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AI-powered live chatbots and smart tour guide apps in tourism: A literature review and future research directions

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ABSTRACT

This study explores the critical intersection in the tourism sector combining artificial intelligence (AI) technologies with conventional methods. This research outlines three main goals: assessing the use of AI chatbots in the tourism industry, reviewing existing literature on intelligent tour guide apps, and pinpointing areas for further research. It focuses on incorporating AI into the tourism industry, highlighting the effectiveness of tools such as ChatGPT. The systematic literature review examines the use of ChatGPT in pre-trip, en route, and post-trip scenarios, analyzing its effects on customer engagement. Using technology acceptance model (TAM) and unified theory of acceptance and use of technology (UTAUT) frameworks, the adoption of automated intelligent tour guides is explored. The research follows a systematic review methodology, adhering to PRISMA guidelines for methodological rigor and has uncovered several factors that impact the adoption of AI-based intelligent tour guides, offering valuable insights for academic scholars and industry experts.

KEYWORDS

AI technology, smart tour guide apps, AI-powered live chatbots, ChatGPT, intelligent features

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1. Introduction

The rapid development of artificial intelligence (AI) technologies has sparked a paradigm shift in the global tourism industry. These progressions have given rise to an unparalleled potential for reinventing traditional approaches in the field. Enhanced living standards and evolving consumption patterns among individuals have significantly driven tourism growth, which has, in turn, supported the hospitality industry (Rashkin et al., 2019).

An intriguing possibility in this scenario is the implementation of AI-driven live chat support systems as substitutes or enhancements of the traditional role

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of on-site tour guides. The typical tourism model heavily depends on human tour guides, essential in giving tourists invaluable information, historical perspective and a tailored adventure. Nonetheless, this long-standing model has limitations, including scale challenges, linguistic barriers and finding suitable guides. Additionally, the COVID-19 pandemic emphasized the need for contactless and technologically advanced measures to guarantee the safety and health of travelers. Crises in public health have driven a more rapid implementation of technological solutions, particularly in artificial intelligence (Li et al., 2021). In response to this trend, business administrators in the hospitality and tourism sectors have begun to implement more AI-driven technologies in their service delivery, such as automated check-ins at hotels and contactless meal services (Chi et al., 2020; Li et al., 2019). The ongoing development of AI technologies is making it possible for generative AI applications, such as ChatGPT, to assist businesses in crafting novel experiences that blend digital and real environments (Mondal et al., 2023). By offering customized travel recommendations, thorough answers to questions and customized itineraries, ChatGPT, for example, serves as a "digital secretary or assistant" for travelers, enhancing productivity and decision-making (Carvalho & Ivanov, 2024; Stokel-Walker & Noorden, 2023).

These systems go beyond the constraints of conventional resources like travel blogs and give a personal touch to travel experiences by taking on roles like tour guides or local experts (Chatterjee & Dethlefs, 2023). Their potential is found outside pre-trip planning; ChatGPT improves cultural awareness while traveling by bridging language barriers and enhancing visitors' experiences with dynamic, self-guided tours (Wong et al., 2023). As a result, there has been a notable increase in the use of AI in the hospitality and tourism sectors over the past few years, owing to its capacity to reduce labor costs and improve service efficiency (Ruiz-Alba & Martín-Peña, 2020; Zhou et al., 2020).

This study aims to conduct an analysis of existing literature to explore the potential for AI-powered live chatbots and intelligent tour guide apps to aid travelers. While the tourism industry progressively embraces AI-based solutions, the extent to which these innovations can supplant or collaborate with travelers remains a subject of inquiry marked by a conspicuous void in scholarly exploration. When contextualized within the tourism domain, a visible gap exists in the literature concerning the efficacy, acceptability and constraints of AI-powered live chat support systems. Therefore, the current study sets out to achieve the following objectives:

– to study the feasibility of employing an AI-based chatbot in tourism and hospitality, with specific focus on travel plans; and
– to review the existing literature on intelligent tour guide apps in order to gain valuable insights for the prospective development of intelligent / AI-based chatbots tailored for travelers.

The goal is to recognize deficiencies in the literature and identify topics that demand additional exploration, with a particular emphasis on existing research and potential new directions.

