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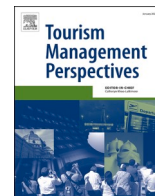
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Exploring value co-creation and co-destruction between consumers & generative artificial intelligence (GAI) in travel

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ABSTRACT

Little is known about the (dis)benefits of using generative artificial intelligence (GAI) with travel-related purposes, which hinders an understanding of the value co-created and co-destroyed in the process of its use by tourists. This mixed methods study explored and examined the key factors in value co-creation and co-destruction when using a popular GAI's conversational interface, ChatGPT, in tourism. The results indicate that the key perceived utility of ChatGPT is in travel planning and time saving, and the main perceived shortcomings are its limited knowledge and inaccurate responses. The study pinpoints the importance of refining and developing GAI collaboratively by all tourism stakeholders given that perceived value co-creation outweighs value co-destruction.

1. Introduction

Generative artificial intelligence (GAI), exemplified and delivered to end users by such platforms as ChatGPT, Gemini and Copilot, has rapidly proliferated into various industries, such as healthcare (Moulaei et al., 2024), transportation (Lv et al., 2018) and marketing (Kshetri et al., 2023). The high autonomy of GAI systems (Floridi & Cowls, 2019) has transformed industries by automating routine tasks, such as data entry, extraction and analysis (Ooi et al., 2023), and deploying conversational agents or chatbots (Akpan et al., 2024). The potential of GAI to transform these and other industries has been repeatedly recognised, and empirical research has been called for to better understand and realise this potential to enable the world's socio-economic development and technological progress (Mannuru et al., 2023).

Tourism provides significant scope for multiple GAI applications and there is growing evidence of its utilization by various organisations, including tour operators, hotels and restaurants (Dwivedi et al., 2024). Although the rapid proliferation of GAI in tourism has been questioned and debated due to the controversies attributed to the ethics of its use (Bilgihan et al., 2024), unequal access to this technology across the world (Seyfi et al., 2025), and cross-cultural differences in GAI acceptance (Fouad et al., 2024), the literature agrees that it can have multiple positive influences on the tourism business ecosystem. Among these

influences, GAI can impact customer service provision (Mogaji et al., 2024), assist in destination marketing (Bui et al., 2024a), facilitate product and service personalization (Wang, 2024), and encourage more sustainable consumption (Bui et al., 2024b). Empirical studies are necessitated to test, validate and showcase the potential of GAI to different tourism stakeholders, thus aiding in its uptake and enabling its integration into corporate strategies of tourism enterprises, destination policies and managerial frameworks (Duong et al., 2024a).

Although empirical research on the applications and implications of GAI for tourism is growing, due to its relative novelty, there are knowledge gaps in understanding how GAI can affect different elements of the tourism business ecosystem and various stages of the customer journey (Dogru et al., 2025). One of such gaps is related to the perceived value of using GAI with travel-related purposes given that, aside from its considerable potential to revolutionize travel, some challenges require solving (Dwivedi et al., 2024). One of such challenges is the issue of trust which is closely associated with such problems as GAI hallucination (Christensen et al., 2024), the high level of GAI autonomy (Floridi & Cowls, 2019) and GAI's lack of cultural sensitivity (Prabhakaran et al., 2022). More specifically, in the context of tourism, GAI hallucination instances, where GAI models provide inaccurate responses to customer queries, can cause significant practical consequences. For example, inaccurate outputs may result in the incorrect planning of travel

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itineraries or in travellers missing attractions due to erroneously defined opening times. Such errors often arise from limitations in the training data and the model's inability to adequately capture local context and cultural nuances (Kim et al., 2024a). Moreover, as GAI systems achieve higher autonomy, they increasingly assume control over decision-making processes (Floridi & Cowls, 2019). This overreliance on autonomous systems can reduce consumers' active engagement in planning their travel experiences, as individuals become more passive recipients of GAI-generated recommendations rather than active collaborators. Reduced engagement might not only limit personalized customization and human oversight but also undermine trust in GAI-driven services. Such drawbacks of GAI require further investigations (Lv et al., 2024).

When harnessing the potential of GAI to assist with travel-related purposes, customers engage in a collaborative process of information exchange (Hermann & Puntoni, 2024). For example, when requesting GAI to help with planning a travel itinerary, customers first indicate their destination and preferences, such as specific attractions to be seen and activities to be taken. Based on these preferences, GAI builds an itinerary utilizing data available online. This collaborative information exchange represents value co-creation because, by engaging with GAI, customers obtain detailed recommendations that can improve their travel experience (Liu et al., 2024). In turn, GAI becomes trained by understanding tourists' preferences and retrieving data from various sources which can help it to provide a more nuanced and personalized travel advice to future customer requests (Londhe et al., 2024). This underscores the co-creative potential of GAI when used with travel-related purposes.

To our knowledge, there is no empirical research examining how customers can co-create value with GAI in the tourism context although the significant potential of such value co-creation has been recognised. For example, Dogru et al. (2025) argue that value can be co-created by tourism organisations using GAI and their stakeholders, including customers, for such benefits as better utilization of resources, awareness building, and appreciation of cultural norms. Likewise, Cheng (2024) highlights the considerable potential of value-co-creation between local attractions relying on GAI and tourists from the viewpoint of environmental conservation. The lack of empirical research on value co-creation between tourists and GAI is a major shortcoming because there is growing evidence of such co-creation in the field of arts (Messer, 2024), innovation (Yuwono et al., 2024) and product and service design personalisation (Abrokwah-Larbi, 2023). More specifically, the value that travellers and GAI can co-create is unknown because empirical studies on what customers expect of GAI in tourism and how they can use it with travel-related purposes are only emerging (Topsakal & Çuhadar, 2024).

Further, considering potential issues of using GAI by tourists, as highlighted above, another topic which relates to the concept of value and calls for a better understanding is value co-destruction. Value co-destruction describes the negative effect of interactions between specific actors on value formation (Dolan et al., 2019). For instance, when specifying their travel preferences, customers expect GAI to provide a nuanced itinerary adhering to this specification (Volchek & Ivanov, 2024). If GAI fails to deliver on these expectations because of hallucinations or any other reasons, the perceived value of its use among customers will diminish. Next time, customers may decide not to use GAI with travel-related purposes, or they may choose to invest less effort and provide fewer details when engaging with it (Kim et al., 2023c). Eventually, this can lead to value co-destruction. For example, Dogru et al. (2025) posit that the integration of GAI into tourism organisations' strategies and operations can co-destruct value with their stakeholders because of, for instance, a mismatch between what these organisations provide and what their customers expect. This is aligned with Ashton et al. (2025) who argue that if tourists have a negative experience with technology, such as GAI, in the result of errors or similar issues affecting their user experience, they can avoid using it altogether or they can stop using its provider, thus co-destructing value. To our knowledge, although the various challenges of harnessing GAI with travel-related

purposes have been highlighted in the literature (Dogru et al., 2025; Dwivedi et al., 2024), there are no dedicated, empirical studies exploring the potential negative effect of value co-destruction between GAI and tourists.

This study will make a two-fold contribution to knowledge. First, it will examine factors that tourists consider beneficial when using GAI with travel-related purposes. By outlining these factors, the study will establish the determinants of value co-creation associated with the use of GAI in tourism. By doing this, the study will respond to the call for nuanced, empirical research on how GAI can co-create value with tourism stakeholders as set forth by Demir and Demir (2023) and Sigala et al. (2024). Second, the study will investigate the perceived disbenefits of using GAI with travel-related purposes, thus identifying the drivers of value co-destruction. The study will thus add to the growing stream of tourism literature on the pros and cons of the GAI use offering empirical evidence to the critical factors which can prompt travellers to (dis)engage with it at various stages of the customer journey.

From the theoretical perspective, this study will enrich the framework of service-dominant logic (SDL) (Vargo & Lusch, 2004) which advocates that organisations should strive to co-create value with their stakeholders via more effective resource integration and service exchange. Jaakkola et al. (2024) argue that SDL is constantly evolving, and, given the rapid technological developments, its contemporary research necessitates a systems thinking approach incorporating human and non-human actors, such as GAI. SDL is of particular importance for tourism where value can be co-created as well as co-destructed between different stakeholders or actors of the business ecosystem (Dolan et al., 2019). With its rapid proliferation, GAI has become an integral element of this ecosystem (Dogru et al., 2025), thus calling for a better understanding of how it can be harnessed for value co-creation and what factors contribute to its value co-destruction with tourists.

