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Determinants of Travel App Adoption Among Non-English-Speaking Foreign Tourists in Nigeria: A UTAUT-Based Analysis

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Abstract

Every year, Nigeria receives approximately 1–1.3 million foreign tourists, including visitors from both English-speaking and non-English-speaking countries for tourism, business, and cultural purposes. Many of these tourists travel without local guides, making communication and navigation difficult because of language barriers and unfamiliar environments. This study investigated the determinants influencing the adoption of travel applications among non-English-speaking foreign tourists in Nigeria using the Unified Theory of Acceptance and Use of Technology (UTAUT). A cross-sectional survey design was employed, and data were collected through purposive sampling from 382 non-English-speaking foreign tourists at three major international airports in Abuja, Lagos, and Calabar using a structured questionnaire. Descriptive statistics were used to summarise respondents' characteristics, while multiple regression analysis was employed to test the hypothesized relationships. The regression model was statistically significant ($F = 177.882$, $p < 0.001$) and explained 65.4% of the variance in travel app adoption ($R^2 = 0.654$). Performance expectancy emerged as the strongest predictor of travel app adoption ($\beta = 0.742$, $p < 0.001$), followed by social influence ($\beta = 0.524$, $p < 0.001$), facilitating conditions ($\beta = 0.350$, $p = 0.002$), and effort expectancy ($\beta = 0.105$, $p = 0.004$). These findings demonstrate that the UTAUT model effectively explains and predicts travel application adoption among non-English-speaking foreign tourists in Nigeria. The study contributes to the growing body of knowledge on digital tourism by extending the application of the UTAUT framework to an underexplored population in an emerging tourism destination. The findings provide practical

implications for travel application developers, tourism service providers, and policymakers seeking to improve digital engagement and enhance the travel experiences of international tourists in Nigeria.

Keywords: Travel Apps, Tourism Marketing, Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Technology Adoption, UTAUT.

Introduction

Travel application software (or apps) are innovative developments in information and communication technologies that have significantly reshaped how individuals plan, manage, and experience travel (Manna et al., 2025). These applications are particularly valuable in unfamiliar geographical environments, where they support seamless navigation, real-time information access, accommodation booking, and personalized travel recommendations (Olonade et al., 2025). Their emergence was driven by persistent inefficiencies in traditional tourism systems, including difficulties in navigating unfamiliar destinations, fragmented access to reliable local information, and challenges associated with coordinating transport, accommodation, and itineraries (Dias & Afonso, 2021). Furthermore, language barriers, limited real-time data availability, and the cognitive burden of organizing complex travel arrangements have historically intensified travel-related stress for international tourists (Yawised et al., 2022). In response, travel apps have evolved into integrated digital platforms that centralize travel services, thereby enhancing convenience, efficiency, and personalization across the tourism experience.

In practice, the relevance of these technologies becomes more pronounced in developing tourism environments where infrastructural and informational systems are less coordinated (Mshana & Postrzednik-Lotko, 2026). In such contexts, travel apps function not only as convenience tools but also as essential enablers of mobility, communication, and access to services by bridging gaps in transportation systems, spatial information, and language interpretation (Fakfare & Manosuthi, 2023). Within this global digital tourism transformation, Nigeria presents a distinct and under-researched context. Every year, Nigeria receives approximately 1–1.3 million foreign tourists, including visitors from both English-speaking and non-English-speaking countries for tourism, business, and cultural purposes (StatBase, 2024). Despite this inflow, the country's tourism environment is characterized by uneven service standardization, limited multilingual support systems, and reliance on informal travel assistance structures (Egbo et al., 2025). Consequently, many foreign tourists travel without local guides, which intensifies communication and navigation difficulties arising from language barriers and unfamiliar urban systems, particularly in major destinations such as Lagos, Abuja, and Cross River. These challenges often reduce travel efficiency, increase dependence on informal

intermediaries, and negatively affect overall tourist satisfaction (Olonade et al., 2025).

Despite the growing importance of digital tools in global tourism, there remains limited empirical attention on how foreign tourists, particularly non-English-speaking visitors, adopt travel applications within the Nigerian context. This represents an important research problem because non-English-speaking foreign tourists depend more heavily on digital travel applications for communication, navigation, translation, transport, and access to tourism services than tourists who can communicate effectively in English. However, most empirical evidence on travel application adoption has been generated from countries with relatively mature digital infrastructure, well-developed tourism ecosystems, extensive multilingual support services, and socio-cultural conditions that differ considerably from those in Nigeria. Consequently, the applicability of these findings to Nigeria remains uncertain. This omission is critical given that technology adoption behaviour is strongly shaped by contextual conditions such as infrastructure quality, cultural diversity, language accessibility, and digital literacy environments (Adekuajo et al., 2025), all of which differ significantly from the contexts in which most existing technology adoption models have been tested. Consequently, a substantial body of literature has examined travel app adoption using UTAUT. However, findings remain inconsistent and context-dependent. Some studies report that facilitating conditions, effort expectancy, and social influence do not significantly influence tourists' adoption behaviour (Nikou, 2019; Ali et al., 2024; Imtiaz & Suki, 2022). In contrast, other studies argue that all UTAUT constructs, including performance expectancy, effort expectancy, social influence, and facilitating conditions, significantly predict adoption behaviour among tourists (Wu & Lee, 2017; Medeiros et al., 2024; Lai, 2025; Topsakal & Çuhadar, 2025; Altay & Okumuş, 2022). This theoretical inconsistency highlights a broader limitation of UTAUT: its explanatory power may vary across socio-cultural and infrastructural contexts, particularly in developing tourism destinations where digital ecosystems are less mature. Therefore, findings generated in other countries cannot be assumed to be directly transferable to the Nigerian tourism environment without empirical validation.

In the Nigerian tourism environment, this inconsistency is further amplified by the scarcity of context-specific empirical studies examining technology adoption among international tourists. Consequently, there is limited understanding of how UTAUT constructs operate when users simultaneously encounter language barriers, infrastructural constraints, limited multilingual support services, and unfamiliar local systems. These challenges distinguish non-English-speaking foreign tourists from many other tourist groups because they are more dependent on travel applications to facilitate communication, navigation, information access, and service utilisation throughout their stay. Despite these unique characteristics, little empirical evidence exists regarding the factors influencing their adoption of travel applications within Nigeria. To address this theoretical and empirical gap, this study adopts the UTAUT dimensions of performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy refers to the extent to which individuals believe that using a technology will improve their task performance (Venkatesh & Davis, 2000). Effort

expectancy reflects the perceived ease of using the technology (Lai, 2025). Social influence describes the extent to which individuals perceive that important others encourage them to use a technology (Sia et al., 2024). Facilitating conditions refer to the availability of resources and support necessary for system use. These constructs have been widely applied in technology adoption research and remain particularly relevant in tourism contexts, where digital tools increasingly shape travel decision-making, experience quality, and service accessibility (Shetu et al., 2026; Ho & Amin, 2019). Accordingly, UTAUT provides a robust theoretical lens for examining the determinants of travel application adoption among non-English-speaking foreign tourists in Nigeria. This study was hence conducted to verify the capability of the UTAUT framework to predict the adoption of technology in the tourism context with the following specific objectives:

i. To determine the influence of performance expectancy on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.
ii. To examine the influence of effort expectancy on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.
iii. To ascertain the influence of social influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.
iv. To determine the influence of facilitating conditions on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.

