







Travelling with digital guides: artificial intelligence usage tendencies of tourists

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ABSTRACT

The aim of this study is to reveal the relationships between the attitudes of tourists who use artificial intelligence (AI) tools for travel planning, their satisfaction with these tools, their perceptions of the ease of use, and their intentions to re-use these tools in the future. An online questionnaire was administered to Turkish tourists who use AI tools for travel planning in accordance with the aim of the study. The survey was conducted over a two-month period (July and August) in 2024, using a convenience sampling method. After obtaining 393 usable responses, the data were analyzed using Structural Equation Modelling. According to the results, it was revealed that AI assistant use significantly influences tourists' attitudes, their perceived ease of use, and satisfaction toward AI tools, and these three variables positively influence the intention to reuse AI tools. Results also indicate that attitudes have a relatively weaker impact on the using AI tools recommendations in travel planning, compared to satisfaction and perceived ease of use. The research results emphasise the necessity of AI tools specific to the tourism sector and highlight the importance of keeping pace with developments in a world where technology is constantly evolving for the tourism sector.

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Introduction

Nowadays, artificial intelligence (AI, hereafter) is shaping the tourism industry and tourist experience. (Katsanakis et al., 2025; Kumar et al., 2024). Tourists have increasingly been utilising AI tools to flexibly search for information prior to travel, plan trips to their destinations, and even make decisions (Florida-Benítez & del Alcázar Martínez, 2024). At the same time, AI tools are emerging for tourists by providing personalised suggestions (Buhalis et al., 2019; Dwivedi et al., 2024). AI tools enable individuals to plan flexibly and differentiate themselves from traditional travel advisory services by offering tailor-made solutions (Xiang et al., 2015; Yang et al., 2024). These tools, which are based on natural language processing, also play a user-friendly role in travel planning, as they can make data analysis and offer a wide range of alternative suggestions (Doborjeh et al., 2022; Ivanova, 2019).

On the other hand, there are obvious problems in the tourism sector. Among these problems, information asymmetry and uncertainty in decision making frequently encountered by consumers are the most prominent. At this point, AI tools facilitate access to

information by providing recommendations to potential tourists (Wong et al., 2023). Rather than being excluded, the use of these advanced technologies is seen as a supportive service by traditional service providers. AI tools also support the enhancement of customer satisfaction and the improvement of the experience (Borràs et al., 2014; Kim et al., 2008). While businesses operating in the tourism sector may lag behind in adopting these tools, tourists are increasingly utilising them individually (Buhalis et al., 2023; Leung & Law, 2013).

Tourists planning to travel prefer these tools for flexible, fast, and reliable access to information, and these tools generally meet these needs (Pencarelli, 2020; Tanriverdi & Ciki, 2024). Consumers who ask detailed questions about these tools, which are still in the development phase, to find out what they can do during their travels receive a wide range of alternative answers from AI tools ranging from restaurant recommendations to local events (Hamid et al., 2021; Li et al., 2018). However, researchers acknowledge that AI tools are not yet at the desired level and still have significant limitations. However, considering the investments many companies have made in AI tools, it is reasonable

to expect that these tools will continue to improve. Nevertheless, when compared to traditional tourism businesses, they already stand out with greater accessibility and higher personalisation of information (Leung, 2020; Pencarelli, 2020).

Therefore, the role of AI tools in tourism decision-making processes should be evaluated not only in terms of their technological capabilities but also in terms of users' perceptions, experiences, and usage trends. However, while interest in the effects of AI-based applications is growing in tourism literature (Sigala et al., 2024; Solomovich & Abraham, 2024) empirical studies explaining behavioural tendencies and perception processes at the individual user level are still limited.

A comprehensive review of the literature on tourism shows that there are a few published studies in this field, nearly as many as the fingers on one hand. For example, Pillai and Sivathanu (2020) studied the adaptation of these advanced technology tools to the tourism sector while Sigala et al. (2024) examined how the tourism sector is affected by AI tools. Moreover, some researchers have even included AI tools as co-authors in their studies (Ali & Inc, 2023). Even if there are some studies that address AI tools and tourists' decision-making processes together (Stergiou & Nella, 2024; Wong et al., 2023), studies on AI in tourism are still limited (Gursoy et al., 2023; Mich & Garigliano, 2023; Skavronskaya et al., 2023). It proves to us that there is still a clear gap in the literature. Researchers do not fully understand how tourists feel about AI tools or how these tools influence their behaviour (Leung & Jiang, 2018).

Thus, this study aims to address this gap. It examines the relationships between tourists' use of AI tools in their travel planning, their attitudes toward AI tools, satisfaction with their use, perceived ease of use, and behavioural intentions. By doing so, this research makes a theoretical implication by expanding the body of knowledge on the use of AI tools in travel planning for tourists and a practical contribution by providing practical advice for tourism professionals.

Literature review

AI assisted tourism experience

AI learns like humans, solves problems, and possesses many abilities such as natural language processing, is a multidisciplinary field of technology (Pannu, 2015). In other words, it can imitate human thought processes. AI also has capabilities such as machine learning and natural language processing. Thanks to these

capabilities, AI tools can make predictions, perform analyses, and tackle many challenging tasks (Russell & Norvig, 2016). AI tools are also becoming an important part of daily life by reducing the burdens on tourists and businesses through their capabilities and continue to influence the structure of many industries (Carvalho & Ivanov, 2024; Makridakis, 2017).

