscardo, 1998). Interpretative information about sites, their features, geographical and historical information about the area, the culture and environment, accessible nightlife and entertainment, and attractions other than mainstream or adventure activities are crucial. According to Shahrivar (2012), the quality of the presentation of these information is essential, hence it requires better organization of areas, text or labeling, audio-visual presentations (setting, frequency, quality). Furthermore, the use of models and displays, up-to-date photos, pamphlets and maps with more information on them are also relevant.

From the foregoing, this study seeks to examine the relationship between visitor's socio-demographic characteristics, park interpretation, human relations and their satisfaction in the study areas. The paper will also determine the effect by identifying which socio-demographic characteristic that significantly influence the level of visitor's satisfaction at the study sites in order to meet the need of the target market in the tourism industry and for strategic planning purposes.

METHODOLOGY

Study Areas

This research was carried in two protected areas (PAs) in Nigeria namely Okomu National Park and Yankari Game Reserve. Okomu National Park (OKNP) occupies an area of land of 197sqkm, between longitude 5°E and 5°30'E and latitude 6°N and 6°N in the Ovia South-West Local Government Area of Edo State (Ogunjinmi *et al.*, 2008). The Yankari Game Reserve is an equivalent game reserve, that has all that is required to give it a National park status and has the same level of protection though managed by the state. The game reserve has been acknowledged as the most popular yet controversial eco-destination as well as the only National park that was reverted to a game reserve in 2006 by the then National Assembly (Ijeomah and Odunlami, 2013). It located in Bauchi State on latitude 9°50'N and longitude 10°30'E within the savanna ecological zone of Nigeria occupying with an area of 2244 km² (Marshal, 1985)

Sampling Design and Data Collection

The convenience sampling method was applied in this survey; hence the sample unit was any visitor who was at the study sites as at the time of research. Visitors who visited the park and those found within the park at the park entry points were approached and their consents sought before the questionnaire was administered. Forty-five (45) respondents from each parks who agreed to be interviewed or responded to the questionnaires were used for the study, therefore yielding a total of 90 respondents whose data were collected used for the study across both sites.

The Instrument for Data Collection

The research instrument used for the study was a questionnaire divided into five sections. The first section (A) sought to collect personal data of respondents such as; age, gender, marital status, family size, etc. The second section (B) was to evaluate the frequency of public education in the form of interpretive service to them. The third section(C) was meant to assess the level of human relations in the study areas

such as staff hospitality, relationship with support zone communities, safety and suitability of services. The fourth section (D) was to elicit the visitors' satisfaction with PAs' services. While the last section (E) assessed the perceived impact of park interpretation and human relations on the satisfaction of the visitors.

Validity and reliability of instruments

For the purpose of this study, content and face validity were used to determine the adequacy of the content of the measuring instrument. The instrument was streamlined to fit the aim of the study. Experts' opinion was consulted to scrutinize the instrument to improve its content and face validity. Thereafter, the necessary modifications were made; ambiguous items were amended while those considered irrelevant were removed. The reliability estimate of the instruments was established through the split-half reliability method and its associated Spearman-Brown prophecy formula. This method enabled the researcher to administer questionnaires to a certain number of respondents who were never used for the study again. But at the time of scoring, two sets of scores were derived (odd and even). Items with odd numbers formed one half test and items with even numbers formed the second half test. This was then calculated using Cronbach-alpha value and the results derived were corrected with the Spearman-Brown Prophecy Formula which also tested for the internal consistency. The scale was given to 30 visitors of a protected area. A reliability co-efficient of above 0.79 and above rated the instrument enough to assert the instruments as being reliable.

Measurement and Analysis of Data

Six socio-demographic questions for visitors regarding: Gender (Male = 0, Female = 1), Age range (20-30 = 0, 31-40 = 1, 41-50 = 2, 51-60 = 3, 61 and above = 4) in years, Marital Status (Single = 0, Married = 1), Income was scaled in naira (₦10000 - ₦19000 = 0, ₦20000 - ₦29000 = 1, ₦30000 - ₦39000 = 2, ₦40000 and above = 4), Level of Education (Non-formal education = 0, Adult literacy = 1, Primary sch. Certificate = 2, Secondary Certificate = 3, NCE/Diploma = 4, HND/Degree = 5, MSc/PhD = 6), Religion (Christianity = 0, Islam = 1, Traditional religion = 2).