The study will also inform current and future managerial strategies in tourism by highlighting specific areas in GAI use that need addressing before its more effective incorporation into tourism product offer and tourist decision-making process. Christensen et al. (2024) and Loureiro et al. (2024) emphasize the need to better understand the potential negative effect of GAI hallucinations on tourist experience. One of such effects can be value co-destruction, and this study has set to establish how and if value can be co-created and co-destructed between GAI and tourists. An empirical study on these aspects of GAI use can outline management interventions to maximise the pros and minimize the cons of GAI integration in the tourism business ecosystem.

To achieve its aims, exploratory sequential mixed methods research will be employed given that this study deals with an under-examined phenomenon where limited theorisation hinders the design of a confirmatory study (Mihás & Odum Institute, 2019). Exploratory sequential mixed methods enable researchers to collect and analyse qualitative data first, thus providing preliminary insights into the studied topic (Bowen et al., 2017). To generalize these insights, by confirming or rejecting them, quantitative data are subsequently collected and analysed (Cameron, 2009).

2. Theoretical background

GAI has recently begun to play a significant role in tourism, particularly in customer service, by enhancing service provision and customer engagement (Dwivedi et al., 2024). Additionally, its role has become prominent in destination marketing, where it generates engaging content, optimizes targeted advertisements, and enhances online interactions (Florido-Benítez, 2024). Furthermore, GAI facilitates travel planning, responds to customer inquiries, and provides personalized travel assistance through tailored recommendations (Wong et al., 2023). Given its expanding role in tourism, the effectiveness of GAI is not solely determined by its technical capabilities but also by how travellers interact with it, shaping both positive and negative experiences (Gursoy et al., 2023). As it becomes more integrated into several aspects of

tourism, its impact on customer interactions necessitates a deeper examination through value co-creation and value co-destruction (Dogru et al., 2025).

The service-dominant logic (SDL) (Vargo & Lusch, 2004) posits that value is co-created through consumer engagement rather than being inherently embedded in a product or service. In the context of GAI use in tourism, its effectiveness is not predefined but emerges through the interactions between travellers and the system (Topsakal, 2024). Travellers use GAI to receive personalized recommendations and create made-to-order itineraries (Seyfi et al., 2025). Users refine their travel preferences by interacting with GAI, while it continuously improves its ability to generate custom-made suggestions (Topsakal, 2024). The dynamic exchange of information allows users and GAI to adapt mutually, leading to personalized and contextually relevant travel experiences (Gao & Liu, 2023). However, when GAI fails to align with user expectations by, for example, generating irrelevant, inaccurate, or culturally inappropriate recommendations, it leads to value misalignment (Ooi et al., 2023). Travellers may perceive GAI as unreliable, diminishing their confidence in its utility (Kim et al., 2024b). Generic GAI recommendations may fail to accommodate diverse traveller preferences, resulting in disappointment and disengagement (Wei & Prentice, 2022). When users struggle to control GAI-generated responses or correct misleading information, the intended co-creation process transforms into frustration rather than an enabler of value (Du et al., 2024).

Social Presence Theory (SPT) explores how the perceived presence of another entity in mediated interactions influences engagement (Yeboah et al., 2023), trust, and satisfaction (Lu et al., 2016). In tourism, this applies to GAI's ability to simulate human-like responsiveness and conversational adaptability (Ben Saad, 2024). The extent to which GAI creates a sense of social presence by engaging users in meaningful, context-aware interactions determines whether it enhances or diminishes value in tourism experiences (Jiang et al., 2023). When GAI effectively mimics social presence through natural language processing, contextual awareness, and emotionally intelligent dialogue, users perceive it as an interactive travel assistant rather than just a tool (Saviano et al., 2025). This human-like responsiveness enhances trust and emotional engagement, making GAI-driven tourism services more intuitive and custom-made (Le et al., 2024). When GAI provides empathetic and conversational responses, travellers experience a sense of companionship, reinforcing their perception of GAI as a valuable tourism assistant (Ling et al., 2025).

Conversely, when GAI interactions feel robotic, impersonal, or contextually irrelevant, users experience low social presence, leading to disengagement (Fakhimi et al., 2023). If travellers perceive GAI as detached or unresponsive to their unique needs, they may feel emotionally disconnected, reducing their trust in GAI-driven recommendations (Meng et al., 2024). A lack of conversational adaptability, i.e. GAI fails to recognize shifts in user preferences, can further cause distrust, reinforcing value co-destruction rather than enhancing the travel experience (Abadie et al., 2024). Therefore, GAI's dual impact requires further examination to understand better its role in shaping tourist experiences. The following section outlines the research design used to explore these dynamics.

3. Methods

ChatGPT has emerged as a particularly influential platform among the plethora of GAI tools available, transforming how travellers interact with tourism services (Dogra, 2024). The integration of ChatGPT into travel planning (Arora et al., 2024) positions it as a key player in understanding how GAI influences consumer behaviour. Unlike other GAI tools which may focus on specific tasks (e.g., image generation or data analysis), ChatGPT is a conversational interface (Casheekar et al., 2024). Its interactive nature allows for a more nuanced exploration of value co-creation and co-destruction processes. Therefore, ChatGPT was a compelling focus in the current study.

To evaluate the double-sided effect of ChatGPT on tourists' behavioural intentions, the study used an exploratory sequential design allowing for initial exploration of the previously under-examined phenomenon to inform a subsequent quantitative investigation (Östlund et al., 2011) and ensuring that it was based on real-world human experiences (Cameron, 2009). To this end, a qualitative study, i.e., semi-structured interviews, was first conducted to identify the antecedents (i.e., positive and negative sides of using ChatGPT in travel-related activities) of the double-sided effect (i.e., value co-creation and co-destruction).

3.1. Qualitative phase

3.1.1. Procedure

18 experienced participants (Table 1) were purposively recruited to obtain rich and meaningful data (Etikan et al., 2016). Experienced participants in this study are individuals who have regularly and extensively used ChatGPT for information search and/or travel-related purposes, such as planning itineraries or exploring destinations, and expressed their willingness to employ it in tourism. The inclusion of experienced participants aligns with purposive sampling strategies commonly employed in qualitative research, where participants are selected based on their relevant knowledge or experience with the phenomenon under investigation (Palinkas et al., 2015; Robinson, 2014). This approach enhances the information power of the sample to provide richer, and more reflective insights into the subject matter (Malterud et al., 2016).

Given the qualitative phase's aim to identify the antecedents (i.e., positive and negative sides of using ChatGPT in travel-related activities) of the double-sided effect (i.e., value co-creation and co-destruction),

Table 1
Qualitative phase: Study participants.

Code	Gender	Age	Frequency of travel (trips/year)	Travel type	Travel companions
E1	F	30s	2-3	Mostly leisure	Family with children
E2	M	40s	4-5	Mostly business	Alone
E3	M	50s	2-3	Mostly leisure	With a spouse
E4	F	20s	4-5	Mostly leisure	With a partner
E6	F	40s	1-2	Mostly leisure	Family with children
E7	M	30s	4-5	Mostly business	With a spouse
E8	M	30s	2-3	Mostly leisure	With a spouse
E9	M	50s	2-3	Mostly leisure	With a spouse
E10	F	40s	1-2	Mostly leisure	Family with children
E11	F	30s	4-5	Mostly leisure	Alone
E12	M	30s	1-2	Mostly leisure	Alone
T1	M	30s	5-6	Mostly leisure	Family with children
T2	M	30s	3-4	Mostly leisure	Family with children
T3	M	40s	4-5	Mostly leisure	Family with children
T4	M	30s	5-6	Mostly business	Alone
T5	M	30s	3-4	Mostly leisure	With spouse
T6	M	40s	3-4	Mostly leisure	Alone
T7	M	30s	5-6	Mostly business	With spouse

three core questions guided the semi-structured interviews: (1) *What are the advantages and disadvantages of ChatGPT in general?* (2) *How travellers can benefit from ChatGPT in various stages of their travel experience?* and (3) *What are the downsides of ChatGPT use for travel?* The interview guide was pre-tested with three volunteers represented by the individuals who extensively used ChatGPT for general information search and/or travel-related purposes.