Although AI's significant advantages, in the tourism sector have not yet adopted these tools. Tourists are also among those most affected by AI tools because they speed up the process in many areas, such as assisting with destination, route, and hotel selection, and making reservations (Dogru et al., 2023; Ghesh et al., 2024). AI tools generally have a simple user interface, provide answers to questions tailored to users' interests, and offer advantages for users (Gretzel et al., 2020). They simplify tourists' planning works, from destination or package tour selection to hotel and restaurant selections based on their budgets, to personalised recommendations based on given commands (Bisoi et al., 2020; Buhalis & Amaranggana, 2015). Additionally, not only in the tourism sector but in all sectors AI tools are expected to improve existing products and services, develop new ones, explore new markets, and enrich the experience (Mich & Garigliano, 2023).

On the other hand, AI tools can determine the most suitable options by providing tourists with newest information about the destination during their trip. However, AI still insufficient in terms of prices and budget, examples of the information provided include travel warnings, transportation routes, local events, cultural information, and activity suggestions. Since the information provided by AI is supported by real-time updates and presented in an interactive language, tourists can make more informed decisions. Due to the wide range of information they are exposed to, they can ensure that they do not miss out on anything while experiencing their trip (Tussyadiah, 2020).

Tourists can use AI tools throughout almost the entire vacation process, from searching for travel inspiration to selecting a destination and making reservations (Kim, So, et al., 2024). This allows tourism businesses to use tourist data to create personalised products (Grundner & Neuhofer, 2021). However, business focused tools cannot surpass Large Language Models (LLMs, hereafter) and generally provide services only within the limited scope offered by service providers (Carvalho & Ivanov, 2024). Therefore, further research is needed for tourism sector service providers, who appear to be more cautious about AI tools (Buhalis et al., 2023; Shi et al., 2024).

In addition, AI tools based on large language models can play a transformative role in personalising

experiences in the tourism sector (Samara et al., 2020) and thus provide users with a competitive advantage. These tools can store tourists' questions in their memory and provide context-appropriate answers, also can assist tourists in making decisions by offering detailed explanations and recommendations (Kim, Kim, et al., 2024). The elements that distinguish AI tools from traditional information tools become apparent at this point. (Buhalis & Sinarta, 2019; Carvalho & Ivanov, 2024). This makes it easier for tourists to make decisions and improves the quality of their travel experience (Hu & Li, 2023).

Although AI tools make things easier for tourists, they are not perfect yet. If users get wrong or missing information, they may stop trusting these tools. This can affect their decisions in a bad way. Since AI tools that are still developing, it is important to check the information with other sources as well (Choudhury & Shamszade, 2023). While previous studies (Doborjeh et al., 2022) have shown that AI tools influence tourists' destination choices, many AI tools are still in the market release phase (Bulchand-Gidumal, 2022). Thus, further research is needed to examine tourists' trust in AI tools and the impact of AI tools on travel decision-making.

Theoretical background

To provide a stronger background for the proposed model and research hypotheses, this research uses several well-known theoretical frameworks such as The Technology Acceptance Model (TAM, hereafter), Consumer Satisfaction Theory (CST, hereafter), Attachment Theory (AT, hereafter) and Cognitive Appraisal Theory (CAT, hereafter). TAM (Davis, 1989) stands out in the literature as one of the most frequently used models for explaining individuals' adoption of new technologies. The TAM proposes that perceived ease of use and perceived usefulness can be key determinants of behavioural intention. Accordingly, users' perception of a technology as easy and useful can increase their willingness to adopt it (Venkatesh, 2000). In this study, the TAM is used to support hypotheses explaining perceived ease of use and its potential effects on behavioural intention.

The second theoretical foundation, the CST (Kotler, 1994), suggests that consumer satisfaction arises from the comparison between consumer expectations and actual experiences. In other words, satisfaction occurs when consumers' expectations are met or exceeded, which in turn fosters repeat usage intention and loyalty (Prasilowati et al., 2021). In the context of AI tools in tourism, satisfaction is considered to play a central role in shaping repeat usage intention. Therefore, this theory has been adopted in this study to support the

hypotheses regarding tourist satisfaction and the intention to reuse AI tools.

Third, AT (Jiang & Dong, 2008) provides a deeper understanding of the continuous use of a technology. Originating from the field of psychology, this theory argues that emotional and psychological bonds formed towards objects, people, or technologies can influence long-term commitment. In the context of technology, it is suggested that users who develop trust in digital tools and form emotional bonds with them may be more willing to use these tools in the long term and follow their recommendations (Xiang et al., 2022). Therefore, this theoretical perspective is used in this study to support hypotheses regarding the continuous use of AI and tourists' intention to follow AI-based recommendations.

Finally, in this study, CAT was adopted as the another theoretical foundation which has also been frequently embraced in other tourism studies (e.g. Gursoy et al., 2019; Manzoor et al., 2024). CAT suggests that individuals' emotional responses are shaped by their cognitive evaluations of a situation, which, in turn, influence their attitudes and behaviours. Within the context of this research, CAT was employed to explain how tourists' emotional appraisals of AI use influence their behavioural intentions.