LITERATURE REVIEW

Travel Apps in Nigeria

Travel applications have evolved beyond simple itinerary management tools and now play an important role in how tourists experience and interact with travel destinations. While McCracken (2023) describes these apps as multi-functional platforms for booking accommodation, coordinating transport, and accessing real-time navigation, the discussion assumes that such features are equally effective across different contexts. However, in Nigeria, the effectiveness of travel apps is shaped by contextual realities such as language barriers, traffic congestion, infrastructural limitations, and varying levels of digital accessibility among users. Huang (2023) further argues that user-generated reviews and personalized recommendations enhance tourists' confidence and independence in unfamiliar environments, a perspective that is particularly relevant for non-English-speaking foreign tourists navigating Nigerian cities and tourism destinations.

In Nigeria, several digital platforms have become important in supporting tourist mobility and convenience. Ride-hailing applications such as Bolt and Uber are widely used in major cities like Lagos and Abuja to facilitate urban transportation, while Google Maps and other navigation platforms assist tourists in locating destinations and navigating unfamiliar road networks. Hotel booking applications and online accommodation platforms also help visitors secure lodging and access travel information more conveniently. Beyond transportation and accommodation, some lifestyle-oriented applications integrate food delivery, payment

systems, and location-based services, thereby helping tourists adapt more easily to everyday urban life in Nigeria. This supports Özturan et al.'s (2024) argument that the integration of tourism and lifestyle services increases the relevance of travel applications in densely populated destinations.

Scholars nevertheless differ on the major drivers of travel app effectiveness and adoption. Bajarin (2023) emphasises transportation-focused platforms as central to tourist mobility, whereas Özturan et al. (2024) highlights the importance of integrating travel services with broader urban convenience systems. Similarly, Manna et al. (2025) associate high download and usage rates with customer satisfaction, while Gao et al. (2024) argue that adoption is influenced not only by app functionality but also by wider sociotechnical conditions such as digital literacy and digital transformation. In Nigeria, these broader conditions remain important because inconsistent internet connectivity, uneven digital infrastructure, and language accessibility challenges may influence how foreign tourists adopt and use travel applications. In essence, these perspectives suggest that travel app adoption is shaped not only by technological functionality but also by the infrastructural, cultural, and digital realities of the tourism environment.

Consumers' Adoption of New Technology

The adoption of new technology by consumers is a multifaceted process shaped by a range of psychological, social, and contextual influences. Venkatesh et al. (2018) emphasizes the importance of both the initial acceptance and the subsequent integration of technology into everyday routines, suggesting that adoption is not a singular decision but an evolving behavioural commitment. While this view offers a comprehensive understanding of the adoption lifecycle, Bilynets et al. (2024) focus more narrowly on the cognitive evaluations consumers make, such as perceived ease of use and compatibility, indicating a more individualistic and rational assessment of technology, potentially underestimating the influence of social or cultural norms.

Nikou (2019) place significant weight on the broader market implications of consumer adoption, arguing that widespread uptake is essential for long-term sustainability and commercial success. Their view aligns with a utilitarian perspective that prioritizes market viability, yet this stance may overlook underlying psychological or affective barriers. In this regard, Ernawati et al. (2025) bring attention to resistance factors such as mistrust, complexity, and psychological inertia; factors largely absent in Nikou (2019)'s market-oriented analysis. Further complicating the narrative, Özturan et al. (2024) draw attention to structural impediments, including high financial costs and security concerns. This introduces a critical socio-economic lens, suggesting that even when consumers perceive value in a technology, external constraints may inhibit adoption. Aluri (2025) extend this argument by identifying the role of inadequate awareness and marketing as key deterrents, pointing to a failure not of the technology itself, but of communication and engagement strategies. These studies reveal that while technological attributes and perceived usefulness play a central role in adoption

decisions, broader contextual and psychological dimensions cannot be dismissed. The diverse emphases across the literature illustrate that successful adoption is not guaranteed by innovation alone, but by the alignment of user perceptions, structural conditions, and strategic dissemination efforts.

Theoretical Framework

The foundation of this study lies in the Unified Theory of Acceptance and Use of Technology (UTAUT), conceptualized by Venkatesh et al. (2003). This model provides a theoretical basis for examining the determinants that impact an individual's choice to embrace and utilize technology. It underscores the importance of factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions in influencing not only the intention to adopt technological innovations but also the behaviors associated with their actual use (Venkatesh et al., 2018). According to Venkatesh et al. (2018), these four factors collectively determine users' acceptance of technology and their subsequent usage patterns. Over time, UTAUT's validity has been substantiated through extensive empirical research. Scholars such as Li and Bilynets et al. (2024), and Ernawati et al. (2025) have confirmed the theory's relevance across diverse technological adoption scenarios.

Within the context of this research, UTAUT is especially pertinent as it offers a comprehensive structure for examining the factors influencing technology adoption. In particular, its emphasis on elements such as expected performance outcomes, perceived ease of use, social pressures, and supportive conditions sheds light on the behavioural intentions that motivate individuals to adopt emerging technologies. These factors are directly aligned with the study's objectives to examine the adoption of travel apps by non-English-speaking foreign tourists in Nigeria, as they capture the essential psychological and environmental variables that could affect tourists' decisions to use such apps while navigating unfamiliar Nigerian tourism environments. Furthermore, UTAUT's applicability to this study is reinforced by its focus on user-centred variables that affect technology acceptance across diverse contexts and populations. By applying UTAUT to foreign tourists in Nigeria, the study can explore how these four factors shape tourists' perceptions of travel apps, ensuring that the findings are grounded in a well-established theoretical framework. This provides valuable insights into how travel apps can be designed and promoted to enhance user engagement, improve tourism experiences, and increase adoption rates among foreign visitors in Nigeria.

Performance Expectancy and Tourists' Adoption of Travel Apps

Performance expectancy, central to the UTAUT model, reflects the extent to which users believe that adopting a particular technology will yield tangible benefits, such as enhanced efficiency or outcome attainment (Park & Kim, 2019). While there is broad agreement on its pivotal role in influencing adoption behaviour, studies diverge in how they conceptualize and report its impact across contexts. Mensah and Khan (2024) underscore performance expectancy as being intricately linked to perceived usefulness and outcome-oriented value,

suggesting that users prioritize technologies that align directly with their goals. Their perspective places utility at the core of technological acceptance, particularly where productivity gains are explicit. By contrast, Shetu et al. (2026) highlight a more diverse view, noting that while users may acknowledge the performance benefits of a technology, this does not automatically translate into adoption unless accompanied by complementary factors such as usability and trust. Their findings suggest that performance expectancy, though influential, may not act independently in shaping technology adoption decisions. In the context of tourism, Gupta et al. (2018) contend that performance expectancy becomes especially salient when digital tools demonstrably enhance travel-related experiences. Their work positions technologies such as travel apps and augmented reality guides not merely as functional tools but as enablers of convenience, cultural engagement, and stress reduction; factors they argue carry significant weight in travel decision-making. However, the role of situational and personal factors introduces a layer of complexity.