Frequency of public education and human relations efforts: This was measured using the 4 – point Likert scale of 4 to 1. The mean score coding was adopted as follows: 1.00 to 1.49 for “Rarely”, 1.50 for “Occasional”, 2.50 to 3.49 for “Regular”, 3.50 to 4.00 for “Very Regular”.

Visitors' satisfaction with services: This variable was measured using SER-PERVAL (Service and Perceived Value) scale by Petrick (2004) which was adjusted to suit the peculiarity of the study area on a four-point rating scale as Highly Satisfactory, Satisfactory, Dissatisfactory and Highly Dissatisfactory. The mean score coding of 1.00 to 1.49 for “Highly Dissatisfactory”, 1.50 to 2.45 for “Dissatisfactory”, 2.50 to 3.49 for “Satisfactory”, 3.50 to 4.00 for “Highly Satisfactory” was adopted.

Ordinary least square regression (OLS) analysis was used to estimate the determinants for visitor's satisfaction and the impact of public education and human relation on visitor's satisfaction in the PAs. The formula as used by Jacob et al. (2020) and Jacob et al. (2018) is indicated as;

$$Y = a + bX_i + \mu_i \quad \text{---} \quad \text{---} \quad \text{(Eqn. 1);}$$

Where Y= Visitor's satisfaction; a = constant, b = parameters estimates and regression coefficient of X variable, X_i = independent variables such as age, gender, educational status, marital status, income,

religion and public education and human relation and μ_i = factors that are not adequately accounted for but contributes to visitor's satisfaction.

All statistical analysis of the data was performed using the software Statistical Package for Social Sciences (SPSS) version 20.0.

RESULTS AND DISCUSSION

Demographic characteristics of respondents

The result for the demographic profile of visitors of both protected areas as shown below indicates a higher proportion (51.1%) of Okomu National Park visitors were found within the age range of 20-30 years while at Yankari (40%) they were found at the age range of 41-50. Also Okomu (33.3%) had higher number of respondents within 31-40 years of age than those at Yankari (26.7%). Okomu National Park (15.6%) also had visitors within the age range of 41-50 years though not as compared to Yankari Game Reserve. Generally, across both PAs, people of 61 years or more (1.1%) hardly visited it, while majority of the park visitors were between the age class of 20-50 years and were students on educational tour or research which explains the age range. (Bennett, 2000).

The male gender was more highly represented at both study sites than female although Yankari (64.4%) had a higher proportion of visitors from males than Okomu (57.8%) as a result there were more females at Okomu (42.2%) than Yankari (35.6). This implies a higher representation of male visitors in the study area. This is consistent with studies that have shown that men seldom visit parks more frequently than the female (Dietz *et al.*, 1998; McCright, 2010; O'Shaughnessy and Huddart-Kennedy, 2010).

Also, most visitors were married with Yankari (51.1%) showing a higher percentage of this group than Okomu (46.7%). This was followed by those with single status which conversely showed Okomu (48.9%) as having a higher presence of single than Yankari (44.4%). The high number of married visitors in Yankari than Okomu could probably be related to religious factors and cultural affiliations where you have married people marrying early in the Northern than in the southern part of the country. Married men are also said to have the tendency to be more proactive about natural resources management issues and to be ecologically concerned than their counterparts (stern *et al.*, 2005).

With respect to level of education, 73.3% of the respondents in Okomu had HND/Degree, followed by 24.4% and 2.2% with M.Sc/PhD and non-formal education respectively while in Yankari, 75.6% had M.Sc/PhD. This was followed by those with HND/Degree (13.3%) and secondary education (6.7%), while the least were those with Adult Literacy (2.2%). The high number of tertiary education among the visitors is in accordance with the report of Akinola (2019) who reported that 86.5% of visitors who visited Gashaka Gumti National Park had acquired tertiary education, thus affirming the findings of Cole (2000) that higher educational level is strongly correlated with demand for outdoor recreation activities.