When considered together, these three theoretical frameworks provide a comprehensive foundation for the study and allow for the justification of the hypotheses. On the other hand, this study did not aim to focus on a single AI tool. However, the literature review reveals that previous studies generally focused on LLM models such as ChatGPT (Altinay et al., 2025; Gursoy et al., 2023; Kundan et al., 2025; Wang et al., 2025).

Hypothesis development

AI tools are becoming more useful in tourism as tourists use them more often now, in particular for planning trips (Hsu et al., 2024). Especially large language models (LLMs) are capable of providing instant destination information tailored to tourists' expectations. This shows that AI can improve the tourist experience (Ozturk et al., 2023). Thus, tourists are likely to AI when planning trips and be affected by it in their choices (Stergiou & Nella, 2024).

Literature highlights that tourists' attitudes towards a technology are directly related to how they perceive that technology and their emotional reactions to it (Davis, 1989). AI tools give tourists information when planning their trips and help them make decisions by offering personalised suggestions. These personalised experiences can shape tourists' positive or negative attitudes

toward AI technologies (Stergiou & Nella, 2024). Moreover, CST (Kotler, 1994), describes the satisfaction that results from a consumer comparing the actual performance of a product with its expected performance. This satisfaction or disappointment shapes how consumers feel and behave toward a product (Prasilowati et al., 2021). If tourists think that AI is useful, their attitude toward using it may become more positive. Based on the CST and the points discussed above, the following hypothesis was proposed:

H₁: AI assistant use (e.g. ChatGPT) positively affects tourists' attitudes towards these technologies.

According to Davis's (1989) TAM, two main factors affect whether people accept a technology that are perceived usefulness and perceived ease of use. Perceived usefulness means that the user believes the technology will be helpful. This makes them more likely to use that technology (Davis, 1989). Perceived ease of use refers to how practical and user-friendly a technology is. This perception plays an important role in technology adoption (Venkatesh, 2000). AI tools such as ChatGPT allow users to quickly filter travel options. This can make tourists see AI as a simple and easy tool to use. (Londhe et al., 2024). Therefore, the following hypothesis was suggested:

H₂: AI assistant use (e.g. ChatGPT) positively affects tourists' perceptions of ease of use of these technologies.

AI tools analyze tourists' travel preferences and offer the most suitable options. This is making the travel planning process more personal (Londhe et al., 2024). Also, instant access can increase tourists' satisfaction with AI use. Kim et al. (2024) reveals tourists' positive experiences with ChatGPT improved how they saw the tool. Also, the CST (Kotler, 1994) states that positive experiences lead to satisfaction with the product. Based on above discussion, the following research hypothesis was proposed:

H₃: AI assistant use (e.g. ChatGPT) positively affects tourists' satisfaction with AI use.

According to AT, when consumers are happy with a product or service, they are more likely to buy it again or use it again (Xiang et al., 2022). Additionally, the attachment to products has also been examined in terms of loyalty to websites. Consumers' loyalty to a website plays a determining role in website loyalty and increases the likelihood of using that site again in the future (Jiang & Dong, 2008).

With the widespread use of AI tools, tourists' perceptions and attitudes towards these technologies play an important role in travel planning processes (Gaur et al., 2021). Tourists' positive attitudes towards a technology

are a strong determinant that can directly affect their intention to use that technology again (Davis, 1989). In particular, previous studies on TAM and AI adoption show that positive attitudes have a positive impact on usage intentions (Liu et al., 2024).

Tourists' positive attitudes towards a technology can directly affect their intention to accept and implement its recommendations. Especially when personalised travel recommendations offered by AI-based assistants are based on tourists' needs and preferences, these recommendations are likely to be trusted and taken into account (Shi et al., 2021). Based on above discussion and AT following hypothesis was developed:

H₄: Tourists' positive attitudes towards AI tools (e.g. ChatGPT) positively affect their intention to re-use AI tools.

H₅: Tourists' positive attitude towards AI tools (e.g. ChatGPT) positively affects willingness to use AI recommendations in travel planning.

Ease of use of technological tools is one of the key factors that significantly influence users' intention to use the technology. When users experience a technology as simple, accessible and hassle-free, they are more likely to use that technology in the future again (Cho, 2015). Thus, based on TAM and above discussion following hypothesis was developed:

H₆: Perceptions of ease of use of AI tools (e.g. ChatGPT) positively affect the intention to re-use AI devices.

The ease of use of a technology can affect how likely users are to use it again. It can also shape their willingness to follow its suggestions. A simple AI tool helps tourists check suggested places, activities, and other travel choices more quickly and with more confidence (Tussyadiah & Miller, 2019). Thus, based on TAM and above discussion following hypothesis was developed:

H₇: Perceptions of ease of use of AI tools (e.g. ChatGPT) positively affect willingness to use AI recommendations in travel planning.

Satisfaction is an important factor that affects the intention to use it again in AI tools (Deng et al., 2010). If tourists satisfied with AI tools, their trust may grow and they may become more open to using them again. Based on the CST and the points discussed above, the following hypothesis was developed:

H₈: Satisfaction with AI (e.g. ChatGPT) use positively affects intention to reuse AI tools.