Dias and Afonso (2021), for instance, challenge the idea of performance expectancy as universally influential by noting that its impact is often moderated by cultural orientation, digital literacy, and prior exposure to technology. This casts doubt on a one-size-fits-all interpretation of its importance across user groups. Çalışkan et al. (2025) extend this discussion by pointing out that performance expectancy plays a dual role: not only does it shape initial willingness to adopt, but it also sustains user engagement over time. In their view, it influences the depth and continuity of usage, suggesting a temporal dimension that earlier works, such as that of Mensah and Khan (2024), did not fully explore. Empirical studies further reveal diverging patterns in its predictive strength. Nikou (2019) found performance expectancy to be a dominant factor influencing Indian tourists' intentions to adopt travel apps, reinforcing its utility-driven appeal in a developing economy context. In a more recent study, Ali et al. (2024) affirmed this influence in the broader use of ICT among tourists but also acknowledged the interplay of hedonic motivation and habit as co-determinants. This implies that while performance expectancy retains predictive value, its strength may vary depending on the technological domain and the demographic or cultural composition of users. Essentially, the literature affirms performance expectancy as a recurring determinant of technology adoption, yet it is shaped by both individual predispositions and broader contextual variables. Its influence is neither uniform nor isolated, making it essential to consider the ecosystem in which the technology operates. On this basis, the following hypothesis is presented to guide the study:

H_1: Performance expectancy has a significant influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.

Effort Expectancy and Tourists' Adoption of Travel Apps

Effort expectancy, within the UTAUT framework, refers to an individual's perception of how effortless it is to learn and use a given technology (Ali et al., 2024). While this dimension bears conceptual similarity to the perceived ease of use construct from the Technology

Acceptance Model (TAM), scholars diverge in their interpretation of its relative influence in tourism contexts. For instance, Bilynets et al. (2024) emphasize the psychological and temporal economy associated with effort expectancy, arguing that the lower the cognitive burden imposed by a system, the higher the likelihood of adoption. However, this perspective does not sufficiently account for situational variables such as time constraints and user motivation, which become especially pertinent in travel environments. Altay and Okumuş (2022) acknowledge that even highly functional technologies may be overlooked if perceived as complex, yet their analysis implies a more linear relationship between effort and adoption. In contrast, Liu et al. (2023) explore effort expectancy through the lens of tourist temporality, highlighting how the transient and often pressured nature of travel heightens the user's demand for immediacy and ease. While both perspectives support the centrality of usability, Liu et al. (2023) place greater weight on contextual urgency, suggesting that tourists' decision-making is more susceptible to interface design than long-term users might be.

Ali et al. (2024) further this view by underscoring the importance of intuitive design and minimal onboarding, though their work leans more heavily on interface attributes than user cognition. Their conclusions imply a design-first approach, whereas earlier authors like Bilynets et al. (2024) treat user perception as the key variable. More critically, Dias and Afonso (2021) introduce an underexplored dimension (cultural and linguistic congruence) arguing that technologies not tailored to a tourist's socio-linguistic context may heighten perceived effort, even if the interface is objectively simple. This insight adds a necessary layer to earlier discussions, revealing that user-friendliness is not a universal standard but culturally contingent. Empirical findings have also varied in terms of how strongly effort expectancy predicts behavioural intention. For instance, Ho and Amin (2019) report a significant relationship between effort expectancy and intention to use itinerary planning features in Malaysian travel apps, indicating that ease of use can be a decisive factor in user engagement with functional tools. Similarly, Wu and Lee (2017) find that Chinese tourists using mobile travel apps in South Korea were positively influenced by the ease of interaction, though their results also suggest that effort expectancy may be interwoven with other variables such as information quality and trust. Collectively, these studies suggest that while effort expectancy is generally acknowledged as influential, its weight is mediated by context, user demographics, and technology design. A more diverse understanding emerges when effort expectancy is not viewed in isolation but as a construct shaped by environmental, cultural, and interface-specific factors; an aspect that several earlier studies have underemphasized. On this basis, the following hypothesis is presented to guide the study:

H_2: Effort expectancy has a significant influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.

Social Influence and Tourists' Adoption of Travel Apps

Within the UTAUT framework, social influence is defined as the perceived pressure individuals feel from important others regarding their adoption of a particular technology

(Dias & Afonso, 2021). While this definition remains consistent with earlier models grounded in subjective norm theory, scholars diverge in how they conceptualize and interpret the strength and scope of its influence. For instance, Gupta et al. (2018) foreground social pressure as a behavioural driver but place less emphasis on the psychological dimensions such as internalization and identification that Dias and Afonso (2021) consider central. In their analysis, social influence extends beyond mere compliance to encompass deeper alignment with group norms, suggesting a more enduring form of influence. Bilynets et al. (2024) approach social influence through the lens of identity and group association, arguing that technology adoption is often tied to a user's need to reflect affiliation with certain social groups. This interpretation introduces a more identity-driven dynamic, challenging the more transactional view of social pressure outlined by Dias and Afonso (2021). Such differences point to a broader debate within the literature: whether social influence operates primarily through external validation or through internalized social alignment.

The role of social influence in the tourism context further illustrates these tensions. Liu et al. (2023) acknowledge its importance but highlight tourists' dependence on peer endorsements, influencers, and user-generated content, implying a more passive absorption of social cues. In contrast, Çalışkan et al. (2025) suggest a more active process, wherein tourists intentionally seek out visible cues from others as part of their decision-making. This perspective implies that social influence in tourism is not merely absorbed but actively curated by users who are sensitive to digital validation and visibility. Empirical findings also show considerable variation across contexts. Lai (2025) found social influence to be a significant predictor of mobile tour guide app adoption in Macau, suggesting a strong normative influence in structured urban tourism environments. Conversely, while Altay and Okumuş (2022) similarly identified social influence as critical to multimodal trip-planning app adoption in Türkiye, their findings pointed more to the effect of collective attitudes and regional usage trends than to direct interpersonal pressure. This suggests that while social influence remains a salient factor, its mechanisms and intensity may be contingent on contextual variables such as cultural orientation, digital literacy, and the type of technology in question. Essentially, the literature affirms the relevance of social influence within the UTAUT framework, yet also reveals considerable diversity in how this construct manifests and operates across different user groups and tourism technologies. Such divergence underscores the need for context-specific analysis, particularly when examining foreign tourists in culturally complex and tech-evolving environments like Istanbul. On this basis, the following hypothesis is presented to guide the study:

H_3: Social influence has a significant influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.