Most visitors at Okomu (60%) were students, which was higher than that recorded in Yankari (28.9%) conversely civil servants (46.7%) and teachers (17.8%) visited Yankari more than Okomu with 26.7% and 4.4% respectively. Politicians were noted to have rarely visited Okomu (6.7%) whereas none was recorded at Yankari even though only Yankari got traders as visitors which accounted for 6.7% of its population. The varied characterization of the visitors in the PAs is in accordance with the reports of Ajayi and Aveso (2017) and FAO (2008) that tourists differ greatly in several aspects among them personal demographics.

Majority of visitors in both study sites fell within the average monthly income of ₦40,000.00 and above with Yankari (68.9%) having more visitors than Okomu (37.8%). However, in the income class of ₦10,000 - ₦19,000, ₦20,000 - ₦29,000 and ₦30,000 - ₦39,000, Okomu (35.6%, 17.8% and 8.9%) had more visitors than Yankari (8.9%, 15.6% and 6.72%) respectively. This is an indication that majority of tourist in the country are people who belong to the middle income class.

Religious status of the respondents showed that there was higher number of Christian visitors at both protected areas with Okomu having 97.8% and Yankari 51.1%. Muslim (48.9%) visitors were only reported in Yankari, while African Traditional Religion (2.2%) was also only reported in Okomu. The varied religious status of the visitors can be attributed to the location of each protected area. Okomu National Park is located in the southern area of the country which is predominantly Christian while Yankari is located in the northern park that is predominantly Muslim, hence the religious variation of the visitors.

Nationality of the visitors indicated that majority of them in both sites were from Nigeria, with Yankari (100%) and Okomu (95.6%). However, a fraction of the visitors in Okomu was from Cameroon (2.2%) and Niger (2.2%) respectively. The results show that visitors to the PAs are predominantly domestic tourist. This agrees with Jacob *et al.* (2019) and Oladeji *et al.* (2012) reports in Old Oyo National Park, Ajayi and Evaso (2017) report in Okomu National Park and Adejumo *et al.* (2014) in Kainji lake National Park. These trends have also been recorded internationally in Australia and United Kingdom (Scabourough Tourism Economic Activity Monitor, 2009)

Frequency of visitation of the visitors, showed that majority of the visitors in both sites were first timers (48.9%) respectively. However, those visiting the parks for the second time were higher at Okomu (35.6%) than Yankari (28.9%) while those visiting the PAs for the third time were more at Yankari (11.1%) than Okomu (8.9%) similarly the proportion of those visiting Yankari (11.1%) for more than three times was still higher than Okomu (6.9%). This entails that, the socio-economic status, beliefs and expectations of the tourist in terms of demographic influence should be articulated into management plan in order to meet their needs and thus obtain their support as well as meet the key expectations of the visitors (Khan *et al.*, 2020).

Visitor's Perception of the Quality of Park Interpretation among PAs in Nigeria

The result in table 2 indicates the visitor's perception of the quality of park interpretation the households in the two PAs. Generally, across the two PAs, visitors agreed that the quality of interpretation was good as denoted by their mean score of 3.14. The perception that educational programs are on relevant topics had the highest mean score ($M = 3.50, SD = 1.12$) followed by perception that the education programs are easy to understand ($M = 3.46, SD = 1.12$), while the perception that there is a well-equipped information centre had the least score ($M = 2.52, SD = 0.36$). Among the individual PA, there was no significant ($t(0.05) = -0.076$) difference in the mean perception of the quality of interpretation by the visitors in the respective PAs. However, the perception that educational programs were on relevant topics had the highest mean score in Okomu and Yankari ($M = 3.73, SD = 1.38; M = 3.26, SD = 0.90$) respectively, followed by perception that the education programs were easy to understand ($M = 3.71, SD = 1.52$) in Okomu and the perception that the presentation of the programs were organized ($M = 3.26, SD = 0.87$) in Yankari, while the perception with the least score in Okomu was there is a well-equipped information centre had the least score ($M = 1.86, SD = 0.23$) and in Yankari, there is education materials in the PA

regulation handbook ($M = 2.88$, $SD = 0.57$). From the results above it could be adjudged that quality of interpretative service in the PAs were relatively good, though it leaves some room for more improvement to be carried out in the PAs. This is in accordance with observation of Bright and Pierce (2002) and Moscardo (1998) who reported that the ability of the interpretive programs to relate with the visitors is a very critical element to enhancing a visitor satisfaction. The relatively poor state of interpretive programs at the PAs might also be attributed to lack of focused training of staff in this field and a functional center in each PAs.