AI tools provide customised and appropriate suggestions that simplify tourists' decision-making processes

and enhance levels of satisfaction (Sousa et al., 2024). Tourists who are satisfied with the recommendations provided by AI tools tend to take these recommendations more into account in their future travel planning (Yang et al., 2024). Moreover, customers' attitudes toward AI devices are shaped by some specific factors. These include effectiveness, hedonic motivation, performance expectancy, social influence, anthropomorphism, and emotions. (Lu et al., 2019). According to CAT, individuals are more likely to accept AI for service delivery if they experience positive emotions associated with its use (Gursoy et al., 2019; Manzoor et al., 2024). If tourists feel an emotional connection due to trust and practicality resulting from using AI, they may use AI recommendations in their travel planning in the future. Accordingly, the following research hypothesis was proposed. On the other hand, based on the developed hypotheses, the conceptual model of the study is presented in Figure 1:

H₉: Satisfaction with AI use positively affects willingness to use AI (e.g. ChatGPT) recommendations in travel planning.

Methodology

This research addresses the effects of AI tools, which are becoming increasingly popular among tourists in travel planning, on ease of use, attitudes towards AI and satisfaction with its use, and in this context, aims to determine the leading roles of these factors on intention to use AI tools again and on travel planning. In line with the objectives of the study, the survey technique was used as a quantitative method and the survey questions were based on the scales

obtained as a result of a comprehensive literature review.

Research's measures

In total, there are six sections in the questionnaire, which also includes a section on descriptive features. After the questions on descriptive characteristics, the second part contains a six-item scale on tourists' use of AI assistants, borrowed from Khan (2024) and Wamba-Taguimdje et al. (2020). In the third part, there is a scale consisting of four statements designed to evaluate attitudes towards AI. The attitude scale is taken from Christensen et al. (2024) work. Part four uses a scale of nine statements to reveal tourists' opinions on perceived ease of use, which was prepared by Holden and Rada (2011). The fifth part of the questionnaire includes scale designed by Narangajavana-Kaosiri et al. (2019) to evaluate tourists' satisfaction with the use of AI, which was adapted for the current research. During this adaptation process, AI-related expressions were added to the items. The following section applies the three-item scale developed by Kim and Hyun (2016) to evaluate tourists' re-use intentions of AI tools for touristic travels and adapted it for present research objectives. The last scale utilised in the research was developed by Christensen et al. (2024). This part included a seven-item scale measuring tourists' willingness to take into account the suggestions of AI tools in their trip plans. In order to measure all the constructs identified above, we used a 5-point Likert scale.

To increase the overall robustness of the research model and better reflect the unique characteristics of each construct, we chose different validated scales for each construct. Using different scales helped prevent common method bias and ensured a more

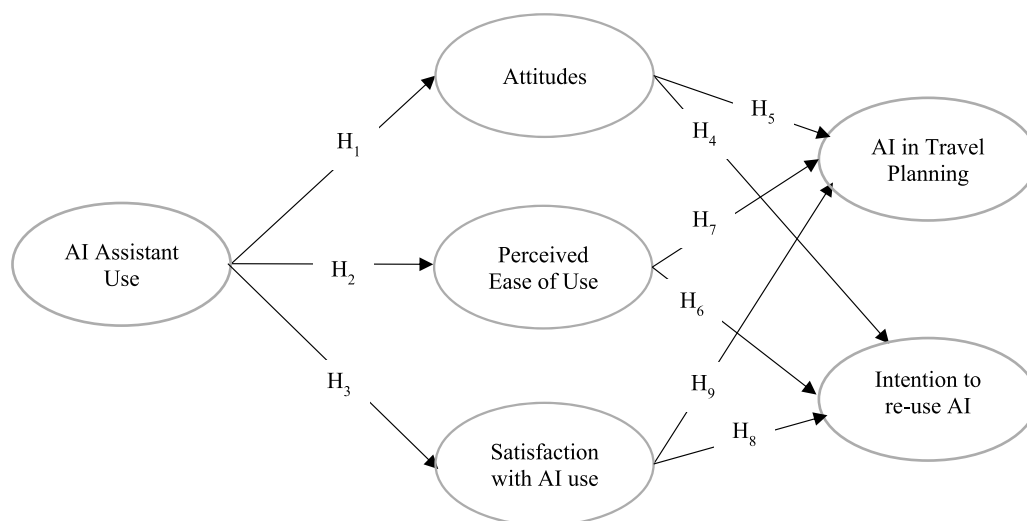


Figure 1. Proposed model.

comprehensive assessment. In addition, convergent and divergent validity analyses were performed to ensure the consistency and appropriateness of the measurement model.

Data collection and analysis

The data of the study was collected from cultural tourists who used AI tools, as a digital guide before their travels. The convenience sampling method was adopted and the data was collected from Turkish tourists through an online survey over a period of 2 months between July 2024 and August 2024. This adoption of a convenience sampling method, despite its limitations regarding generalizability, has been considered a valuable data source for this study. This sampling method was adopted as it provides researchers with significant time efficiency and is widely preferred in tourism research. Since the data was collected online, there is no missing data and 393 usable questionnaires were included in the study. Structural Equation Modeling was used to test the hypotheses created in line with the purpose of the research.