To obtain a diverse range of opinions represented by various tourism markets, interviews were conducted by three research team members in the UK and Turkey (Table 1), taking place both online and face-to face, depending on the participants' availability and convenience. Following Thorsteinson (2017)'s recommended practice on interview length, each interview was circa 40 min long. All interviews were digitally recorded and transcribed verbatim. For interviews conducted in Turkey, an interview guide was first back-translated into Turkish and interview transcripts were professionally translated into English. In this study, data saturation was reached after 15 interviews, consistent with prior research indicating that saturation can often be achieved within 12 participants (Guest et al., 2006). However, the sample was extended to 18 participants to enhance the robustness and analytical depth of the findings. Given the novelty of the research topic, a slightly larger sample was valuable for capturing a broader spectrum of perspectives and ensuring greater credibility and transferability of the findings.

3.1.2. Analysis of qualitative data & findings

An inductive thematic analysis approach was employed to analyse the interview transcripts. An inductive approach enables the exploration of patterns and themes that emerge directly from the data, rather than relying on pre-defined frameworks (Thomas, 2006). This method is particularly suited to this study because research on the use of GAI in travel remains underdeveloped. Insights may therefore not be fully anticipated or captured by existing theoretical models, making it premature to develop a pre-defined coding framework.

For trustworthiness, as recommended by Nowell et al. (2017), the coding procedure was undertaken independently by all three research team members. In line with the established thematic analysis procedure by Braun and Clarke (2006), the transcripts were (re-)read to get familiar with the content and immerse in data. The coding process in NVivo 14 involved identifying initial codes within individual responses. Similar codes began to recur after 15 participants, indicating data saturation. Given three coders involved, Fleiss' Kappa, which is particularly effective for evaluating inter-rater agreement among more than two coders (Nichols et al., 2010), was employed to evaluate the inter-coder reliability. The reliability analysis in SPSS 29 yielded a coefficient of 0.72, which indicated a substantial level of agreement among the coders (Nichols et al., 2010).

The initial codes were travel planning, destination information provision, efficiency, travel companion, unreliability, cognitive effort, lack of real-time knowledge, and geographic restrictions. Those codes were then revised and refined by the research team to be more specific and accurately reflect the details in the transcripts. A discussion was held in the few cases of disagreement in data interpretation cases until a consensus was reached. The refined codes include travel idea generation, travel itinerary generation, destination information provision, language assistance, destination navigation, question assistance, quick response, travel information inaccuracy, recommendation biasedness, travel information inconsistency, limited real-time knowledge, superficial/generic response provision, perceived cognitive effort, and perceived accessibility. After that, those codes were reviewed and collated into themes based on shared underlying meanings and insights. This resulted in the following themes: travel planning assistance, travel companion, time efficiency, perceived prediction inaccuracy, perceived limited knowledge, and perceived ease of use. Table 2 presents the results of the thematic analysis, outlining the main factors serving as facilitators and inhibitors of the ChatGPT use for travel-related purposes.

Table 2
Results of thematic analysis.

	Themes	Codes	Representative interview quotes	
BRIGHT SIDE	Travel planning assistance	Travel idea generation	"...I used ChatGPT for my Easter break when I was not sure where to go or what kind of trip I wanted, I asked ChatGPT for suggestions..." (E2)	
		Travel itinerary generation	"...we went to Kefalonia for a week, following a 7-day itinerary by ChatGPT...It suggested daily activities..." (E3)	
		Destination information provision	"...before deciding where to go among the destinations suggested by ChatGPT, I asked it about where the weather was likely to be nice in April..." (E8)	
	Travel companion	Language assistance	"I haven't tried ChatGPT for language translation during my travel, but I tried it to learn some basic Japanese phrases such as hello, thank you. I found it very useful; it showed me the pronunciation as well. I think it can be used for translation during travel..." (E9)	
		Destination navigation	"...we used Google maps during our trip, but I believe ChatGPT can be used to guide us on the best means of transport to get to where we want to..." (E1)	
		Question assistance	"...you can ask ChatGPT pretty much anything. It was handy when I had questions during my Kefalonia trip..." (E9)	
	Time efficiency	Quick response	"...ChatGPT gave me a list of where to go in April in the blink of an eye. It saved me time from having to search through multiple sources..." (E10)	
			"...I think it (ChatGPT) relies on online reviews, which can be manipulated..... or not accurately reflect the quality of an experience or place..." (T4)	
	DARK SIDE	Perceived prediction inaccuracy	Recommendation biasedness	"...ChatGPT works on pre-trained data. What it recommends might be biased..." (E8)
			Travel information inconsistency	"...While ChatGPT offers quick responses, its answers are sometimes questionable. It sometimes mixes the destination's attributes. I need to double-check with other web sources..." (T5)
Limited real-time knowledge			"...Also, it has limited real-time knowledge. I don't think we can rely on ChatGPT without double checking information. For example, it might suggest a restaurant that has recently been closed..." (E8)	
Perceived limited knowledge		Superficial / generic response provision	"...When asking it a simple question, it gives what looks like a comprehensive answer, but it is a every surface level	

(continued on next page)

Table 2 (continued)

Themes	Codes	Representative interview quotes
Perceived ease of use	Perceived cognitive effort	<i>answer unless you give it very specific instructions..." (E5)</i> <i>"...you need do quite a lot of work on formulating good questions and improving its responses..." (E6)</i>
	Perceived accessibility	<i>"I anticipate that it [ChatGPT] may be difficult, if not impossible, to use in countries where the Internet is controlled, such as China or Iran. In these countries I can't see how it [ChatGPT] could be used at all, let alone for travel..." (E6)</i>

3.1.3. Discussion of the qualitative findings and hypotheses development

The SDL theory posits that value is co-created through interactions between providers and consumers, emphasising the collaborative nature of service provision (Vargo & Lusch, 2004). This collaborative process emphasizes the importance of engaging travellers in service provision to maximise value co-creation (Fan et al., 2023). ChatGPT, a virtual travel planning assistant, can offer specialized knowledge and abilities provided through services, such as digital travel planning assistance and travel companions (Pencarelli, 2020), and personalized recommendations and itineraries, enabling travellers to tailor their experiences to their preferences and needs (Wong et al., 2023). This collaboration can improve customer satisfaction and enhance value co-creation (Demir & Demir, 2023). Therefore, the following hypothesis was formulated:

H1a. Travel planning assistance provided by GAI has a positive effect on value co-creation.

The SPT theory proposes that the perception of others' presence in mediated communication directly affects the nature and quality of the interaction (Short et al., 1976). This theory can be effectively applied to the current context of GAI when the study's qualitative findings showed that GAI could be used as a travel companion. Accordingly, social presence in this context refers to the degree travellers feel that GAI accompanies them during their journey as an interactive and responsive companion rather than just a tool for information search. This perceived social presence of GAI as a travel companion can enhance user experience and foster engagement (Tsai et al., 2021), and facilitate a more engaging travel experience, fostering a sense of partnership, companionship, and collaboration (Pencarelli, 2020). Thus, it can increase value co-creation as travellers feel more supported in their travel decisions (Tosun et al., 2024). Accordingly, the following hypothesis was formulated:

H1b. GAI, as a travel companion, has a positive effect on value co-creation.

Time efficiency is critical in tourism, given the limited time available for leisure travel and the perceived need to fill this time with various holidaying activities (Lu et al., 2015). Time efficiency enables tourists to have more enjoyable and meaningful experiences, increasing their overall satisfaction and perception of holiday value (Huang et al., 2017). Importantly, time efficiency is appreciated by tourists at all stages of their holiday experience, including planning (Dickinson et al., 2017). At a planning stage in particular, tourists value assistance which can save them time and foster decision-making so that the time saved can be allocated to other activities (Kim et al., 2023a). Efficient use of time through technology, thus, contributes positively to the value co-creation by optimising the travel experience (Buhalis & Foerste, 2015). Accordingly, the following hypothesis was formulated:

H1c. Time efficiency facilitated by GAI has a positive effect on value

co-creation.

Value co-destruction occurs when interactions become negative or misaligned, leading to diminished outcomes for one or both parties (Laud et al., 2019). In the context of the GAI usage in tourism, when GAI fails to collaborate effectively with travellers by not providing specific destination information, it disrupts the co-creation process, leading to dissatisfaction and value co-destruction (Kim et al., 2023b). Among various failures caused by GAI in tourism, one of the most significant is prediction inaccuracy (Xu et al., 2024). Perceived prediction inaccuracies by ChatGPT in providing travel information can fail to meet travellers' expectations, causing dissatisfaction and contributing to value co-destruction (Kim et al., 2023c). Inaccurate predictions in travel services lead to unmet expectations, resulting in dissatisfaction and distrust, further contributing to value co-destruction (Lv et al., 2021). Accordingly, the following hypothesis was formulated:

H2a. Perceived prediction inaccuracy of GAI has a positive effect on value co-destruction.

