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Reimagining travel memories: The role of artificial intelligence in shaping tourist experiences

Abstract

Based on the stimulus-organism-response framework, this study explores how artificial intelligence (AI) has changed tourism. A qualitative study was conducted to explore domestic and international tourists' experiences in Malaga, Spain. The findings reveal the dual impact of AI-driven technologies. On the one hand, AI facilitates personalisation, convenience, emotional engagement and meaningful social connections, enriching the memorability of tourism experiences. On the other hand, AI raises concerns about privacy, loss of human contact and cultural disconnection. The findings also show that the effectiveness of AI in creating memorable experiences is highly dependent on individual engagement, digital literacy and contextual factors. This study extends the existing tourism literature by demonstrating that AI is not a neutral tool, but an active co-creator of travel memories, shaping what is felt, remembered and shared.

Keywords: artificial intelligence, memorable tourism experiences, S-O-R model, smart tourism, personalisation, digital memory

1. Introduction

The rapid growth of digital technologies has altered the global tourism landscape, positioning artificial intelligence (AI) as a force that redefines how holidays are experienced, remembered, and narrated (Chiengkul et al., 2025). AI's evolution from mimicking human cognition to autonomous data-driven decision-making has led to its integration within tourism, spanning functions from chatbots and virtual assistants to AR/VR experiences and predictive analytics (Panigrahy & Verma, 2025). This progression has shifted tourism beyond traditional service delivery, enabling personalisation, efficiency, and engagement (Pencarelli, 2020). AI-driven innovations now permeate all phases of the tourist journey (Gursoy & Cai, 2025) and how tourists construct, interpret, and recall their holiday experiences (Chiengkul et al., 2025). Today, destinations and tourism service providers recognise that the formation of memorable, emotionally resonant experiences is central to competitive advantage and visitor loyalty (Nugroho et al., 2024). Hence, the integration of AI complicates this process by acting as a mediating force curating digital content, influencing decision-making, and even algorithmically highlighting which aspects of a trip are most likely to be remembered (Chaturvedi et al., 2024). Such technological mediation fundamentally challenges our understanding of authenticity, agency, and the construction of travel narratives in the digital age (Prince Antony & Ragul Kannan, 2024).

Despite these advancements and studies on smart tourism and AI-enabled customer experiences (AICX), significant gaps remain in the existing literature. As AI's influence deepens, so does the need to critically examine its ontological implications for tourism, including the impact on emotional engagement, nostalgia, and the construction of memorable experiences (Larsson & Chehade, 2025). Many existing studies focus on the supplier perspective, technological adoption, and enhancement of operational processes, often side-lining the ways in which AI technologies mediate, shape, and perhaps even re-author tourists' subjective experiences and memories (Larsson & Chehade, 2025). In addition, existing frameworks tend to treat technology as a neutral enabler rather than as an active co-creator of experience (Elshaer & Marzouk, 2024). This oversight is salient as the boundaries between lived experience and digital augmentation blur, giving rise to new forms of technologically mediated remembering wherein the authorship and

authenticity of memories are co-produced by both human agency and algorithmic affordances (Carrasco-García et al., 2025). Moreover, there is limited insight into how real travelers, with diverse backgrounds and expectations, personally encounter AI technologies before, during, and after their trips and how these encounters shape what they ultimately remember as memorable (Hosseini et al., 2024). This gap is significant as the boundaries between lived and digitally augmented experiences blur, with AI tools actively co-producing travel memories and narratives (Larsson & Chehade, 2025). Hence, addressing this gap requires a nuanced, human-centered approach that foregrounds the voices and subjective experiences of travelers themselves.

In response to these gaps, this qualitative study adopts the Stimulus-Organism-Response (S-O-R) model as the theoretical foundation. The S-O-R model recognises that external stimuli such as AI-driven technologies and digital interventions do not directly produce behavioural outcomes but rather operate by first influencing the internal states of individuals (the organism), which consequently shape their responses. In the context of tourism, AI technologies serve as powerful motivations that curate information, personalise recommendations, and mediate digital content throughout the tourist journey (Chiengkul et al., 2025). These stimuli evoke complex cognitive and emotional reactions within travelers ranging from curiosity and excitement to nostalgia and reflection which then obvious in behavioural and attitudinal responses, such as the formation and sharing of travel memories, the construction of narratives, and future behavioural intentions (Vafaei-Zadeh et al., 2025). This approach moves beyond viewing technology as a mere operational tool, instead highlighting how AI actively shapes the psychological and emotional processes that determine memory construction in tourism (Larsson & Chehade, 2025). Hence, this study pays special attention to the range of emotional responses both positive and negative that AI-generated stimuli evoke at each stage of the tourist journey: before, during, and after travel.

This study aims to address the following research questions: How do AI-driven incentives encountered before, during, and after travel evoke positive and negative emotional responses among tourists?; How do individual differences (e.g., prior experience, expectations, digital literacy) moderate the relationship between AI-driven stimuli, emotional responses, and memory formation throughout the tourist journey?; Which aspects of AI integration (e.g., personalised recommendations, virtual interactions, automated content curation) are most influential in generating excitement, trust, or conversely, anxiety and frustration across the different journey stages?; To what extent do positive or negative emotions experienced at various stages impact what is remembered, forgotten, or highlighted in post-trip narratives?.

2. Literature review

2.1 Theoretical foundation - Stimuli-organism-response (S-O-R) theory

This study adopts the S-O-R theory as the theoretical foundation, drawing on the foundational work of Mehrabian and Russell (1974) in environmental psychology. The S-O-R model is influential in tourism studies for understanding tourist behavior, revisit intentions, and word-of-mouth (Vafaei-Zadeh et al., 2025). Within the S-O-R framework, external incentives (S) are conceptualised as environmental factors, digital or technological interventions (Mehrabian & Russell, 1974). In tourism contexts, such motivations may include the experience escape, opportunities for experience co-creation, educational interactions, and photography (Gao et al., 2024). In the current study, AI-driven technologies and digital content are considered as key motivations that shape the tourist experience before, during, and after the trip. These stimuli are particularly salient in smart tourism destinations, where the integration of AI is transforming both the environment and the ways in which travelers engage with it (Sthapit et al., 2024; Vafaei-Zadeh

et al., 2025). The organism (O) in the S-O-R model refers to the internal processes and structures mainly emotional and cognitive states that mediate the relationship between external stimuli and behavioural outcomes (Mehrabian & Russell, 1974). In hospitality and tourism studies, examples of organism include emotions (Li et al., 2024), memories (Hosany et al., 2022; Sthapit et al., 2024), satisfaction (Choi & Choi, 2019). In the context of AI-mediated tourism, engagement, cognitive involvement, and emotional responses such as curiosity, excitement, nostalgia, or even frustration are central constructs of the organism (Chiengkul et al., 2025).

Several existing tourism studies have operationalised organism variables within the S-O-R framework (Hosany & Gilbert, 2010; Jang & Namkung, 2009; Hao et al., 2024). For example, Hosany and Gilbert (2010) developed the Destination Emotion Scale, capturing joy, love, and positive surprise as organismic emotional states mediating destination stimuli and revisit intentions. In another study, Jang and Namkung (2009) and Hao et al. (2024) applied the original S-O-R model to demonstrate how tourists' emotional experiences mediate in visitor experiences in art tourism on satisfaction and behavioural intentions. In addition, in event tourism context, a recent study on music festivals using the S-O-R paradigm found that existential authenticity and event quality (stimuli) significantly enhance festivalgoers' emotional responses and satisfaction (organism), thereby influencing loyalty (response) (Zhu et al., 2025). Moreover, Zhu et al.'s (2025) study in rural tourism context applied S-O-R to show that perceived restorative destination qualities evoke hedonic and eudaimonic experiences (organism), which in turn promote destination image and loyalty. Moreover, Prayag et al. (2013) found that tourists' emotions strongly predict satisfaction and behavioural intentions, further supporting organism's mediating role. Lastly, a study on hot-spring resort environments integrated customer emotions and employee engagement as organism variables mediating servicescape stimuli and guest behavioural intentions (Guo et al., 2022).

