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Exploring Visitors' Motivation, Satisfaction and Loyalty in a Nature-Based Tourism Destination: The Case of Obafemi Awolowo Biological Garden

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Abstract

Understanding visitors' motivation, satisfaction and loyalty is crucial for the marketing of tourism products and services in a destination. This is especially important for nature-based tourism destination whose main attraction is 'nature', and focused on environmental conservation. This study assessed the relationship existing between motivation and satisfaction obtained by visitors in Obafemi Awolowo University Biological Garden, a nature-based tourism destination in southwest Nigeria. Quantitative research method was engaged. Specifically, visitors to the garden (n=383) were sampled randomly with the aid of a structured questionnaire. The findings revealed that visitors were motivated to travel based on their intrinsic need for recreation, entertainment, nature experience and appreciation, novelty/adventure, and social engagement. In addition, destination attractiveness (pull factors) such as fame/reputation of the garden, time and distance of travel, availability and adequateness of transit system, affordability and recommendations by family/friends influenced visitation decisions. Visitors were largely satisfied with destinations attributes and exhibited strong loyalty intentions, demonstrated in willingness to re-visit and recommend the destination to others. It was further revealed that satisfaction only significantly strengthened the relationship between push motivation and loyalty; indicating that satisfaction enhanced the extent to which visitors' internal needs and desires translate to intentions to revisit and recommend the garden. Conversely, satisfaction did not significantly strengthen the relationship between pull motivation and loyalty. It is concluded that visitor motivation satisfaction and loyalty are crucial considerations in effective management and promotion of nature-based tourism destinations.

Keywords: Nature-based tourism, Visitors' motivation, Destination marketing, Satisfaction.

1. Introduction

Tourism is a socio-psychological experience (Castano, 2005; Omo-Obas & Anning-Dorson (2022). This is especially true for nature-based tourism destination which goes beyond 'nature' itself but rather emotional affinity with nature and environmental conservation (Dolnicar *et al*., 2008; Kim *et al*., 2023). Nature based tourism is distinguished from other tourism forms by its natural setting and the direct or indirect emphasis on sustainability (Luo & Deng, 2008; Stumpf & Kubalova, 2024). It encompasses all forms of tourism where nature or the outdoors is the primary attraction or setting, undisturbed state (Ajayi, 2026; Buckley, 2009). The activities are based on passive enjoyment of scenery, geology, flora and fauna, outdoor recreation and adventure, consumptive uses such as hunting and fishing and volunteer contributions to conservation or research (Coghlan, 2007; Silva *et al*., 2026). The individual who seeks these activities are referred to as nature-based tourists/visitors.

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Understanding the motivation, satisfaction and loyalty of visitors is crucial for any nature-based tourism destination. Motivation is one of the most important variables that contribute to understanding the behaviour of visitors in pursuing certain tourism experiences. It remains the driving force behind all behaviour. Decrop (2006) defined motivation as the inner state of a person, or certain needs and wants of a person, which forces them to act or behave in a specific way. While diverse models and theories exist guiding travel motivation in tourism context, the push and pull theory is widely accepted and provides a comprehensive framework for understanding the foundation of travel behaviour (Jalali *et al*., 2026). Vespestad and Lindberg (2010) for example, identified four types of nature-based tourism experiences from ontological perspectives dominating research findings. The *genuine* nature-based tourism experiences depict tourists seeking out their true authentic selves or shaping identities. The *entertainment* nature-based tourism experiences where nature becomes a setting for an activity or experience that has entertainment or recreational value. Nature based experiences as a *state of being*, where the focus is on the rewards of a nature-based experience specifically to the individual concerned. Conversely, *social* nature-based

experiences provide meaning and identity to group members such as families, friends, tour groups, etc.

The idea of the push - pull model however is in the disintegration of tourist's choice of destination into two forces (Dann, 1977; Jalali *et al*., 2026; Prebensen, 2007; Thaothampitak and Weerakit, 2014). While the first force pushes a visitor away, with the intrinsic, primary, biogenic and emotional needs to travel, albeit without directly specifying where that place may be, Yoon and Uysal (2005) noted that it is the second pulls a visitor towards a destination The latter comprises tangible attributes of a destination that are primarily related to the perceived attractiveness of a destination (Paudyal *et al*., 2026; Stanciu & Tichindelean, 2011). Thaothampitak and Weerakit (2014) posit that adequate marketing of tourism services and destinations, requires the understanding of the motivating factors.

Inextricably linked to travel motivation is satisfaction. Once a need has been activated, a state of tension exists driving consumers to attempt to reduce or eliminate the need (Stanciu & Țichindelean, 2011). Beerli and Martin (2004) explained motivation to be the need that drives an individual to act in a particular way to achieve the desired satisfaction. Kotler (2000; 36) defined satisfaction as "a person's feelings of pleasure or disappointment resulting from comparing a product and perceived performance (or outcome) in relation to his or her expectations". This post-purchase attitude is formed through a mental comparison of the product and service quality that a customer expected to receive from an exchange (Kim *et al*., 2003). Thaothampitak and Weerakit (2014) on the other hand referred to it as tourists after-the-act evaluation of the overall service experience; reflecting the expectation disconfirmation theory where satisfaction outcomes of prior expectation and actual experience are compared. While motivation bring tourist to a destination, their repeat patronage is dependent on the satisfaction gotten from the experience. This implicates visitors' loyalty, evident in intention to recommend or visit the destination.