As the investigation progresses, it becomes clear that integrating AI in the tourism sector is not just a technical upgrade but a complete paradigm shift. The utilization of AI-powered tools, specifically ChatGPT, profoundly influences customer engagement and loyalty, making it the center of attention. By closing the divide between traditional tourism practices and the ever-changing realm of AI-powered solutions, this study hopes to offer valuable knowledge for both academia and industry practitioners.

Current research focuses on AI integration in the tourism and hospitality industries, exploring the efficiency of AI-driven technologies. The primary concentration is on design elements, with a detailed exploration of ChatGPT and related materials, while systematically analyzing the pre-, during, and post-travel phases. A rigorous review of smart tour guide apps will be carried out as a follow-up to identify gaps that should be addressed in future studies, including incorporating AI-powered chatbots.

2. Literature review

2.1. AI integration in tourism and hospitality

In the last few years, there has been a substantial growth in AI utilization by the hospitality and tourism sectors (Ruiz-Alba & Martín-Penã, 2020; Zhou et al., 2020). The rising focus on technology has made advanced hospitality more crucial, offering tourists a smart and refined experience that enhances their comfort and pleasure (Lai & Hung, 2017; Leung, 2019; Wu & Cheng, 2018). Additionally, AI helps to cut down on labor expenses and improve service efficiency (Ruiz-Alba & Martín-Penã, 2020; Zhou et al., 2020). From the customer point of view, AI has revolutionized traditional service interactions by minimizing face-to-face interactions and focusing on technology-driven service encounters, leading to a notable influence on customer experiences and behavior (Ivanov & Webster, 2019). While from the business standpoint, AI has the potential to be utilized in various areas of management, particularly in promotion and productivity (Buhalis et al. 2019; Tussyadiah & Miller 2019), AI is forecast to promote sustainable travel by motivating customers to adopt a more social perspective (Tussyadiah & Miller, 2019).

Due to these developments, competition in the hospitality industry has grown fiercer, making service innovation essential for attracting customers (Lai & Hung, 2017). Simultaneously, the tourism field is exploring the fundamental components of intelligent technologies for personalized hospitality experiences and investigating how their fusion facilitates customized tourism (Neuhofer et al., 2015). Therefore, AI is crucial for the hospitality and tourism industry in a variety of ways.

2.2. AI-powered tool efficiency in tourism and hospitality

In the current era of a fiercely competitive environment, tourism and hospitality are constantly facing new challenges to attract a wider range of customers (Altinay & Kozak, 2021). With the introduction of generative artificial intelligence (GAI), there have been revolutionary developments (Elmohandes & Marghany, 2024; Iskender, 2023), enabling companies to develop innovative experiences that mix virtual and real spaces (Mondal et al., 2023). Generative artificial intelligence applications, such as ChatGPT, have the potential to enhance customer interaction and loyalty, personalize travel arrangements, streamline business administration and deliver various other benefits (Carvalho & Ivanov, 2024; Iskender, 2023; Mondal et al., 2023). Given the early stage of GAI technologies, it is wise to consider their potential to bring about significant changes in the tourism sector, especially considering the lack of extensive research on their effects (Carvalho & Ivanov, 2024).

The purpose of this commentary is to spark discussion on GAI and its possible impact on the tourism and hospitality industry. ChatGPT is showcased as a representative example while evaluating its impact on the hospitality and tourism sectors, how it plays the role of leader and illustrating how it can become a "digital secretary or assistant" for tourists at different points of their travel experience (Stokel-Walker & Noorden, 2023, p. 215).

In fact, when it comes to planning an optimal trip for tourists, the focus should be on efficiency, including searching for information, evaluating choices and making decisions (Wong et al., 2023; Xiang et al., 2015). By leveraging its advanced features, this application streamlines the process by providing detailed answers to complex questions, analyzing user preferences and offering cost-effective information on various travel destinations (Carvalho & Ivanov, 2024). It improves decision-making efficiency by eliminating unnecessary information and speeding up information gathering (Susnjak, 2022). ChatGPT excels in organizing trips effectively and providing tailored suggestions, going beyond the limitations of travel blogs and online reviews (Sun et al., 2021). By assuming different roles, such as a tour guide or a local resident, it adds a personal element to travel suggestions, elevating the genuineness of the overall travel experience (Chatterjee & Dethlefs, 2023; Chen & Rahman, 2018).