Table 1: Demographic characteristics of respondents

Variable	Item	Okomu		Yankari		Total	
		F	%	F	%	F	%
Age (Year)	20 – 30	23	51.1	18	20.0	41	35.6
	31 – 40	15	33.3	12	26.7	27	30.0
	41 – 50	7	15.6	9	40.0	16	27.8
	51 – 60	0	0.0	5	11.1	5	5.6
	61 and above	0	0.0	1	2.2	1	1.1
Sex	Male	26	57.8	29	64.4	55	61.1
	Female	19	42.2	16	35.6	35	38.9
Marital Status	Single	22	48.9	20	44.4	42	46.7
	Married	21	46.7	23	51.1	44	48.9
	Divorced	0	0.0	2	4.4	2	2.2
	Widowed	2	4.4	0	0.0	2	2.2
Level of education	Non-formal	1	2.2	0	0.0	1	1.1
	Adult Literacy	0	0.0	1	2.2	1	1.1
	Primary	0	0.0	1	2.2	1	1.1
	Secondary	0	0.0	3	6.7	3	3.3
	HND/Degree	33	73.3	6	13.3	39	43.3
	MSc./PhD	11	24.4	34	75.6	45	50.0
Occupation	Lecturing	1	2.2	0	0.0	1	1.1
	Trader	0	0.0	3	6.7	3	3.3
	Teacher	2	4.4	8	17.8	10	11.1
	Civil servant	12	26.7	21	46.7	33	36.7
	Politician	3	6.7	0	0.0	3	3.3
	Student	27	60.0	13	28.9	40	44.4
Monthly income (₦)	10000-19000	16	35.6	4	8.9	20	22.2
	20000 -29000	8	17.8	7	15.6	15	16.7
	30000-39000	4	8.9	3	6.7	7	7.8
	40000 and above	17	37.8	31	68.9	48	53.3
Religion	Christianity	44	97.8	23	51.1	67	74.4
	Islam	0	0.0	22	48.9	22	24.4
	Traditional Religion	1	2.2	0	0.0	1	1.1
Nationality	Nigerian	43	95.6	45	100.0	88	97.8
	Cameroonian	1	2.2	0	0.0	1	1.1
	Niger	1	2.2	0	0.0	1	1.1
Visited in 5yrs	Once	22	48.9	22	48.9	44	48.9

Twice	16	35.6	13	28.9	29	32.2
Thrice	4	8.9	5	11.1	9	10.0
More than thrice	3	6.7	5	11.1	8	8.9

Source: Field Survey (2017)

Table 2: Visitors Perception of Quality of Park interpretation among the PAs in Nigeria

SN	Items	Okomu (N = 45)		Yankari (N = 45)		Total (N = 90)	
		M	SD	M	SD	M	SD
1	The educational programs are on relevant topics	3.73	1.38	3.26	0.9	3.50	1.12
2	The presentation of the programs is organized	3.08	0.69	3.26	0.87	3.17	0.76
3	There is education on PAs' regulations	3.28	0.89	2.88	0.57	3.08	0.69
4	There is a well-equipped information centre	1.86	0.23	3.17	0.83	2.52	0.36
5	The education programs are easy to understand	3.71	1.52	3.22	0.88	3.46	1.12
	Mean	3.13	0.94	3.15	0.81	3.14	0.81
	t-value	-0.076					
	Significant level	0.05 NS					

Source: Field Survey (2017)