Moreso, satisfaction and overall satisfaction has been construed as two different constructs. Satisfaction is attached to the post evaluation of a specific experience as put forth by Bitner and Hubert (1994). Overall satisfaction is seen as the compendium of all the experiences of the visitor in a particular destination (Song *et al*., 2011; 2012). Yoon and Uysal (2005) argued that the assessment of tourist's satisfaction in both forms must be a basic parameter in evaluating the performance of a destination as well as in planning tourism products and services. The peculiarity of this to nature-based destination is the portrayal of the destination as one promoting environmental sustainability. Hence, an attraction of the right market niche and provision of valued satisfactory experience to the visitors is critical. While the relationships between motivation, satisfaction and loyalty have been studied (Devesa *et al.,* 2010; Ibrahim & Gill, 2005; Laguna & Palacios, 2009; Lee *et al*., 2004; Omo-Obas & Anning Dorson, 2023; Orden-Meija *et al*., 2025; Paudyal *et al*., 2026), its exploration under re-emerging tourism product like nature-based tourism especially in developing countries is still limited (Akande *et al*, 2025).

The aim of this study was to assess the relationship existing between motivation, satisfaction and loyalty of visitors in a nature-based tourism destination setting. More specifically, the study examines the push and pull motivational factors of visitors; identified destination attributes and examined visitors' satisfaction with them

2. Literature review

Studies within the Nigerian context appraising the relationships between motivation, satisfaction and loyalty are limited; and varies in scope and depth. Akande *et al.* (2025) revealed that core motivators albeit to three biological gardens in Lagos State were aesthetic appeal, interest in flora, relaxation opportunities within the tranquil environment and presence of educational programmes and guided tours. The study however had not appraised the impact of such motivators on satisfaction nor loyalty. Operinde and Emma-Egoro (2020) revealed moderate satisfaction levels with specific features of Agodi Park and Gardens in Oyo State especially with the natural environment and the swimming pool; but were highly dissatisfied with the zoo section. The study while providing insights into satisfaction within a nature-based tourism attraction had neglected the role of motivation in informing visitors' satisfaction. This gap was addressed by Ogundare *et al.* (2024) in LUFASI, in Lagos State Nigeria; where core motivations for novelty, relaxation/escape, social bonding, nature exploration and self-development significantly influenced overall visitors' satisfaction.

Outside of the Nigerian context, other studies exist. For example, in a mountainous protected area context in Nepal, Paudyal *et al.* (2026) demonstrated that satisfaction is a significant and positive predictor of intention to recommend and revisit. More so, motivation to experience nature, directly and indirectly through satisfaction influences the visitors' loyalty. Within adventure tourism setting in Latin America, revealed motivations particularly health assurance, and intellectual curiosity influenced loyalty directly and indirectly through destination quality and satisfaction, in a post-pandemic era (Orden-Mejía *et al*., 2025). This study particularly amplifies higher consideration for health and safety than nature or learning in a post-pandemic setting. Within the pandemic era, natural features were found to be insignificant in predicting satisfaction (Stumpf & Kubalova, 2024). Amongst birdwatchers in a Norway setting, the core motivators to visit were experience of birds and nature; one which significantly influenced overall satisfaction and destination loyalty (Dybsand *et al.,* 2023). Similar findings were reported by Carvache-Franco *et al.* (2022) amongst international ecotourists in Costa Rica with nature, escape, building personal relationships,

reward, interpersonal associations and co-defensive function and self-development being the foremost motivational features; all of which contributes to satisfaction and loyalty. Kim *et al.* (2023) revealed that ecotourism motivation significantly influenced satisfaction and facilitates environmentally responsible behavioural intention in a Chinese nature camping context. Destination loyalty was however not contextualized.

Amongst the motivational attributes examined by Silva *et al.* (2026) in a Portuguese protected area, relaxation and nature constitute the most important predictors of satisfaction; while satisfaction on the other hand mediates the relationship between quality and destination loyalty. With specific focus on push and pull motivators in community-based tourism setting in Malaysia, both were found to significantly influence destination loyalty directly and indirectly through visitors' satisfaction (Jalali *et al*., 2026). On the other hand, Omo-Obas and Anning-Dorson (2022) found no significant relationship between affective-cognitive motivational factors and loyalty, despite influence on visitors' satisfaction in a South African context. Such mixed findings were also presented by Kusdibyo (2022) in a hot spring destination in Indonesia, where tourist push motivation do not directly influence satisfaction, but does influence motivation. Satisfaction was poised as the most important determinant of loyalty. The foregoing reveals varying findings; however, with majority suggesting that motivation could significantly influence visitors' satisfaction and loyalty in nature-based destination. Despite this, there remains extant gap in literature within the Nigerian nature-based tourism destinations context.