The completeness of information which a user has access to plays a role in shaping this user's satisfaction and trust (Kim & Niehm, 2009). Limited information provided by ChatGPT reflects a shortcoming that can contribute to value co-destruction by reducing user satisfaction and perceived system usefulness (Camilleri, 2024). When travellers encounter incomplete or insufficient information, their ability to make well-informed decisions is compromised, leading to frustration and dissatisfaction, further exacerbating the value co-destruction process (Ostrom et al., 2015). Accordingly, the following hypothesis was formulated:

H2b. Perceived limited knowledge provided by GAI has a positive effect on value co-destruction.

When using ChatGPT, if users perceive that significant cognitive effort is required to formulate queries or comprehend responses, it can lead to frustration and dissatisfaction (Duong et al., 2024b). This increased cognitive load detracts from the convenience and ease of use that most travellers expect from such technology, undermining their overall satisfaction and perceived value (Koc et al., 2023). Literature suggests that, depending on the specific circumstances, the more cognitive effort users believe is necessary to interact effectively with ChatGPT, the more likely they will have a negative experience, resulting in dissatisfaction (Shi et al., 2021). This perceived difficulty may not only hinder user engagement but also diminish the perceived value of the service. Consequently, the following hypothesis was formulated:

H2c. Perceived cognitive effort required to use GAI effectively has a positive effect on value co-destruction.

When users perceive that ChatGPT is restricted or difficult to access, such as being unavailable in specific regions or lacking real-time information, it hampers their ability to utilize the service (Mhlanga, 2023). This restricted accessibility can lead to frustration and dissatisfaction, ultimately contributing to value co-destruction (Buhalis et al., 2020). When travellers encounter barriers to accessing ChatGPT, their overall experience is negatively impacted, undermining the perceived value of the service (Javaid et al., 2023). Accordingly, the following hypothesis was formulated:

H2d. Perceived restricted accessibility of GAI has a positive effect on value co-destruction.

Value co-creation has a positive effect on such customer behavioural intentions as engagement (Jaakkola & Alexander, 2014), satisfaction (Vega-Vazquez et al., 2013), and loyalty (Zhu et al., 2022). This can be achieved through the active involvement of tourists in creating personalized travel experiences, which encourages repeat visitation (Buhalis & Amaranggana, 2015), emotional engagement (Neuhof et al., 2014), positive word-of-mouth (Kim et al., 2019) and builds trust

between tourists and service providers (Grissemann & Stokburger-Sauer, 2012). Following this perspective, value co-creation between GAI and tourists may lead to positive behavioural outcomes such as continued use of GAI, recommendations to others, and increased trust in the services provided or assisted by ChatGPT.

On the other hand, value co-destruction between GAI and tourists may result in such negative behavioural intentions as decreased trust and loyalty toward ChatGPT (Abadie et al., 2024) and unfavourable word-of-mouth (Jeong & Lee, 2024). Therefore, understanding the balance between value co-creation and value co-destruction is crucial for leveraging ChatGPT to enhance tourists' behavioural intentions (Jia et al., 2023). Accordingly, the following hypotheses were developed:

H3. Value co-creation has a positive effect on behavioural intentions.

H4. Value co-destruction has a negative effect on behavioural intentions.

Fig. 1 presents the research model developed from the findings of the qualitative research stage.

3.2. Quantitative phase

3.2.1. Measurement instrument and pilot testing

To generalize the interview findings, a survey instrument consisting of 30 items was designed. Given the exploratory nature of this study, no pre-tested items were available in the literature to describe the (dis) benefits of the GAI use with travel-related purposes. Consequently, all related items were developed from the interview findings, including the items describing travel planning assistance (3 items), travel companionship (3 items), time efficiency (3 items), prediction inaccuracy (3 items), limited knowledge (3 items), cognitive effort (3 items), and restricted accessibility (3 items). Measurement items for value co-creation (3 items) and value co-destruction (3 items) were adapted from Chatterjee et al. (2022) and Wu et al. (2022). To measure behavioural intentions (3 items), Pham et al.'s (2024) continuance usage intentions scale was adapted. All items were measured on a 7-point Likert-type scale (1 = strongly disagree, 7 = strongly agree).

Data were collected using an online questionnaire. The questionnaire

was comprised of three parts. Part 1 included filter questions to only recruit travellers who used ChatGPT with either general (such as information search) or travel-related purposes. Part 2 incorporated the measurement items, as per above. Socio-demographic information was collected in Part 3. Two attention check items (i.e., *ChatGPT can dance with me*, and *ChatGPT can cook breakfast for me*) were employed to obtain high-quality and reliable responses (Kung et al., 2018). The questionnaire was pre-tested ($N = 20$) for content and face validity. The final version of the questionnaire is provided in Appendix A.

3.2.2. Data collection and sampling

Data were collected via a survey facilitated by Qualtrics and deployed in May 2024 via Prolific. Qualtrics was used to host the survey as it provides a secure environment for data collection, storage and supports the use of validated measurement instruments and allows for adaptive logic and response controls, increasing the reliability and accuracy of collected responses (Cui et al., 2022). Prolific was employed to distribute the survey as it is well-established in academic research known for providing high-quality data and access to diverse participant pools (Douglas et al., 2023; Peer et al., 2017). Prolific offers transparent participant pre-screening, high response reliability, and greater participant attentiveness compared to other counterparts such as Amazon Mechanical Turk (Palan & Schitter, 2018). The pre-screening "AI Chatbot" function provided by Prolific was utilized to collect responses from those who used ChatGPT with travel-related purposes.

Of 410 responses, 28 participants did not pass one or both attention check questions, thus providing 382 valid data points. All 382 participants (Table 3) had experience in using ChatGPT for general purposes, and 144 used it with travel-related purposes. 64.9 % of participants were (moderately) confident in using ChatGPT.

3.2.3. Pre-analysis checks

Following the two-step approach recommended by Anderson and Gerbing (1988), the measurement instrument validity was examined using confirmatory factor analysis (CFA). SEM was then performed for hypotheses testing. Before analysing the data set, the potential occurrence of the common method variance was examined using the Harman

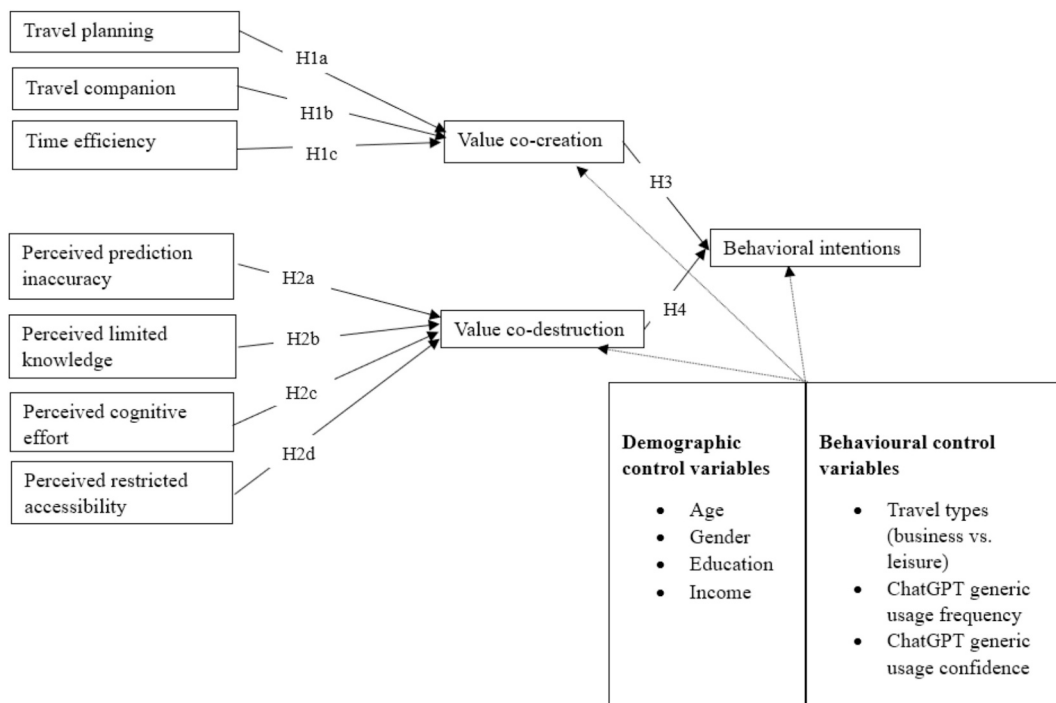


Fig. 1. Research model.