Facilitating Conditions and Tourists' Adoption of Travel Apps

Facilitating conditions, within the UTAUT framework, refer to the extent to which individuals perceive that the organisational and technical infrastructure required to support a given

technology is in place (Shetu et al., 2026). While this construct has been widely acknowledged as central to technology adoption, scholarly perspectives diverge on the extent and nature of its influence. Palos-Sanchez et al. (2021) highlight its foundational role, focusing on institutional readiness and access to knowledge, whereas Cimbaljević et al. (2024) place greater emphasis on its practical application through support mechanisms such as user training and intuitive interface design. This distinction underscores a difference in focus, where the former views facilitating conditions as systemic, the latter treat them as user-facing enablers of engagement. In tourism contexts, scholars increasingly point to the distinctive relevance of facilitating conditions due to the transient and uncertain environments in which tourists operate. Fakfare and Manosuthi (2023), for instance, argue that tourists' reliance on digital tools intensifies the role of facilitating conditions, given their dependence on real-time navigation, translation, and service access. However, their analysis remains largely experiential, emphasising user reliance, while Park and Kim (2019) draw attention to the structural dimensions, such as internet infrastructure and multilingual platforms, that shape adoption decisions. This broader infrastructural lens highlights how disparities in access can create unequal adoption outcomes, a point underexplored in user-centric narratives.

Empirical findings also present varied outcomes. Gupta and Dogra (2017), in their study of mapping apps in India, found a significant positive link between facilitating conditions and tourists' behavioural intentions, suggesting that such conditions can serve as critical adoption enablers in developing contexts where support systems may be inconsistent. Conversely, Topsakal and Çuhadar (2025), examining AI-enhanced tour guide apps in the United States, position facilitating conditions as one of several interlinked determinants, alongside hedonic motivation and performance expectancy, implying a more nuanced or even supplementary role within a technologically mature environment. These differing insights suggest that the impact of facilitating conditions may be contingent upon context, including technological infrastructure, user expectations, and destination-specific challenges. In essence, while facilitating conditions are consistently acknowledged as influential, their strength and function appear to vary across studies, sometimes operating as a primary determinant, and in other cases, as a supportive factor interacting with broader behavioural drivers. This calls for a more detailed application of the construct within tourism-related technology adoption studies, especially in contexts like Istanbul where tourists encounter diverse infrastructural and cultural dynamics. On this basis, the following hypothesis is presented to guide the study:

H_4: Facilitating conditions have a significant influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.

Empirical Review and Conceptual Model

The empirical studies reviewed (see Table 1) demonstrate that UTAUT has been widely applied in explaining tourists' adoption of travel-related technologies across different countries and digital tourism contexts. A recurring finding across most studies is the strong influence of performance expectancy on tourists' behavioural intentions toward travel

applications (Nikou, 2019; Ali et al., 2024; Wu & Lee, 2017; Lai, 2025; Topsakal & Çuhadar, 2025). This suggests that tourists are more likely to adopt travel apps when they perceive them as useful for improving navigation, convenience, and travel efficiency. However, despite this consistency, the empirical literature reveals significant contradictions regarding the effects of effort expectancy, social influence, and facilitating conditions. While Ho and Amin (2019), Wu and Lee (2017), and Lai (2025) found these variables to be significant predictors of adoption behaviour, Nikou (2019), and Ali et al. (2024) reported non-significant relationships. These inconsistencies indicate that the explanatory power of UTAUT dimensions may vary across tourism environments, technological contexts, and user populations.

A major limitation of the existing literature is its concentration in Asian, European, and developed tourism environments such as India, Malaysia, China, Macau, Türkiye, and the United States. Although these studies provide useful theoretical insights, their findings may not be fully generalisable to developing African tourism destinations such as Nigeria, where infrastructural conditions, digital accessibility, transport systems, internet reliability, and language diversity differ considerably. Most prior studies also focused broadly on general tourists or mobile app users without paying specific attention to non-English-speaking foreign tourists, whose experiences may be strongly shaped by communication barriers and unfamiliar cultural environments.

Furthermore, many of the reviewed studies concentrated primarily on technological and behavioural variables while paying limited attention to contextual realities that may influence travel app adoption in developing countries. For instance, issues such as unstable internet connectivity, limited multilingual digital support, inconsistent tourism information systems, and dependence on informal transportation networks are common realities within Nigeria's tourism environment, yet these factors remain largely underexplored in the empirical literature. Similarly, while studies such as Gao et al. (2024) emphasize the role of broader sociotechnical conditions in shaping digital adoption, most tourism technology studies continue to prioritise functional app characteristics over environmental and infrastructural influences.

Consequently, an important empirical gap remains regarding how UTAUT dimensions influence the adoption of travel applications among non-English-speaking foreign tourists in Nigeria. Existing studies have not sufficiently examined how language barriers, infrastructural conditions, social environment, and facilitating support systems interact to shape technology adoption behaviour within the Nigerian tourism context. This study therefore contributes to the literature by extending UTAUT to a developing African tourism environment and by focusing specifically on non-English-speaking foreign tourists, a population that has received limited empirical attention in prior tourism technology adoption research.

Table 1: Summary of empirical studies reviewed

Authors/Year	Research Focus	Research Objectives	Methodology	Findings	Conclusion
Nikou (2019)	Factors driving the adoption of smart home technology: An empirical assessment	Identify determinants of tourists' intentions to use travel apps	Structured survey of 343 tourists in India; data analysed using Partial Least Squares (PLS) regression	Performance expectancy, social influence, price-saving, perceived risk, trust, and prior habits significantly influenced usage intentions; hedonistic motivation and effort expectancy were insignificant	Developers should enhance trust, perceived value, and habit-forming features for travel apps.
Gupta & Dogra (2017)	Tourist adoption of mapping apps in India	Identify factors influencing tourists' use of mapping apps	Survey of 284 travelers in India; data analysed using PLS	Habit, facilitating conditions, performance expectancy, and hedonic motivation influenced intentions; effort expectancy and price value had no significant impact	Habit is the strongest predictor of intentions to use mapping apps.
Ali et al. (2024)	Acceptance and use of ICT in tourism using modified UTAUT	Investigate tourist technology usage behaviour	Survey of 265 tourists; data analysed with Partial Least Squares Structural Equation Modelling (PLS-SEM)	Performance expectancy, hedonic motivation, and habit influenced ICT use intentions; effort expectancy, social influence, and facilitating conditions had no significant influence	Performance expectancy, hedonic motivation, and habit are critical factors in ICT usage for tourism.
Imtiaz and Suki (2022)	Mobile travel apps engagement: Measuring tourists' perception	Examine factors influencing tourists' intention to use mobile travel apps	Survey of 200 tourists in Malacca; data analysed using SPSS and PLS-SEM	Price value and social influence were strongest predictors; facilitating conditions negatively influenced intentions; hedonic motivation and habit were insignificant	UTAUT2 partially explains mobile travel app usage; developers should note the nuanced impact of various constructs.
Ho & Amin (2019)	Adoption of smart travel planning apps in Malaysia	Investigate itinerary effects on destination choice	Survey of 307 travelers; data analysed with Partial Least Squares	Performance expectancy, effort expectancy, and social influence significantly influenced intentions; utilitarian values were more significant than hedonic ones	Utilitarian value is crucial in task-oriented travel app adoption.
Wu & Lee (2017)	Use intention of mobile travel apps by Chinese tourists visiting Korea	Explore factors influencing use intentions of mobile travel apps	Survey of 326 Chinese tourists; data analysed with SPSS and AMOS	Information quality, performance expectancy, and trust influenced intentions; effort expectancy and social influence were also significant	Information quality enhances satisfaction and performance expectancy for travel app usage.
Medeiros et al. (2024)	Antecedents of tourists' intention to use travel tracking mobile apps (TTMAs)	Propose and test factors influencing travelers' use of TTMAs	Survey of 382 mobile app users; data analysed with Structural Equation Modelling	Performance expectancy, hedonic motivation, trust positively influenced intentions; privacy concerns negatively impacted intentions	Trust and technological features are crucial for TTMA adoption.