3. Methodology

3.1 Description of Study Area

Obafemi Awolowo University Biological Garden is located at latitude 07° 31' 27.4'' N and longitude 004° 31' 26.9'' E. It is found within the premises of the Obafemi Awolowo University (OAU), Ile-Ife, Osun State, Nigeria, adjacent to the Department of Zoology, Faculty of Science. The garden which was established in 1968 occupies an area of 13 hectares, and designed for biological studies and recreation (Omonona & Ayodele, 2011). The garden consists of both zoological and botanical sections. The most popular is the zoological garden and the garden is sometimes referred to as the OAU Zoo. Animal enclosures are sparse within the thick forest of the garden, thus providing nature trail experience as visitors seeks and advance to know the next animal on the trail. The garden attracts an estimated 9180 visitors annually (Ajayi & Tichaawa, 2020). This represents the population of this study.

3.2 Data Collection

This study was a descriptive survey with case study approach. Quantitative research method was adopted which involved the administration of structured questionnaire to visitors at the garden. The questionnaire was designed by adapting the scales of Muhamad and Som (2010), and Luo and Deng (2008) to produce a 35-items motivation scale (17 push factors and 18 pull factors). Also, the questionnaire contained a 23-item satisfaction scale consisting of the various identified destination attributes of the garden; and a measure of overall satisfaction. Loyalty was measured on a 3-item scale adapted from Al-Ansi and Han (2019). Both scales were measured on a five-point hedonic range of Strongly Agree (5) to Strongly Disagree (1) for the earlier and Very Satisfied (5) and Very Dissatisfied (1) for the latter. The reliability of the scales was tested by calculating the Cronbach alpha for each scale. The scales had scores of 0.728, 0.720, 0.966, and 0.960 for push motivation, pull motivation, satisfaction, and loyalty respectively, reflecting high reliability.

From a yearly visitors' population estimate of 9190, a sample size of 383 was drawn using Yamane (1967)'s formula.

$$n = \frac{N}{1 + N(e^2)}$$

$$n = \frac{9180}{1 + 9180(0.05^2)}$$

$$n = \frac{9180}{1 + 9180(0.0025)}$$

$$n = \frac{9180}{1 + 22.95}$$

$$n = \frac{9180}{23.95}$$

$$n = 383.30$$

A convenience sampling technique was engaged in selecting respondents for this study. Informed consent and anonymity were ensured through detailed information about the research before data collection; and collection of relevant data without documenting the private or personal details of the visitors. The right to withdraw from the study was also ensured. Participants were informed of their right to discontinue participation in the study during and post the data collection without any attendant consequences. Withdrawal of responses post the data collection required that each questionnaire has a unique code number; which respondents are meant to send to phone contacts and e-mail provided within a 2 weeks period.

3.3 Data Analysis

The data obtained was subjected to descriptive statistics (frequency, percentage, mean and standard deviation) and Chi Square, Correlation and Hierarchical Regression using Statistical Package for Social Sciences (SPSS) version 27. The latter was used in testing the interaction influence of satisfaction on relationship between visitors' motivation and destination loyalty.

4. Results

4.1 Visitors Motivation to OAU Biological Garden

The core push motivational factors driving visitors to the garden include recreation, entertainment, nature

Table 1: Push motivation factors to Obafemi Awolowo University Biological Garden

Factors (α=0.728)	Mean	St.D
To experience and appreciate nature (animals and plants)	4.70	0.70
To spend time with my family /friends	4.22	1.34
To be part of recreational activities	4.92	0.27
To break away from routine of everyday life, pressure, surrounding	4.07	1.09
To meet and mix new people with the same interests as mine	2.19	1.14
To relax	3.74	1.27
To enjoy good weather	1.71	0.87
To challenge my abilities	1.80	0.96
To gain a feeling of belonging	2.33	1.36
To increase my knowledge	4.13	1.01
Being entertained and having fun	4.88	0.49
Rediscovering myself	1.36	0.75
Rediscovering past good times	1.74	1.30
To increase my social status	1.73	1.08
Going places, I have not been	4.37	1.37
To visit a place my friends/family have not been to	3.34	1.65
To visit a destination that would impress my friends and family	3.14	1.58

Source: Field Survey (2024)

Table 2: Pull motivation factors to Obafemi Awolowo University Biological Garden

Factors (α=0.720)	Mean	St.D
Diversity of animal species in the zoo	1.51	0.79
Preferred animal species	1.46	0.66
Unique eco-environment of the zoo	2.01	1.32
Unique souvenirs	1.37	0.66
Personal safety	2.48	1.54
Quality of the zoos marketing strategies	1.31	0.53
Value for money	1.78	1.16
Hospitality/friendliness/receptiveness	1.41	0.58
Tidiness/cleanliness of the place	1.42	0.71
Fame/reputation of the zoo	4.38	1.06
The zoo is family oriented	2.11	1.36
Affordability	3.46	1.36
Past experience	1.81	1.34
Time and distance of travel	4.37	0.81
Availability and adequateness of transit system	4.05	0.98
Availability of visitor guidance/ reception centres	1.32	0.61
Recommendation by family/friends	3.43	1.59
Environmental management initiative e.g. Eco labels	1.25	0.52

Source: Field Survey (2024)

appreciation, novelty/adventure, and social pursuit. This is presented in Table 1. Specifically, the factor 'to be part of recreational activities' had the highest ranking with an associated mean score of 4.92. This was followed by 'being entertained and having fun' (4.88); 'to experience and appreciate nature (animals and plants)' (4.70); 'going places I have not been' (4.37); 'to spend time with family/friends' (4.22); 'to increase my knowledge' (4.13); 'to break away from routine of everyday life, pressure and surrounding' (4.07); and 'to relax' (3.74).