Results

Demographic results

Prior to testing the hypotheses developed in accordance with the study's objectives, demographic characteristics of the participants were evaluated and detailed in Table 1. The analysis showed that a majority of the

respondents were women (52%). It was also found that a considerable proportion of the respondents were married (64%) and possessed a university education (55%). Finally, it was identified that a significant share of the participants fell within the 26–32 age range (35%) and reported a monthly income between 17,002 Turkish Lira (TL) and 37,001 TL (38%).

Model assessment

Based on reliability and validity criteria, the measurement pattern of the research was assessed using average variance explained (AVE, hereafter), composite reliability (CR, hereafter) and Cronbach's Alpha (CA, hereafter) values. The minimum necessary values according to Hair et al. (2010) are 0.50 for AVE and 0.70 for CR. When the figure is analyzed, it is seen that the AVE values vary between 0.574 and 0.789 and are within acceptable limits. The CR values were between 0.804 and 0.903, while the CA values varied between 0.763 and 0.876 and all values were above the threshold of 0.70, confirming the reliability of the measurements (See Table 2).

Discriminant validity, which differentiates one construct from others, is determined by specific criteria (Hair et al., 2017). In this study, the Fornell-Larcker criterion was utilised to assess discriminant validity (See Table 3). This criterion posits that the square root of a construct's AVE value must exceed the correlation values of that construct with other constructs. The results indicate that the scales exhibit an adequate level of discriminant validity.

Structural model and hypothesis testing

The findings of the study indicated that all tested hypotheses were confirmed. Detailed results are shown in Table 4 and Figure 2. The analysis revealed that the AI assistant use significantly and positively influences tourists' attitudes towards AI ($\beta = 0.313$, $p < 0.001$). Additionally, AI assistant use significantly impact tourists' perceptions regarding the ease of use of these technologies ($\beta = 0.378$, $p < 0.001$). The AI assistant use positively affects the satisfaction with the use of AI technologies ($\beta = 0.589$, $p < 0.001$).

On the other hand, positive attitudes towards AI tools significantly affect tourists' intention to re-use these technologies again ($\beta = 0.435$, $p < 0.001$). Tourists' positive attitudes towards AI tools were found to significantly affect their willingness to use AI recommendations in travel planning ($\beta = 0.247$, $p < 0.001$). Perceptions of ease of use of AI tools were found to have a strong impact on individuals' intention to re-

Table 1. Participants' characteristics.

Demographic Variable	Counts (N)	Percentage (%)
Gender		
Male	187	47.57
Female	206	52.43
Marital Status		
Married	252	64.12
Single	141	35.87
Age		
18–25	84	21.37
26–32	139	35.36
33–40	92	23.4
41 and over	78	19.84
Education		
High school	66	16.79
University	218	55.47
Master or PhD	109	27.73
Monthly Income		
17.001 TL and below	54	13.74
17.002–37.001	151	38.42
37.001–57.000	97	24.68
57.001–77.000	56	14.24
77.001 and over	35	8.9
Total	393	100

Note: The minimum wage in Türkiye was 17,002 TL at the time of data collection. The average foreign currency equivalent of this amount was \$515 / €472.

Table 2. Measurement model of research.

Measurement Items	Outer Loadings	Cronbach's Alpha	CR	AVE
AI Assistant Use		0.763	0.804	0.593
1. AI assistant helps to make my tour more discoverable in the digital world.	0.721			
2. AI assistant allows tourists to automate the collection and curation of user-generated social content in the pipeline.	0.680			
3. AI assistant connects the customer to the right products in the catalog.	0.743			
4. AI assistant matches images with religious activities recommended to tourists.	0.815			
5. AI assistant saves time, improves accuracy, and helps tourists find things easily without wasting time.	0.634			
6. AI assistant allows the tourist organization to streamline their end-to-end model development without sacrificing training speed.	0.771			
Attitudes (ATT)		0.811	0.832	0.574
1. Using AI tools (e.g. ChatGPT) to learn about vacation/holiday destinations is a good idea.	0.761			
2. AI tools (e.g. ChatGPT) can make my vacation/holiday experience more interesting.	0.710			
3. Using AI tools (e.g. ChatGPT) can makes visiting vacation/holiday destinations more fun.	0.653			
4. I like using AI tools (e.g. ChatGPT) as a part of planning vacations/holidays.	0.702			
Perceptions of ease of use		0.876	0.901	0.653
1. My interaction with the technology is clear and understandable.	0.851			
2. Interacting with the technology does not require a lot of my mental effort.	0.639			
3. I find the technology to be easy to use.	0.723			
4. I find it easy to get the technology to do what I want it to do.	0.812			
5. I find the technology to be flexible to interact with.	0.681			
6. Learning how to perform tasks using the technology was easy.	0.604			
7. The technology has good functionality (features).	0.765			
8. I feel I have an intuitive sense on how to operate the technology.	0.640			
9. I find it easy to remember how to perform tasks using the technology.	0.663			
Satisfaction with AI use		0.814	0.873	0.726
1. AI tools (e.g. ChatGPT) always meets my expectations when choosing a destination.	0.882			
2. I am generally satisfied with the use of AI tools (e.g. ChatGPT) before my visits.	0.865			
3. I am delighted that I used AI tools (e.g. ChatGPT) for my last destination selection.	0.871			
Intention to re-use AI tools		0.859	0.903	0.689
I intend to reuse the AI tools.	0.843			
I predict I will re-use the AI tools.	0.884			
Willingness to use AI recommendations in travel planning		0.842	0.883	0.771
1. I intend to use AI tools (e.g. ChatGPT) to help me plan vacations/holidays in the future.	0.836			
2. I predict I will use AI tools (e.g. ChatGPT) for vacation/holiday planning in the future.	0.793			
3. I plan to use AI tools (e.g. ChatGPT) to learn more about vacation/holiday locations	0.809			
4. The use of ChatGPT could increase my likelihood of going to a specific location for a vacation/holiday.	0.823			
5. I would consider checking the prices of a vacation/holiday using AI tools (e.g. CHATGPT).	0.765			
6. The use of AI tools (e.g. CHATGPT) increases my willingness to use specific hotels or restaurants at the vacation/holiday location.	0.787			
7. It is very likely that I will recommend using AI tools (e.g. CHATGPT) to my friends and family for vacation/holiday planning.	0.671			

