Perception of Tourists on Chatbot Service Usage on Tourism Destination: A Study of Kainji Lake National Park, Nigeria

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Abstract

Quest for satisfying tourists and customers' expectations across the globe led to the development and application of various information communication technologies (ICT) in the hospitality and tourism industry. These information communication technologies have been adopted by tourism enterprises and managers such as Email, Mobile Phone, Social Media Networking (Facebook, WhatsApp, Zoom, Artificial Intelligence). Also, the quest for providing friendly interaction among tourists and destination managers further led to the development of one of the artificial intelligence algorithms known as chatbot. Chatbots are Artificial Intelligence (AI) test and/or voice-based virtual assistants that aid customers to get what they ask for quickly and accurately through a conversation in natural human language. Chatbots have been reported to be the technology for hotels, travel agencies, and airlines, however, there is no evidence-based research on the factors that explain consumers' willingness to interact with chatbots. It is on this basis that this research is carried out. The research examined tourists' usage of chatbots, focusing on the Kainji Lake Park (Nigeria). It is an exploratory research that utilized descriptive statistics to analyze data collected. The findings reveal that tourists are aware of the existence of chatbots as deployed to tourism industry. Also, it found that chatbots enhance destination information search. As an emerging market, stakeholders and management in the tourism industry should integrate chatbots into their main information communication technologies to enhance customer patronage.

Keywords: Tourist, Chatbot, Artificial Intelligence, Kainji Lake Park, Tourism Destination, Nigeria.

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Introduction

Information Communication Technology (ICT) plays important role in travels, tourism, and hospitality industry enhancing tourists and customers to choose a destination in line with their expectations. ICT not only enhances choices among tourists but also permit tourists to share destination experiences with families, friends, consumers, and the general public especially using the social networks. Thus, accessing and sharing destination experiences seem to have been enhanced through ICT, it allows tourists and the destination mangers to customize, find, and purchase tourism products effortless in the industry (Stinteza, 2019).

The inflow of tourists to tourism destinations are therefore made easier and convenient to both tourism organizations and tourists; this is achieved through the development of ICT in relation to tourism industry applications. The revolution in the internet websites and other applications in the market such as digital cellphones, smartphones (iPhones), internet modems and routers, social networking tools (Facebook, WhatsApp), and artificial intelligence seem to have facilitated accessing tourism products in the market.

Artificial Intelligence (AI) as one of the developments in ICT, described as a wide-range tool that enables people to rethink how information integrates, analyzes data, and utilizing the resulting insights to improve decision making; showing machines reactions to stimulations in consistent with traditional responses from humans, given the human capacity for contemplation, judgement, and intention (West & Allen, 2018).

One of these AI is chatbots which is emerging as a transformative system of interaction for businesses and customers to enhance satisfaction. Thus, the AI programs are developed to conduct conversation with humans through chat interfaces. The use of chatbots seem to be simply based on the increase in the demands for destination information and sharing of destination experiences among customers, especially tourists. Chatbots are AI test and/or voice-based virtual assistants that help users to get what they ask for, more quickly and accurately and performing a conversation in natural language with human users (Alotaibi, Ali, Alharthi and Almehamdi, 2015).

Thus, one of the latest technological implementations that have built a positive impact on tourism is chatbot. It is opined that it understands the meaning of human language regardless of the language being spoken, who is talking, or the way he/she is grammatically talking. It thus interprets the human language into a machine representation format; performs some processing; reflects what is being desired of it

and generate natural language, talk back to the user like how humans do (Rahnam, Al Mamun, & Islam, 2018). As a result, the application of these ICT tools on the hospitality, travel and tourism industry especially on travel bookings, payments, check-in, and check-out seem to have become effortless due to automation and modern digital practices. The use of Al in the tourism and hospitality industry seem to replace the traditional applications like websites. This has enhanced customers searching for information and sharing experiences irrespective of the location of the users. Hence, a chatbot is a technology which is customer-centric application to enhance communications and interaction between a company and its customers.

A chatbot is classified into two. Firstly, the rule-based chatbot. This type is limited in scope because it can only solve problem based on the programmed areas or activities. It cannot response to questions outside its scopes, for instance the Artificial Intelligence Markup Language (AIML). Secondly, AI-Powered Chatbot which uses machine learning approaches to understand human language, create its own answers to the complex questions. It has the ability to make recommendations, instance decisions, understand patterns of behaviour and programmed to understand many languages; it has a wider scope (Winkler & Sollner, 2018). It understand the meaning of human language regardless of the language being spoken. Examples of these are Mezi4, Kayak7, AIRA, and among others.