This study emphasises how tourists' active engagement with AI technologies, rather than the mere presence of such technologies, mediates the transformation of stimuli into meaningful and memorable experiences (Xiong et al., 2023). Within the S-O-R framework, these emotional states represent the organism component, mediating the influence of external stimuli (such as AI-driven technologies or digital content) on subsequent behavioural responses (Chiengkul et al., 2025; Zhu et al., 2024). Hence, emotions include positive reactions such as joy, empowerment, fascination, and social connection as well as negative reactions such as anxiety, alienation, and privacy concerns. Engagement refers to tourists' active involvement with AI tools, including cognitive (attention, curiosity, exploration), emotional (excitement, nostalgia, feeling cared for), and social (shared experiences, bonding) aspects. Cognitive involvement reflects how tourists think, make decisions, and interpret AI-mediated experiences. These organism variables manifest across all stages of the travel: during pre-trip planning, they influence anticipation and expectations; on-site, they shape real-time experiences, emotional resonance, and interactions with environments and others; and post-trip, they affect recollection, memory formation, and sharing of experiences. Therefore, this approach provides a nuanced understanding of how technologically mediated experiences shape both the quality and authenticity of tourism memory in an era of increasing digital augmentation.

Within the S-O-R framework, customer perceived value (CPV) serves as a key construct that can operate at both the organism and response levels, depending on the interpretive variant of the model. As an organismic appraisal, CPV captures tourists' cognitive evaluation of AI-mediated stimuli such as personalisation, virtual guidance, or algorithmic recommendations that shape perceptions of value (Sánchez-Fernández & Iniesta-Bonillo, 2007; Aslam & Luna, 2021). It

reflects the balance between perceived benefits (e.g., convenience, enjoyment, relevance) and sacrifices (e.g., time, effort, privacy concerns). At the response level, CPV represents the outcome of these internal evaluations, expressing tourists' overall judgment of the experience and guiding their subsequent behavioural responses such as satisfaction, trust, loyalty, and continued use of AI tools (Zeithaml, 1988; Petrick, 2004; Kim et al., 2013). In this sense, CPV functions as the evaluative bridge through which AI-driven experiences are translated into meaningful and lasting behavioural outcomes within smart tourism environments.

The S-O-R framework, place identity and place attachment are positioned within the organism layer, reflecting tourists' internal emotional and cognitive connections with destinations. While place attachment refers to the affective bond or emotional dependence a tourist feels toward a destination (Prayag & Ryan, 2012), place identity captures the self-related meanings tourists associate with a place how being in or engaging with a destination reinforces their sense of self and belonging (Ai et al., 2022). In AI-mediated tourism contexts, technologies such as personalised storytelling, virtual heritage interpretation, and AI-guided exploration can enhance both attachment and identity by creating emotionally engaging and self-relevant experiences (Matyusupov et al., 2024). Thus, place identity and place attachment jointly function as organismic mediators that transform technological stimuli into meaningful emotional and symbolic connections with destinations.

Das et al. (2025) state that memorable tourism experiences first foster place identity and attachment, which in turn shape tourists' perceptions of value, ultimately influencing their loyalty toward destinations. This relationship explains how technological mediation in tourism is translated into deeper psychological engagement as well as concrete behavioural outcomes. This perspective is also supported by other scholars who emphasise the links between experience, identity formation, perceived value, and loyalty (Stylidis et al., 2022; Li et al., 2024).

Taken together, these constructs allow for a more integrated understanding of how AI-driven tourism experiences unfold within the S-O-R framework. AI stimuli generate memorable tourism experiences (MTEs) that not only evoke affective bonds (place attachment) but also reinforce self-related meanings (place identity) in the organism layer. These identity-based processes provide the psychological grounding through which tourists interpret the value of their experiences, captured by customer perceived value (CPV). CPV thus acts as a proximal appraisal that translates internal emotional and symbolic connections into overall evaluative judgments. Ultimately, these judgments explain downstream behavioural responses such as satisfaction, advocacy, and loyalty.

This clarity ensures that even in qualitative research, findings on AI-mediated experiences can be consistently interpreted and compared with prior and future studies. It highlights how tourists' emotional and cognitive responses at each stage shape memory formation, satisfaction, and long-term behavioural outcomes, providing a structured lens for understanding the complex interplay between technology, experience, and destination attachment in modern tourism. Thus, this approach provides a nuanced understanding of how technologically mediated experiences shape both the quality and authenticity of tourism memory in an era of increasing digital augmentation.

2.2. AI in hospitality and tourism

The hospitality and tourism industry has undergone remarkable transformation driven by advances in AI, which is increasingly seen as a core enabler of innovation, productivity, and superior customer experiences (Chon & Hao, 2025; Wang et al., 2025). Underpinned by developments in machine learning, big data, and computational power, AI applications in tourism span a wide range of technologies from recommendation engines and chatbots to robotics, augmented and virtual

reality, and self-service kiosks (Prince Antony & Ragul Kannan, 2024). This broad technological scope has facilitated the integration of AI across various tourism and hospitality operations, enhancing service efficiency, enabling real-time assistance, and fostering personalised interactions (Chiengkul et al., 2025).

Building on this technological integration, the rapid digitalisation of the tourism industry has positioned AI as a catalyst for reshaping both service delivery and the tourist experience (Tuo et al., 2025). AI-driven tools, for example, intelligent recommendation systems, virtual assistants, and chatbots now mediate customer journeys at every phase before, during, and after travel by providing tailored suggestions, instant support, and context-aware information (Wüst & Bremser, 2025). These technologies streamline planning and booking and enhance in-destination experiences (Carrasco-García et al., 2025). Consequently, AI enables tourism service providers to offer more relevant, memorable, and engaging experiences, which are crucial for competitive differentiation and visitor retention (Tuo et al., 2025; Wüst & Bremser, 2025).

Expanding on the ability of AI to personalise and enrich the customer journey, another significant impact of AI lies in its ability to foster smart, adaptive, and interactive experiences, supporting co-creation of value between tourists and service providers (Manoj et al., 2025). AI-powered solutions personalise itineraries, recommend unique activities, and even facilitate language translation, making travel more inclusive and accessible (Ahmed & Aziz, 2025). Through continuous learning from user interactions and big data analytics, AI systems anticipate needs, refine recommendations, and elevate emotional connections, leading to more satisfying and meaningful journeys (Chon & Hao, 2025). Therefore, the concept of AICX has emerged, highlighting how tourists' emotional, cognitive, and behavioural responses are increasingly shaped by their engagement with AI across touchpoints (Alharbi et al., 2025).

This expanding role of AI is not limited to enhancing customer experience; rather, the multifaceted role of AI in hospitality and tourism extends beyond operational efficiency and personalised service, influencing broader strategic objectives such as sustainability, competitive advantage, and crisis resilience (Gursoy & Cai, 2025). For example, AI-powered demand forecasting and resource management have enabled tourism businesses to optimise operations, reduce waste, and respond proactively to fluctuating market conditions, especially during periods of uncertainty such as the COVID-19 pandemic (Bang-Ning et al., 2025). In addition, AI-driven innovations such as contactless check-in, automated cleaning, and facial recognition have not only enhanced health and safety protocols but also accelerated the digital transformation of the sector (Carrasco-García et al., 2025).

Moreover, the strategic integration of AI is closely related to the evolving expectations of tourists. The integration of AI supports the shift towards an experience economy, where tourists increasingly seek unique, memorable, and meaningful encounters (Kim et al., 2020) as well as enables the creation of smart tourism ecosystems, in which interconnected technologies ranging from Internet of Things (IoT) devices to immersive AR/VR solutions collaborate to deliver seamless, context-aware, and emotionally resonant experiences (Larsson & Chehade, 2025). By leveraging big data and sentiment analysis, tourism service providers can gain deeper insights into tourist perceptions, preferences, and satisfaction, facilitating continuous improvement and innovation in service delivery (Li & Wen, 2025).