Authors/Year	Research Focus	Research Objectives	Methodology	Findings	Conclusion
Lai (2025)	Traveler acceptance of app-based mobile tour guides (AMTG)	Identify determinants affecting AMTG acceptance	Survey of 205 travelers in Macau; data analysed with Structural Equation Modelling	Performance expectancy, effort expectancy, social influence, informativeness influenced acceptance; entertainment had no significant effect	Enhance informativeness and key UTAUT factors for AMTG adoption.
Topsakal & Çuhadar (2025)	Acceptance of AI-enhanced tour guide apps	Investigate factors influencing adoption of AI tour guide apps	Survey of 525 tourists in the USA; data analysed using SPSS and SmartPLS-4	Performance expectancy, facilitating conditions, hedonic motivation influenced intentions; gender and age did not moderate the relationships	Focus on performance expectancy, facilitating conditions, and hedonic motivation for AI tour guide apps.
Altay & Okumuş (2022)	User adoption of multimodal trip-planning apps in Turkey	Identify antecedents influencing attitudes and behavioural intentions for app adoption	Online survey of 302 users; data analysed with Structural Equation Modelling	Attitude and social influence significantly affected intentions; perceived mobility influenced perceived ease of use and usefulness	Attitude is central to adopting multimodal trip-planning apps; models should integrate this construct.

Source: Authors' empirical review

On the basis of these extant studies, a conceptual model (see Figure 1) was developed to illustrate the hypothesized relationships between the core constructs of the Unified Theory of Acceptance and Use of Technology (UTAUT) and the adoption of travel applications among non-English-speaking foreign tourists in Nigeria. The model specifies performance expectancy, effort expectancy, social influence, and facilitating conditions as the key independent variables influencing tourists' adoption behaviour, which represents the dependent variable in this study. These relationships form the basis of the four hypotheses tested in the study. While the original UTAUT framework includes moderating variables such as age, gender, experience, and voluntariness of use, these factors were excluded from the present model for several methodological and contextual reasons. First, the study focuses on international tourists whose engagement with travel applications is typically short-term and situational, thereby limiting meaningful variability in experience-based moderation effects. Second, voluntariness of use is less applicable in this context because travel applications are not mandatory systems but discretionary tools used under conditions of immediate travel need. Third, the study prioritizes a parsimonious explanatory model in order to isolate and examine the direct effects of the core UTAUT constructs within an under-researched developing tourism environment. Finally, several prior tourism adoption studies have similarly focused on core UTAUT predictors without incorporating all moderating variables when examining cross-sectional tourist populations in comparable contexts. Accordingly, the conceptual model is deemed appropriate for testing the determinants of travel application adoption in this study.

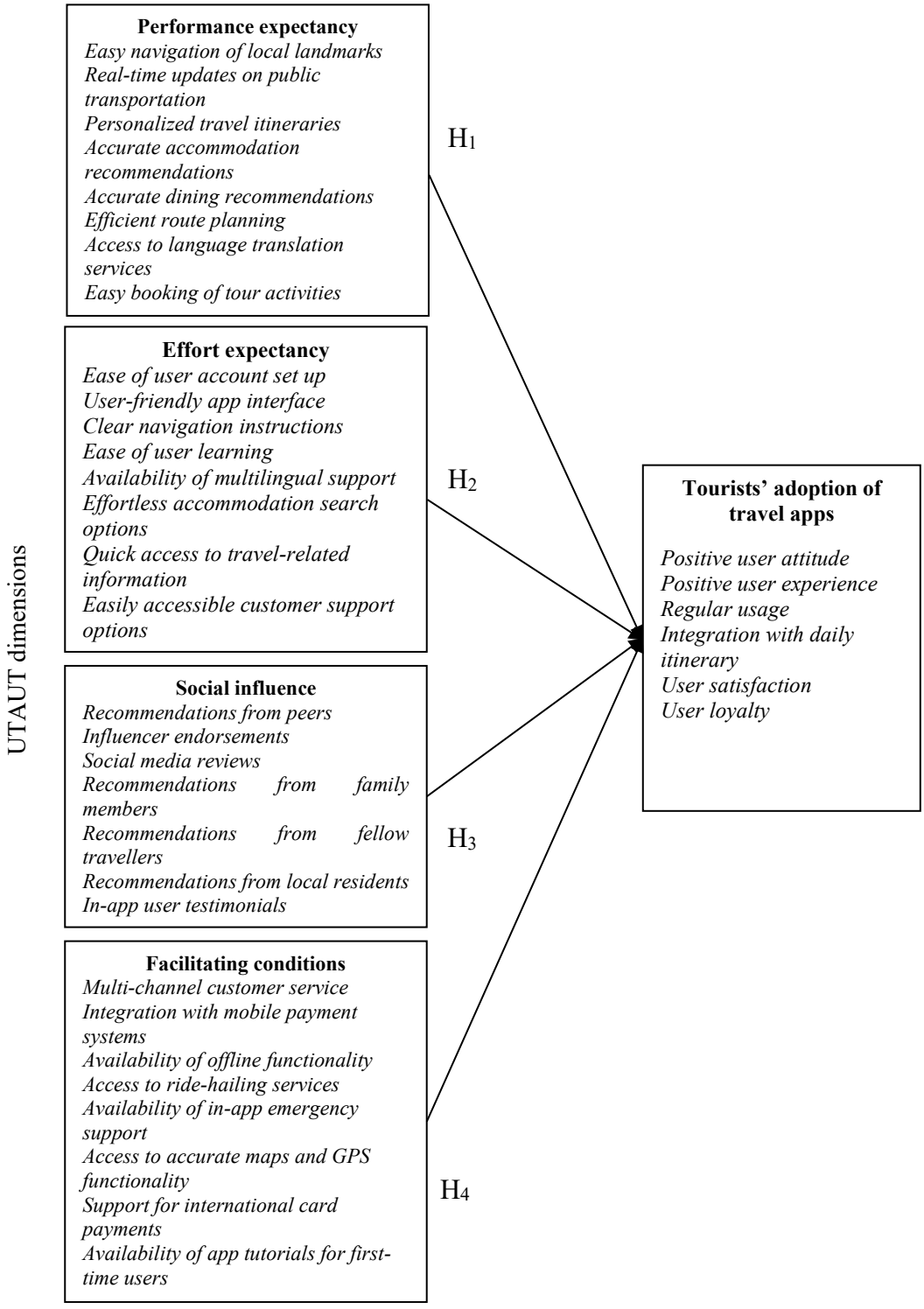


FIG. 1: Conceptual model of the study

Source: UTAUT dimensions adapted from: Ho and Amin (2019); Wu and Lee (2017); Lai (2025); Topsakal and Çuhadar (2025). Tourists' adoption parameters adapted from: Gupta and Dogra (2017); Ali et al. (2024)