Winkler, et al., (2018) for instance identified four key advantages of using chatbots. Firstly, it saves customers service costs by replacing personal assistants. Secondly, it increases user's satisfaction through interactions in real time via available 24/hours/day. Thirdly, it predicts customer questions, and therefore proactively provides right information needed by the customers. Fourthly, it allows sophisticated analysis based on registered information and thus improve products and services. Lastly, it offers multilingual support so that customers from all parts of the world can gain assistance; provides seamless check-ins and check-outs without requiring human contact, and offers ability to automatically follow-up with customers.

Research Problem

Tourists attitude to information technologies usage may varied, however, chatbots is being used by individuals and corporate institutions to enhance customer satisfaction. Most of the current research on chatbots focused on the technical aspects of this technology (Sheehan, 2018), on the users' attributions of human qualities to chatbots, and its effects on communication (Hill, Ford, & Farreras, 2015). Nevertheless, there is hardly any research about the perception of Chatbots on tourist services. Notwithstanding, Chatbots have been claimed to be the next popular technology and its spread is considered unavoidable (Daniel, Matera, Zaccaria, & Dell'Orto, 2018). In

addition, Chatbots are regarded as a recent technology that hotels, travel agencies, and airline companies are adopting; however, there is no evidence about the factors that explain why consumers' willingness to interact with chatbots (Melián-González, Gutiérrez-Taño, & Bulchand-Gidumal 2019). It is, therefore, necessary to investigate tourists' perception on Chatbot usage focusing on Kainji Lake Park Nigeria as filling the gap identified in the research.

Chatbot and Tourism Destination

A chatbot is an AI information technology that simulate conversations from person-to-person interaction. The first chatbot is ELIZA, which MIT professor Joseph Weizenbaum developed in 1966. However, the chatbot market has been motivated as the entry barrier to the actual use of the technology has been lowered; hence, the technology has become the main social issue as companies and business alike want to provide prompt services to their customers, therefore, interest in a chatbot and utilization for business has begun to increase (Um, Kim, & Chung, 2020). In modern tourism industry, the integration of cutting-edge technology has become indispensable to enhance visitor experiences which also aid in streaming information dissemination. For instance, Artificial Intelligence have emerged as a game-changer in tourism industry that enhances information sharing among tourists and destination managers (Osamah, et al., 2024).

The emergence of modern information communication devices such as Artificial Intelligence (AI), Chatbots has liberated tourism industry which enhances living standard of the people especially among developed society, and recreation destinations. This is based on the fact expanding the tourist industry is the main concern for economic growths. This is because tourism revenues especially rural tourism among the developed nations like America, Malaysia, Austria, United Kingdom, etc. help increase living standard of the society.

Therefore, the tourism and hospitality industry are experiencing speedy innovation through the introduction of information communication technologies (ICT). For instance, the application of chatbots to tourism activities reshaped the behaviour and attitudes of tourists and stakeholders in the industry (Francisco, 2022). It is on this basis it is observed that most firms in the industry are focusing on the need for chatbot-based activity and thematic algorism for future tourists and service providers.

Thus, the global competition brought about by ICT among the service industries has spurred customers and consumers to choose most appropriate alternative services offered by organizations like tourism destinations. Quest for

customer-satisfaction leads to the development of ICT and application of chatbots in the hospitality and tourism industry. Chatbot is an information-based technology that allows conversations and interactions in response to customers questions on services offered by organizations which is conducted through auditory and textual method. The voice-based chatbots provide message services to the queries of customers in the form of text messages; whilst voice-based chatbots provide message services to the queries of the customers in the form of voice-based messages (Kumar, et al, 2018). Chatbots has engrained programs that detect the keyword within the questions that trigger the number of responses to a single question immediately, it is a notable aspect of chatbots (Makar & Tindall, 2014). It is therefore, observed that chatbots allows personalization of customers privacy and identification especially for travels and hospitality industry (Boiano, et al., 2019).

Cheriyan, Sharma, Joseph, and Kappil (2022) observed that chatbots generally have become the principal system for users interact whenever there is a need to seek for some information from any customer support application. Accordingly, various online surveys shows that all customer interactions are currently expected to be dealt with through AI-based tools by 2025, this also includes phone and online conversations (Tussyadiah, 2020). Thus, it is noted that chatbots have gained increasing importance in today research with emphases on customer-service satisfaction. Chatbots recommends sights, hotels activities or travel plans as applies to travels and tourism activities (Popesku, 2019).

Hence, the use of artificial intelligence has opened new horizons in which digital marketing strategies linked to tourism can improve the industry activities within the short-period. This will enable tourism firms and tourism industry to analyze and extract large amount of data of their customers to enhance customer-business relations (Paraskevi, et al. 2023). These opportunities offered by the introduction of AI especially chatbots, most businesses invest large amount of their resources on marketing innovations which aim to persuade their target customers especially tourists in order to attract tourists to destinations (Bassano, et al., 2019). It is on this account that Bertello, et al (2022) observed that tourism firms and managers have to depend on analyzed data in order to make precise and accurate decisions which chatbots will serve such purpose. Thus, the application of AI techniques will improve and increase the possibility of achieving a greater result which may depends on the objectives of the organizations to be achieved.