Despite these advancements, the integration of AI in hospitality and tourism is not without challenges (Chiengkul et al., 2025). As AI becomes increasingly embedded within tourism and hospitality, it raises significant ethical, social, and managerial considerations (Gursoy & Cai, 2025). Concerns have been raised about data privacy, the potential loss of human touch, and the

risk of excluding those lacking digital literacy (Wannemo, 2024). Therefore, issues surrounding data privacy, algorithmic bias, and transparency need to be addressed to foster greater trust and acceptance among travelers (Ghesh et al., 2024). While automation enhances efficiency, it may also reduce opportunities for authentic personal interaction, which remains a valued aspect of experiential tourism (El Hajal & Yeoman, 2025). Moreover, disparities in digital infrastructure between developed and developing regions can limit the equitable distribution of AI's benefits (Zeqiri et al., 2025).

2.3 AI and memorable tourism experiences

Memorable Tourism Experiences (MTEs) refer to tourism experiences that are positively recalled and retained in tourists' minds long after the travel event, significantly influencing their satisfaction, revisit intentions, and word-of-mouth recommendations. Unlike ordinary tourism experiences, MTEs are characterised by their emotional intensity, personal significance, and ability to create lasting memories (Coudounaris & Sthapit, 2017; Kim et al., 2012). Kim et al. (2012) define MTE as a multidimensional construct comprising seven key dimensions, including hedonism, novelty, local culture, refreshment, meaningfulness, involvement, and knowledge. These dimensions collectively shape the tourist's perception and emotional connection to the travel experience (Hosseini et al., 2021). Other studies define MTE as travel experiences that are positively recalled, influencing tourists' satisfaction and behavioural intentions (Sthapit et al., 2020). Sthapit et al. (2020) further emphasise the role of authenticity and social interactions in creating memorable experiences.

In AI-mediated contexts, these MTE dimensions are enhanced through technology-driven personalisation and interaction. AI enhances MTE by personalising services through data-driven recommendations, fostering hedonic enjoyment (e.g., tailored adventure activities), novelty (e.g., unique destination suggestions), and meaningfulness (e.g., immersive VR storytelling) (Elshaer & Marzouk, 2024; Tussyadiah et al., 2018). AI tools like chatbots and AR apps increase involvement and cultural engagement by offering real-time, context-aware interactions, while big data analytics optimize services to ensure lasting impressions (Nugroho et al., 2024). However, challenges such as diminished human interaction, data privacy concerns, and unequal access due to infrastructural disparities may undermine authentic experiences, necessitating a balanced integration of AI to preserve the human touch central to MTE (Zvaigzne et al., 2025; Ferhataj & Memaj, 2024).

Tussyadiah (2018) highlights how AI enables technology-mediated authenticity by curating immersive experiences, such as AR-enhanced cultural narratives, that align with tourists' quest for authentic connections. In another study, Neuhofer and Buhalis (2021) explores algorithmic curation, noting that AI-driven recommendation systems tailor travel experiences to individual preferences, amplifying novelty and meaningfulness while raising concerns about over-automation and loss of human touch. Integrating these perspectives, AI not only supports the functional aspects of MTE but also enriches their experiential depth, aligning with foundational MTE frameworks and addressing authenticity in technology-driven tourism.

Matyusupov et al. (2024) study suggest that MTEs are significantly influenced by tourists' emotional and cognitive interactions with smart technologies. For example, VR allows potential travelers to preview destinations, evoking excitement in the anticipatory phase, while AR enhances on-site engagement by offering immersive and interactive storytelling (Semwal et al., 2024). The ability of AI to enhance MTEs lies in its capacity to co-create experiences with tourists, offering dynamic and context-aware interactions that cater to individual needs (Tuo et al., 2025; Wüst & Bremser, 2025). Tussyadiah et al.'s (2018) study indicates that AI enhances tourists' satisfaction

by adapting to their preferences in real time, such as offering tailored recommendations for attractions, accommodations, and activities. These insights emphasise that AI not only improves the functional aspects of tourism but also strengthens the experiential dimensions, ensuring that travelers leave with lasting and meaningful memories after the trip (Chiengkul et al., 2025).

Another significant application of AI in tourism is enhancing on-site experiences (Singh, 2025). Intelligent chatbots and virtual guides provide instant information about attractions, navigate language barriers, and offer real-time tips, leading to more meaningful and stress-free visits. AI technologies are not only improving individual experiences but also helping tourism service providers design more memorable journeys (Nugroho et al., 2024). By analysing customer feedback, social media, and booking patterns, AI helps companies identify what makes experiences memorable and optimise their services accordingly (Zahidi et al., 2024). This data-driven approach allows for continuous improvement, ensuring that tourists leave with positive and lasting impressions (Elshaer & Marzouk, 2024). STTs leverage big data and machine learning algorithms to analyse tourists past behaviors, enabling tailored recommendations for activities, accommodations, and dining options (Li & Wen, 2025).

However, the integration of AI into tourism is not without challenges (Ferhataj & Memaj, 2024). One of the main concerns is the potential loss of human interaction, which is a cornerstone of authentic tourism experiences (Zvaigzne et al., 2025). Over-reliance on AI-driven automation, for example, robots replacing human guides or automated check-ins, risks diminishing the human touch that makes tourism experiences unique (Zvaigzne et al., 2025). In addition, ethical issues related to data privacy and the digital divide pose significant barriers to equitable AI adoption (Ferhataj & Memaj, 2024). While technologically advanced destinations can seamlessly integrate AI solutions, less developed regions may struggle with inadequate infrastructure, limiting their ability to provide similar experiences (Katsanakis et al., 2025). These challenges highlight the need for a balanced approach that combines technological innovation with human-centered service design to ensure that AI enriches, rather than replaces, the human aspects of tourism.

3. Method

3.1. Study context

Malaga is a famous city located on the southern coast of Spain, within the autonomous community of Andalusia. Malaga serves as a major gateway to the Mediterranean and is characterized by its pleasant subtropical Mediterranean climate, with mild winters and hot summers. As of 2024, the city has a population of approximately 591,637, making it the second most populous city in Andalusia and the sixth largest in Spain. Malaga's economic landscape is significantly influenced by tourism, which has been a driving force for local development, especially since the early 21st century (Corrales Pallavicini, 2017). In 2023, it welcomed 1,524,290 tourists (59% of them were foreigners). In 2023, the city's top five international tourism markets in order of significance were the United Kingdom, Italy, Germany, France, and the United States. The number of tourists in 2023 exceeded that of 2019 and continued the growing trend that had been observed since 2010 (Almeida-García et al., 2023). (Figure 1).

[INSERT FIGURE 1 HERE]

Today, Malaga has emerged as a leader in digital transformation and smart tourism innovation within Spain. The city has enforced a range of AI-driven initiatives including smart information kiosks, mobile apps for personalised sightseeing recommendations, and interactive museum guides powered by AI which are designed to enhance visitor engagement and satisfaction. These

technological advancements make Malaga an exemplary setting for investigating how AI is reshaping not only tourist services, but also the ways in which travel experiences are constructed, remembered, and shared (Karakas & Atay, 2023). In addition, Malaga's diverse and international visitor population further enhances its relevance as a research context.

3.2. Research design and data collection

This study adopted a qualitative approach to explore how AI-driven technologies are not only transforming tourism but also reshaping the ways in which individuals remember and narrate their travel experiences. Semi-structured interviews featuring open-ended questions were used to collect rich and detailed data. Participants were chosen using purposive sampling technique to ensure they fulfilled the criteria related to the research aims. Purposive sampling allowed us to focus on people who had personal knowledge of the topic under inquiry (Saunders et al., 2018). Based on this technique, we conducted semi-structured interviews with 25 participants. The participant's sample was purposely divided into two groups: 10 Spanish nationals residing in Málaga and 15 international residents from different countries. This heterogeneous composition enabled this study to capture both local and global viewpoints on how AI affects tourist experiences and the formation of personal and community memories.

A key factor for participant selection was active interaction with digital technologies, particularly social media sites like Facebook and Instagram, where people routinely share and discuss their trip experiences. Additional inclusion criteria required participants to be over 18 years old and to have lived in Malaga for at least one year, ensuring sufficient familiarity with the local tourism environment and digital infrastructure. This criterion also meant that participants were residents rather than short-term visitors, and their accounts may therefore reflect reduced novelty and more everyday engagement with Málaga. Such positioning is important, as it situates the findings within a resident-informed rather than a tourist-first perspective, shaping how MTEs are recalled and interpreted.