The factors which tended towards the 'Undecided' or 'Neutral Likert class of score 3 include: 'to visit a place my friends/family have not been to' (3.34); and 'to visit a destination that would impress my friends and family' (3.14). The factors which had the highest percentage disagreement were: 'rediscovering myself' (1.36); 'to enjoy good weather' (1.71); 'to increase my social status' (1.73); 'rediscovering past good times' (1.74); 'to challenge my abilities' (1.80); 'to meet and mix with new people with the same interest as mine' (2.19); and 'to gain a feeling of belonging' (2.33). Hence, the least push motivation factors were self-rediscovery, weather, social prestige, nostalgia and challenging of capability.

With respect to the pull motivational factors, 'fame/reputation of the garden' had the highest percentage agreement for pull motivating factor to OAU Biological Garden with an associated mean score of 4.38 (Table 2). This was followed by 'time and distance of travel' (4.37), 'availability and adequateness of transit system' (4.05); 'affordability' (3.46); and 'recommendation by family/friends' (3.43). On the other hand, the least pull factors were 'environmental management initiative of the zoo' (1.25); 'quality of the garden's marketing strategies'

Table 3: Visitors' satisfaction with individual zoo attributes (Obafemi Awolowo University Biological Garden)

Factors	Mean	St.D
Entry fee	4.29	0.81
Number of animals	2.94	1.08
Variety of animals	2.65	1.38
Size of animal enclosure	3.88	0.54
Displayed animal information on cage	3.28	0.81
Viewing platform	3.30	0.76
Private places for the animals to move away from visitors	3.45	0.76
Vegetation	3.77	0.65
Landscape	3.02	1.02
Footpaths/Trails	3.78	0.66
Staff friendliness/receptivity	3.69	0.74
Restaurants / Food outlets	3.70	0.63
Quality of food and drinks	3.67	0.62
Variety of food and drinks	3.10	0.91
Price of food and snacks	3.71	0.64
Tour guidance	3.67	0.66
Peaceful and restful environment	3.81	0.56
Security and safety	3.82	0.58
Cleanliness	4.17	0.76
Accessibility	3.78	0.56
Car Park	3.37	0.61
Overall value for money	3.41	0.64
Others	3.40	0.63

Source: Field Survey (2024)

Table 4: Visitors' foremost motivational factors and overall satisfaction

	Overall Satisfaction		**Intention to recommend**		**Intention to revisit**	
Motivational factors	χ^2	**P**	χ^2	**p**	χ^2	**p**
Push						
Recreation	16.463	0.002*	20.588	0.003*	14.862	0.130
Entertainment	27.732	0.034*	18.142	0.044*	8.411	0.051
Nature appreciation	87.712	0.000*	101.231	0.000*	84.167	0.001*
Novelty/Adventure	57.088	0.000*	28.465	0.002*	16.022	0.058
Social engagement	98.640	0.000*	84.573	0.000*	67.408	0.000*
Pull						
Fame/reputation of the garden	154.062	0.000*	183.019	0.000*	26.873	0.055
Time and distance of travel	70.633	0.000*	58.981	0.001*	181.088	0.000*
Availability and adequateness of transit system	148.236	0.000*	121.444	0.000*	108.254	0.000*
Affordability	46.606	0.000*	52.389	0.002*	48.961	0.000*
Recommendation by family/friends	55.150	0.000*	33.875	0.011*	9.432	0.229

Source: Field Survey (2024)

(1.31); availability of visitor guidance/reception centres' (1.32); 'unique souvenirs' (1.37); 'hospitality/friendliness/receptiveness' (1.41); 'tidiness/cleanliness' (1.42); 'preferred animal species' (1.46); 'diversity of animal species in the zoo' (1.51); 'value for money' (1.78); 'past experience' (1.81);'unique eco-environment of the zoo' (2.11); 'the zoo is family oriented' (2.11); and 'personal safety' (2.48).

4.2 Visitors' satisfaction with individual zoo attributes and services in OAU Biological Garden

This is presented in Table 3. Visitors were mostly satisfied with the entry fee (4.29) and cleanliness of the garden (4.17). Majority of the visitors in the garden were satisfied with size of animal enclosures (3.88); security and safety (3.82); peaceful and restful atmosphere (3.81); accessibility (3.78); footpaths/trails (3.78); vegetation (3.77); price of food and drinks (3.71); restaurants/food outlets (3.70); staff friendliness/receptivity (3.69); tour guidance (3.64); quality of food and drinks (3.64); private places for animals to move away from visitors (3.45); overall value for money (3.41); and the car park (3.37). The visitors largely displayed indifference to the viewing platform (3.30); displayed animal information on cage

Table 5: Relationship between selected visitors' motivational factors and satisfaction with destination attributes in Obafemi Awolowo University Biological Garden