MATERIALS AND METHODS

This study employed a cross-sectional survey design, collecting data at a single point in time to explore respondents' attitudes, behaviours, and perceptions concerning the study's focus. This design was selected for its ability to identify patterns and relationships within a population while offering a snapshot of the variables under investigation without manipulating them (Creswell, 2018). The target population for the study comprised 2,052,000 foreign tourists who visited Nigeria in 2025 (Visitors Per Year, 2026). From this finite population, a sample size of 400 foreign tourists was determined using the Taro Yamane statistical procedure thus:

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

Where:

n	=	Sample size required
N	=	Finite population
I	=	Constant
e	=	Margin of error (usually 5%)

By simple substitution,

$$n = \frac{2,052,000}{1+2,052,000(0.05)^2}$$

$$= \frac{2,052,000}{1+2,052,000(0.0025)}$$

$$= \frac{2,052,000}{1+5,130}$$

$$= \frac{2,052,000}{5,131}$$

$$= 399.92$$

∴ n = 400 foreign tourists approximately

To recruit participants for the questionnaire survey, a purposive sampling method was employed. This approach was considered appropriate because the study specifically targeted non-English-speaking foreign tourists in Nigeria, allowing for the intentional selection of individuals who met the defined inclusion criteria. The study included both first-time and repeat foreign tourists, as long as they were non-English speakers and were actively visiting Nigeria at the time of data collection. Tourists who were English-speaking were excluded to maintain focus on language-related navigation and communication challenges, which are central to the study.

To implement this approach, three major international entry points in Nigeria were selected due to their high volume of foreign arrivals: Murtala Muhammed International Airport (MMIA), Lagos; Nnamdi Azikiwe International Airport, Abuja; and Margaret Ekpo International Airport, Calabar. These airports were selected because they serve as key gateways for international tourists entering Nigeria and provide direct access to respondents shortly after arrival. However, it is important to acknowledge that the use of purposive sampling and the concentration of data collection at international airports introduces limitations to the external validity of the study. Specifically, the sample may not fully represent

the broader population of non-English-speaking foreign tourists visiting Nigeria, particularly those who enter through land borders, travel via informal arrangements, or do not pass through the selected airports during their stay. As a result, the findings should be interpreted as reflective of the experiences and behaviours of tourists accessible through these entry points rather than being broadly generalisable to all non-English-speaking foreign tourists in Nigeria. Despite this limitation, the sampling strategy remains appropriate for capturing a relevant and information-rich subset of the target population given the exploratory nature of the study.

The researchers administered structured questionnaires to eligible participants at these locations using both printed and electronic formats to ensure flexibility and improve response rates. A total of 382 valid responses were obtained from the three airports. This approach reduced selection bias by capturing respondents across multiple entry points and ensured a diverse and contextually relevant sample of non-English-speaking foreign tourists experiencing Nigeria's tourism environment. The questionnaire administered to respondents was a structured questionnaire with measurement parameters adapted from extant relevant studies to ensure validity. The parameters measuring UTAUT dimensions were adapted from Ho and Amin (2019); Wu and Lee (2017); Lai (2025); Topsakal and Çuhadar (2025). Whereas, the parameters measuring tourists' adoption were adapted from Gupta and Dogra (2017); Ali et al. (2024). To ensure the instrument was reliable, prior to actual field administration, it was pretested through the Cronbach's method using data from 30 randomly selected domestic tourists in Calabar. The results thereof (see Table 2) revealed that all measurement scales on the questionnaire yielded Cronbach's alpha coefficients not less than 0.7; hence signifying that the instrument was reliable. Subsequently, it was administered to non-English-speaking foreign tourists to obtain primary data. The collected data were analyzed and interpreted through descriptive statistics, and the study's hypotheses were tested using multiple regression analysis, using the following model:

$$TOURADOPT = a + \beta_1 PERFEXP + \beta_2 EFFEXP + \beta_3 SOCINF + \beta_4 FACONS + e$$

Where:

TOURADOPT = Tourists' adoption of travel apps

a = The intercept (or constant)

β_1PERFEXP = Coefficient of performance expectancy

β_2EFFEXP = Coefficient of effort expectancy

β_3SOCINF = Coefficient of social influence

β_4FACONS = Coefficient of facilitating conditions

e = Error margin (5 percent)

Table 2: Summary of reliability test results

SN	Variables	No. of items	Alpha coefficients
1	Performance expectancy	8	.828
2	Effort expectancy	8	.758
3	Social influence	7	.714
4	Facilitating conditions	8	.770

SN	Variables	No. of items	Alpha coefficients
5	Tourists' adoption	6	.804
		37	

Source: Authors' analysis, SPSS 2026

ANALYSIS AND DISCUSSION

A total number of 400 questionnaire copies were administered to non-English-speaking foreign tourists in Nigeria to obtain primary data for this study. Of the 400 copies administered, 382 valid responses (or 95.5 percent) were obtained, while 18 copies (or 4.5 percent) were not ignored by the respondents. Hence, this analysis was based on the responses of 382 respondents, accounting for 95.5 percent of the target sample.

Descriptive statistics of research variables

This unit presents the descriptive statistics (refer to Table 3) for the study variables, analyzed using the 5-point Likert scale as a framework for interpretation. The variables examined include performance expectancy, effort expectancy, social influence, facilitating conditions, and tourists' adoption. Performance expectancy, with a mean score of 3.87 and a standard deviation of 0.85, suggests that participants generally align with the statements related to this variable, as the mean is relatively close to 4 on the Likert scale. The response range of 3.25 reflects a significant degree of variation, indicating diverse opinions among respondents. Effort expectancy reveals a slightly higher average of 3.89 and a smaller standard deviation of 0.60, signifying stronger agreement among participants and less variability in their responses. Social influence, with the highest mean of 4.02 and a standard deviation of 0.87, underscores that respondents largely acknowledge its significance, despite some moderate differences in opinion. Facilitating conditions, characterized by a mean of 3.91 and a standard deviation of 0.79, show a general agreement among participants, with responses moderately concentrated around the mean value. Lastly, tourists' adoption has a mean of 3.97 and the lowest standard deviation of 0.62, showing a strong and consistent agreement across respondents. Overall, these descriptive statistics in Table 3 reveal that while respondents generally agree on the variables, some (like performance expectancy and social influence) show higher variability, reflecting differing opinions among participants.