This sample size was enough since existing qualitative studies support data saturation, which occurs when no new information or themes emerge from the data (Marshall et al., 2013). To improve transparency around data saturation, we developed a saturation grid (Appendix 1) that maps the emergence of core themes across interviews. New themes continued to appear through interview 18; beyond that point, no additional themes were identified in the remaining interviews (up to 25), indicating that thematic saturation had been reached. This procedure strengthens the analytic credibility of our qualitative results and is consistent with best-practice guidelines for qualitative reporting (Creswell & Poth, 2018; Gorji et al, 2025).

All those who responded positively have been contacted to explain the interview process and to ask for a phone, WhatsApp, for their availability. All interviews were conducted in both Spanish and English during January and September 2024. Each session lasted between 40 and 70 minutes and took place in person. With participants' consent, interviews were audio-recorded and transcribed verbatim. The interview data were analysed using thematic analysis (Braun & Clarke, 2006), with initial coding followed by the identification of recurrent themes and patterns related to AI-driven tourism experiences and memory formation.

The final findings were translated into English to ensure the accuracy and consistency of the data interpretation. To enhance the rigor of the translation process and ensure conceptual fidelity, a systematic back-translation procedure was employed. (Chen & Boore, 2010). All interview transcripts were first translated from Spanish to English by bilingual researchers, after which independent bilingual team members conducted a reverse translation back into Spanish. Discrepancies between the original and back-translated versions were carefully examined and

resolved through discussion to achieve semantic and conceptual alignment. Furthermore, particular attention was given to maintaining conceptual equivalence, ensuring that culturally specific terms, idiomatic expressions, and context-dependent meanings were accurately conveyed across languages. These measures were implemented to minimise potential misinterpretation and to preserve the integrity and authenticity of participants' responses.

Ethical considerations were strictly upheld: informed consent was obtained from all participants, who were clearly informed about the study's aims, the use of recordings, and their right to withdraw at any stage. Participants' anonymity was guaranteed, and all data were securely stored in accordance with ethical guidelines for qualitative research (Orb et al., 2001). To enhance trustworthiness, member checking was used by sharing preliminary findings with selected participants for feedback, and peer debriefing with research colleagues further supported the credibility of the analysis. The participants' profiles were given in Table 1.

[INSERT Table 1 HERE]

3.3. Data analysis

Following the transcription of the interviews, a thematic analysis (Braun & Clarke, 2006) was conducted to systematically identify and interpret recurrent patterns within the dataset. The analytical framework employed in this study enabled an in-depth exploration of the subjective dimensions of participants' lived experiences. The analytical procedure was conducted in several structured phases: familiarisation with the data, generation of preliminary codes, identification of potential themes, evaluation and refinement of these themes, and finally, the clear definition and labelling of each theme (Hosseini et al., 2022). To support rigor and clarity throughout the analytic process, all interview transcripts were imported into NVivo 14 software, which enabled systematic coding, retrieval, and comparison of qualitative data. The use of NVivo also facilitated the organisation of large volumes of text and allowed for effective management of records and analytic notes during the development of themes.

To improve the validity and reliability of the study, we used recognised trustworthiness criteria from qualitative research (Guba & Lincoln, 1994). Credibility was addressed by extensive interaction with the data, detailed descriptions of participants' narratives, and member checks to ensure the veracity of emergent themes. Dependability was improved by systematically documenting coding decisions and analytic activities, resulting in an audit trail that promotes openness and consistency in the research process (Twycross & Shields, 2005). Confirmability was increased through researcher reflexivity and collaborative coding, reducing the influence of individual bias, while transferability was facilitated by providing contextual details that allow readers to assess the findings' applicability to other settings (Nowell et al., 2017).

To enhance the reliability of the findings and mitigate potential researcher bias, two authors independently engaged in the manual coding of transcripts (Miles & Huberman, 1994). Any discrepancies that emerged during the coding process were addressed through collaborative discussion, thereby ensuring consistency across the analysis. The interview data were analysed in the original language of each transcript (Spanish or English), and all translations were cross-checked and reviewed by bilingual team members to ensure conceptual accuracy and consistency across languages. This approach minimised the risk of misinterpretation or loss of meaning during the translation process. Upon finalisation, the codes were aggregated into overarching themes that summarised participants' perceptions regarding the influence of AI, not only on their tourism

experiences but also on the ways these experiences are recalled. A key strategy for establishing validity in the analysis involved multiple techniques: member checking was conducted by sharing preliminary explanations and emergent themes with selected participants to confirm the accuracy of representation; a detailed review trail was maintained to document all analytic decisions, coding repetitions, and theme development; and peer interview sessions were organised with other qualitative researchers for external validation and constructive critique.

4. Findings and discussion

Following thematic analysis principles, this study explored how AI shapes the construction, recollection, and sharing of tourism experiences at various journey stages. The analysis revealed that specific AI tools act as environmental motivators, eliciting reactions from empowerment and wonder to anxiety and alienation. The identified themes include Six positive and three negative subthemes, reflecting AI's dual impact. Positive themes show AI enhances personification, convenience, discovery, emotional engagement, social connection, and care, enriching travel experiences. Negative themes raise issues of privacy, surveillance, loss of human touch, and cultural or emotional estrangement, highlighting AI's complex role in what is remembered or shared. Figure 2 depicts travelers' use of AI tools across pre-travel, on-site, and post-travel phases.

[INSERT FIGURE 2 HERE]

4.1 Personalisation

One of the most significant changes brought about by AI in tourism is the capacity to provide highly individualised experiences among passengers (Nugroho et al., 2024; Manoj et al., 2025). AI platforms may personalise suggestions, itineraries, and services to each individual's specific interests and behaviors using advanced data analytics and machine learning (Lim & Kim, 2025). Its level of customisation helps tourists feel not just understood, but also actively involved in crafting their travels, as AI-powered systems allow them to find locations, activities, and experiences that they would never have found otherwise. Hence, AI improves passengers' feeling of agency and emotional fulfillment, leading to memorable and transformational experiences (Semwal et al., 2024). David explained during his trip to Germany:

"I used ChatGPT and entered my travel interests. It created a route that felt like it knew me. I discovered WWII bunkers and techno clubs I never would've found. It felt like Berlin was made just for me."

Similarly, Linda noted:

"My friend and I were starving after a long walk. We opened an AI food app. I told it I liked seafood, nothing too spicy, and not too touristy. It Offer us to a tucked-away tasca with no English menu. We had grilled octopus. It felt like magic."

4.2 Empowerment

Another major theme identified in participants' accounts was the sense of empowerment that AI technologies brought to their travels (Huang et al., 2025). Rather than simply receiving

recommendations, tourists described feeling more in control of their choices and decision-making processes. AI applications not only provided instant access to local knowledge but also reduced uncertainty, enabling travellers to confidently explore unfamiliar environments (Tussyadiah, 2018; Mariani & Borghi, 2022). This empowerment extended beyond convenience, fostering a sense of independence and self-efficacy that enriched the overall tourism experience. For instance, Mateo shared how AI tools gave him the confidence:

"When I arrived in Italy, I was nervous because I didn't speak the language. But with an AI translation app, I no longer felt afraid. It helped me read menus, talk to local people, and even handle small conversations with confidence."

Emily highlighted how AI gave her a stronger sense of control during her trip:

"I often feel uncertain when planning, but with AI I felt capable of shaping the journey myself"

In this way, empowerment through AI was not limited to logistical assistance but also created a deeper psychological impact, giving travellers confidence, autonomy, and ownership over their tourism experiences (Lakhapate, 2023).

4.3 Convenience and efficiency

AI-powered solutions have transformed routine processes by reducing wait times, rationalising complex procedures, and providing fast, precise, and easy services, transforming traditional travel stress points into positive touchpoints (Prince Antony & Ragul Kannan, 2024). This advancement is manifested not only in back-end operations but also in the enhanced sense of control, ease, and autonomy experienced by travelers (Doğan & Niyet, 2024). Recent studies indicate that the convergence of AI with other cutting-edge technologies such as the IoT, AR, and VR allows tourism service providers to offer real-time, and highly adaptive services tailored to individual preferences (Jayakumar et al., 2025). Smart ticketing kiosks, face recognition systems at border check, AI-powered chatbots, and virtual concierges are all examples of the industry's trend toward contactless, automated, and hyper-efficient service (Prince Antony & Ragul Kannan, 2024). For instance, Khaled described his encounter with AI-powered facial recognition at Barcelona airport as follows:

"At Barcelona Airport, I was in line for passport control when I spotted several people walking through a separate gate. I saw it was an automatic lane with face recognition. I was apprehensive, but I attempted it. I looked at the camera, and it recognized my passport and allowed me through in 30 seconds. I could not believe it."