Table 3
Sample characteristics (N = 382).

Variables		N	%
Gender	Male	146	38.22
	Female	236	61.78
Age	18–25	41	10.7
	26–25	101	26.4
	36–45	95	24.9
	46–55	78	20.4
	55+	67	17.5
Education level	Below high school degree	9	2.4
	High school degree	89	23.3
	Two-year college	46	12
	Bachelor's degree	158	41.4
Household monthly disposable income	Master's degree or above	80	20.9
	≤ GBP£2000	161	42.1
	GBP£2001 - GBP£3000	96	25.1
	GBP£3001 - GBP£4000	51	13.4
Main purpose of travel	GBP£4001+	42	11
	Prefer not to answer	32	8.4
	For business	13	3.4
Frequency of annual travel for leisure	For leisure	369	96.6
	Between 1 and 3 trips	290	75.9
	Between 4 and 6 trips	73	19.1
	6+ trips	18	4.7
Frequency of annual travel for business	Not applicable, I only travel for business	1	0.3
	Between 1 and 3 trips	92	24.1
	Between 4 and 6 trips	9	2.4
	6+ trips	11	2.9
Travel companion(s) for leisure	Not applicable, I only travel for leisure	270	70.7
	Alone	37	9.7
	Spouse/partner and/or children	288	75.4
	Friends	32	8.4
ChatGPT usage purposes	Other family members	23	6
	Other(s)	2	0.5
	Generic (e.g., general information search)	382	100
	Travel-related (e.g., to seek travel information)	144	37.7
ChatGPT generic usage frequency	Occasionally	117	30.6
	Sometimes	152	39.8
	Often	70	18.3
	Very often	38	9.9
ChatGPT generic usage confidence	Always	5	1.3
	Not at all confident	10	2.6
	A little confident	97	25.4
	Moderately confident	126	33
	Confident	122	31.9
	Very confident	27	7.1

one-factor test. The results demonstrated that the first factor accounted for only 30.3 % of the variance which was below the cutoff value of 50 % (Podsakoff et al., 2003). Therefore, the common method bias did not represent a problem in this study.

The normality of data distribution was examined to determine if the data set was.

suitable for structural equation modelling (SEM) (Hair et al., 2013). Tabachnick and Fidell (2013) argue that a slight deviation from normality in a study with a sample size of 200+ should not represent a serious issue. Based on the absolute threshold for skewness <3 and kurtosis <10 (Kline, 2011), the normal distribution of the data set (skewness ranging from -0.1235 to 0.092 and kurtosis ranging from -0.435 to 2.491) was satisfactory.

3.2.4. Data analysis

CFA results showcased a good model fit $\chi^2/df = 1.956$, CFI = 0.951, TLI = 0.941, IFI = 0.952, RMSEA = 0.05, SRMR = 0.06. Cronbach coefficients (α) were between 0.730 and 0.914, satisfying the threshold of 0.7 (Nunnally, 1978) and indicating good internal reliability of the scales.

The convergent validity (Table 4) was confirmed as evidenced in the

Table 4
Convergent validity.

Constructs	Factor loadings	CR	AVE	α
Travel planning assistance		0.82	0.59	0.815
TA1	ChatGPT can inspire me with travel ideas.	0.745		
TA2	ChatGPT can help me plan my journey.	0.831		
TA3	ChatGPT can inform me about the destination I am about to visit (e.g., weather, local traditions).	0.742		
Travel companion		0.75	0.51	0.743
TC1	ChatGPT can assist me with language translation during my trip.	0.621		
TC2	ChatGPT can help me with real-time destination information when I'm there.	0.699		
TC3	ChatGPT can answer questions I might have during my journey.	0.802		
Time efficiency		0.91	0.78	0.913
TE1	ChatGPT can make my travel planning quicker.	0.863		
TE2	ChatGPT can reduce my information searching time.	0.875		
TE3	ChatGPT can optimize the amount of time I spend on travel and its planning.	0.910		
Prediction inaccuracy		0.80	0.58	0.781
PI1	ChatGPT-generated travel information can be inaccurate.	0.757		
PI2	ChatGPT-generated travel recommendations can be biased.	0.595		
PI3	Advice provided by ChatGPT about my journey can be inconsistent.	0.909		
Limited knowledge		0.82	0.61	0.810
LK1	ChatGPT might have insufficient knowledge about certain aspects of my trip.	0.840		
LK2	Information provided by ChatGPT can be limited.	0.842		
LK3	ChatGPT might know little about some places which I may wish to visit.	0.642		
Cognitive effort		0.75	0.50	0.730
CE1	ChatGPT needs to be prompted to get the best travel information out of it.	0.689		
CE2	A lot of time may be required before I get what I really want out of ChatGPT for my trip.	0.691		
CE3	Questions should be formulated very carefully to ensure ChatGPT provides the best travel advice.	0.747		
Restricted accessibility		0.79	0.55	0.843
RA1	ChatGPT can be inaccessible during my travel due to technical issues (e.g., internet connection).	0.774		
RA2	ChatGPT may be unavailable to provide me with travel advice when I need it.	0.686		
RA3	Availability of ChatGPT for travel purposes can geographically be restricted.	0.769		
Value co-creation		0.91	0.78	0.914
VC1	I'm excited to jointly develop my travel plan with ChatGPT.	0.860		
VC2	I'm willing to spend effort and time working with ChatGPT on travel planning.	0.913		
VC3	I believe that working with ChatGPT makes my journey better organized.	0.878		
Value co-destruction		0.83	0.62	0.827
VD1	ChatGPT and I might make a travel plan more complicated.	0.736		

(continued on next page)

Table 4 (continued)

Constructs	Factor loadings	CR	AVE	α
VD2 ChatGPT and I might fail to co-create a comprehensive travel plan.	0.870			
VD3 A travel itinerary co-created by ChatGPT and me might not go the way we planned for.	0.751			
Behavioural intentions		0.89	0.75	0.897
BI1 I intend to use ChatGPT for my future travel.	0.896			
BI2 I will share my experiences in using ChatGPT for travel with others.	0.779			
BI3 I will recommend ChatGPT as a travel assistant to others.	0.910			

composite reliability (CR) indices ranging from 0.75 to 0.91, exceeding the suggested cutoff value of 0.7 and the average variance extracted (AVE) values of all dimensions ranged from 0.5 to 0.78, thus satisfying the threshold of 0.5 (Fornell & Larcker, 1981). The square roots of AVE for each construct were greater than the inter-correlation coefficients between paired constructs, indicating satisfactory discriminant validity (Table 5) (Fornell & Larcker, 1981).

3.2.5. Results of hypotheses testing

The results indicated a sound model fit $\chi^2/df = 1.825$, CFI = 0.941, TLI = 0.923, IFI = 0.943, RMSEA = 0.047, SRMR = 0.056. SEM path coefficients (Fig. 2) showed that travel planning assistance (H1a: $\beta = 0.567$, t-value = 4.177, $p < 0.001$) and time efficiency (H1c: $\beta = 0.416$, t-value = 4.395, $p < 0.001$) directly, positively, and significantly influenced value co-creation. Therefore, H1a (Travel planning assistance has a positive effect on value co-creation) and H1c (Time efficiency has a positive effect on value co-creation) were confirmed. Travel companion (H1b: $\beta = 0.054$, t-value = 0.507, $p > 0.05$) had a statistically insignificant influence on value co-creation, which meant that H1b (Travel companion has a positive effect on value co-creation) was rejected.