Moreover, continuous decision-making is essential during the en route phase of travel (Wong et al., 2023). In fact, ChatGPT enhances both cultural understanding and the travel experience by overcoming communication obstacles and bridging language gaps (McKercher & Darcy, 2018). With its wide array of resources and deep knowledge base, this AI application delivers a cutting-edge autonomous guided tour experience that exceeds the capabilities of human tour guides (Huang et al., 2015; Wong et al., 2023). Tourists can personalize their travel adventures using this customized tour guide model, finding accurate information on history, culture and popular attractions (Carvalho & Ivanov, 2024).

Subsequently, ChatGPT enhances the post-travel experience by generating "authentic text" for sharing on posts, comments and travel journals (Chui et al., 2022; Nautiyal et al., 2023; Taecharungroj, 2023). Encouraging the sharing of travel content contributes to a heightened sense of well-being and a stronger passion for travel (Kim & Fesenmaier, 2017; Xu & Zhang, 2021; Yao et al., 2021). As a result, it assists in prolonging satisfaction by empowering travelers to store and retrieve their travel memories, potentially resulting in the creation of AI-generated content like photos and videos (Cao et al., 2023; Du et al., 2023; Liu et al., 2023).

2.3. AI-powered chatbot design conceptualizations

Recently, scholars in communication and marketing have increasingly focused on customer engagement (Eisingerich et al., 2019; Rutz et al., 2019) with AI technologies, exemplified by robots and chatbots, have facilitated nuanced, two-way interactions between organizations and their clientele (Fryer et al., 2017; Hill et al., 2015; Hollebeek et al., 2019; Shumanov & Johnson, 2021; Tsai et al., 2021). This interactive communication goes beyond basic transactions and include finding information, leaving feedback, engaging in online brand communities, and sharing thoughts on improving services through social media (Chang et al., 2018). Efficiently managing technologies that improve customer engagement brings opportunities and challenges for organizations seeking long-term success (Hollebeek & Belk, 2021).

The rise of technology has led to the widespread use of conversational agents, specifically chatbot agents, as crucial elements in organizational marketing communication strategies (Dale, 2016). Chatbots provide a smooth and organic conversation experience not requiring predetermined keywords or commands through text-based interfaces (Feine et al., 2019). Utilized

on multiple digital channels, such as company websites, messaging apps, and social media platforms, chatbots effectively mimic human conversational patterns, promoting a sense of ease for users when initiating interactions and identifying commonalities between users and chatbots (Feine et al., 2019; Go & Sundar, 2019; Prasetya et al., 2018). Chatbots promote dialogic communication, giving customers instant information and valuable feedback, along with meeting their needs while they use a product or service (Reinartz et al., 2019). Customers prefer responsive chatbot service agents who use conversational language to provide value (Fadhil & Schiavo, 2019). The following discussion seeks to clarify fundamental ideas in this field.

2.4. Dialogic chatbot communication

The crucial importance of interactive communication in nurturing customer relationships through cutting-edge technologies, especially AI-driven chatbot services, has been widely recognized by business scholars. Examining the "dialogic loop" is essential for understanding how organizations interact with customers digitally (Jiang et al., 2022). This loop enables customers to pose queries, necessitating organizations to reply promptly, thereby demonstrating responsiveness (Hinson et al., 2020; Schamari & Schaefers, 2015). Chatbot services, as a core function, are designed to address these inquiries (Wang et al., 2016). Timely and appropriate responses keep entities communicative and enhance competitiveness in a competitive chat-app-centric business landscape. Extensive research in written academic documents related to chatbots has indicated that responsiveness plays a vital role in enhancing credibility and social presence while influencing customer attitudes and behaviors by imparting a sense of humanness to chatbot interactions (Go & Sundar, 2019; Schuetzler et al., 2019; Sundar et al., 2015; Vendemia, 2017). Beyond responsiveness, an essential aspect is evaluating how chatbot agents engage in natural language and conversational text-based interactions to measure service satisfaction (Feine et al., 2019). Previous studies on user-chatbot interactions have delved into examining conversational systems, particularly the personas adopted by conversational bot agents during customer interactions (Fadhil & Schiavo, 2019). Creating a seamless connection with customers in a personal, one-on-one environment is crucial, establishing a friendly tone and enabling customers to dictate the nature of the interaction (Lee & Choi, 2017). It is anticipated that conversational chatbot agents will possess amiability, proficiency and cooperation qualities to build a strong connection with customers by displaying empathetic, sympathetic, nurturing and even humorous characteristics (Jiang et al., 2022).