Loneliness sometimes is a barrier in a tourism destination. However, social robots like chatbots are regarded as newest approach to alleviate loneliness in a tourism destination. Although, it noted that only few studies in the tourism field have directed attention on loneliness and its impact on the acceptance of chatbots used by

the tourism industry (Auer, et al., 2024). The researchers further argued that loneliness of the tourists will be alleviated in the process of interacting with chatbots. This is because tourism is a social activity which helps to escaping loneliness. Thus, tourism can strengthen family relationships and social interactions.

Although, the loneliness can be alleviated through the use of chatbots, scholars have further argued that excessive use of smartphones can negatively affect social relationships, hence they might become too obsessed with the perfect 'virtual friend', therefore, their real interpersonal communication skills would likely be diminished (Aliyah, et al., 2023). Notwithstanding, new technologies have transformed the customer-business relationship. Hence, tourism industry has taking advantage of new devices to deliver efficient and effective means of interactions. Thus, chatbots being one of these devices reshaped tourists' attitude by accompanying convenience benefits as well as autonomy in time and place, this, therefore served as alternative of saving money and resources of the tourism industry (Maulana, et al., 2024)

Therefore, chatbots answer customer questions and solve problem using text or voice. Chatbots as part of AI are natural language processing system acting as virtual conversational agent. Its applications in to tourism and hospitality industry is that they offer valuable services such as hotel information, room service and travel instructions to a destination or location with no help from a tour guide. They, therefore, provide accurate answers to a large number of questions at any time and day, providing pre-plan and tour services to tourists. Thus, personalized experience is one of the main benefits of chatbots. Thus, it helps tourism industry and tourism firms to create customer satisfaction which is a key to the survival of customer-business relationship (Abd-El-Kafy, et al., 2022).

The tourism and hospitality industry, therefore, has been made popular recently due the use of smart phone devices especially application of AI enhancing tourists' experiences. These new communication technologies aided by AI, such as virtual guide and virtual host, chatbots, smart room, and digital personal assistance are drastically transforming the tourism experience (Vena-Oya, et al., 2024). Therefore, AI especially chatbots open new and exciting opportunities for value-co-creation by knowing customer needs and preferences which thus enable resource integration between customers and service providers.

Thus, the hospitality and tourism industry has benefited from the usage of smart services like chatbots with newest innovation in information communication technology. Hence, chatbots have become the primary tool whereby service providers and customers interact to ensure their needs and satisfaction is guarantee. Therefore, smart tourism technology has become key factors in rendering efficient services to the

target customers **(**Huang, et al., 2017**)**, Smart tourism especially the chatbot is a destination's capacity that integrate technology platforms to ensure maximum benefits and support to tourists and stakeholders in the industry in making travel decisions. Also, it also supports tourists to share memorable experiences (Yoo, et al., 2017). Although these scholars have argued that smart technologies play critical role in tourism and tourists travel decisions, it is reported that there is a limited research intention.

For instance, chatbots have gained widespread adoption across various industries such as education, business, e-commence, entertainment, and healthcare. These forms of travel communication technologies are used to facilitate airport customer services. The emergence of smart devices makes travel arrangements easier, help tourists to make a series of decisions about their future trips; for instance, choosing a destination, transport, and accommodation. These decisions will have main impact on tourist experiences especially prospective tourists. Although there seem to be limited research concerning travelers' perspectives., this could be attributed unmet expectations which might lead to frustration.

In addition, chatbots are used by travel agencies for travel planning, customer support, and providing recommendations and suggestions to the customers in respect of travel issues (Ukpabi, et al., 2019). It is further noted that chatbots supports customers services in respective of time and space, especially on transportation, hotel reservations, and other travelling packages in line with the customers preferences in real-time (Boiano, et al., 2019). One of the main advantages of these chatbots is that they can handle thousands of reservations and inquiries simultaneously. For instance, its applications in the airline decisions, it helps customers to find suitable flights options by gathering information such as date, time, tourist destination, choice foods, cancellations and delays (Agostinho, 2016). This thus save customers the trouble of visiting the airline, websites and entering page after page for seeking for information.