However, several participants described how they mentally weighed the benefits and drawbacks of using AI tools during travel. They appreciated the efficiency, personalisation, and enjoyment such technologies offered, but also reflected on potential effort, privacy concerns, and loss of authenticity. For example, Fatima noted, *"The app made things easier, but I sometimes felt I was giving up too much information"*. Similarly, Linda shared, *"It was helpful and fun, but sometimes I missed real human advice"*. These evaluations demonstrate how CPV operates as an organismic

appraisal a cognitive process that shapes emotional responses and later behavioural intentions (Massoudi et al., 2025).

4.4 Deep engagement and emotional resonance

AI in tourism has progressed from providing convenience to actively developing deep engagement and emotional resonance within the visitor experience (Li et al., 2024). Larsson and Chehade (2025) stated that AI is capable of responding to user preferences and emotional signals in real time, generating a greater feeling of engagement and emotional relevance throughout the trip. These technologies can now customise tales, change the tone and degree of involvement, and even replicate parts of human empathy, all of which lead to a more immersive and memorable tourist experience. Indeed, emotional engagement is essential for establishing meaningful relationships between tourists and locations (Hosseini et al., 2021). This capacity for emotive involvement not only improves the immediate quality of the tourist experience, but it also has long-term implications for memory formation and post-trip narrative building (Leka et al., 2024). Amina described how an AI-powered museum guide in Amsterdam improved her visit:

"I downloaded it, and they became more than simply paintings; they were tales. I even asked follow-up questions. I felt really connected to the work, as if I had a private instructor."

Similarly, Anna considered her encounter with an AI of in Athens:

"It wasn't perfect, but it was entertaining, insightful, and participatory. I ended up having an hour-long talk with a computerized guide. It was strangely moving."

Several participants described how AI-guided storytelling deepened their sense of belonging to a place. Masoud mentioned, *"The AI guide in Istanbul connected me with hidden cafes and traditions it made me feel I belonged there"*. Similarly, Yara mentioned that AI-assisted navigation in Rome made her feel more connected to local history: *"Every corner came with a small story or voice note from a local it felt like walking with a friend from the city"*. These examples show that AI can foster place identity by personalizing cultural narratives and helping travelers interpret destinations through emotional and local meaning (Dini et al., 2023).

4.5 Social bonding and shared experiences

According to Chiengkul et al. (2025), active involvement with AI-powered technology not only enhances service quality and personalizes travel, but it also opens up new chances for visitors to communicate, cooperate, and experience memorable moments together. Such shared smart experiences are critical for developing emotional attachments such as destination love and perceived satisfaction, which leads to increased loyalty and return visits. Consequently, AI is more than just a technology breakthrough for operational improvement; it is also a catalyst for fostering meaningful social relationships and shared experiences that enhance the entire tourism experience. This shift from individual satisfaction to collective engagement emphasises the growing role of social and emotional factors in the success of smart tourism destinations, as AI-powered experiences serve as the foundation for both personal fulfilment and communal bonding (Buhalis et al., 2024). Masoud described how AI-mediated tourism experiences fostered new forms of social connection, group cohesion, or a sense of shared adventure:

"I was going alone in Vienna on a city trip when the app advised joining a tour with two other individuals who had similar plans. We ended up being friends."

Similarly, Nadia, who visited Croatia, described:

"We wanted to rent a boat, but there was a language problem. I used an AI voice translator. It did more than just translate words; it nailed the tone. The boat owner grinned and added, 'Your translator has more charm than most people.' "We laughed for several minutes."

4.6 Humanisation and care

The findings suggest that AI tools and interfaces are becoming more humanised in tourism, leading to a sense of caring, warmth, and trust in technology-mediated interactions (Liu et al., 2025). Unlike previous, more mechanical incarnations of AI, today's systems are meant to replicate empathy, attention, and human touch characteristics usually associated with high-quality hospitality (Doğan & Niyet, 2024). Whether through intelligent chatbots, virtual concierges with customised welcomes, or service robots capable of understanding social cues, the humanisation of AI improves the perceived authenticity and emotional worth of service engagements (Khan et al., 2025). Participants described feeling genuinely cared for by AI-powered services. This sense of care was not only about efficient problem-solving but also about feeling recognized, valued, and reassured during their journeys. Alejandro shared her experience at a hotel in Singapore:

"I was nervous about checking in late, but the AI concierge welcomed me by name, asked about my travel, and even recommended a local restaurant. It seemed unexpectedly intimate and soothing, as if someone was looking out for me rather than a computer performing its job."

4.7 Privacy concerns and surveillance anxiety

As AI-powered devices grow more widespread in hospitality settings, consumers are more aware that their personal information, habits, and even biometric data may be captured without their explicit knowledge (Hu & Min, 2025). This sense of constant observation, known as the watching-eye effect (Haley & Fessler, 2005), can erode trust and increase anxiety, particularly when AI devices are equipped with cameras or designed to mimic human social presence (Hu & Min, 2025). Some studies suggest that people are more concerned about their privacy in private places like hotel rooms than in public places like airports or lobbies (Manikonda et al., 2018). Notably, individual characteristics like gender may further moderated these effects, with women frequently reporting higher levels of perceived danger and uneasiness (Hoy & Milne, 2010; Hu & Min, 2025). Numerous respondents described a heightened awareness of being monitored during their journeys. For some, this awareness diminished the authenticity of their experience or led to self-censorship. For example, Isabella noted:

"I checked into my hotel in late at night. The room felt luxurious. everything was controlled by voice commands the lights, even the TV. At first, I was impressed, but as I unpacked, I suddenly wondered: Is anyone listening? or watching? I tried

to enjoy the comfort, but a part of me felt uneasy, like there was always an invisible eye in the room."

Another participant, Arjun echoed similar feelings:

"I always cover the camera on the smart TV in my hotel. Even though they say it's off, I can't shake off the feeling that someone could be watching. It makes me act differently, even when I'm just relaxing."

These accounts reveal that tourists' evaluations of CPV extend beyond cognitive appraisal to behavioural outcomes. When travelers perceived a fair balance between efficiency, authenticity, and trust, they expressed stronger intentions to reuse AI tools, recommend them to others, and revisit destinations. Conversely, when this balance was disrupted, it often led to resistance or disengagement from AI-driven tourism experiences (Li et al., 2024).

4.8 Loss of human touch and alienation

Despite the undeniable benefits of AI and automation in the hospitality and tourism industries, a recurring negative theme is the perceived loss of human touch, leading to a sense of alienation (Joshi, 2024). This feeling is consistent with worries in the literature that, while Generation Z and digital natives are comfortable with automation, the hospitality industry relies on emotional ties and individualized service (Saini & Bhalla, 2022). Participants frequently described a sense of emotional distance when interacting with machines instead of people. The absence of human warmth such as a genuine smile, empathetic listening, or spontaneous conversation was often cited as diminishing the quality of their experience. This sense of alienation is not just anecdotal; early research from the hospitality industry suggests that over-reliance on automation can occasionally result in visitor discontent and even operational issues (Drexler & Beckman Lapré, 2019). Furthermore, existing studies highlight that the presence of human staff is not only important for smooth operations but also for creating memorable, emotionally resonant experiences (Solnet et al., 2019). For example, Fatima described her stay at a in Budapest. She explained that while the technological aspects made the process efficient and modern, the absence of human interaction left her feeling disconnected. As she stated:

"It was easy and contemporary, yet I felt rather lonely. There was no one to greet me, no staff to speak with, and the hostel felt more like an empty apartment than a friendly environment for tourists."