use AI again ($\beta = 0.506, p < 0.001$). The willingness to use AI recommendations in travel planning is positively affected by perceptions of ease of use of AI tools ($\beta = 0.362, p < 0.001$). Satisfaction with use was found to have a positive effect on tourists' intention to re-use AI tools ($\beta = 0.541, p < 0.001$). Furthermore, tourists' satisfaction with AI tools significantly influences their

intention to incorporate AI recommendations into their travel planning process ($\beta = 0.429, p < 0.001$).

Discussion and conclusion

This study enables us to understand the use of AI tools specifically LLMs as a digital guide in travel planning, and its relationship with attitudes, perceived ease of use, and satisfaction of tourists who use AI, as well as their intention to reuse these tools. All nine hypotheses proposed in the study were statistically supported and all relationships predicted in the model were found to be significant. From an initial perspective the findings indicate that the use of AI as a travel assistant positively influences tourists' attitudes, perceived ease of use, and satisfaction. Moreover, this effect is also positively associated with their intention to reuse AI tools and consider AI based recommendations in their travel planning. This proves that the theoretical approach and hypotheses

Table 3. Discriminant validity.

	Fornell-Larcker Criterion					
	1	2	3	4	5	6
1. AI Assistant Use	0.613					
2. Attitudes	0.487	0.586				
3. Perceptions of ease of use	0.509	0.539	0.708			
4. Satisfaction with AI use	0.575	0.413	0.521	0.741		
5. Intention to re-use AI devices	0.601	0.560	0.626	0.652	0.716	
6. Willingness to use AI recommendations in travel planning	0.624	0.587	0.569	0.549	0.572	0.792

Table 4. Hypothesis testing.

Hyp	Relationships	Direct Effect	Std. error	P-values	Results
H ₁	AI Assistant Use > Attitudes	,313	,077	0.000*	Supported
H ₂	AI Assistant Use > Perceptions of ease of use	,378	,083	0.000*	Supported
H ₃	AI Assistant Use > Satisfaction with AI use	,589	,132	0.000*	Supported
H ₄	Attitudes > Intention to re-use AI tools.	,435	,169	0.000*	Supported
H ₅	Attitudes > Willingness to use AI recommendations in travel planning	,247	,128	0.000*	Supported
H ₆	Perceptions of ease of use > Intention to re-use AI tools.	,506	,091	0.000*	Supported
H ₇	Perceptions of ease of use > Willingness to use AI recommendations in travel planning	,362	,195	0.002*	Supported
H ₈	Satisfaction with AI use > Intention to re-use AI tools.	,541	,204	0.000*	Supported
H ₉	Satisfaction with AI use > Willingness to use AI tools recommendations in travel planning	,429	,217	0.000*	Supported

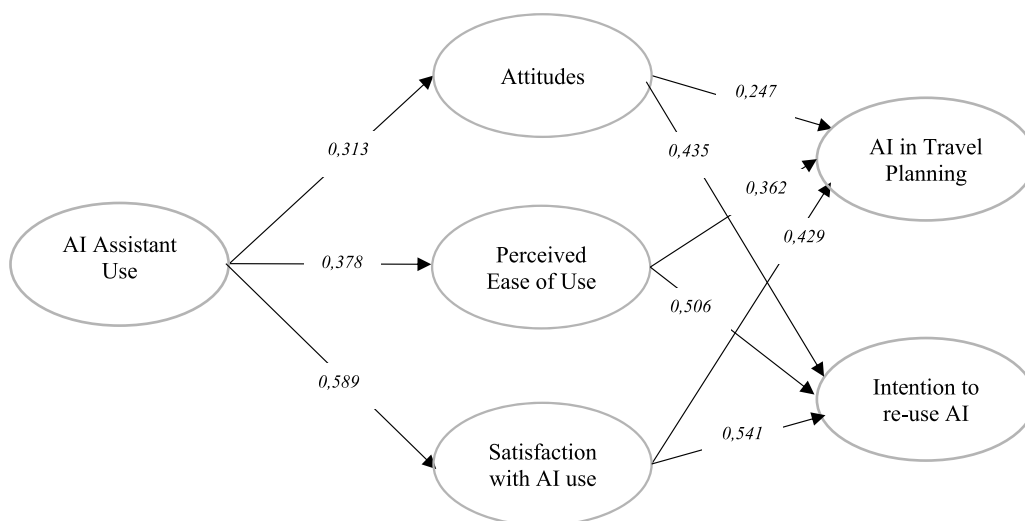
* $p < 0.01$.

proposed between variables in the suggested model are well explained and the findings are consistent with most studies in the literature. However, the results reveal some specific findings that contribute new findings to the literature.