Similarly, its applications to hotel activities chatbots will be useful in enriching the pre-visit experience, permitting users to make booking rooms and other amenities in such hotels. These devices can provide high quality services, enhance tourists' experiences, save time and money, eliminate human error, and perform tasks accurately and quickly. Thus, some tourist companies, airlines, hotels, restaurants and resorts seem to depend on providing quality customer services to build future loyalty. Also, it will enable tourists to register, check-in and check-out, choose between several rooms types, read the hotel's policy and rules, confirm check-in without employee's interference. This therefore, reduces surface contact experiences,

These true and virtual presentations of the hotel via chatbots, customers feel being encouraged to make purchase decisions (Zeng, et al., 2020). Thus, hospitality in particular recently seem to depend on chatbots for their operations by contributing positively to increase online booking and sales. These new devices enable users or tourists to browse websites, helped tourists to make decisions quickly; enriching guests pre-arrival experience, allowing guests to make hotel rooms booking and other social amenities available in the hotel, this enhances social relationships with clients and strengthened customers confidence (Alexis, 2017).

The use of virtual reality like chatbots in cultural tourist attractions provides visitors with a unique visual experience that makes them feel they are living in the history of archaeological world. This not only enhance tourists experience but also bring cultural activities closer to the tourists and stakeholders in the cultural sector of the tourism industry. This is pertinent with the challenges of war, communal conflicts. kidnapping, economic recession in the global world, and increased migration of people from ruler areas especially among the developing countries like Nigeria and Niger to cities and towns.

In addition, the use of these AIs in the travelling sectors especially for car rental has enable tourists to book travel services such as flights, hotels, transportation, and rental online like Uber in Nigeria. This has enabled most car rental companies to design and own their own websites that provides detailed information about their services which include booking, confirmation, and cancellation accordingly (Bayram (2020). Therefore, the use of the mobile communication technologies helps to provide better services, and thus achieving profitability for the business owners as well as providing competitive advantage, product differentiation, and diversification of products and services to suit the different preferences of customers irrespective of age, space, and time.

It is on this basis researchers have opined that changes in information communication technologies have great influences on customers' preferences and lifestyles, this is because no single individual customers or tourist behave the same in relation to consumptions of tourist's products available in the market (Bayram, 2020). This therefore implies that smart devices like chatbots have taken over the conventional way of travelling which modern tourists considered slow, full with errors and human delays. Thus, the application of smart technology like chatbots has revolutionized tourism industry, given hope and choices to tourists who desire to take advantage of various forms of tourism in the market. This aimed at enriching tourists' experiences and enhancing customers' satisfaction.

For instance, it is argued that participants higher degree of learning seems to preferred chatbots due to its greater competence in complementing the task assigned to it (Bayram, 2020). Hence, the participants rated the performance of the chatbots higher than that of email. This has therefore encouraged application of chatbot-base systems to tourism activities. Thus, the use of chatbots in the tourism sector especially in service automation, delivered superior performance as opposed to the use of human inference, it generates greater service user-satisfaction. For instance, it is observed that chatbots do not lose interest in the conversation, if its last longer that expected unlike human operations. However, despite these advantages of the chatbots offering automating services, privacy concerns continue to be an important issue that need to be address adequately to guarantee customers adoption (Vena-Oya, et al., 2024).

For example, it is noted that chatbot dimensions have main positive impact on customer trust and customer experience, whilst information quality has the highest effect on customer experience while service quality has the highest influence on customer trust, this is because tourism and hospitality industry are information seeking industry, thus, information becomes key factors influencing tourist destination decisions (Ionescu, et al. 2024). However, customer trust has higher influence on hotel visit intention than customer experience, due to the fact past visit has influential effect on prospective tourists. This further corroborated that the use of smart technologies like chatbots has a positive impact on the experiences of tourists during all phases of their journey (Chi, 2023). Therefore, smart technologies have a double role in the tourism industry. They enhance satisfaction by introducing new experiences while also improving the operational efficiency and sustainability of tourist destinations.

It is further argued that the recent advancement in Generative Conversational Artificial Intelligence (AI) has opened the possibility of promoting chatbots for nudging. Tourists returning home from destinations that enforce sustainable transport regulations might be nudged to continue traveling sustainably (Sumarjan, 2023). The tourism industry has kept abreast of developments and adopted new service delivery methods aided by artificial intelligence, chatbots reshaped tourists' attitudes by accompanying them during all stages of their journey, from planning to travelling, providing exceptional convenience benefits as well as autonomy in time and place. The researcher further noted that that empathy response, anonymity and customization significantly impact interaction. Empathy response is found to be the strongest influence on interaction. Notwithstanding, chatbot technology is used as part of an excellent tool to enhance communication, boost the efficiency of service delivery, save costs, and enhance customers' experience. Nevertheless, the usage of chatbot is still low in Nigeria hospitality and tourism industry.

