



Impact of Technology in Enhancing Tourist Experience in Olumo Rock, Abeokuta Ogun State, Southwest Nigeria

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Abstract

This research investigates the multifaceted role of technology in enriching the tourist experience in Nigeria. It examines various technological innovations and their applications in the tourism industry, including digital platforms, mobile applications, virtual and augmented reality, digital payment systems, and security technologies. This study adopts a mixed-methods research design, combining both quantitative and qualitative approaches to provide a comprehensive understanding of how technologies enhance the tourist experience at Olumo Rock. The findings indicated that technologies such as mobile apps, online booking systems, and digital kiosks significantly improved the tourist experience by enhancing convenience, accessibility, and engagement. However, responses to augmented reality were mixed, with some participants questioning its effectiveness in deepening cultural and historical understanding. The study highlighted strong support for advancing technology in tourism services. Respondents expressed particular enthusiasm for digital innovations like mobile applications, interactive maps, and digital ticketing systems. The study recommends an increase the Integration of Mobile Apps and Online Services. Enhance Digital Infrastructure: The availability of free Wi-Fi was shown to increase the likelihood of visitors recommending the site

Keywords: Digital transformation, natural landscapes, tourist attraction, tourist destination, urban tourism

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Introduction

Technological advancements are significantly enriching tourist experiences in Nigeria by transforming how visitors explore and interact with attractions. Digital tools and mobile applications now simplify access to destination information, accommodation bookings, and transportation navigation. For instance, apps such as *Visit Nigeria Now* provide comprehensive guides and real-time updates on events and attractions, enhancing accessibility and convenience (Adeboye, 2023). Additionally, innovations in virtual reality (VR) and

augmented reality (AR) enable immersive previews of Nigeria's landmarks and cultural sites, allowing potential tourists to virtually experience these destinations before traveling (Olawale, 2023). Furthermore, technological advancements have significantly improved safety and security for tourists in Nigeria. The adoption of digital payment systems has streamlined transactions, reducing reliance on cash and mitigating risks associated with carrying large amounts of money. Enhanced security technologies, such as advanced surveillance systems and emergency response applications, have contributed to creating a

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safer environment for visitor (Ugochukwu, 2023). Social media platforms also play a critical role in promoting Nigeria as a tourist destination, with influencers and travel bloggers sharing their experiences and inspiring others to explore the country. These innovations not only enhance the overall tourist experience but also drive growth within the tourism sector by attracting more visitors and improving their satisfaction (Ibrahim, 2023). This research investigates the multifaceted role of technology in enriching the tourist experience in Olumo Rock tourist center. It examines various technological innovations and their applications in the tourism industry, including digital platforms, mobile applications, virtual and augmented reality, digital payment systems, and security technologies. The study explores how these tools enhance accessibility, convenience, safety, and satisfaction for tourists. By analyzing recent case studies and industry reports, the project aims to provide a comprehensive overview of the current technological landscape in the study area and identify emerging trends and opportunities. Additionally, it will evaluate the role of social media in tourism promotion, focusing on how influencers and travel bloggers contribute to

the sector's expansion. The finding culminates in a series of recommendations for stakeholders to optimize technology use, improve tourist experiences, and foster the sustainable growth of Olumo Rock tourist center tourism sector.

Materials and Method

Study Area

Olumo Rock, a prominent natural landmark in Nigeria, is located in Abeokuta North Local Government area of Ogun State, Nigeria. The geographic coordinates of Olumo Rock are approximately 7.1518° N, 3.3596° E (Yasmin 2015). Olumo Rock experiences a tropical climate characterized by two main seasons: the wet (rainy) season and the dry season. Average annual temperature: 26–28°C (79–82°F), warmest months: February to April (temperatures can rise above 30°C) and coolest months: June to August (due to increased cloud cover and rain). Wet season: April to October, peaking between May and September, rainfall levels: annual rainfall ranges between 1,200–2, dry Season November to March, influenced by harmattan winds, with lower humidity and reduced rainfall. High during the wet season (above 70%) and moderates during the dry season (50–60%).