2.5. Responsiveness

Conventional rules, including subject matter, timing and the natural progression of dialogue, guide the dynamics of human-to-human communication. Within these norms, "relation" suggests the anticipation of dialogue giving participants customized responses that fit the current conversation (Schuetzler et al., 2019). Maintaining relevance in a conversation requires responsiveness and aligning responses within the conversation's context (Sundar et al., 2015). To maintain relevance, a chatbot must analyze customer messages, utilize contextual information from previous exchanges, and demonstrate a natural and fluent conversational style (Jiang et al., 2022). The importance of contingency in interpersonal communication, highlighting the fact that conversation responses depend on previous messages (Go & Sundar, 2019). A complete conversation relies on the reciprocal exchange of messages, also known as "message interactivity" (Jiang et al., 2022).

Regarding chatbots, adding interactivity to messages increases anthropomorphism by mimicking the responsiveness in human-to-human conversations (Go & Sundar, 2019). Research shows that having more interactive conversations in online chat can boost one's sense of social presence, as it closely resembles face-to-face communication (Sundar et al., 2015). In literature discussing significance, changeability and interaction in messages, examples of chatbot responsiveness include the quick responses of service agents to customer feedback, effectively and expeditiously handling complaints while consistently prioritizing customer needs during communication procedures (Go & Sundar, 2019; Schuetzler et al., 2019; Wang & Cheung, 2024).

2.6. Adopting a conversational approach

How we engage with a system is crucial to the flow of conversations, as the system acts as a dialogue partner (Jiang et al., 2022). Utilizing a colloquial style is crucial, as it allows users to feel a sense of familiarity and experience lifelike interactions while interacting with a machine or bot. As a result, chatbots use natural, conversational language to imitate human-to-human communication, creating the impression that users are engaging with a natural person (Ciechanowski et al., 2019). An essential aspect of chatbot conversations is the use of social cues, including informal language, empathy and a welcoming tone, as well as the ability to convey emotions, encourage users to perceive the interaction as lifelike, and mimicking cues typically found in natural human conversations (Feine et al., 2019). Two-way chatbot communication involves service agents using conversational language to establish a genuine customer partnership. This method encourages an environment in which customers feel

that their perspectives and opinions are valued and respected. Customers are encouraged to participate in open conversation, as chatbot agents prioritize building a shared understanding instead of taking control of the conversation (Ciechanowski et al., 2019; Feine et al., 2019).

The evaluation of chatbots in terms of customer happiness or satisfaction deviates from conventional methods discussed in business literature which frequently assessed customer contentment by measuring the extent to which a company's offerings met or surpassed customer needs (Santini et al., 2018). Within the framework of this study, our attention is directed towards customers' appraisals of chatbot services. Positive evaluations following consumption correlate with heightened customer satisfaction. According to research precise, capable, individualized and reliable chatbot communication is crucial in minimising uncer-tainty and positively influencing customer satisfaction.

3. Research method

3.1. Research design

The methodology used in this study was a systematic review, which is a thorough investigation that follows a structured approach to gathering, evaluating and synthesizing information from various research sources. A systematic review addresses a research question and adheres to strict inclusion criteria. A comprehensive examination of all relevant literature seeks to uncover existing knowledge and identify areas that require further research. Next, it offers unambiguous guidelines for further research (Lin et al., 2022). As stated by Duan et al. (2022), systematic literature review (SLR) is a valuable technique for assessing and progressing knowledge in a particular field. This research has utilized the PRISMA framework, as seen in previous SLR studies in tourism and hospitality, to maintain methodological rigor (Booth et al., 2020; Calisto & Sarkar, 2024). PRISMA provides a comprehensive checklist to ensure an excellent review process. The associated protocol includes article identification, search strategy development, and data extraction and analysis procedures (Wang & Cheung, 2024).