It is on this account that it is noted that the tourists' seeking for reliable sources of information is constantly increasing, however, chatbot applications into the tourism industry has come as tools for resolving these challenges as raised by the customers; thereby increasing customers experiences. Also, it is observed that modern tourists are more demanding with regards to destinations information and thus expect immediate response to their questions (Alotaibi, Ali, Alharthi, & Almehamdi, 2019).

Similarly, it is observed that searching and buying products online using chatbots are popular nowadays especially in the advanced countries like Germany, United Kingdom, (e.g., chat Shopper, eBay, etc.). For instance, most chatbot's users seem to be using chatbots for booking hotels, trips and flights (especially among KLM, Swiss, Austrian Airline chatbot), which is the aim of this paper to access the perception of users in Nigeria especially for a tourism destination.

Consequently, the chatbots have two different types of consequences for service organizations like Hospitality and Tourism industry. Firstly, the chatbots changed ways of informing, communicating and transacting between the company and its customers or other external stakeholders. Secondly, chatbots will influence and change the future organization communication and collaboration among companies. It will provide businesses with new ways of interaction and communication. Thus, it is noted, chatbots are very promising tools for international and digital companies like online retailers or web shops; customers sometimes buy products in different countries and they do not want to be dependent to local time zone or foreign languages, in that respect chatbots seems to be the right tools (Zumstein & Hundertmark, 2017). For instance, a survey of content management professionals found that majority of them were planning to adopt chatbots to deliver content to their customers (The Content Wrangler, 2018).

Also, Deloitte (2017) report that a case of Oyo Rooms which operates a network of 70,000 rooms in over 200 Indian cities uses chatbots for its customers search for booking of hotels. Similarly, (De la Rosa, 2019) found that a chatbot helps to find travel agents in real-time to solve doubts about common issues. Tourists, therefore, use chatbots to obtain information, solve doubts, find objects, and locations (Phocuswright, 2018). It is, therefore, imperative to investigate perception of tourists on chatbots services especially on tourism destinations in Nigeria.

Study Area and Methodology

Kainji lake National Park is located in the Northwest Central part of the country between latitude 9°40'N and 10°30'N and longitude 3°30'E and 5°50'E in Niger and Kwara states, 500km from Lagos and 385 km North east of Abuja the Federal Capital.

An effectively Protected National Park with a total area of 5340.82sq/km separated into two distinct non-contiguous sectors namely Borgu sector with an area of 3970.02 sq/km and Zugurma sector with an area of 1370.80 sq/km respectively.

The Climate exhibits wet and dry seasons April to November and November to April respectively. The mean annual rain fall is 1100 to 1200mm about 200 days. Temperature ranges between 10°c and 30°c (Mean is 30°c) and the average relative humidity is 53%. The Park is a typical inselberg landscape with round hills wide pediments/plains separating them and incised river channels slopping down towards the river Niger valley. Some of the Rivers in the Park include. Oli Menei, Doro and Manyara Rivers etc.

Figure 1: *Kainji Lake National Park*
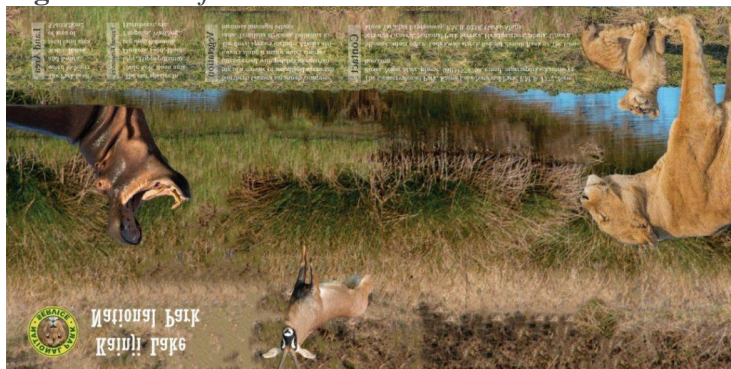
Source: Nigeria Parks, 2014