Visitors Satisfaction with Quality of Services in the PAs in Nigeria

Visitors perceived satisfaction with the quality of services in the two PAs shows that they were satisfied with the services with a mean score of 2.78 out of a total score of 4.00 (Table 3). Among the sixteen services in which the visitors were asked to evaluate the PAs, fourteen of these services were considered satisfactorily with each having a mean score of more than 2.49 except for two services namely; ease of purchase of services and convenient business hours having a mean score of 2.20 and 2.45 respectively being perceived as being dissatisfactory. Among the individual PA, there was significant difference ($t(0.05) = -3.045$) between them. Thirteen services in Yankari with a mean score of more than 2.49 were considered satisfactory against eleven services in Okomu which were considered satisfactory. In Okomu, the professionalism of the guides was considered as the most satisfied services in the PA ($M = 3.00$, $SD = 0.80$) followed by neatness of the park and image of the park with a mean score of 2.90 respectively while the services with the least score was consistency of service, standard of service and ease of purchase of all services with mean score of 2.30 respectively. In Yankari, level of enjoyable experience had the highest mean score ($M = 3.40$, $SD = 0.80$), while ease to purchase all services was considered as the service with the least mean score of 2.10. The variation in visitors' satisfaction among the parks could be attributed to services planning among the PAs. This conforms to the observation of Ijeomah and Odunlami (2013) that tourists are usually satisfied with the services of Yankari wildlife park. Also, the variation could be attributed to the category of visitors visiting the PAs. In Okomu, majority of its visitors were made up of students who had restricted opportunity to gain real tourist experiences that could enhance their satisfaction. They were not allowed to interact with the people in park support zone communities due to the hostility of the communities. However, in Yankari it had been reported that the visitors usually interact with the park support zone communities to enjoy their cultural heritage as it enhances tourist experience and satisfaction (Huh, 2002; Higginbottom, 2004). Visitors' satisfaction level is an important component of conservation, which could be used to improve protected area management in order to increase conservation efficiency.

Another reason for the more satisfied services in Yankari than Okomu could be attributed to the fact that Okomu National Park gives more priority to conservation than tourism compared to Yankari where the reverse is the case. This informs the priority given in Yankari to make tourists more comfortable at the detriment of conservation through the construction and improvement in infrastructural facilities which

served as an additional factor for tourist satisfaction. Bennett (2000) argues that although facilities do not generate tourism, their absence could discourage tourist from visiting a destination. Based on the aforementioned reasons therefore, the two protected areas cannot offer the same level of satisfaction to tourists.

Table 3: Visitors Satisfaction with Quality of Services in the PAs in Nigeria

SN	Service Item	Okomu (N = 45)		Yankari (N = 45)		Total (N = 90)	
		M	SD	M	SD	M	SD
1	Level of reliable service	2.40	0.80	3.20	0.90	2.80	0.28
2	Quality of service	2.40	0.80	3.20	0.80	2.80	0.28
3	Consistency of service	2.30	0.80	3.00	0.90	2.65	0.24
4	Level of dependable service	2.80	0.70	2.90	0.90	2.85	0.03
5	Level of enjoyable experience	2.60	0.80	3.40	0.80	3.00	0.28
6	Level of exciting experience	2.70	0.80	3.30	0.80	3.00	0.21
7	Level of pleasurable experience	2.60	0.90	3.20	0.80	2.90	0.21
8	How good you feel during visits	2.70	0.70	3.20	1.00	2.95	0.17
9	Standard of service	2.30	1.00	3.00	0.80	2.65	0.24
10	Level of thoughtful service	2.80	0.80	2.30	0.90	2.55	0.17
11	The image of the park	2.90	0.90	3.00	1.00	2.95	0.03
12	Level of respectable service	2.80	0.70	2.90	1.00	2.85	0.03
13	Ease to purchase all services	2.30	0.90	2.10	0.80	2.20	0.07
14	Convenient business hours	2.50	0.80	2.40	0.80	2.45	0.03
15	Neatness of park facilities	2.90	0.90	3.10	0.90	3.00	0.07
16	Professionalism of game guides	3.00	0.80	2.90	1.00	2.95	0.03
	Mean	2.62a	0.80	2.94b	0.90	2.78	0.11
	t-value	-3.048					
	Significant level	0.00***					

*** = significant at 1% probability level

Source: Field Survey (2017)