4.9 Cultural and emotional disconnection

While AI technologies are designed to personalise and enhance service delivery (Choe et al., 2024), their implementation alone does not necessarily foster meaningful cultural or emotional bonds between tourists and destinations (Chiengkul et al., 2025). Excessive dependence on automated technologies, without meaningful involvement, might diminish possibilities for true connections with local culture and people, leading to emotional detachment and generic experiences. This phenomenon is consistent with studies indicating that technology should act as a bridge, not a barrier, to local culture, promoting relationships rather than replacing them (Cozzio et al., 2025). Several respondents described a sense of distance from local culture despite advanced technology. For example, Yara explained:

"I used an AI app for everything in Rome, including directions, restaurant recommendations, and conversation translation. I never felt lost, although I seldom spoke to locals and struggled with the language. By the conclusion of my trip, I realized I had visited all of the iconic sights but had not fully connected with the city or its inhabitants. It was simple and straightforward, but somehow, it felt empty."

5. Conclusion, implications, limitations and directions for future research

5.1 Conclusion

The findings of this study offer a comprehensive and multifaceted view of how AI is altering not only the operational landscape of tourism, but also the visitor experience, engagement, and memory creation. Contrary to recent studies that often emphasise the technological perspectives (Buhalis et al., 2024; Ghesh et al., 2024), this study focuses on travelers' subjective realities, unpacking how AI-enabled touchpoints not only address practical needs but also promote complex internal processes that shape the meaning and memorability (positive or negative) of travel (Sthapit et al., 2024; Carrasco-García et al., 2025). The S-O-R framework used in this study provides a complete perspective for understanding how AI-powered touchpoints fundamentally influence the visitor experience (Figure 3). The findings show that the use of AI in tourism does not have a uniform or unidirectional effect on experience; rather, it is heavily mediated by the depth and quality of tourist engagement, as well as contextual factors like knowledge of technology and prior expectations (Vafaei-Zadeh et al., 2025).

[INSERT FIGURE 3 HERE]

The stimulation phase is represented by a variety of AI-powered tourism technologies, each working as an agent to reshape passengers' expectations, decision-making processes, and the landscape of possible actions (Nugroho et al., 2024; Prince Antony & Ragul Kannan, 2024; Jayakumar et al., 2025). Participants' responses show that the presence and design of these AI features not only facilitate personalised and efficient travel, but also elicit a range of psychological reactions, from a sense of empowerment and curiosity to moments of hesitation or skepticism about privacy and authenticity (Wüst & Bremser, 2025; Hu & Min, 2025).

The study demonstrates how these stimuli, when experienced in place, trigger a sequence of internal organismic reactions, both cognitive and affective, that influence the overall perception and memorability of the tourist experience (Matyusupov et al., 2024). On the one hand, personalised AI recommendations, smart hotel features and seamless translation support were frequently cited by participants as sources of empowerment, emotional engagement and an increased sense of caring, findings that are consistent with recent studies on the transformative potential of digital enhancements to tourism experiences (Semwal et al., 2024). On the other hand, the same participants sometimes expressed concerns about over-automation, depersonalisation or algorithmic bias, particularly in relation to facial recognition systems or predictive travel planning, which could detract from the sense of spontaneity and human connection that traditionally characterises memorable tourism (Zvaigzne et al., 2025; Joshi, 2024). These ambiguous responses indicate that it is not AI adoption by itself, the quality of AI engagement how profoundly and meaningfully visitors interact with these systems that determines whether experiences are enriched

or undermined (Liu et al., 2025). These findings confirm the idea that the organism phase is not passive; visitors are active agents who interpret, negotiate, and occasionally oppose the effects of AI in their encounters (Chiengkul et al., 2025).

Importantly, the organism-level reactions documented in this study were closely tied to concrete behavioural outcomes (Xiong et al., 2023). Positive responses such as empowerment, trust, and emotional engagement translated into intentions to revisit destinations, continued use of AI applications, and active advocacy through sharing positive stories with peers (Chiengkul et al., 2025; Vafaei-Zadeh et al., 2025). On the contrary, negative reactions particularly privacy concerns, surveillance anxiety, and loss of human connection often resulted in dissatisfaction, resistance to AI adoption, and even the deliberate dissemination of critical feedback (Frenkenberg & Hochman, 2025; Zvaigzne et al., 2025). These findings also extend the organism phase by highlighting the role of AI-mediated place identity in shaping tourists' internal meaning-making processes. Indeed, through AI-enabled storytelling, virtual navigation, and context-sensitive interpretation, visitors develop a stronger sense of connection and belonging to place. Such interactions move beyond practical utility and reveal how emotional and cognitive engagement with AI technologies can reinforce personal and cultural meaning during travel (Das et al., 2025; Farah et al., 2024; Jang et al., 2024). This demonstrates that tourists' cognitive and affective evaluations serve as the bridge between internal reactions and outward behaviours, highlighting the complete S–O–R process whereby AI-driven stimuli shape not only perceptions of experience but also loyalty, advocacy, and long-term patterns of technology acceptance or avoidance.

The response phase, these inner processes form into concrete outcomes (Sthapit et al., 2024). When AI-mediated engagement is positive, tourists are more likely to develop trust, share positive stories and build lasting affective bonds with places visited (Carrasco-García et al., 2025). For instance, for many participants, the encounters with AI-driven functions were unplanned and yet became a central part of their journey. They facilitated discovery, overcame language or cultural barriers and fostered a sense of belonging or novelty. However, the findings also indicate that these same features created moments of detachment or apprehension for some people, mainly when the technology was perceived as intrusive or when it overshadowed the local and human elements of the travel experience. This can lead to dissatisfaction, resistance to the future adoption of AI or even the active dissemination of negative reports outcomes that have a significant impact on the image of destinations and the long-term sustainability of smart tourism initiatives (Zvaigzne et al., 2025). Similarly, within the response phase, CPV emerges as a key mechanism linking internal evaluations to behavioural outcomes. Tourists assess the balance between benefits such as personalisation, enjoyment, and convenience and costs, including privacy concerns or perceived loss of authenticity. When perceived value is high, visitors express stronger satisfaction, trust, and advocacy; when low, they exhibit resistance or disengagement from AI features (Akdin & Casaló, 2023.; Das et al., 2025; Lalicic & Weismayer, 2021).

5.2 Theoretical implications

This study advances the theoretical landscape of tourism research by offering a new perspective on the creation and enhancement of MTEs in the age of AI. Traditionally, MTEs have been conceptualised as the result of unique personal encounters, emotions, and contextual factors that leave a lasting impression on travellers (Kim et al., 2020). It is proposed that AI should not be considered merely a passive facilitator, but an active, participating actor in the tourist experience (Ghesh et al., 2024). By applying the S-O-R framework (Mehrabian & Russell, 1974) in a digitally augmented environment, this study provides a multidimensional lens for understanding how AI-

driven stimuli go beyond operational efficiency to elicit complex emotional, cognitive, and mnemonic responses that enhance journey memorability (Chiengkul et al., 2025). They are not passive recipients of technological input, but active interpreters, negotiators, and sometimes resisters to the influence of AI (Kim et al., 2020).

The main theoretical contribution of this study is twofold: it empirically demonstrates the mediating role of tourism engagement as an active organismic process and extends the S-O-R framework by integrating the complex emotional and mnemonic responses crucial for understanding technologically mediated tourism today. In addition, by foregrounding the voices and narratives of travelers, our research provides a corrective to existing literature, which has often privileged technological optimism and overlooked the risks and ethical dilemmas posed by ubiquitous AI.

This reframing positions MTEs as the product of interplay between human agency and technological capabilities, extending existing models that have overlooked the potential of AI in shaping what is remembered, valued, or shared after the journey. This study emphasises the dual nature of AI's impact on MTEs. While AI can boost pleasant emotions, discovery, and personal relevance, resulting in stronger place connection and loyalty, it can also have negative consequences, such as making tourists view travel more negatively due to concerns about AI (Kim et al., 2020). By bringing this complexity to the fore, this study calls for a shift towards a more journey-centred and ethically conscious framework and encourages future studies to explore how AI affects broader constructs such as nostalgia, identity, and the authenticity of memorable experiences.