Motivational factors	Destination attributes	χ^2	p
Experience and appreciation of nature	Vegetation	64.712	0.000*
Experience and appreciation of nature	Peaceful and restful environment	28.360	0.002*
Experience and appreciation of nature	Variety of animals	42.052	0.000*
Experience and appreciation of nature	Value for money	66.598	0.000*
Unique eco-environment	Vegetation	61.344	0.000*
Unique eco-environment	Peaceful and restful environment	40.646	0.001*
Affordability	Entry fee	56.697	0.000*
Time and distance of travel	Accessibility	113.216	0.000*
Availability and adequateness of transit system	Accessibility	66.860	0.000*
Going to places not yet visited (exploration)	Value for money	72.426	0.001*
Recreation	Value for money	10.538	0.032*
Entertainment and fun	Value for money	19.018	0.268
Spending time with family and friends (social)	Value for money	66.414	0.000*

Source: Field Survey (2024)

Table 6: Correlations between visitors' satisfaction and loyalty

			Satisfaction	Loyalty
Spearman's rho	Satisfaction	Correlation Coefficient	1.000	0.349**
		Sig. (2-tailed)	.	0.000
		N	383	383
	Loyalty	Correlation Coefficient	0.349**	1.000
		Sig. (2-tailed)	0.000	
		N	383	383

Source: Field Survey (2024)

(3.28); variety of food and drinks (3.10); landscape (3.02); number of animals (2.94); variety of animals (2.65). Overall, visitors were averagely satisfied with all the garden attributes and services (56.4%). The mean score was 3.76. Most visitors indicated their willingness to recommend OAU Garden to others (91.1%) as well as to revisit (87.5%).

4.3 Visitors' foremost motivational factors, satisfaction and loyalty

Using Chi Square test of association, the relationship between visitors foremost motivational factors (Push factors: recreation, entertainment, nature experience and appreciation, novelty/adventure, social pursuit; Pull factors: fame/reputation, time and distance of travel, availability and adequateness of transit system, affordability and recommendations by family/friends) were tested *vis a vis* their overall satisfaction, intention to recommend and intention to revisit. There was significant relationship between all push and pull motivational factors and overall satisfaction, as well as intention to recommend at $p<0.05$ (Table 4). In other words, there was a significant association between visitors' motivation to visit a nature-based tourism destination and overall satisfaction derived from the experience, and recommendation intention. On the other hand, only nature appreciation, social engagement, time and distance of travel, adequateness of transit system and affordability influence intention to revisit at $p<0.05$.

4.4 Relationship between selected visitor's motivational factors and satisfaction with specific destination attributes

As shown on Table 5, significant relationship existed between visitors push motivation to experience and appreciate nature and their satisfaction with the garden's vegetation (χ^2=64.712), peaceful and restful environment (χ^2=28.360), variety of animals (χ^2=42.052) and overall value for money (χ^2=66.598) at $p<0.05$. Likewise, their pull motivation to visit the garden because of the unique eco-environment was significantly related to the satisfaction with vegetation (χ^2=61.344) and peaceful and restful environment (χ^2=40.646). Further, there was a significant relationship between affordability and satisfaction with entry fee. Accessibility was also significantly related to time and distance of travel (χ^2=113.216) as well as availability and adequateness of transit system (χ^2=66.860). Also, visitors' motivation for exploration (χ^2=72.426), recreation (χ^2=10.538) and social pursuit (χ^2=66.414) was significantly associated with satisfaction with overall value for money.

4.5 Relationship between visitors' satisfaction and loyalty

The correlation analysis revealed that, there was a significant, positive relationship between visitors' satisfaction and loyalty ($r=0.349$, $p<0.05$) as shown in Table 6.

4.6 Interaction influence of satisfaction on relationship between motivation and loyalty

A hierarchical multiple regression was conducted to examine the interaction effect of visitor's satisfaction on the relationship between visitor push motivation and loyalty (Table 7). In the first model, recreation, entertainment, nature appreciation, novelty/adventure, and social engagement explained 49.9% of the variance

Table 7: Hierarchical regression analysis predicting visitor loyalty from push motivational factors and satisfaction

Variables	β (Model 1)	t	p	β (Model 2)	t	p
(Constant)		8.943	.000		8.068	
Recreation	.232	2.597	0.001	.182	2.113	0.012
Entertainment	.258	3.091	0.000	.204	2.876	0.003
Nature appreciation	.292	4.294	0.000	.241	3.547	0.001
Novelty/Adventure	.162	2.140	0.035	.084	1.562	0.061
Social engagement	.276	2.964	0.000	.234	1.883	0.001
Satisfaction	-	-	-	.564	9.140	0.000
R^2	0.532			0.598		
Adjusted R^2	0.499			0.541		
F (4, 361)	48.946			56.444		

Source: Field Survey (2024)

Table 8: Hierarchical regression analysis predicting visitor loyalty from pull motivational factors and satisfaction