This is an exploratory research based on quantitative technique. The sample is the Kainji Lake ark Nigeria tourists. The sample size is 120 tourists. The data was collected for the period of four weeks to have robust data for analysis due to the insecurity challenge in the Northern part of Nigeria. The data collected is analyzed using descriptive statistics of percentage and bar-chart. Thus, questionnaire is designed taking into consideration tourists' perception of chatbot usage, convince, and challenges encountered while on tourism destinations.
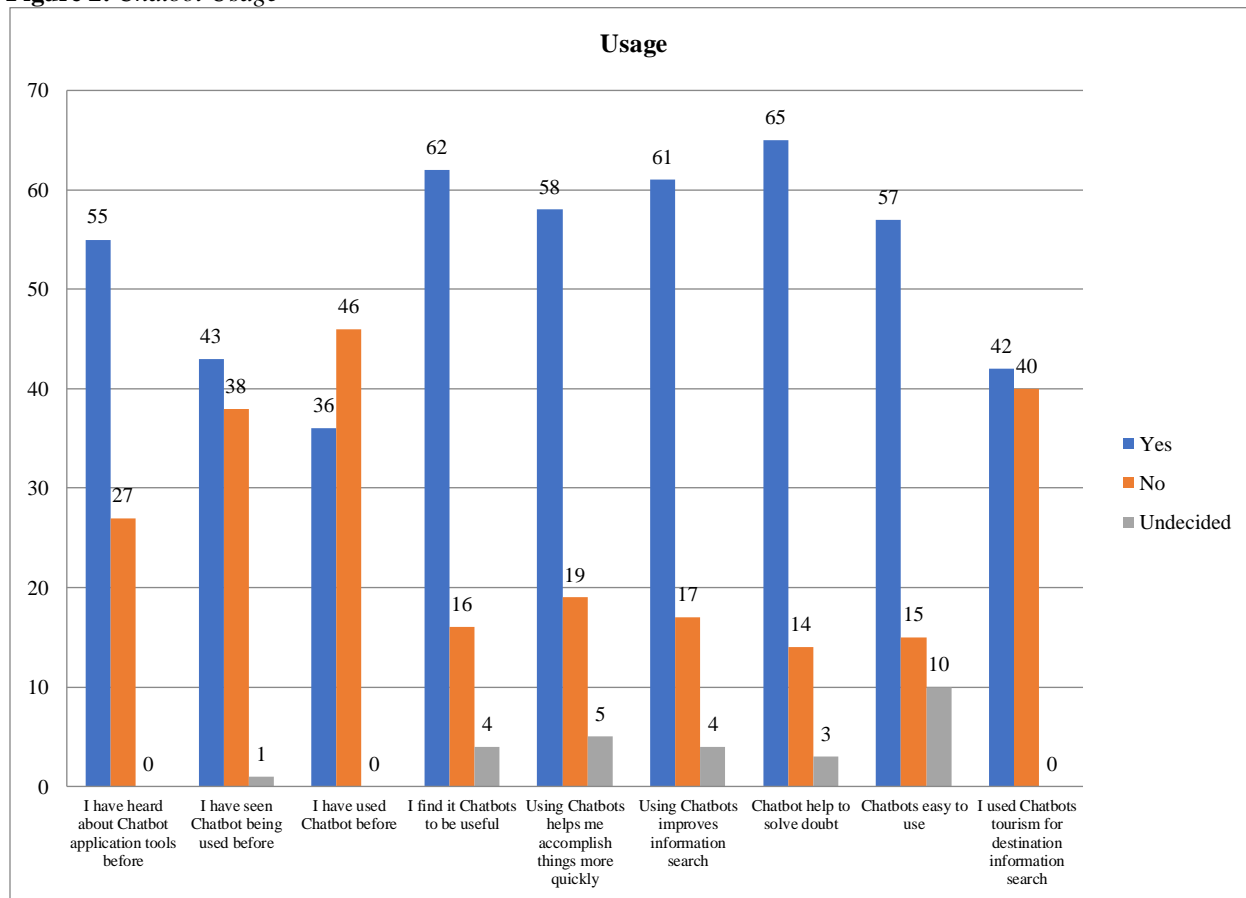
Data Presentation and Analysis