When the findings in the model are examined in detail, even though all hypotheses have been accepted, beta coefficients have enabled us to make some observations. Results indicate that positive attitudes had a limited effect on the willingness to use AI recommendations. This reveals, attitude alone is insufficient to determine behaviour. In other words, consistent with the literature, it is possible that a positive attitude alone may not be sufficient to create a sense of attachment and trust (Xiang et al., 2022). Jiang and Dong (2008) also highlighted that reuse intentions are shaped not only by attitude but also by experiential factors like attachment, trust, and satisfaction. At this point, results elaborate this relationship. The strongest relationship in the model (H₃ and H₅) shows us that tourists who use AI assistants first develop a high level of satisfaction and then tend to use these tools again. This result is also directly consistent with CST (Kotler, 1994). The personalisation capabilities of AI tools enable

tourists to have satisfying experiences by providing recommendations tailored to their individual needs (Londhe et al., 2024). However, this finding actually takes the literature a step further. According to the results, an effective first-time experience is the key to sustainable technology adoption through its positive relationship with satisfaction levels.

The general findings of the model presented indicate that usage satisfaction, rather than attitudes, is more decisive in the adoption of AI tools. In particular, satisfaction and perceived ease of use have been shown to influence both the intention to reuse and the willingness to use AI recommendations in travel planning. However, although positive attitudes towards AI are significant, they have had a more limited impact on these two behavioural intentions. This situation shows that users' decisions are shaped more by their satisfaction and perceived ease of use during the usage process than by their general views on technology. This aspect of the model differs from TAM (Davis, 1989) in some respects and emphasises. Theoretically, the model is largely consistent with the TAM. However, the point of divergence in this study is that the attitude variable. It shows relatively low effects on both reuse and recommendation

**Figure 2.** Structural model of the research.

intention. This deviation reveals, especially in the context of tourism, user' behaviours are driven by experienced elements such as satisfaction rather than rational attitudes.

The use of AI is a complex structure. People both intend to use it and experience trust issues. (Kim et al., 2023; Zvaigzne et al., 2025). Today, tourists increasingly demand fast, reliable, and flexible planning tailored to their individual needs (Pencarelli, 2020; Pillai & Sivathanu, 2020). AI is capable of offering effective recommendations for various scenarios and complex tasks (Russell & Norvig, 2016) and AI holds a particularly important role as a tailor-made digital guide. The literature has previously shown that AI tools are up to date, accessible, and user-friendly, and that this can improve the quality of tourists' experiences (Buhalis & Sinarta, 2019; Carvalho & Ivanov, 2004; Hu & Li, 2023). This study also supports this finding by demonstrating that the use of AI tools creates satisfaction among tourists. Using AI tools as a digital guide in tourism simplifies access to information from a single source and streamlines planning processes (Bisoi et al., 2020; Buhalis & Amaranggana, 2015). As supported by the model, this advantage can create a strong sense of 'perceived ease of use' in the tourist's mind. When tourist can easily perform all these tasks through AI, they feel competent and believe they can use the system with ease. This situation is also statistically in the model.

Considering the findings as a whole, this study offers a theoretical approach to the use of AI tools particularly LLMs, in travel planning from a perspective of tourists. Most of the findings are consistent with the literature. This proves that the proposed structural model is built on a strong theoretical foundation. However, it also contributes to the literature by enabling some new approaches to tourism with the new findings it reveals. Since current AI tools may not yet be fully mature, as tourists developed a positive perception, experienced satisfaction, and perceived ease of use increased, they were found to be willing to reuse these tools and integrate them into their actual travel plans, which is a very important finding. In light of these results, tourism needs to take its relationship with AI tools to the next level by developing tailor-made applications that focus on tourism and give tourists the feeling of travelling with a 'digital guide.'

Theoretical implications

The findings align with several core concepts in the existing literature and also contributing to their further development. First, the significant positive relationship between AI tool usage and user attitudes confirms

previous research suggesting that attitudes toward technology can be shaped by using AI tools (Davis, 1989; Stergiou & Nella, 2024). Similarly, the strong positive effect of AI use on user satisfaction may indicate that the use of AI tools has exceeded users' expectation which in line with Kotler's CST, has resulted in a high level of satisfaction. This satisfaction turns into an intention to reuse AI tools, as suggested by Kotler's (1994) theory. But this is especially meaningful in the tourism, due to its emotional and complex nature. In the adoption of technological tools in tourism, user satisfaction during the experience is more decisive than technical competence perceptions. This shows that tourists base their decisions more on satisfaction than on attitudes. Previous studies have also highlighted how personalisation enhances AI's effectiveness in tourism (Londhe et al., 2024; Ozturk et al., 2023), and our model indirectly confirms this by showing that the use of AI tools which typically provide personalised responses, has a positive impact on satisfaction of tourists.