Variables	β (Model 1)	t	P	β (Model 2)	t	p
(Constant)	2.438		.000	1.184		.000
Fame/reputation of the garden	.087	1.028	.374	.058	.894	.999
Time and distance of travel	.032	2.365	.009	.011	.978	.999
Availability and adequateness of transit system	.021	1.243	.748	.008	.715	.999
Affordability	.815	3.306	.042	.606	.808	.094
Recommendation by family/friends	. 077	1.134	.912	.034	.193	.984
Satisfaction	-	-	-	.431	2.140	0.044
R^2	0.268			0.302		
Adjusted R^2	0.206			0.225		
F (4, 361)	6.074			6.159		

Source: Field Survey (2024)

in loyalty, $F(4, 361) = 48.946$, $p < .001$ (Table 7). In the second model, satisfaction was added and significantly enhanced the model, accounting for 54.1% of the variance in loyalty, $F(5, 361) = 56.444$, $p < .001$. The regression coefficients for the push motivation dimensions decreased, suggesting that satisfaction partially interacts with the relationship between visitor motivations and loyalty. The relationship was strongest for nature appreciation ($\beta = .241$, $t=3.547$, $p > .05$). While other factors remined significant, novelty/adventure ($\beta = .084$, $p > .05$) became statistically non-significant after accounting for satisfaction.

With respect to pull motivation (Table 8), only time and distance of travel ($\beta = .032$, $t=2.365$, $p < .05$), and affordability ($\beta = .042$, $t= 3.306$, $p > .05$), contributed to the model, $F(4, 361) = 6.074$, $p < .05$, and explained only 20.6% of the variance in the first model. In the second model, satisfaction was added and enhanced the model to 22.5%. However, while the regression coefficients for the motivation dimensions decreased, none of the variables contributed significantly to the model; suggesting that satisfaction does not significantly interact with the relationship between visitors pull motivations and loyalty.

5. Discussion

The utmost push motivational factors of visitors to OAU Biological Garden are recreation and entertainment. Ajayi *et al.* (2017) documented this as a primary factor that motivates visitors to Ogba Zoo and Nature Park. It also corroborates Adefalu *et al.* (2014) and Yager *et al.* (2015) studies. Most visitors in this study thus fall in the *entertainment* nature-based tourism experience seekers identified by Vespestad and Lindberg (2010). For this group, nature is seen as a setting for an activity or experience that has entertainment or recreational value for the visitors. A major goal of zoo keeping is recreation (Omonona & Ayodele, 2011); where zoos serve as places of relaxation and entertainment, and provides opportunity for people to satisfy their natural curiosity of seeing different species of animals. This notion is similarly supported by Carr and Cohen (2011), and Jordaan and Du Pleiss (2014). Jordan and du Pleiss (2014) particularly noted that recreation most times overtakes the educational purpose of visit to biological gardens. This is also evident in this present study.

Nature experience and appreciation factor ranked as the third factor in visitors push motivation to the garden. This is in tandem with Merwe and Saayman (2008) who also identified this as a third factor of motivation for visitors to Kruger National Park. This factor is widely recognized and documented as a viable push factor that drives the desires of people to explore nature-based destinations (Akande *et al*., 2025; Ballantyne *et al.*, 2009; Carvache-Franco *et al*., 2022; Correia *et al*., 2007; Dysband *et al*., 2023; Ogundare *et al*., 2024; Paudyal *et al*., 2026; Saayman, 2006; Silva *et al*., 2026; Vuuren & Slabbert, 2011). The fourth push factor is exploratory in nature, featured as novelty/adventure. Visitors who seek novelty/adventure are the explorers (Ajayi, 2026; Falk *et al.*, 2008). Exploration of new destinations was

found to be the fifth motivation factor to Kruger National Park (Merwe & Saayman, 2014). This motive was also identified by Lee *et al.* (2004) and Ogundare *et al.* (2024) in their studies.

The social orientation of visitors to gardens was also exhibited by OAU Biological Garden visitors as the fifth push motivational factor which focused on the need to spend time with family/friends. It was observed that parents come in company of their children, friends came in groups, and spouses came as units. This social nature-based experiences provide meaning and identity to group members such as families, friends, tour groups (Vespetad & Lindberg, 2010). This finding is consistent with Anderson *et al.* (2008); Couch (2013), Ogundare *et al.* (2024) and Yilmaz *et al.* (2010). Jordan and du Pleiss (2014) noted that visitors would probably be influenced by social motive as in the case of families where children might urge the parents to visit the zoo as a group. Parents have been reported to take extreme joy in seeing their children enjoy themselves (recreation) as well as learn (education) (Sickler & Fraser, 2009). This wraps up two different factors into another one. This view is supported by Turley (2001) and Ogundare *et al.* (2024). The two types of social aspects of zoo visit namely intrinsic and altruistic social orientations (Hornby, 2009) were also reported in the garden.

The least push motivational factors were self-discovery, weather and enhancement of social status. A journey for self-discovery and rediscovering past good times is apparently far from that which brings people to the garden. The enjoyment of good weather is also highly unlikely, as most of the visitors were from the south west region of the country and share similar weather conditions. The increase of social status also comes low on the list, as the visit to a biological garden hardly adds feather to the cap of an average Nigerian. The garden also offers no challenging activities to the public, so visitors would naturally not come for this purpose.