Table 1: *Questionnaire Administered and Returned*

Administered Questionnaire	Returned	%	Unreturned	%
120	82	68.33	38	31.66

Source: Researcher's Survey, 2022

Figure 2: *Chatbot Usage*
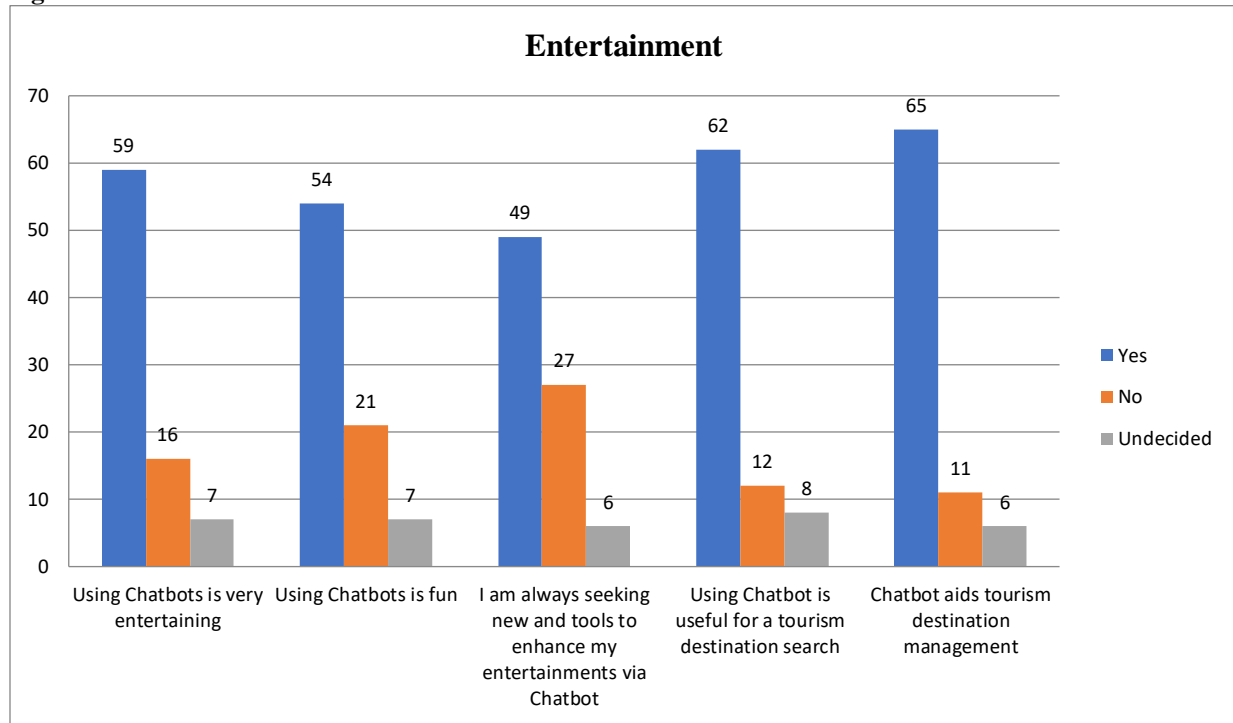

Source: Field Survey, 2022

Figure 2 provides influential statistics on the perception of usage of chatbots among tourists in Kainji Lake Park of Nigeria. The figure reveals that 55 respondents claimed to have heard about the AI tool, 43 respondents noted that they have seen AI Chatbots, 36 respondents have used them, 62% respondents revealed that chatbots are useful tools, 58 respondents report that they are used to accompany things easily, 61% claimed that the AI chatbots improved information search, 65 respondents report that it resolved doubts, 57 respondents are of the view that they are easily used, and 42 respondents noted that they used chatbots for tourism destination information search. It can be inferred from this analysis that tourists are aware about chatbots existence and usage especially for tourist destination information search.

Figure 3: *Tourism Entertainment*

Source: Field Survey, 2022

From Figure 3, 59 respondents claimed that chatbot is a tool used for an entertainment, while 54 respondents noted using chatbots is fun, whilst 49 respondents opined that it enhanced entertainments. Moreso, 62 respondents agreed that chatbots is useful for a tourism destination search, and 65 respondents attest that chatbots aids tourism destination management. It is therefore important to noted chatbots enhance tourism destination information search and entertainments as revealed in this study.

Figure 4: *Inconvenience*
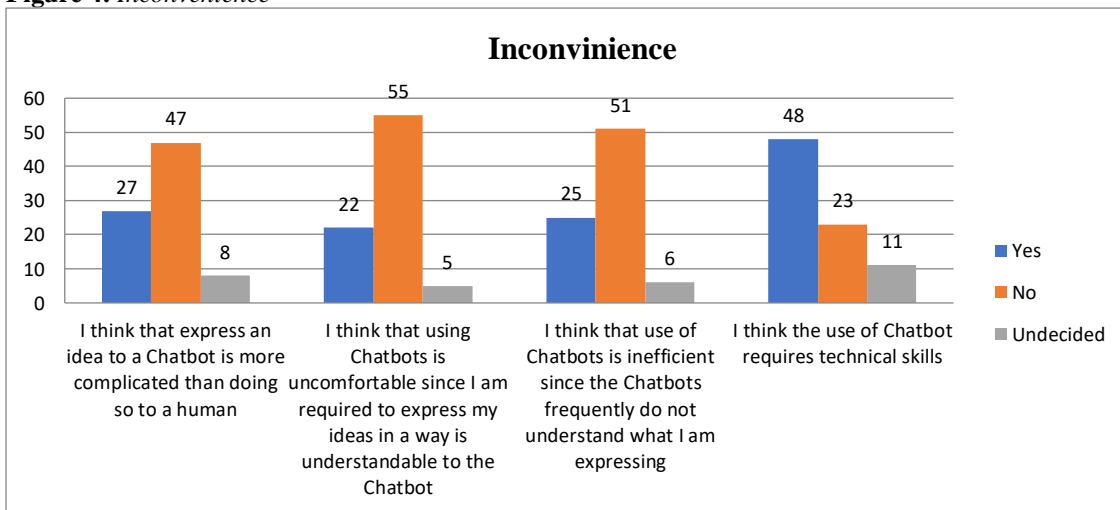
Source: Field Survey, 2022