3.2. Data collection

The Scopus database was utilized to gather information on intelligent tour guides. This database is known for its extensive collection of journal articles, books and conference proceedings, making it the largest of its kind (Walters et al., 2025). Keywords such as "app tour guide", "smart tour guide", "AI tour guide", "robot tour guide", "virtual reality tour guide", "augmented reality tour guide", "intelligent tourist guide", "mobile tourist guide", and "chatbot tour guide" were utilized in the initial search. This procedure was carried out on December 2, 2023, and 104 articles were discovered on the Scopus database. The initial search focused on article titles in order to identify any of the keywords mentioned. This strategy resulted in a smaller pool of extracted articles, dramatically improving their relevance and aligning them with the topic of interest. After careful consideration, articles that met the predetermined inclusion and exclusion criteria were selected. Works included in the review met the following criteria: peer-reviewed, written in English, related to specified keywords, and not restricted by a specific timeframe. On the other hand, any studies that did not meet these conditions were excluded, including book chapters, proceedings, editorials and editorial materials.

During this phase, we retrieved a total of 42 journal articles. We deliberately chose to focus on journal articles, a decision influenced by the belief that they undergo a rigorous peer review process, guaranteeing the reliability of the research results. Furthermore, journal articles are often more convenient for researchers to obtain, making them a fitting and trustworthy resource for SLR (Krajňák, 2021).

4. Findings

4.1. Influential factors in using smart tour guides

The reception of new technologies can differ significantly, with some being quickly adopted while others encounter setbacks and opposition from individuals. Researchers thoroughly examine the driving forces behind the acceptance of each new technology to gain insight into the influencing factors. These studies aim to shed light on the mechanisms that play a role in the smooth integration or possible reluctance and opposition towards emerging technologies (Çalişkan & Sevim, 2023).

Because of the strong correlation between tourism, communication and information technologies, the rise and progress of technology has significantly shaped the tourism and hospitality sector, prompting researchers in this field to extensively analyze and explore its various facets (Shin et al., 2022). Researchers across multiple fields have placed great emphasis on the embrace of new technologies. For example, academics have studied the implementation of chatbots powered by AI (Pillai & Sivathanu, 2020), the metaverse and blockchain (Corne et al., 2023), machine learning (Go et al., 2020),

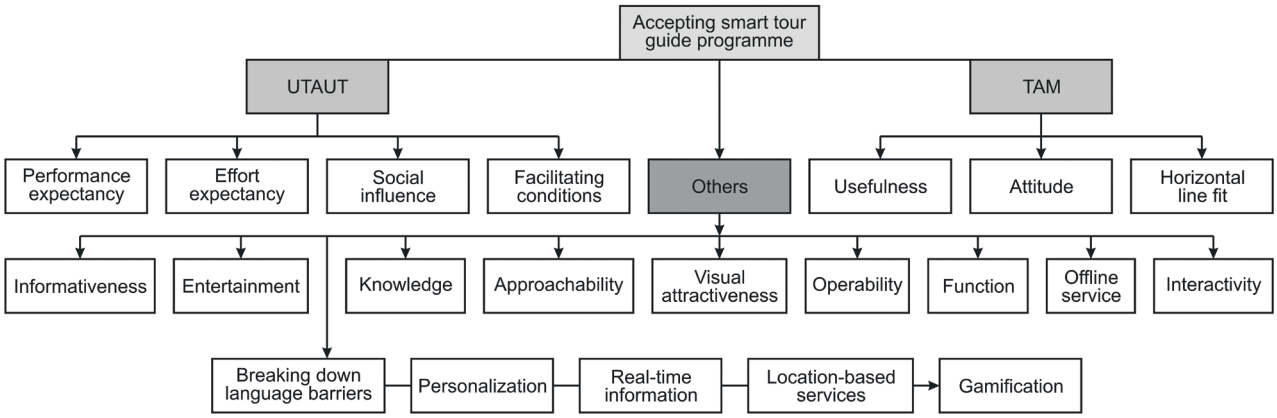

Figure 1. Factors identified as reasons for the adoption of intelligent guides
Note: UTAUT – unified theory of acceptance and use of technology, TAM – technology acceptance model
Source: authors

mobile applications (Huang et al., 2019) and biometric systems in hotels (Morosan, 2012).