On the other hand, the foremost pull motivational factor to OAU Biological Garden was fame/reputation of the garden. This may be attributed to the fact that the garden has been in existence for five decades; since 1968. The second factor was diversity of animal species in the zoo. The OAU Biological Garden has thirteen wild animal species. These animals were *Anas platyrhynchos* (mallard duck), *Balaerica pavonina* (crowned crane), *Columba guinea* (speckled pigeon), *Numida meleagris* (guinea fowl), *Struthio camelus* (ostrich), *Osteolaemus tetraspis* (dwarf crocodile), *Python sebae* (African rock python), *Trionyx triunguis* (soft shell turtle), *Chentrochelys sulcata* (African spurred tortoise), *Cercopithecus mona* (mona monkey), *Papio anubis* (Anubis baboon), *Panthera leo* (lion), and *Crocuta crocuta* (spotted hyena). The fact that visitors are pulled to destinations because of diversity of animal species is in consonance with Knezevic *et al.* (2016).

Another vital issue of consideration is the time and distance factor which ranked third. This also keenly followed by *availability and adequateness of transit system*s both are closely related. This is in line with Adefalu *et al*. (2015), Mahika (2011), and Morrison (2013) which reported that visitors always consider this factor. Needless to say, that OAU Garden is a recreation centre offering only day-time experiences with no facility and consideration for night visitor experiences. The fourth factor which is important for any nature-based tourism destination is the unique eco-environment of the garden. This connects with the third push motivational factor which was nature experience and appreciation. The fulfilment of such of push would occur in nature-based tourism destination like the garden. The fifth destination attribute that pulled visitors to OAU Biological Garden was affordability. Mahika (2011) noted that price seems to be a constant factor regardless of which sector of tourism individuals consider.

The least factors that pulled the visitors to the garden were environmental management initiative, quality of the zoos marketing strategies, availability of visitor guidance/reception centres, unique souvenirs, and hospitality/friendliness/receptiveness. The garden also had no environmental management initiative, did not employ any marketing strategy (except for the signpost at the destination showing the name of the garden and some animals), no provision for visitor guidance/reception centre neither were souvenirs sold. Likewise, the hospitality/friendliness/receptiveness of the staff did not constitute key pull factor for the visitors. With respect to visitors' motivation to OAU Biological Garden, it can be inferred that they were motivated to visit the Garden in order to satisfy their intrinsic demand for travel (push motivation) above the extrinsic appeal of the destination (pull motivation). This is evident in the mean scores associated to the factors, as the earlier had lower mean scores (translating to higher percentage agreement) than the latter.

With respect to satisfaction, majority of the visitors were largely satisfied with the various attributes. The rank order puts entry fees, cleanliness of the zoo, size of animal enclosures, security and safety, and peaceful and restful environment as the attributes visitors were mostly satisfied with. The entrance fee to the garden was ₦150:00k for adults and ₦100:00k for children in 2018 and revised to ₦1000 and ₦500 respectively in 2023. A fee considered by many to be affordable, especially with respect to the number of animals (thirteen species) in the captive holdings. Alarape *et al.* (2015) also documented satisfaction with entry fee in Makurdi Zoo. Cleanliness came second on the list. The zoo environment is cleaned on a daily basis and waste bins are situated in strategic places; while animal enclosures are cleaned at least three times weekly (personal observation). Visitors' satisfaction with the size of enclosure of animals may be because of the large size of the enclosures as well as their uniqueness. Visitors also considered their security and safety as a paramount factor, and were satisfied with that which was provided by the garden. This is consistent with the

findings of Philemon (2015), Knezevic *et al.* (2016) and Stumpf & Kubalova (2024). Their satisfaction with the peaceful and restful environment may be grounded in the utmost ambience and tranquility in the garden when compared even with the immediate campus environment. Opportunities for relaxation in tranquil environment have been reported in similar studies like Akande *et al.* (2025) and Ogundare *et al.* (2024).

The factors of least percentage satisfaction were variety of animals, number of animals, landscape, displayed animal information on cages and viewing platforms. This is a critical issue especially given that the second pull motivation factor was diversity of animal species in the zoo. This result suggests that visitors might have anticipated the presence of diverse species in the zoo, given its reputation. Low satisfaction with the variety and number of the animals in the garden may therefore be an expected finding as there were only thirteen species represented. Landscaping was also not upheld in the garden. Also, the low level of satisfaction with the displayed animal information on cages is explainable given lack of species labels on some enclosures. More so, for enclosures which had such, they were either old or on decaying wood platforms which made them almost illegible. Moreso, the viewing platforms at some enclosures were dilapidated, while some were too low to enhance visibility especially for children and short persons. Visitors less satisfaction with these attributes further strengthens the notion of Couch (2013) and Knezevic *et al.* (2016) that wildlife tourists were found to have higher expectations of visibility in a captive setting.