Prediction inaccuracy (H2a: $\beta = 0.202$, t-value = 2.476, $p < 0.05$) and limited knowledge (H2b: $\beta = 0.416$, t-value = 2.759, $p < 0.05$) had a positive and significant impact on value co-destruction. Accordingly, the validity of H2a (Perceived prediction inaccuracy has a positive effect on value co-destruction) and H2b (Perceived limited knowledge has a positive effect on value co-destruction) was confirmed. The influence of cognitive effort (H2c: $\beta = 0.129$, t-value = 1.154, $p > 0.05$) and restricted accessibility (H2d: $\beta = 0.064$, t-value = 0.939, $p > 0.05$) on value co-destruction was, however, not statistically significant, thus rejecting H2c (Perceived cognitive effort has a positive effect on value co-destruction) and H2d (Perceived restricted accessibility has a positive effect on value co-destruction).

Behavioural intentions were influenced by value co-creation positively (H3: $\beta = 0.801$,

t-value = 16.561, $p < 0.001$) and value co-destruction negatively (H4: $\beta = -0.229$, t-value = -4.573, $p < 0.001$). Therefore, H3 (Value co-creation has a positive effect on behavioural intentions) and H4 (Value co-destruction has a negative effect on behavioural intentions) were confirmed.

To confirm the reliability of the supported hypotheses, the bootstrapping procedure with 5000 subsamples was conducted to re-assess the statistical significance of the paths. All the bootstrap confidence intervals of the supported relationships did not have the value of 0, which indicated that the confirmed hypotheses results were reliable. The hypotheses testing results and the effect of control variables on dependent variables (i.e., value co-creation, value co-destruction, behavioural intentions) are summarized in Table 6.

The influences of demographic variables (i.e., age, gender, education, income) and the behavioural variables (i.e., travel types, ChatGPT usage frequency, ChatGPT-savvy, ChatGPT usage confidence) were controlled for the potential impact on value co-creation, value co-destruction and behavioural intentions. Among those control variables, ChatGPT usage frequency had a positive effect on value co-creation ($\beta = 0.166$, t-value = 2.950, $p < 0.01$). This positive relationship implied that the more frequently travellers used ChatGPT, the more they would be willing to co-create value with it. ChatGPT usage confidence ($\beta = -0.124$, t-value = -2.130, $p < 0.05$), and gender ($\beta = -0.189$, t-value = -2.049, $p < 0.05$) negatively influenced value co-destruction. The negative relationship between ChatGPT usage confidence and value co-destruction indicated that the more confident travellers were in using ChatGPT, the less likely they would be involved in value co-destruction. The negative relationship between gender and value co-destruction pointed to female travellers as someone who would be more unlikely to engage in value co-destruction compared to their male counterparts.

4. Discussion

This study aimed to examine the determinants of value co-creation and value co-destruction associated with the use of GAI exemplified by its popular conversational interface, ChatGPT, with travel-related purposes. The results of a mixed methods investigation identified the main utility of ChatGPT in planning for upcoming trips more effectively and saving time before and during travel (Fig. 2). These factors contributed to the value co-created by travellers with GAI because better and prompter planned trips enhanced customer experience. Concurrently, these factors enabled ChatGPT to learn, thus potentially providing more effective and quicker responses to future queries on specific travel itineraries, destinations, products and services.

The results identified prediction inaccuracy and limited knowledge of ChatGPT as the key factors that could co-destruct the value of GAI when used with travel-related purposes (Fig. 2). As GAI needs to be trained to provide comprehensive responses to queries, the lack of such training, for example in the case of travellers researching exotic or

Table 5

Discriminant validity.

	1	2	3	4	5	6	7	8	9	10
1	0.77									
2	0.605	0.71								
3	0.701	0.683	0.88							
4	-0.146	-0.239	-0.179	0.76						
5	-0.032	-0.248	-0.150	0.734	0.78					
6	0.064	-0.090	-0.080	0.593	0.621	0.71				
7	0.103	-0.133	-0.033	0.428	0.585	0.506	0.74			
8	0.728	0.583	0.745	-0.243	-0.136	-0.090	-0.096	0.88		
9	-0.234	-0.221	-0.273	0.510	0.558	0.468	0.383	-0.246	0.79	
10	0.679	0.489	0.671	-0.262	-0.241	-0.123	-0.195	0.829	-0.384	0.86

Notes: Bold diagonal values are square roots of AVE and below bold diagonal values are inter-correlations between paired constructs (1) Travel planning assistance, (2) Travel companion, (3) Time efficiency, (4) Prediction inaccuracy, (5) Limited knowledge, (6) Cognitive effort, (7) Restricted accessibility, (8) Value co-creation, (9) Value co-destruction, (10) Behavioural intentions.

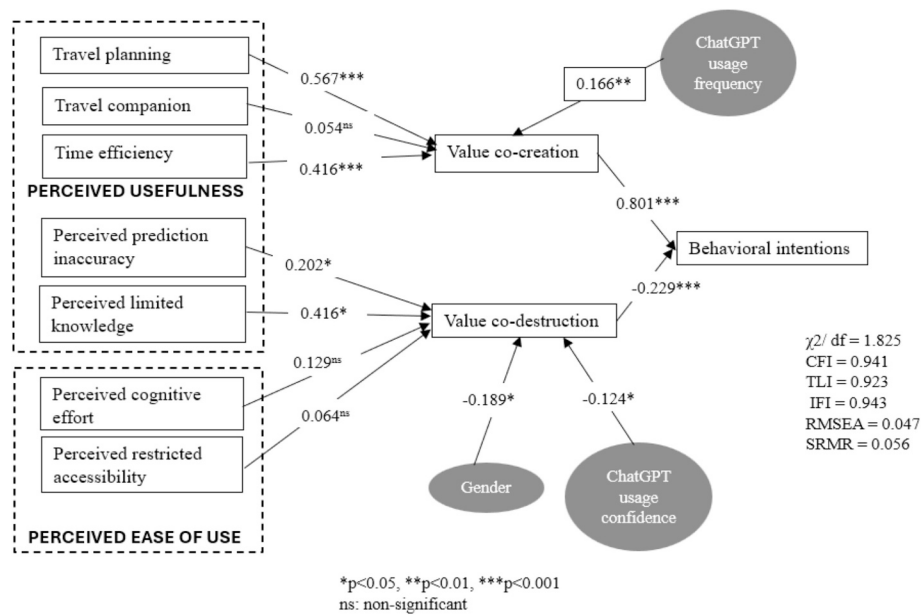


Fig. 2. SEM results.

Table 6
 Results of hypotheses testing.

Hypotheses	Paths	Bootstrapping CI _{95%} [LLCI, ULCI]	Results
H1a	TA → VC	[0.127, 1.182]	Supported
H1b	TC → VC	[-0.259, 0.419]	Not supported
H1c	TE → VC	[0.141, 0.657]	Supported
H2a	PI → VD	[0.086, 0.467]	Supported
H2b	LK → VD	[0.019, 0.879]	Supported
H2c	CE → VD	[-0.232, 0.531]	Not supported
H2d	RA → VD	[-0.133, 0.269]	Not supported
H3	VC → BI	[0.698, 0.904]	Supported
H4	VD → BI	[-0.351, -0.117]	Supported
Control variables			
Gender	Gender → VD*	[-0.385, -0.012]	Negative
ChatGPT usage frequency	Frequency → VC**	[0.041, 0.294]	Positive
ChatGPT usage confidence	Confidence → VD*	[-0.283, -0.019]	Negative

Notes: Gender, age, education, income, travel types (business vs. leisure), ChatGPT usage frequency, ChatGPT usage confidence, and ChatGPT-savvy were controlled to test the hypotheses using SEM. Only control variables exerting an influence on the dependent variables were reported and summarized above.

* $p < 0.05$, ** $p < 0.01$.

Notes: TA = travel planning assistance, TC = travel companion, TE = time efficiency, PI = perceived inaccuracy, LK = limited knowledge, CE = cognitive effort, RA = restricted accessibility, VC = value co-creation, VD = value co-destruction, BI = behavioural intentions.

remote destinations or asking for novel itineraries, can lead to the provision of incomplete and even erroneous information, thus decreasing customer experience. Concurrently, this inaccuracy and incompleteness will hinder the training of GAI, thereby destructing the value it offers for travel-related purposes. Importantly, the results revealed that customers did not perceive the utility of GAI as a travel companion and did not consider its use to be overly difficult and laborious from the viewpoint of cognitive effort and accessibility-related restrictions.