Scientists have thoroughly investigated the adoption of technology through the lens of different theoretical frameworks, including the theory of planned behavior, diffusion of innovations theory, unified theory of acceptance and use of technology (UTAUT), and the technology acceptance model (TAM) as commonly employed theories (Guo et al., 2023). The mobile tour guide field, which serves as the primary focus of this research, has piqued the curiosity of scholars as well. Despite the limited research on adopting mobile tour guides, TAM (Peres et al., 2011) and UTAUT (Lai, 2015) often capture the interest. The Figure 1 highlights the factors that contribute to the acceptance of intelligent guides in mobile tour guides.

4.2. Categorizing the existing literature

The application of title analysis was utilized to categorize and identify the subject areas of conducted studies. This method involves grouping or clustering works according to their similarities, as Chrastina (2020) has described. By examining titles, researchers can pinpoint key subjects and fields of study, providing a comprehensive understanding of the main themes and simplifying organizing and grouping them. Four fundamental categories were discovered through

Table 1. Categorizing the existing literature

Category	Category description	Studied variables	Authors
Acceptance	Investigating factors influencing user acceptance and use of intelligent tour guide technologies	Knowledge, usefulness, and attitude	Peres et al. (2011)
		Informativeness, entertainment, performance expectancy, effort expectancy, social influence, facilitating conditions	Lai (2015)
		Approachability, visual attractiveness, operability, function, offline service, interactivity	Gao and Pan (2022)
Design	Exploring principles that need to be considered in designing user interfaces	Location-based services	Curran and Smith (2006)
		Personalization	Tarantino et al. (2019)
		Kano-IPA integration model	Li and Xiao (2020)
		Gamification	Aluri (2017)
Impact	Examine the impacts of intelligent tour guides	Destination travel intention	Kim et al. (2019)
		Enhancing the tourism experience	Kounavis et al. (2012)
		User satisfaction	Liu et al. (2016)
		Service quality	Niu (2023)
Evaluation and case studies	Comparing and evaluating mobile tour guide applications	Comparing 36 apps related to intelligent tour guides	Sia et al. (2022)
		Insights from Pokémon GO for tour guide apps	Aluri (2017)
		A mobile GIS app for tour guides in Dar-es-salaam	Buberwa and Msusa (2019)

Source: authors.

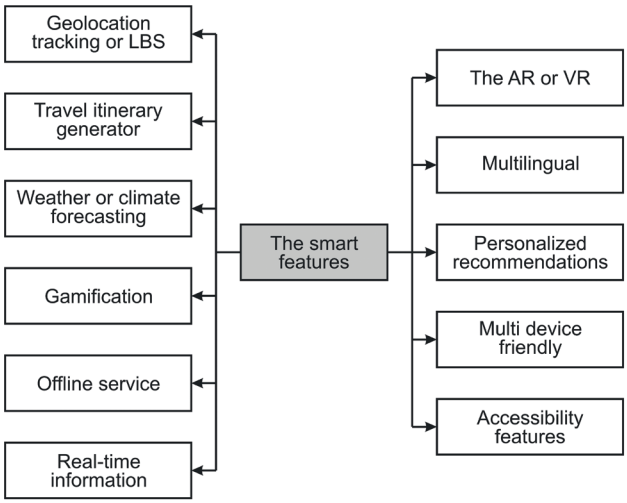

Figure 2. The innovative features of an intelligent tour guide app
Note: LBS – laser beam scanning, AR – augmented reality, VR – virtual reality
Source: authors

the title analysis: acceptance, design, impacts and evaluation (Table 1).

4.3. The innovative features of a mobile tour guide application

Smart tour guide apps can elevate the overall user experience by incorporating intelligent features. After thoroughly analyzing the articles, we identified 11 critical, innovative features developers need to consider while developing smart tour guide apps (Figure 2).