Further, given that satisfaction with a destination is more than just visitors' satisfaction with services utilized and destination attributes (Carvache-Franco *et al*., 2022; Truong & Foster, 2006; Yu & Goulden, 2006); overall satisfaction and visitors' loyalty were measured. Overall, visitors displayed high level of satisfaction. This was also significantly evident in their willingness to pay repeat visit to the zoo, as well as recommend it to others. High satisfaction and loyalty indices were similarly reported by Ajayi *et al.* (2017) in Ogba Zoo and Nature Park. The statistically significant correlation in this present study suggests that visitors' satisfaction is conducive to repeat visits (Baker & Crompton, 2000, Tonge *et al*., 2011) and word-of-mouth endorsements (Chen & Chen, 2010; Paudyal *et al*., 2026; Okello & Yerian, 2009; Silva *et al*., 2026). Also, Ryan *et al.* (1999) opined that satisfaction does not only affect immediate repeat purchase but also reputation. This is evident in the strongest pull motivation of OAU Biological Garden being fame/reputation of the zoo.

Motivations have been documented to be underlying triggers for any evaluation a visitor can make about any destination (Correia *et al*., 2013). Hence, visitors' foremost motivational factors and overall satisfaction was correlated, and statistically significant association was found to exist. This means that their motivation to visit a nature-based tourism destination (in this case OAU Biological Garden), for the purposes of recreation, entertainment, nature experience and appreciation, exploration, social engagement given the pull factors: fame/reputation, time and distance of travel, availability and adequateness of transit system, affordability and recommendations by family/friends, was satisfied *vis a vis* the destination attributes.

Del Bosque and Martin (2008) suggested that satisfaction should be defined through individuals' subjective needs. This was further substantiated within the regression models. Notably, while the core push motivators to the garden were significantly associated with loyalty both directly and indirectly through satisfaction; the pull motivators had lower significance. Notably, satisfaction only significantly moderates the relationship between the push variable and loyalty; and not the pull motivational factors. The relationship was strongest for nature appreciation. This aligns with Carvache-Franco *et al.* (2022), Dysband *et al.* (2023), and Silva *et al.* (2026) where satisfaction moderates the relationship between nature motivation and loyalty. It can be said that visits to nature-based tourism destination is especially tied to the natural resources it possesses and the tranquility of such area, thus fulfilling its definition. This study further buttresses the notion that visitors' motivations are antecedents to their satisfaction (Correia *et al*., 2013; Ibrahim & Gill, 2005, Laguna & Palacios, 2009). It however contradicts Ksudibyo (2022) and Omo-Obas and Anning-Dorson (2022) which reported no association between both variables. It was also seen that satisfaction did not moderate the relationship between novelty/adventure and loyalty despite this being significant for other variables. This is an expected outcome, as the desire to visit the garden, which is a new place for them, was already satisfied. Such visitors would most likely seek novelty/adventure in other destinations, not already explored.

Furthermore, there was a significant relationship between affordability and satisfaction with entry fee. Needless to say, that increase in the entry fee jeopardizes the extent to which most people can afford to visit the destination. Accessibility was also significantly related to time and distance of travel as well as availability and adequateness of transit system. This projects the importance of accessibility of any tourism destination. Also, visitors' motivation for exploration, recreation and social pursuit was significantly associated with satisfaction with overall value for money.

6. Conclusions

Evidence in this study suggest that visitor motivation satisfaction and loyalty are crucial considerations in effective management and promotion of nature-based tourism destinations. Visitors were motivated to travel to OAU Biological Garden based on their intrinsic need for recreation, entertainment, nature experience and appreciation, novelty/adventure, and social engagement. In addition, destination attractiveness

(pull factors) such as fame/reputation of the garden, time and distance of travel, availability and adequateness of transit system, affordability and recommendations by family/friends influenced visitation decisions. The findings from this study revealed that visitors were largely satisfied with destinations attributes and exhibited strong loyalty intentions, demonstrated in willingness to re-visit and recommend the destination to others. The moderation analysis revealed that satisfaction only significantly strengthened the relationship between push motivation and loyalty; and not the pull motivational factors. Among the push motivation dimensions, nature experience and appreciation exhibited the strongest relationship with destination loyalty when moderated by satisfaction. This suggests that visitors who derive enjoyment from experiencing and appreciating nature are most likely to develop loyalty when the destination meets or exceed their expectations. This study underscores the importance of enhancing visitors' satisfaction while conserving natural attractions as key strategies for fostering repeat visitation and positive word-of mouth recommendations; while ensuring sustainability. Notably, sustainable environmental management practices should be adopted in preserving the ecological integrity of the garden.

It is also important that destination managers would continue to develop and diversify activities that can ensure that recreation, entertainment and social pursuit are met within the garden. The inclusion of newer programmes and initiatives such as guided nature walks, nature events, and introduction of picnic or relaxation spaces, while strengthening existing ones could contribute to revisitation of visitors who seek adventure/novelty. It also becomes expedient that positive word-of-mouth promotion should be encouraged through the delivery of high-quality visitor experiences and active engagement on digital and social media platforms. This is critical as the site currently has none.

Despite the invaluable contribution of this study, this study is limited in that it was conducted in only one nature-based destination. Hence, this limits generalization to other destinations. Future studies should take a comparative approach across various nature-based tourism destination. More so, this study had engaged the use of hierarchical regression in accessing the moderating influence of satisfaction on the relationship between motivation and loyalty. Future studies should consider the use of structural equation modelling in better understanding the complex relationships between latent variables, while adequately accounting for measurement errors.

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