Determinant of Visitors' satisfaction with services rendered in protected areas in Nigeria

The result in table 4 shows that the regression model used to ascertain the determinant of visitors' satisfaction in the protected areas in Nigeria was statistically significant ($f(11, 78) = 1.79, P < 0.10$) and explained 20% ($R^2 = 0.202$, Adjusted $R^2 = 0.089$) of the variance in the visitors' satisfaction in both protected areas studied. Five variables significantly predicted the satisfaction of visitors with services. Age had a positive and significant effect ($\beta = 0.291, P < 0.10$) on visitors' satisfaction indicating a higher rate of satisfaction among older visitors. This scenario could be attributed to the high number of younger visitors who visited the protected area, hence their level of satisfaction was low. This is in accordance with few studies which have found that older people or the elderly are usually more satisfied with services in protected areas than the young people (Dietz *et al.*, 1998; Galley and Clifton, 2004; Jang and Feng, 2007; Jönsson and Devonish, 2008; Dunlap *et al.*, 2000; Shahrivar, 2012; Anson *et al.*, 2018). However, this result contradicts the findings by Perović *et al.* (2012) whose findings indicated that age did not significantly affect the level of satisfaction of visitors.

Gender was positive and highly significant ($\beta = 0.303, P < 0.01$) projecting a higher satisfaction level among males than female. This result is contrary to the observation of Perović *et al.* (2012) whose findings indicated that gender do not affect the level of satisfaction. However, Huh (2002) reported that

female respondents were more satisfied as tourists than were male respondents. This could be attributed to the fact that women have less time than men to undertake leisure activities, as they spend a higher proportion of their time in and around the family, hence the little opportunity the spend outside is always a cherished experience (Gladwell, 2004; Clarke and Critcher, 1988).

Marital status was also positive and highly significant ($\beta = 0.263, P < 0.01$) predicting higher satisfaction from married groups than the single groups. The result contravenes the outcome of Shahrivar's (2012) research who found no significant difference in the overall satisfaction of the respondents for Marital Status. However, the result reaffirms the result of other authors (Hayat and Supinits, 2016 and Shahrivar, 2012) that married people who are able to visit sites of interest are usually satisfied than unmarried people.

Educational status was negatively significant ($\beta = -0.181, P < 0.10$) implying that satisfaction of the visitors decreased with increased level of education of the visitor. This agrees with (Kim *et al.*, 2008; Jensen, 2012; Shahrivar, 2012; Silvaliogluoglu and Berköz, 2012) observation that more educated were more satisfied in protected areas that could offer than facilities to relax and escape the hustle of work and studies, knowledge and socialization, while the less-educated were more satisfied in PAs that offer them factors of prestige/impression and novelty. Also, a higher level of environmental awareness and a positive environmental attitude was associated with a higher level of education (Anson *et al.*, 2018; Aminrad *et al.*, 2011; Shen and Saijo, 2008). The high environmental awareness and knowledge of this category of people afford them the opportunity to observe/notice and understand the shortcomings and unsustainability of ecotourism practices and management in a protected area. Cheung and Jim (2013) indicated that people with higher education tended to have higher expectations regarding the quality of nature-based tourism services, hence this result suggests that the management of protected areas has failed to keep up with the increase in educational level and expectation of visitors (Anson *et al.*, 2018).

Lastly, religion was also positive and highly significant ($\beta = 0.264, P < 0.01$) and indicated that visitors who practiced traditional religion were bound to be more satisfied with the services rendered at the sites. This could be attributed to the fact that majority of visitors who practiced non-traditional religion were those who had acquired western education and tend to be more educated than the traditionalist. Hence, with the visitor's religion as influenced by type of education, non-traditionalists were more displeased with the services rendered in the PAs. However, the results contradict report by Shahrivar (2012), whom in her work did not report any significant effect or tourist religion on their satisfaction and religions, though most of the tourists in her work were Asians. Therefore, this difference might likely be influenced by locality.

Income class though not significant was negative ($\beta = -0.014, P > 0.05$) showing that visitors with higher levels of income tended not to be satisfied with park services than those at lower income levels.