5.3 Practical Implications

The findings of this study highlight several practical implications for policymakers, technology developers, and tourism destination managers seeking to maximise the benefits of AI in tourism. Firstly, the findings show that simply introducing AI technologies is not enough; the true value comes from creating interactive, intuitive, emotionally engaging AI experiences that actively involve tourists at every stage of their journey. To ensure all visitors benefit, staff and tour guides should be trained and empowered to assist tourists in using these technologies, helping guests of all ages and backgrounds feel confident and included. For example, AI recommendation systems could be integrated with local storytelling platforms, where digital assistants not only suggest restaurants but also narrate their cultural background or share short stories from local communities. This integration would allow visitors to engage with destinations on a deeper cultural level while benefiting from the convenience of AI.

Secondly, tourism service providers should pay attention to the emotional dimension of AI-powered experiences. Using AI, providers can recommend off-the-beaten-track local restaurants for adventurous foodies or suggest customised cultural tours for history enthusiasts, creating discovery and personal connection that encourages loyalty and return visits. The integration of AI should be holistic, supporting tourists from pre-trip planning and booking, through on-site engagement, to post-trip reflection and sharing. This can include virtual concierges offering real-time support, translation apps breaking communication barriers, and AR guides bringing heritage and stories to life. Destinations can further support these innovations by investing in reliable digital infrastructure, such as high-speed internet and smart signage, ensuring seamless access to AI-powered services in urban and rural areas. Collaboration between public and private sectors can accelerate the development of integrated tourism platforms, creating a smart, connected visitor experience that is satisfying and efficient.

Lastly, stakeholders must address the ethical and social dimensions of AI in tourism. Transparent communication about data privacy, giving visitors control over digital interactions, and implementing feedback systems can help build trust and reduce anxiety about surveillance or loss of control. Tourism service providers and destination managers should also balance automated efficiency with opportunities for genuine human interaction, ensuring technology complements rather than replaces the warmth and spontaneity that make travel memorable. One possible strategy is to embed AI-driven recommendations into community-based tourism initiatives, such as connecting visitors with local artisans, family-run accommodations, or neighbourhood-led cultural events. Such applications of AI not only enhance visitor experience but also distribute economic benefits more equitably across local communities.

Beyond managerial practices, the findings also carry important societal implications. The growing role of AI in tourism raises questions of digital equity, as not all visitors or communities have equal access to advanced technologies. Destinations should ensure that AI-based services are inclusive, bridging rather than widening digital divides, particularly for older tourists, those with lower technological literacy, or travelers from regions with limited connectivity. Moreover, algorithmic bias embedded in AI systems can shape tourism narratives in ways that privilege mainstream attractions while overlooking minority voices or less-commercialised destinations. Addressing these concerns requires transparent design, inclusive data practices, and active involvement of local communities to safeguard fairness, cultural diversity, and the integrity of tourism storytelling.

5.4 Limitations and future research

The limitations in this research must be acknowledged. Although the study sample was designed to be diverse, it cannot fully represent the wide range of digital literacy, cultural backgrounds, and generational perspectives that characterise the global tourist population. In addition, this study did not systematically address pressing ethical concerns such as privacy, cybersecurity, and algorithmic bias, which are increasingly important with the growing integration of AI into tourism environments (Chiengkul et al., 2025). The dynamic and rapidly evolving nature of AI technologies also presents a challenge, as this study focused primarily on current mainstream applications and may not have captured the full range of emerging tools such as service robots, chatbots, facial recognition, and adaptive recommendation systems in tourism (Kim & Chen, 2019; Tussyadiah et al., 2018). The cultural and regional context of this study further limits the generalisability of the findings. Therefore, cross-cultural, comparative, and longitudinal studies are needed to better understand how different cultural values, legal frameworks, and levels of technological maturity influence tourists' interactions with AI.

Moreover, while the findings emphasise the potential of AI to create meaningful tourism experiences, the barriers to user adoption such as technostress, lack of trust, and concerns about authenticity have not yet been sufficiently explored and should be investigated further (Chiengkul et al., 2025). Future research should build on the integrative S-O-R framework by using mixed methods, experimental, and longitudinal approaches to illuminate not only the immediate effects of AI, but also its long-term impact on tourists' memory, identity, and place attachment. Lastly, this study confirms that AI is not a neutral or peripheral actor in tourism, but an active co-creator of what is felt, remembered, and shared. The key challenge for academics and industry practitioners is to harness the potential of AI in a way that is ethically responsible, culturally inclusive, and emotionally meaningful to ensure that the future of smart tourism is as rich, human-centred, and memorable as its past. Another important methodological consideration concerns the

sampling approach. Because short-term tourists were not included in the study, the findings may not fully capture the breadth of memorable tourism experiences (MTEs). While locals and long-term residents can provide meaningful insights, their perspectives may differ from those of temporary visitors who often experience destinations with greater intensity and novelty. This gap suggests that the present study offers only a partial view of MTEs, which should be considered when interpreting the results. Future research should therefore highlight incorporating data from short-term visitors, ideally capturing both pre-trip expectations and post-trip reflections. Such an approach would provide a more holistic understanding of MTEs by including perspectives that are inherently shaped by limited time, novelty, and heightened emotional engagement. Comparative studies that examine differences between short-term tourists and long-term residents could also shed light on how duration of stay and familiarity with a destination influence the formation of memorable experiences.

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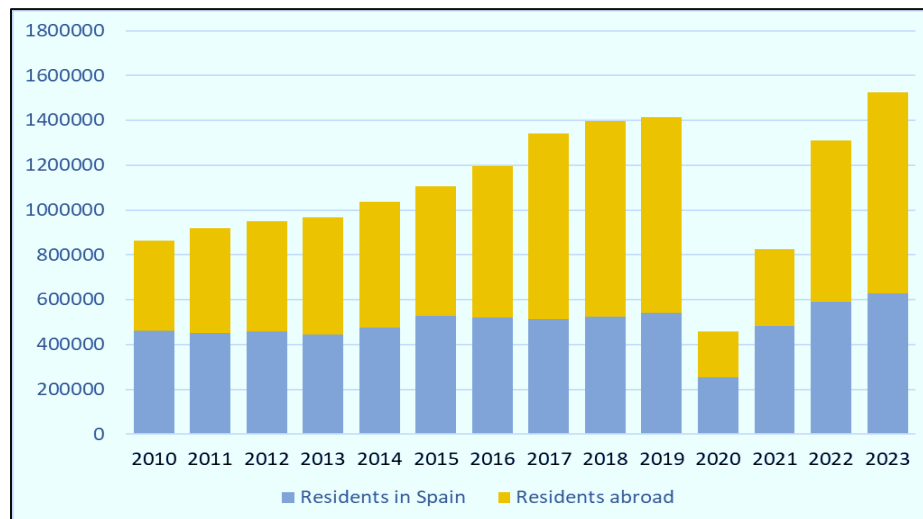


Figure 1. Tourist arrivals (2010-2023)