4.1. Theoretical implications

The study demonstrated that the factors identified as contributing to value co-creation and value co-destruction in the context of GAI use with travel-related purposes were aligned with the key elements of the Technology Acceptance Model (TAM), Fig. 2. More specifically, the value of GAI for more effective travel planning and its time-saving potential underscored the ‘perceived usefulness’ element of TAM. This element also incorporated such factors identified in the current study as perceived inaccuracy and limited knowledge of GAI although these had a negative connotation. Further, although such factors as perceived cognitive effort and restricted accessibility were not established as significant in the current study (Fig. 2), they closely aligned with such TAM element as ‘perceived ease of use’.

This finding provides further empirical evidence to the growing stream of research harnessing TAM to understand the antecedents of GAI use in tourism (Li et al., 2024; Solomovich & Abraham, 2024). However, unlike these previous investigations that have established the utility of TAM, the current study offers evidence in support of Mogaji et al. (2024), who argue that the role of TAM in the era of GAI should be reassessed. Mogaji et al. (2024) highlight the need to re-visit the utility of TAM when examining tourists’ behavioural intentions in a time of the rapid GAI development. This is because the static nature of TAM prevents it from accounting for the widespread availability of GAI and its prompt training/learning. The current study indicates that such element of TAM as ‘perceived ease of use’ may have become obsolete in the era of GAI because it can be assessed in most tourism markets and on various platforms and devices, including laptops and smartphones, due to increasing public wi-fi availability. This suggests that extended versions of TAM, such as TAM2 or TAM3, or alternative models and theories of technology acceptance and use, such as the unified theory of acceptance and use of technology (UTAUT) and the Uses and Gratifications Theory (UGT), may therefore be more effective in predicting the antecedents of GAI use with travel-related purposes. This is because these models and theories can enable the incorporation of other, more relevant variables in the analysis, such as social/generational influence in the case of extended TAMs (Kowalczyk-Anioł & Nowacki, 2020). This is also because these models can operate variables that are different from ‘the perceived ease of use’ element, which, as this study shows, exerts an insignificant effect; these new variables can be represented, for instance, by the needs for information seeking, entertainment and escape in the

case of UGT (Choi et al., 2016).

Another theoretical contribution of the current study is in providing a more nuanced, empirical data based, perspective, on the role of GAI in the customer experience in tourism. This perspective is warranted because many extant investigations on the role of GAI in different stages of a travel lifecycle are conceptual and based on secondary rather than primary data (Carvalho & Ivanov, 2024; Dogru et al., 2025; Dwivedi et al., 2024). Although such investigations are valuable, the feasibility of their propositions should be empirically tested and validated. Accordingly, the current study indicated that GAI could have limited utility as a travel companion as proposed by Wong et al. (2023). Although the potential contribution of this factor to value co-creation was identified in the qualitative stage of data collection, this contribution was not reconfirmed in the quantitative dataset, Fig. 2.

Further, the current study established the significant value provided by GAI in travel planning, including more effective use of time, thus adding to the propositions made by Gursoy et al. (2023) and Shin and Kang (2023). The current study also outlined inaccuracy and the limited knowledge held by GAI as the barriers to its use contributing to value co-destruction. This finding is aligned with the propositions of Christensen et al. (2024) and Kim et al. (2023c), who have first established these limitations of GAI use with travel-related purposes but labelled these negative attributes as a lack of trust. The contribution of the current study is in highlighting the antecedents of limited customer trust in GAI, namely a *fear* that it could (1) provide inaccurate information, because of hallucinations (Loureiro et al., 2024) or any other reason, or (2) possess limited knowledge, such as in the case of less popular destinations and itineraries, eventually spoiling the experience or leading to the re-organisation of the search.

This study established customer fear of obtaining inaccurate information from GAI on their travel plans as a determinant of perceived value co-destruction which held potential to reduce tourist trust in GAI and, potentially, its provider, such as a tourism organisation. This finding contributes to the literature which has long acknowledged the importance of trust building among various stakeholders of the tourism business ecosystem, including tourism organisations, technology providers, and customers, see Wang et al. (2014) for a review. The unique contribution of the current study is in demonstrating that a lack of trust can co-destruct value when GAI is routinely integrated into the (tourism) business ecosystem. This extends the SDL theory which emphasizes the crucial role of value co-creation in services industries, such as tourism (Font et al., 2021), and highlights trust as a determinant of this co-creation leading to such positive business outcomes as customer loyalty (Blazquez-Resino et al., 2015). The current study shows that, in the era of rapid technological transformations, besides being co-created, value can also be co-destructed, and this holds negative implications for trust building in tourism. This implies that GAI should be integrated into the tourism business ecosystem, or any other ecosystem within services industries, with care. This is to ensure that the shortcomings of GAI use, such as inaccurate information provision due to hallucinations or any other factors, do not alienate consumers. Technology-driven alienation, coined as e-lienation by Tribe and Mkono (2017), can have a detrimental impact on business performance of tourism organisations given the highly competitive market in which they operate. Thus, the current study adds to the literature which highlights the need to consider value co-destruction in the SDL theory on par with value co-creation (Plé & Chumpitaz Cáceres, 2010), especially in a time of rapid technological advancements, such as GAI.

Finally, the current study added to knowledge by exploring the factors leading to value co-creation and value co-destruction when using GAI with travel related purposes. The need to closely examine how travellers and other tourism stakeholders can co-create value with GAI has been recognised in conceptual studies (Sigala et al., 2024). However, extant empirical investigations are limited to exploring the antecedents of value co-creation among managers of tourism organisations (Demir & Demir, 2023) and marketers (Zhang & Prebensen, 2024). The current

study complemented this growing line of research by highlighting the key antecedents of value co-creation among other important stakeholder i.e., travellers. Besides, the current study considered the negative side of GAI use with travel-related purposes by exploring the main factors in value co-destruction. Although the potential of GAI to co-destruct value for tourists has been recognised (Han et al., 2024), and the need for its better understanding has been acknowledged (Carvalho & Ivanov, 2024), to our knowledge, this is the first empirical investigation identifying the main determinants of value co-destruction.

4.2. Management implications

The study made the following contributions to tourism management practice. First, it identified factors contributing to value co-creation and value co-destruction when using GAI with travel-related purposes. Given that the perceived aid in travel planning and time savings were the key attributes of value co-creation, GAI should be trained on larger volumes of travel data to ensure it can provide detailed information to all, even very sophisticated, customer queries. Such training becomes especially important because perceived inaccuracy and limited knowledge were established as the main factors in value co-destruction. Therefore, GAI should be trained to provide expert advice on the key mainstream, but also exotic, destinations, itineraries and travel types. This can increase the use of GAI by the different generations and categories of tourists given that their preferences and search targets vary significantly (Zhang & Prebensen, 2024). Such training is also critical to increase perceived 'personalisation' of the travel advice provided by GAI given that, as its adoption grows, customers will be expecting to see more personal and creative information when harnessing GAI with travel-related purposes (Carvalho & Ivanov, 2024).

Second, the study highlighted the limited utility of GAI as a travel companion, thus identifying customers' concerns over its use during the trip. This suggests the need to train GAI in providing information 'on the go', thus increasing its perceived value beyond the planning stage of travel. Such training may require connecting GAI with real-time data available at various destinations, such as attractions' opening times. It may also necessitate integration into the means of communication used by travel providers, including tour operators, such as TUI. To this end, GAI can be integrated into their website and smartphone applications, such as in the form of a chatbot, thus allowing them to access data instantly and offering a function of connectivity to a human customer assistant. Besides, this finding also highlights the need for wi-fi and good quality mobile signal availability (in the case of mobile internet) to enable travellers to access GAI at any time and in any location. Lastly, this suggests that GAI can be delivered to travellers via other devices, such as smartwatches and psychical activity trackers, thus providing seamless access and creating the 'presence' effect (Stankov et al., 2019).

Third, the results demonstrated that the potential of GAI to co-create value for customers using it with travel-related purposes was higher than its potential for value co-destruction (Fig. 2). This suggests that the perceived benefits of GAI among travellers outweigh its perceived shortcomings. This highlights the need for further investment into GAI and GAI-based technological solutions in tourism. Such solutions can even be deployed and/or maintained by travel providers, especially the large ones, such as TUI, given customers see value in harnessing GAI when planning their travel but also, with appropriate enhancements applied, as per above, during the trip. This showcases the need for travel providers to collaborate closely with GAI and other technology developers to provide more specialized, personalized and targeted solutions as suggested by Carvalho and Ivanov (2024) and Filimonau et al. (2024).