Table 4: Determinant of visitors' satisfaction with services in protected areas in Nigeria

Variables	Beta	SE	Sig.
Age	0.291	0.160	0.073*
Gender	0.303	0.115	0.002***
Marital status	0.263	0.120	0.002***
Educational status	-0.181	0.107	0.094*

Income	-0.014	0.49	0.924
Religion	0.264	0.103	0.002***

F-stat = 1.790*, R² = 0.202, R² adj = 0.089, r = 0.449, *** = significant at p<0.01, ** = significant at p<0.05, * = significant at p<0.10

*Means with the same letters implies no significant difference between them

Impact of park interpretation and human relations efforts (PEHR) on Visitor’s satisfaction

The regression results of the impact of the PAs frequency of public education and human relation on visitor’s satisfaction with the park programmes indicated a weak positive relationship (r = 0.375), implying that visitor’s satisfaction increases or improves gradually with increasing frequency of park interpretation and human relation. Also, the relationship was statistically significant (F (1, 90) = 14.444, p < 0.01) as denoted in the regression equation (Table 5), hence it can be concluded that the regression model produces a significantly better prediction of the model. Additionally, the model predictor variable, i.e. park interpretation and human relation of the PAs accounted for 14.10% (R = 0.141) of the variance in the satisfaction of the visitors in the PAs signifying that other factors also contributed or affected the visitor’s satisfaction in the study area. The predictor had a positive effect and statistically significant (1.511, p < 0.01), thus indicating that it is a good predictor of visitor’s satisfaction. This result implies that for every increase of 1.511 units in the PAs park interpretative and human relation services, there is also going to be a unit increase in the satisfaction of the visitors. This shows that visitors’ satisfaction was positively influenced by park interpretation and human relation. This scenario can be attributed to the social factors of the visitors as indicated in table 1 as most visitors were in their youth and educated, hence, the services done by the PAs was an important factor in influencing their satisfaction. This observation is in accordance with Moscardo (1998) report that public education in the form of park interpretation stimulate interest, promote learning, guide visitors in appropriate ecological behaviour for sustainable tourism and encourage enjoyment and satisfaction during visit to a park.

Also, since Yankari Reserve focuses more on ecotourism than conservation, it will need to utilize this factor to its advantage to attract more tourist and benefits. However, the reserve should also embrace sustainable tourism which balances the needs of the host, guest and the destination environment (Higginbottom, 2004). Effective human relations contribute to a balanced service provision to customers (Bennett, 2000), because service is a result of interaction between tourists and the service system in the PAs involves staff, environment and facilities. Therefore, a combination of good human relations and quality interpretation can enhance visitor satisfaction and through this contribute to the commercial viability of tourist operations (Moscardo, 1998; Moreri-Toteng, 2007). Consequently, since ecotourism is a business, there is a need for evaluation in terms of return on investment (ROI) within the different tools for attracting customers. Interpretive services and human relations being some of the management tools should be researched to provide a robust insight into the actual sustainable outcomes that can attract more tourists with lower inputs in the study area.

Table 5: Impact of park interpretation and human relations (PIHR) efforts on Visitor’s satisfaction

Variable	Coefficients	Standard Error	P-value
Intercept	1.511	0.339	0.000***
PIHR effect	0.374	0.098	0.000***
R Square	0.141		
R Square adjusted	0.131		
F – Stat	14.444***		

r 0.375

*** represent 1% significance level

CONCLUSION AND RECOMMENDATION

Visitors' satisfaction level is an important component of conservation that could be used to improve protected area management in order to increase conservation efficiency. The study shows that age, sex, marital status, educational level and religion are demographic factors that are capable of influencing a visitor's perception of satisfaction with services rendered to them by the management of the protected area. Also, park interpretation and human relation effects are external or management variables apart from infrastructures in the PAs are variable that enhances visitor's satisfaction. The study therefore recommends that demographic and socio-economic factors should be considered in application of interpretive services and human relations programs to the visitors of the PAs. Also, small scale local level studies should be carried out prior to administration of interpretive and human relations programs to provide park level guidance for implementation of the programs. Each park is peculiar and hence different modes of administration would be required.

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