Table 3: Summary of descriptive statistics of variables

	N	Range	Mean	Std. Deviation
Performance expectancy	382	3.25	3.8717	.84536
Effort expectancy	382	2.38	3.8930	.59564
Social influence	382	3.00	4.0224	.86661
Facilitating conditions	382	3.25	3.9054	.79270
Tourists' adoption	382	2.67	3.9716	.62150
Valid N (listwise)	382			

Source: Authors' analysis, SPSS 2026

Test for Normality

One key premise of multiple regression analysis is the expectation that residuals (the differences between actual and predicted outcomes) are normally distributed. This suggests that these residuals should display a symmetric, bell-shaped pattern centered at zero, indicating an even distribution of prediction inaccuracies (Tabachnick & Fidell, 2021). If this condition is not satisfied, the validity of the findings may be undermined, potentially resulting in skewed estimates. In this study, normality was assessed by examining Skewness and Kurtosis values (see Table 4), with guidelines suggesting Skewness should be below ± 2 and Kurtosis below ± 7 to meet the normality criterion (Kline, 2020). The values obtained in this study were within these recommended limits, confirming that the residuals are normally distributed.

Table 4: Summary of data normality test results

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Performance expectancy	382	-1.507	.125	1.008	.249
Effort expectancy	382	-.959	.125	-.104	.249
Social influence	382	-1.277	.125	.253	.249
Facilitating conditions	382	-1.509	.125	1.130	.249
Tourists' adoption	382	-1.075	.125	.259	.249
Valid N (listwise)	382				

Source: Authors' analysis, SPSS 2025

Test for Multicollinearity

Multicollinearity occurs in multiple regression analysis when predictor variables exhibit high intercorrelation, making it challenging to determine their distinct effects on the dependent variable (Akinwande et al., 2025). This condition can compromise the model's reliability, reducing its statistical validity and potentially producing misleading outcomes. For instance, a predictor that is expected to significantly influence the dependent variable may appear unimportant or demonstrate a contrary association (Dormann et al., 2013). In this research, the presence of multicollinearity was evaluated by examining the tolerance values and the variance inflation factor (VIF). Following the guidelines suggested by Keith (2019), multicollinearity is considered non-existent when VIF values are below 5 and tolerance values exceed 0.1. As shown in Table 5, all VIF values are under 5, and tolerance values are greater than 0.1, confirming that multicollinearity was not an issue in this analysis.

Table 5: Summary of multicollinearity results showing level of tolerance and VIF

Variables	Collinearity Statistics	
	Tolerance	VIF
Performance expectancy	.288	2.308
Effort expectancy	.681	1.469
Social influence	.452	1.564
Facilitating conditions	.244	2.934

Source: Authors' analysis, SPSS 2025

Test of Hypotheses

The hypotheses developed from literature for the study were subjected to statistical testing in order to determine their veracity or otherwise. We tested the null hypotheses, rather than the alternative because of the scientific notion that the null hypothesis represents a default position or assumption of no effect or no relationship, providing a basis for statistical testing (Nickerson, 2000). By attempting to disprove the null hypothesis, we aimed to minimize Type I errors (false positives) and establish evidence that supports the alternative hypothesis with greater confidence (Trafimow & Marks, 2025). Consequently, the following decision rule guided the test: Reject the null hypothesis if the p-value is less than or equal to the significance level of 0.05; otherwise, fail to reject it.

i. H_0: Performance expectancy has no significant influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.
ii. H_0: Effort expectancy has no significant influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.
iii. H_0: Social influence has no significant influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.
iv. H_0: Facilitating conditions have no significant influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.

Table 6: Model summary of the influence of UTAUT dimensions on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.808[a]	.654	.650	.36769

a. Predictors: (Constant), Performance expectancy, effort expectancy, social influence and facilitating conditions

Source: Authors' analysis, SPSS 2026

Table 7: Analysis of variance (ANOVA) of the influence of UTAUT dimensions on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	96.196	4	24.049	177.882	.000[b]
	Residual	50.969	377	.135		
	Total	147.165	381			

a. Dependent Variable: Tourists' adoption

b. Predictors: (Constant), Performance expectancy, effort expectancy, social influence and facilitating conditions

Source: Authors' analysis, SPSS 2026

Table 8: Coefficients of the influence of UTAUT dimensions on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.882	.131		14.388	.000
	Performance expectancy	.545	.051	.742	10.621	.000
	Effort expectancy	.110	.038	.105	2.865	.004
	Social influence	.089	.056	.524	9.598	.000
	Facilitating conditions	.196	.063	.350	3.127	.002

a. Dependent Variable: Tourists' adoption

Source: Authors' analysis, SPSS 2026

The null hypotheses in this study were tested using multiple regression analysis, and the results are presented in Tables 6 through 8. As shown in Table 6, the model summary reveals a correlation coefficient (R) of 0.808, which indicates a robust positive relationship between the independent variables (UTAUT dimensions) and the dependent variable (foreign tourists' adoption of travel apps). The coefficient of determination (R^2) is 0.654, suggesting that 65.4% of the variance in the adoption of travel apps by tourists can be accounted for by the UTAUT dimensions. The ANOVA results in Table 7 evaluate the overall significance of the regression model. With an F-statistic of 177.882 and a p-value of 0.000, the model is found to be statistically significant. This indicates that the collective influence of the predictor variables plays a crucial role in explaining the variation in the adoption of travel apps by tourists.

Table 8 provides insights into the individual effects of each predictor variable. Performance expectancy exhibits the highest standardized beta coefficient at 0.742, with a t-value of 10.621 and a p-value of 0.000, which highlights a strong, positive, and statistically significant effect. This emphasizes that tourists' expectations about the performance benefits of the apps are a key factor in their adoption. Effort expectancy has a standardized beta coefficient of 0.105, a t-value of 2.865, and a p-value of 0.004, indicating a weaker but still statistically significant positive effect. This suggests that the perceived ease of using the apps contributes to adoption, though to a lesser extent. Social influence is characterized by a standardized beta coefficient of 0.524, a t-value of 9.598, and a p-value of 0.000, demonstrating a strong and statistically significant positive effect. This underscores the importance of recommendations from peers and societal pressure in influencing tourists' decisions to adopt apps. Facilitating conditions, with a standardized beta coefficient of 0.350, a t-value of 3.127, and a p-value of 0.002, show a moderate yet statistically significant positive effect. This indicates that the availability of resources and support mechanisms significantly increases the likelihood of app adoption. Following the decision rule that p-values below 0.05 signify statistical significance, all null hypotheses were rejected. Therefore, it can be concluded that performance expectancy, effort expectancy, social influence, and facilitating conditions all have a significant positive effect on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria.

Discussion of Findings

Hypothesis 1: Performance expectancy and *adoption of travel apps among non-English-speaking foreign tourists in Nigeria*

The findings of hypothesis one indicated that performance expectancy has a substantial and positive influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria. This suggests that tourists are more likely to adopt travel applications when they perceive them as effective tools for improving travel outcomes such as navigation, access to information, and service coordination. While this aligns with Nikou (2019) and Ali et al. (2024), the strength of this relationship in the Nigerian context can be better understood through the challenges faced by non-English-speaking tourists. In Nigeria, limited multilingual signage, inconsistent availability of structured tourist information, and reliance on informal assistance increase tourists' dependence on digital tools that can reduce uncertainty. As a result, perceived usefulness becomes more critical than in more structured tourism environments, as travel apps function not only as convenience tools but also as compensatory mechanisms for information gaps within the tourism system.