However, in addition to the literature, the study also offers notable theoretical contributions. While prior theories emphasise attitudes as a key predictor of behaviour (Davis, 1989), our results indicate that attitudes have a relatively weaker impact on the willingness to follow AI recommendations, suggesting a potential gap between positive attitudes and actual behaviour. Although this situation is often associated with factors such as trust, privacy in the literature (Tussyadiah, 2020), its exact cause has not been clearly identified yet. Furthermore, significant role of perceived ease of use in shaping behavioural intentions expands the theoretical focus beyond satisfaction and attitudes. In general, the study advances the literature significantly. Results provide statistically grounded, empirically validated relationships about AI use from tourists' perspective. Most prior studies are not tourism focused or fragmented. In contrast, this study offers a holistic model with direct relevance to tourism, making its theoretical contribution particularly strong.

Practical implications

Based on the findings, a series of recommendations can be developed for the effective adoption of AI tools in tourism. First, user-friendly and intuitive interface design can be prioritised in AI tools, as perceived ease of use directly affects behavioural outcomes such as reuse levels and acceptance of recommendations. Furthermore, when tourists use AI as a digital guide, it is critical that their first experience is smooth, fast and satisfying. Offering LLM models specifically designed for tourism, especially for first time users, can increase

the perception of ease of use and contribute to the formation of positive attitudes.

On the other hand, the findings of the study show that users' practical behaviours are closely related to their level of satisfaction. Therefore, AI systems must be designed to provide personalised recommendations based on individual preferences. The relatively weak effect of attitudes on behaviour indicates that communication strategies should be more satisfaction and experience oriented. AI should be explained to users in a clear and simple way. Moreover, trust and transparency must be emphasised. Since AI tools can guide travel planning and shape tourist behaviour, so they are also useful for tourism marketing.

Even though the data collected in 2024, the findings remain highly relevant today. AI is still in the process of becoming a standard travel assistant, yet it has not fully matured. Over the past year, new generative AI (GAI) tools and updated versions of LLMs with advanced algorithms have been introduced. This has expanded the role of AI into functioning as a 'travel guide.' This evolution makes the present study's findings even more valuable, as travellers now have greater opportunities to integrate AI into their journeys.

For destination managers, it is important to promote their tourism products and attractions using AI-integrated methods. As seen, tourists are now willing to listen to AI recommendations, which means that if AI recommends a destination, destination can gain a competitive advantage. Therefore, destination managers should also consider AI integration from the perspective of tourists. Furthermore, findings show us that AI tools can improve satisfaction. A tourist who is satisfied with AI tools has actually received satisfactory recommendations from AI, and it is likely that a positive connection will be established with visitor satisfaction at destinations. With AI's ability to provide personalised services and make people feel special, it is also possible to identify and offer the right tourist activities for tourists at the destination. Travel businesses can integrate AI tools into their service cycle can offer advantages to tourists and creating the most suitable service based on the data obtained from these interactions.

Although AI is a widely studied and trending paradigm, its practical use in tourism still mostly relies on LLMs. These models are not designed specifically for tourism. Therefore, there is a clear need to create AI tools that match the unique needs and behaviours of tourists. This would allow for more effective guidance. When tourism businesses or destinations develop or integrate such tools, AI can offer much more than basic information, acting as a digital guide with

language support and providing personalised suggestions.

Limitations and recommendations

There are some limitations should not be overlooked. The first is the generalizability of the findings. In convenience sampling, the data obtained may be limited in terms of representing the population (Etikan et al., 2016). Additionally, the fact that all participants in the survey conducted as part of the study were Turkish cultural tourists makes it difficult to generalise the findings to different cultural contexts.

Second, there are methodological limitations. The fact that the data was collected based on self-reporting brings with it the possibility of participant bias or recall error. And relying solely on quantitative methods limits the development of a deep understanding of participants' experiences with AI. In future studies, qualitative methods may be used in addition to quantitative methods. On the other hand, a limited model has been established using the variables used in the study. This model can be supported with new variables. One of the methodological limitations of this study is that it was conducted using a cross-sectional design. This design makes it difficult to track the effects and changes in the use of AI tools over time. How tourists' attitudes and behaviours towards AI technologies develop and evolve over time cannot be fully understood with this design. By adopting a longitudinal design, future research could examine in more depth the long-term effects of AI tools and changes in the adoption process of these technologies.

Third, this research focuses on tourists, and future research should address not only the impact of AI tools on tourists but also on the operational processes of tourism businesses. In particular, the operational benefits of AI technologies such as operational efficiency, cost reduction and speed of service delivery should be examined. In addition, it may be interesting to investigate various issues such as the positive or negative effects of AI tools on employees, whether they reduce hotel employees' layoff anxiety and workload, and whether these tools improve the quality of customer service. In this context, considering the findings and limitations of the current study, it is evident that more comprehensive and multidimensional studies should be conducted on the use of AI technologies in the tourism sector. Future research can provide new and in-depth contributions to the sector at both theoretical and practical levels by addressing the effects of AI tools in a broader perspective.

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