Lastly, the results of the control variables in the current study indicated that the frequency of GAI use exerted a positive effect on perceived value co-creation and there was a negative correlation between the confidence of GAI use and its perceived value co-destruction. This suggests that GAI should be promoted to travellers by tour operators via

their websites and smartphone applications. The utility of GAI for travel related purposes can also be emphasized in mass media, including social media platforms and traditional publishers specialising in the production of tourism and travel content, such as National Geographic Traveller, Conde Nast Traveller, and Lonely Planet. When publicised on these media platforms, the benefits of GAI can be emphasized and its disbenefits explained, thus encouraging its use for value cocreation in tourism.

5. Limitations and future research directions

This study was limited to a single conversational interface of GAI (i.e., ChatGPT). By narrowing the scope to ChatGPT, the study does not account for the potential differences in user experience or interaction dynamics that could arise with other GAI platforms. As a result, the findings may not fully reflect the broader range of experiences offered by other conversational GAI systems. Therefore, future research should explore the determinants of value co-creation and value co-destruction among users of other GAI platforms and conversational interfaces, such as Gemini and Copilot.

The study only considered the perceived value of travellers to provide insights into consumer experience. However, it may not have captured the broader aspects of value co-creation and co-destruction from other potential stakeholders in the travel ecosystem. Thus, future research should incorporate opinions of the GAI itself into what it perceives as value when being used by customers with travel-related purposes and what training it believes is required to enhance its value proposition and improve its value co-creation potential. Other tourism stakeholders, most notably tour operators and travel agents, should also be integrated into the analysis of how they all can co-create and co-destruct value for one another. Employees of tourism and hospitality organisations should also be examined from this perspective, given the widespread concerns that technology in general and GAI in particular can gradually replace the workforce. Future research can aim at understanding how GAI can complement the work of tourism and hospitality employees, thus leading to value co-creation as opposed to value co-destruction which is unlikely to occur in the case of partial or full replacement.

Another limitation of the study pertains to the data collection and the sample in the qualitative phase. Specifically, the data collection was limited to two specific countries, the UK and Turkey. This geographic focus may not fully represent the diverse experiences of travellers from other parts of the world. Cultural differences in travel behaviour, or

expectations, could influence how travellers interact with and perceive GAI. To gain a more comprehensive understanding of the broader applicability of the findings, future research is highly recommended to expand qualitative data collection using a different approach to include participants from a wider range of countries. For example, instead of interviews, focus group discussions involving participants from diverse regions could enhance the generalization of the qualitative findings and offer a more global perspective on the bright and dark sides of GAI in travel.

The qualitative sample utilized in the current study included only those who were familiar with ChatGPT, which may have introduced biases as the experienced sample could hold more favourable perceptions compared to less experienced users or non-users. This could have influenced the antecedents to value co-creation and co-destruction that they experienced and reported. Therefore, qualitative findings should be best interpreted as exploratory insights among active users, rather than generalizable conclusions about the broader traveller population. Future research should broaden the sample to include infrequent and/or non-users of GAI to capture a more diverse range of factors influencing value co-creation and value co-destruction.

Lastly, the results of the current study were derived from a sample where leisure travellers dominated. This focus implies that the findings are reflective of the preferences, behaviours, and perceptions unique to this group, which may differ significantly from those of other types, such as business travellers. Future research should explore perceived value co-creation and value co-destruction in the use of GAI by business travellers as their needs and expectations can be different from those who travel for leisure.

CRediT authorship contribution statement

Hien Thu Bui: Writing – review & editing, Writing – original draft, Visualization, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Viachaslau Fili-monau:** Writing – review & editing, Writing – original draft, Methodology, Data curation. **Hakan Sezerel:** Writing – review & editing, Writing – original draft, Data curation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Survey questionnaire

Filter questions

1. Have you ever used ChatGPT for general purposes, such as for information search, to while away the time, to see what answers it provides, etc.?
 Yes (continue with the survey)
 No (please leave the survey here)
2. If your answer is Yes, please rate your ChatGPT usage frequency on a scale from 1 to 5.

Statement	1	2	3	4	5
I use ChatGPT....	Occasionally	Sometimes	Often	Very often	Always

3. How confident are you in using ChatGPT?

1	2	3	4	5
Not at all confident	Only a little confident	Moderately confident	Confident	Very confident

4. Have you ever used ChatGPT for travel-related purposes (e.g., using ChatGPT for recommendations on where to go, or for destination information)?

Yes .

No .

Section I. Your Perception of Potential ChatGPT Benefits

Please mark the extent of your (dis)agreement with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
<p>Q1.1 Travel Planning Assistance Before My Travel</p> <p>ChatGPT can inspire me with travel ideas. ChatGPT can help me plan my journey. ChatGPT can inform me about the destination I am about to visit (e.g., weather, local traditions).</p>							
<p>Q1.2 Travel Companion During My Travel</p> <p>ChatGPT can assist me with language translation during my trip. ChatGPT can help me with real-time destination information when I'm there. ChatGPT can answer questions I might have during my journey.</p>							
<p>Q1.3 Time efficiency</p> <p>ChatGPT can make my travel planning quicker. ChatGPT can reduce my information searching time. ChatGPT can optimize the amount of time I spend on travel and its planning.</p>							

Section II. Your Perception of Potential ChatGPT Shortcomings

Please mark the extent of your (dis)agreement with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
<p>Q2.1 Perceived prediction inaccuracy</p> <p>ChatGPT-generated travel information can be inaccurate. ChatGPT-generated travel recommendations can be biased. Advice provided by ChatGPT about my journey can be inconsistent.</p>							
<p>Q2.2 Perceived limited knowledge</p> <p>ChatGPT might have insufficient knowledge about certain aspects of my trip. Information provided by ChatGPT can be limited. ChatGPT might know little about some places which I may wish to visit.</p>							
<p>Q2.3 Perceived cognitive effort</p> <p>ChatGPT needs to be prompted to get the best travel information out of it. A lot of time may be required before I get what I really want out of ChatGPT for my trip. Questions should be formulated very carefully to ensure ChatGPT provides the best travel advice.</p>							
<p>Q2.4 Perceived restricted accessibility</p> <p>ChatGPT can be inaccessible during my travel due to technical issues (e.g., internet connection).</p>							

(continued on next page)

(continued)

Q2.4 Perceived restricted accessibility	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
ChatGPT may be unavailable to provide me with travel advice when I need it. Availability of ChatGPT for travel purposes can geographically be restricted.							

Section III. Your ChatGPT value co-creation/ co-destruction attitude and behavioural intentions

Please mark the extent of your (dis)agreement with the following statements.

Q3.1 Value co-creation	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I'm excited to jointly develop my travel plan with ChatGPT. I'm willing to spend effort and time working with ChatGPT on travel planning. I believe that working with ChatGPT makes my journey better organized.							
Q3.2 Value co-destruction	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
ChatGPT and I might make a travel plan more complicated. ChatGPT and I might fail to co-create a comprehensive travel plan. A travel itinerary co-created by ChatGPT and me might not go the way we planned for.							
Q3.3 Behavioural intentions	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I intend to use ChatGPT for my future travel. I will share my experiences in using ChatGPT for travel with others. I will recommend ChatGPT as a travel assistant to others.							

Section IV. Demographic information

Please tick the box or write your answer on the line provided.

Q4.1. What is your gender?

- Male .
- Female .
- Non-binary/third gender .
- Prefer not to answer .

Q4.2. What is your age?

- 18–25 .
- 26–35 .
- 36–45 .
- 46–55 .
- 55+ .

Q4.3. What is your highest level of education?

- Below high school degree .
- High school degree .
- Two-year college .
- Bachelor's degree .
- Master's degree or above .

Q4.4. What is your household monthly disposable income?

- ≤ GBP£,2000 .
- GBP£2001- GBP£3000 .
- GBP£3001– GBP£4000 .
- GBP£4000+ .
- Prefer not to answer .

Q4.5. What is USUALLY the main purpose of your travel?

- For business .
- For leisure .

Q4.6. How often do you travel for leisure per year?

- Between 1 and 3 trips .

Between 4 and 6 trips .

6+ trips .

Not Applicable, I only travel for business .

Q4.7. How often do you travel for business per year?

Between 1 and 3 trips .

Between 4 and 6 trips .

6+ trips .

Not Applicable, I only travel for leisure .

Q4.8. Who do you USUALLY travel for leisure with?

Alone .

Spouse/partner and/or children .

Friends .

Other family members .

Other(s), please specify..... .

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