Figure 4 shows that 27 respondents agreed that using chatbots as tools for expression of interest for tourism information search and destination is considered as more complicated than doing so via human interaction. Also, 22 respondents claimed that using chatbots is considered as inconvenience tools since the expression of tourism destination search interest need to be converted to machine language before actual response can take place as opposed to human interactions. On the other hand, 25 respondents opined that chatbots are inefficient since they frequently do not understand desired human expressions, but 48 respondents revealed that the use of chatbots requires technical skills for it to achieved it desired results of tourism destination information search. From these analyses, it can be inferred that chatbots tools as tourism destination information search do not create inconvenience to users while achieving effective tourist management.

Figure 5: *Future Intention*
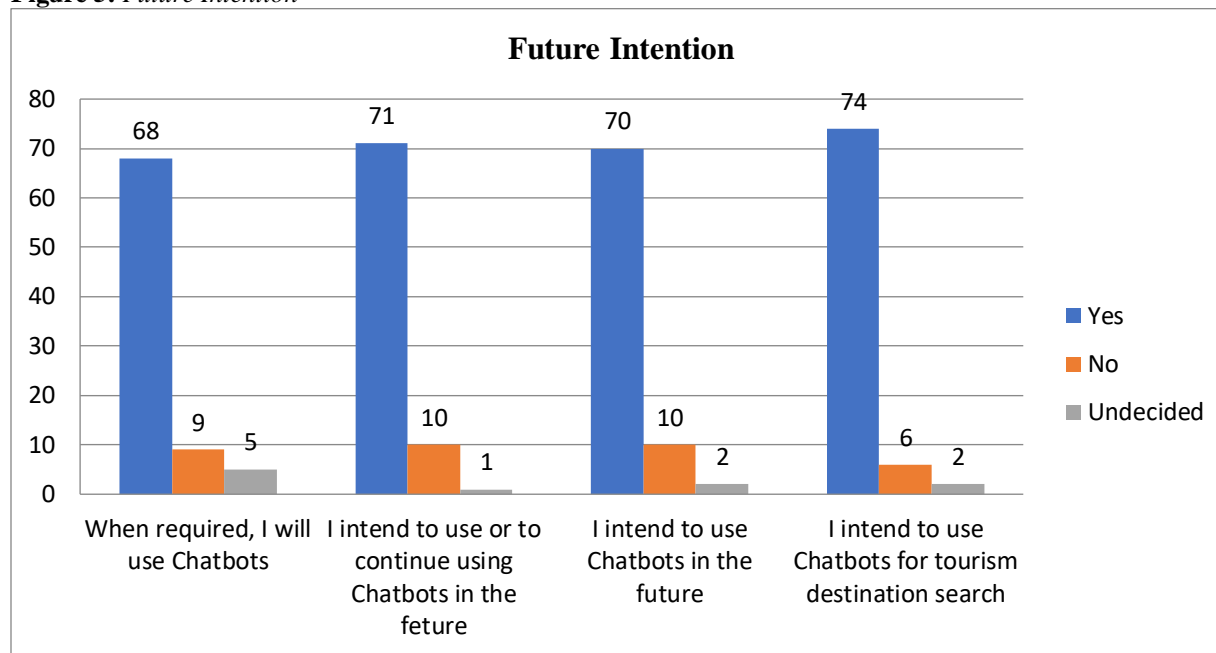
Source: Field Survey, 2022

Figure 5 provides information with regards to the use of chatbots tool for future tourism destination information search. 68 respondents agreed that they will use chatbots for future tourism information search, while 9 respondents disagreed with the assertion. Also, 71 respondents are of the view that they would continue to use chatbots in the near future, but 10 respondents held a different view. Moreso, 70 respondents proposed they would use chatbots in the future, while 10 respondents disagreed with such opinion. In addition, 74 respondents assert that they will use chatbots for tourism information destination search. In line with these analyses of figure 4, it can be concluded that using chatbots for future tourism information destination search is optimistic among the respondents. It therefore implies that its

future use for tourist and destination management will enhance tourism and hospitality industry activities.

Conclusion and Marketing Implications

Chatbot as one of the ICT developments has been used to enhance human interaction on service delivery system. Its application to travel and tourism industry's activities will continue to provide robust social interaction. However, its marketing implications are:

1. It will serve as an emerging market as a competitive tool in the industry.

2. Customers are provided with tool to seek information with little delay as opposed to human responses

3. It will increase sales and enhanced customer experience especially in the hospitality and tourism industry.

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