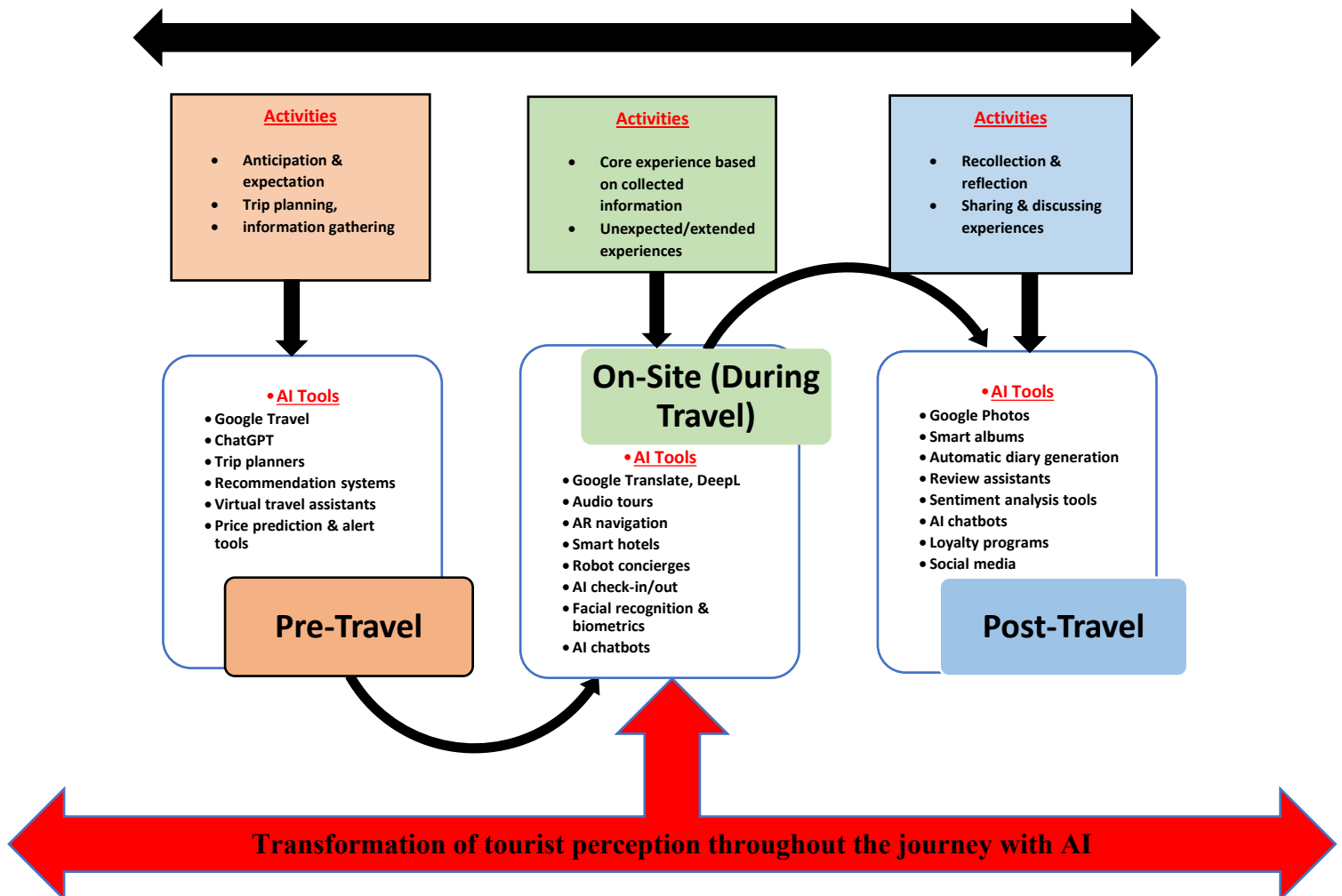


Figure 2. The role of AI tools in shaping the tourist experience at different travel stages

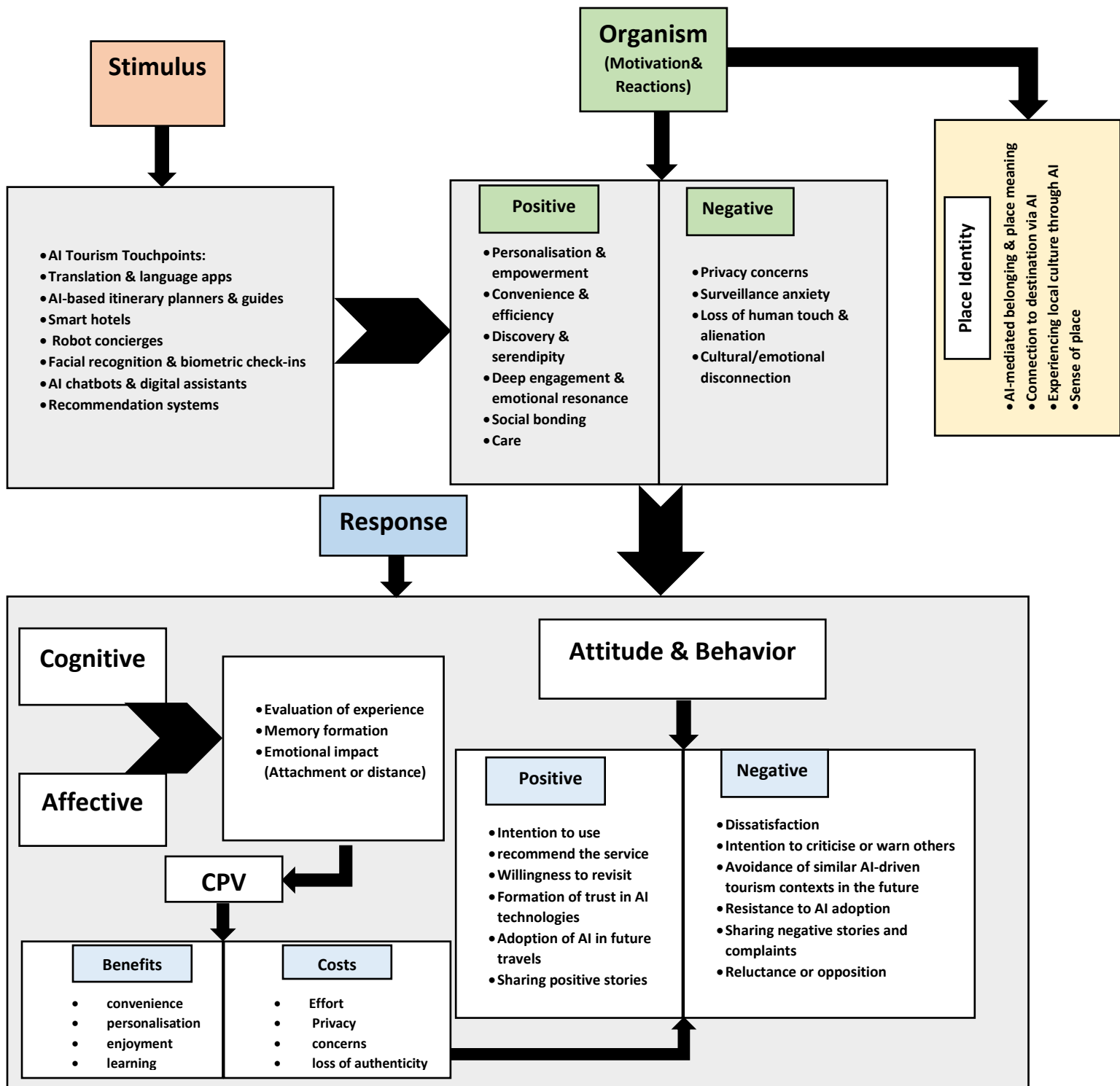


Figure 3. S-O-R Model for AI-Mediated Tourism Experience.

Table 1. Profile of interview participants

No.	Pseudonym	Age group	Education	National	Occupation
1	Sofia	20-30	Bachelor	Canada	Marketing
2	Jonas	20-30	Bachelor	Sweden	Software Developer
3	Amina	30-40	Bachelor	Morocco	Hotel Front Desk Clerk
4	Masoud	40-50	PhD	Iran	Student
5	David	30-40	Bachelor	USA	Marketing
6	Khaled	30-40	Bachelor	Egypt	Financial
7	Linda	50-60	Master	Australia	Software Developer
8	Chiara	40-50	Bachelor	Italy	Travel Consultant
9	Arjun	40-50	Bachelor	India	Receptionist
10	Emily	30-40	Bachelor	UK	Sales Representative
11	Yara	40-50	Master	Lebanon	Business Analyst
12	Lucas	40-50	Bachelor	Brazil	Software Developer
13	Aya	40-50	Master	Japan	Data Scientist
14	Carlos	30-40	Master	Spain	Tour guide
15	Nadia	20-30	Bachelor	Tunisia	Student
16	Omar	30-40	Master	Jordan	Financial
17	Anna	30-40	Bachelor	Spain	Software Developer
18	Fatima	30-40	Master	Spain	School Teacher
19	Lucas	30-40	Master	Spain	Marketing
20	Mateo	30-40	Bachelor	Spain	Graphic Designer
21	Isabella	40-50	Master	Spain	Healthcare Administrator
22	Lucía	30-40	Bachelor	Spain	Software Developer
23	Diego	40-50	Bachelor	Spain	Graphic Designer
24	Alejandro	40-50	Bachelor	Spain	Tour guide
25	Alex	40-50	Master	Spain	University Lecturer