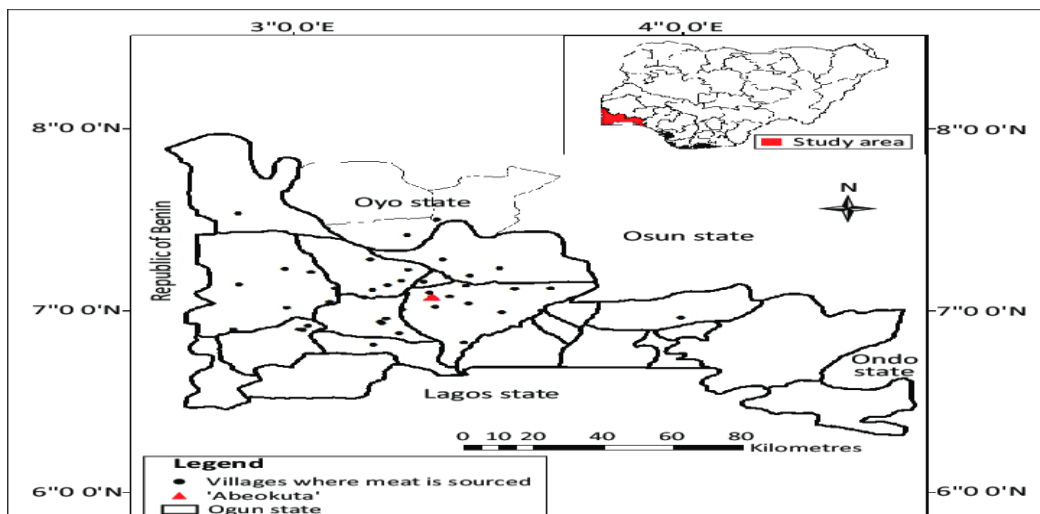


Figure 1: Map of Ogun State

This study adopts a mixed-methods research design, combining both quantitative and qualitative approaches to provide a comprehensive understanding of how technology enhances the tourist experience at Olumo Rock. This design allows for a detailed assessment of technology’s impact, covering both measurable outcomes and nuanced perceptions.

A structured questionnaire was employed as the principal tool for data collection in the study. The questionnaire was designed using a five likert scale format, which served as the primary instrument for gathering primary data. The dataset underwent meticulous examination employing Econometric perspectives (SPSS).

Results and Discussions

Table 1: Demographic Data of the Respondents

s/n			Frequency	Percent
1	Sex	Male	26	43.3
		Female	34	56.7
2	Age	21.-25	38	63.3
		26-30	22	36.7
3	Qual.	ND	34	56.7
		HND	26	43.3
4	Marital	Single	35	58.3
		Married	25	41.7

Source: Survey responses, 2024

Serial number 1 above presents the gender distribution of respondents, revealing that 34 participants are female, constituting 56.7% of the total sample. Meanwhile, 26 respondents are male, making up 43.3% of the sample. In total, the study surveyed 60 individuals, representing 100% of the sample population. The findings highlight a female majority among respondents, while males still maintain a significant presence, though in smaller numbers.

Serial number 2 above shows the age distribution of respondents in this study reveals that 38 individuals fall within the 21-25 age range, representing 63.3% of the total sample. In contrast, 22 respondents are aged 26-30, making up 36.7% of the sample. The study includes a total of 60 participants, accounting for 100% of the surveyed population. These results indicate a predominant concentration of respondents in the 21-25 age group, emphasizing a younger demographic within the study.

Serial number 3 above shows the qualification distribution of respondents in this study shows that 34 individuals hold a National Diploma (ND), representing 56.7% of the total sample. Meanwhile, 26 respondents have a Higher National Diploma (HND), making up 43.3% of the sample. The total number of participants is 60, accounting for 100% of the surveyed population. This indicates that the majority of respondents possess an ND, reflecting a slightly higher prevalence of this qualification among the study participants.

Serial number 4 above shows the marital status distribution of respondents in this study reveals that 35 individuals are single, comprising 58.3% of the total sample. In addition, 24 respondents are married, representing 40.0% of the sample, while 1 respondent falls under the "other" category, accounting for 1.7%. The total sample consists of 60 participants, covering 100% of the surveyed population. These findings indicate that the majority of respondents are single,

highlighting a predominantly unmarried demographic in the study.

Table 2: Respondents' views on tourist experience at Olumo Rock.