5. Conclusion

The primary aim of this study was to explore the implementation and effectiveness of AI-driven live chatbots and smart tour guide applications within the tourism and hospitality sectors. This research has delved into the integration of AI technology in these industries, assessing its role as an intelligent tour guide across different phases of the travel experience – before, during and after the trip. The findings highlight how AI-driven technology can enhance customer engagement, streamline operations and offer personalized assistance to travelers, thus adding value across the entire customer journey.

One key contribution of this study is the in-depth examination of AI-powered chatbot design, focusing on elements such as dialogue flow, responsiveness, and conversational ability. These features are essential for creating engaging digital tour guides that offer user-friendly, human-like interactions. The study also identifies critical factors and existing gaps within the literature, providing insights that contribute to the advancement of digital tour guides in tourism. By offering a comprehensive review of current research on smart tour guide apps, the study illuminates the state of knowledge in this field and underscores the significance of design principles, intelligent features and user acceptance in developing successful AI-based tour guides.

Furthermore, the study emphasizes several areas for future exploration, such as refining the design and accessibility of digital tour guides, enhancing cultural adaptability and expanding the evaluation of AI-driven technology's impact on tourist satisfaction, destination loyalty and the traditional tour guiding sector. Additionally, the research highlights the potential of emerging technologies, including augmented reality and machine learning, to further optimize the capabilities of intelligent tour guides. By addressing these identified gaps and research opportunities, future studies can better understand the implications of AI-driven tools in the tourism industry, contributing to the development of innovative, responsive and impactful digital tour guides that meet evolving traveler expectations.

5.1. Gaps and future studies

A thorough examination of relevant studies has identified several gaps in the current research on intelligent tour guide apps. These gaps cover a variety of elements, such as adaptation, utilized design principles, impact analysis in previous research, intelligent and AI-driven features and evaluation methods. A summary table (Table 2) has been provided to outline the identified gaps and propose future research questions. These research gaps emphasize the need for further exploration and study to enhance our comprehension of smart tour guide apps and their consequences.

Table 2. Gaps and research questions for future studies

Theme	Gaps	Research questions for future studies	
Adaptation	Existing studies about user acceptance behavior focus on initial adoption and must adequately address the post-adoption	RQ_1	What factors influence the sustained acceptance and use of AI-powered and mobile tour guides over time?
	Studies on user acceptance behavior of mobile tour guide apps need to give more attention to the impact of cultural values on acceptance and usage	RQ_2	How do cultural values influence user acceptance and utilization of mobile tour guide applications?

Table 2 (cont.)

Theme	Gaps	Research questions for future studies	
Design	Although numerous researchers have developed various methods and systems for intelligent tour guide apps, there is still room for improvement in accuracy and practicality	RQ_3	How can the accuracy and practicality of smart tour guide apps be improved to enhance user experience and satisfaction using AI?
	The accessibility of smart tour guides has received limited attention in discussions	RQ_4	To what extent are smart tour guides accessible?
		RQ_5	How might the application of emerging technologies like AI, augmented reality and machine learning be utilized to optimize the efficiency and performance of intelligent tour guides?
Impact	Past studies have given limited attention to the consequences of adopting AI tour guides on destination selection, loyalty and overall tourist satisfaction	RQ_6	How do intelligent and AI tour guide systems impact destination selection, loyalty and overall tourist satisfaction?
		RQ_7	In what ways could the introduction of AI tour guides impact the traditional tour guiding sector?
Smart features	More attention should be directed towards investigating the essential intelligent features that mobile tour guide applications should offer users	RQ_8	What are the essential intelligent features that mobile tour guide applications must provide for users by considering the conceptualization of AI-powered chatbots?
Evaluation and case studies	Existing research has yet to thoroughly explore the upcoming trends and new focuses expected in the field of intelligent tour guides	RQ_9	What future trends and emerging focal points are anticipated in the field of intelligent tour guides?
	Exploring user comments in existing apps needs to be more adequately addressed	RQ_{10}	What valuable insights can we gather from user comments in AI-powered tour guides to improve smart tour guide applications and better meet user needs?

Source: authors.

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