Hypothesis 2: Effort expectancy and adoption of travel apps among non-English-speaking foreign tourists in Nigeria

The test of hypothesis two revealed that effort expectancy significantly and positively influences the adoption of travel apps among non-English-speaking foreign tourists in Nigeria. Although this finding is consistent with Ho and Amin (2019) and Wu and Lee (2017), its relevance in Nigeria is reinforced by the fact that many foreign tourists operate in unfamiliar linguistic and cultural environments. In such settings, the ease of navigating a travel application becomes a crucial determinant of whether it is adopted or abandoned. Tourists who cannot easily interpret local language cues in physical environments tend to rely more heavily on digital interfaces; however, this reliance is conditional on the simplicity and usability of the apps themselves. Therefore, in Nigeria, perceived ease of use reduces cognitive burden and compensates for environmental complexity, making effort expectancy particularly influential in shaping adoption behaviour.

Hypothesis 3: Social influence and adoption of travel apps among non-English-speaking foreign tourists in Nigeria

The test of hypothesis three showed that social influence has a significant and positive effect on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria. While this finding is consistent with Lai (2025) and Altay and Okumuş (2022), its significance in Nigeria is shaped by the relational nature of travel decision-making in uncertain environments. Non-English-speaking tourists often rely on recommendations from fellow travellers, travel communities, online reviews, and social networks when navigating unfamiliar destinations. In Nigeria, where structured tourist guidance systems may be limited or inconsistently available, social influence becomes an important substitute source of trust and legitimacy. This suggests

that adoption behaviour is not only individually driven but also socially reinforced, particularly in contexts where tourists seek reassurance in environments characterized by linguistic and informational uncertainty.

Hypothesis 4: Facilitating conditions and adoption of travel apps among non-English-speaking foreign tourists in Nigeria

The test of hypothesis four showed that facilitating conditions have a significant and positive influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria. This aligns with Gupta and Dogra (2017) and Topsakal and Çuhadar (2025), but in the Nigerian context, the effect is intensified by infrastructural and systemic limitations. Intermittent internet connectivity, uneven digital infrastructure, and limited availability of integrated tourist support services make facilitating conditions a decisive factor in app usage. When tourists have access to stable internet, compatible devices, and functional support systems, they are more likely to rely on travel applications to navigate their environment. Therefore, facilitating conditions in Nigeria do not merely support usage; they determine whether sustained engagement with travel apps is possible at all.

CONCLUSION AND RECOMMENDATIONS

As travel applications play an increasingly important role in contemporary tourism, this research sought to identify the primary factors affecting their use by foreign visitors in Nigeria. The study was framed around the UTAUT model, which served to assess the impact of performance expectancy, effort expectancy, social influence, and facilitating conditions on the adoption of these applications. A cross-sectional research approach was adopted, gathering primary data from non-English-speaking foreign tourists in Nigeria via a structured questionnaire. Descriptive analysis was applied to the data, and the hypotheses were evaluated using multiple regression analysis. The results revealed that performance expectancy exerted the strongest positive influence on the adoption of travel apps among non-English-speaking foreign tourists in Nigeria, followed by social influence, facilitating conditions, and effort expectancy. Based on these findings, the study concluded that the UTAUT framework is an effective tool for predicting and understanding the adoption of travel apps by non-English-speaking foreign tourists in Nigeria. Therefore, the following recommendations are suggested for practical application:

i. Developers of travel apps in Nigeria should enhance performance expectancy by integrating features such as real-time transport updates, personalized itineraries, route planning, and multilingual translation services to improve travel efficiency for non-English-speaking foreign tourists. Tourism authorities and destination management organisations should support this by ensuring that accurate and regularly updated tourism data are digitally available to improve the reliability of app-based travel information in Nigeria.

ii. Developers should improve effort expectancy by designing user-friendly interfaces, simplifying account setup, and ensuring clear navigation with multilingual support and responsive customer service to reduce usage difficulties for foreign tourists. Policymakers and tourism authorities should complement this by promoting digital accessibility standards and multilingual information systems across key tourism destinations in Nigeria.
iii. Developers should strengthen social influence by integrating peer reviews, influencer endorsements, user testimonials, and in-app ratings to build trust and encourage adoption among foreign tourists. Destination management organisations and tourism boards should further reinforce this through international promotion of digital tourism platforms and partnerships with airlines, travel agencies, and global travel influencers.
iv. It is imperative for developers should enhance facilitating conditions by integrating offline functionality, GPS navigation, secure payment systems, emergency support features, and reliable customer service to ensure seamless app usage. Government policymakers should support this by improving digital infrastructure such as stable internet access, standardised mapping systems, and establishing digital support points at major tourist entry and attraction sites.

Contribution to Knowledge

This research makes both theoretical and practical contributions to the existing literature. Theoretically, it supports the relevance of the UTAUT framework by emphasizing the significant role of performance expectancy in forecasting the use of travel apps by non-English-speaking foreign tourists in Nigeria. This finding enriches the understanding of user behaviour regarding technology adoption in tourism within a developing African context. Additionally, the study highlights the relevance of other UTAUT constructs (social influence, facilitating conditions, and effort expectancy), providing a comprehensive explanation of how these factors interact to shape adoption decisions in the Nigerian tourism environment.

From a practical standpoint, the results offer valuable guidance for app developers, tourism operators, and policymakers in Nigeria's tourism sector. By prioritising features that enhance perceived usefulness of travel applications and addressing key barriers such as language limitations and access challenges, developers can better tailor their platforms to the needs of non-English-speaking foreign tourists. Strengthening social influence mechanisms and improving facilitating conditions can further support user confidence and accessibility. This approach can lead to increased adoption rates and improved user engagement with travel applications across Nigeria's tourism industry.

Limitations and Future Research

This research primarily focused on the UTAUT model and did not consider the variables introduced in later expansions of UTAUT, such as those in the UTAUT2 framework. The UTAUT2 model includes additional factors like hedonic motivation, price value, and habit,

which serve as important predictors of technology adoption and user acceptance. Including these elements would allow for a more comprehensive understanding of user behaviour regarding technology adoption, moving beyond the original constructs of performance expectancy, effort expectancy, social influence, and facilitating conditions. Consequently, it is recommended that future studies examine the extended UTAUT2 model within the Nigerian tourism context by incorporating factors such as hedonic motivation, price value, and habit. This would provide a broader view of the variables influencing the adoption of travel apps by non-English-speaking foreign tourists in Nigeria. Such research would enrich the existing literature by highlighting how emotional, financial, and habitual factors shape tourists' engagement with travel technologies in addition to functional and social influences. This approach would further strengthen understanding of user behaviour and guide more effective development and marketing strategies for travel apps within Nigeria's tourism industry.

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