S/N	Variable	SA%	A%	U%	D%	SD%
1	Reality (VR) enhance the tourist experience at Olumo Rock	56	31	7	4	2
2	Mobile apps providing guided tours significantly improve visitor Satisfaction	67	24	2	6	1
3	Interactive digital kiosks provide valuable information that enhances the visitor experience	45	31	11	9	4
4	Augmented reality (AR) features enrich the cultural understanding of the site	21	51	5	12	11
5	Online Booking System enhances tourist visit experience to Olumo Rock	48	26	5	12	9
6	The implementation of digital ticketing could reduce wait times and improve service quality The implementation of digital ticketing could reduce wait times and improve service quality	32	37	12	11	8
7	Providing hands-on training for staff on new technologies would improve visitor interactions	65	26	1	5	3
8	Collaboration with technology companies can enhance the quality of digital offerings	64	19	3	9	5
9	Incorporating user-friendly interface in all digital touch points in all essential for a positive experience	71	11	3	9	6

Source: Survey responses, 2024

Table 2 serial number 1 presents respondents' views on whether virtual reality (VR) enhances the tourist experience at Olumo Rock. According to the data, 56% of respondents strongly agree, 31% agree, while 2% strongly disagree. Serial number 2 above illustrates respondents' opinions on whether mobile apps offering guided tours significantly enhance visitor satisfaction. The data shows that 67% of respondents strongly agree, 24% agree, while 1% strongly disagrees. Serial number 3 above presents respondents' opinions on whether interactive digital kiosks offer valuable information that improves the visitor experience. According to the data, 45% of respondents strongly agree, 31% agree, 11% are neutral, and 4% strongly disagree. Serial number 4 above reflects respondents' views on whether augmented reality (AR) features

enhance the cultural and historical understanding of the site. The data indicates that 51% of respondents agree, while 11% strongly disagree. Serial number 5 presents the respondents' opinions on the convenience of online booking systems for tourists visiting Olumo Rock. A total of 48 respondents strongly agree, while 9% of the respondents strongly disagree. Serial number 6 illustrates respondents' views on whether digital ticketing could help reduce wait times and enhance service quality. According to the data, 37% of respondents agree, while 8% strongly disagree. Serial number 7 illustrates respondents' views on whether digital ticketing could help reduce wait times and enhance service quality. According to the data, 37% of respondents agree, while 8% strongly disagree. Serial number 8 presents respondents' opinions on whether

offering hands-on training for staff on new technologies would enhance visitor interactions. The data reveals that 65% of respondents strongly agree, while 3% strongly disagree. Serial number 9 displays respondents' opinions on the importance of incorporating a user-friendly interface in all digital touch points for a positive experience. 71% of respondents strongly agree, while 5% strongly disagree.

Discussion

From findings, various technological innovations and their applications, including digital platforms, mobile applications, virtual and augmented reality, digital payment systems, and security technologies has contributed to the growth of the study area. Also these tools enhance accessibility, convenience, safety, and satisfaction for tourists. The findings indicated that technologies such as mobile apps, online booking systems, and digital kiosks significantly improved the tourist experience by enhancing convenience, accessibility, and engagement. However, responses to augmented reality were mixed, with some participants questioning its effectiveness in deepening cultural and historical understanding. The study highlighted strong support for advancing technology in tourism services. Additionally, the role of social media in tourism promotion, focusing on how influencers and travel bloggers contribute to the sector's expansion is tangible. The finding culminates in a series of recommendations for stakeholders to optimize technology use, improve tourist experiences, and foster the sustainable growth of Olumo Rock tourist center tourism sector

Conclusion

This study explored the impact of technology on enhancing the tourist experience at Olumo Rock in Abeokuta, Nigeria. The primary aim was to evaluate the influence of specific technologies—such as mobile applications, virtual reality (VR), augmented reality (AR), digital kiosks, and online booking systems—on tourist satisfaction, engagement, and overall

experience. Additionally, the research examined strategies for more effective integration of technology into Olumo Rock's tourism offerings to enhance service quality and visitor interactions. Using a mixed-methods approach, the study collected both quantitative and qualitative data through surveys administered to tourists and staff. Respondents expressed particular enthusiasm for digital innovations like mobile applications, interactive maps, and digital ticketing systems. A key takeaway was the importance of staff training in effectively utilizing these technologies to maximize visitor satisfaction and optimize the overall tourist experience.

Recommendations

1. Increase the Integration of Mobile Apps and Online Services: Mobile applications have proven highly effective in improving visitor satisfaction.
2. Enhance Digital Infrastructure: The availability of free Wi-Fi was shown to increase the likelihood of visitors recommending the site.
3. Implement Interactive Digital Kiosks and Maps: Interactive digital kiosks providing real-time information and enhanced digital maps can help tourists navigate the site.

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