

Tourism in the Age of Artificial Intelligence: A Conceptual Perspective on Marketing and Beyond

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Article Info	Abstract
Keywords: Artificial Intelligence, tourism sector, tourism marketing, AI applications. JEL: O32, L83, M31 Received: 4 October 2025 Accepted: 17 October 2025 Published: 22 October 2025	In the tourism sector, AI technologies are revolutionizing how tourists plan their trips; interact with destinations, and access services. At the same time, companies are using AI to personalize experiences, optimize operations and enhance decision-making through advanced data analysis and automation. Although the role of AI in tourism marketing has begun to attract academics attention, the existing body of literature remains fragmented, which limits a full understanding of the topic. To address this, the aim of our study was to critically examine how AI is transforming tourism and marketing practices, and to better understand how it reshapes traditional approaches to promotion, tourist engagement, and value co-creation. Based on a theoretical analysis, we identified, evaluated, and synthesized existing literature on Artificial Intelligence and tourism marketing. Our findings show that AI is currently used mainly for segmentation, creating marketing materials and personalization. However, the review revealed also that existing literature on the topic remains limited, highlighting the need for further research to address current gaps and deepen understanding in this area.

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Introduction

Digital transformation plays a pivotal role in reshaping all economy sectors by changing industry practices and enhancing competitiveness. When discussing digital transformation, we refer to a range of technological solutions that have evolved over time, beginning with the raise of the Internet. Today, the most influential technologies shaping the tourism sector include the Internet of Things (IoT), Big Data Analytics, Blockchain, Cloud Computing and Artificial Intelligence (AI) (Kindzule-Millere & Zeverte-Rivza, 2022). AI in particular, is considered the most advanced stage of digital transformation (Madzik and al., 2023) and one of the most innovative technologies to have revolutionized various industries worldwide (Samala and al., 2022).

The tourism sector is no exception, as AI has raised as a powerful tool for enhancing various aspects of the tourism marketing. From AI driven chatbots that improve customer service to personalized recommendations that boost sales, the potential benefits are clear. Furthermore, AI's predictive capabilities have strengthened demand forecasting in the hospitality sector, leading for more efficient resource allocation and cost reductions (Prahadeeswaran, 2023).

Although the role of AI in tourism marketing has started to attract academics attention, the existing body of literature remains insufficient to fully understand the topic. Throughout our research, we actually observed that the literature is highly fragmented with studies focusing on various isolated aspects rather than providing a comprehensive perspective.

The aim of this study is to critically examine the role of AI in transforming tourism marketing practices and to develop a clear understanding of how AI can reshape traditional approaches to promotion, tourist engagement, and value co-creation. Accordingly, our research question is: In what ways is AI being applied in tourism marketing, and what are the implications for practice and future research?". Based on this question, we have established the following research objectives:

RO1. To identify and categorize the current applications of AI in tourism overall with a specific focus on tourism marketing.

RO2. To identify the types of studies and the methods used to investigate the applications of AI in tourism and tourism marketing.

RO3. To identify research gaps and suggest directions for future academic inquiry in the field of AI-driven tourism marketing.

To answer our research question, we conducted a conceptual review aimed at gaining a better understanding of the role of AI in tourism marketing and providing new perspectives to future research.

1. Literature review

1.1. Tourism marketing: foundations

In an attempt to define tourism marketing, we will define the two concepts of « tourism » and « marketing ». For “tourism,” Ferrari and al. (as cited in (Geng and al., 2024)), proposes that it refers to a series of activities people leave to new places for leisure or business for a certain period. The concept is also presented as a way of life in which people take the initiative to travel or change

their place of residence in a short period (Higgins-Desbiolles and al., 2019). As for marketing, it refers to the process in which businesses interact with customers and establish strong relationships with this interaction, rather than sales and advertising (Kotler and al., 2020). The American Marketing association defines the concept of marketing as the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large (2025).

Tourism marketing is part of marketing and follows its principles. However, what distinguishes tourism marketing is that it is similar to service marketing. The characteristics of the product give marketers certain limitations as well as specific directions for the difference between the tourism market and other markets (Othman & Khorsheed, 2019). That being said, tourism marketing is based on customers' feelings and appeals to the senses to create tangible wants and desires in consumers, particularly through digital channels (Florida-Benítez & Del Alcázar Martínez, 2024). It plays an important role in promoting destinations, attracting tourists, and supporting local economies. Tourism marketing is also recognized as one of the pillars of future growth and sustainability of tourist destinations. According to Meidan (1984), tourist marketing plays a critical role in determining and influencing many of the variables related to social and personal determinants of tourist behavior; tourism stimuli factors; and destinations considerations.

1.2. AI in tourism marketing:

AI is commonly defined as a set of technologies capable of imitating human intelligence to solve problems. Like humans, AI can apply rules, learn from experience, adapt to changes in the environment and improve over time (Bulchand-Gidumal and al., 2024). It is also described as the development of computer systems that can perform tasks and activities that typically require human intelligence (Russell and Norvig, 2016, p. 4 as cited in (Samala and al., 2022)).

In Marketing, the application of AI can be categorized based on multiple criteria, including functionalities (e.g., Natural Language Processing (NLP), Computer Vision, Content Generation), degrees of automation (supervised, unsupervised, or hybrid), and specific use cases (e.g., customer service, content creation, market research) (Duan and al., 2019 as cited in (Zhang & Prebensen, 2024)).

In the tourism sector, AI technologies are transforming how tourists plan their trips, interact with destinations, and access services (Prahadeeswaran, 2023). From the supply side, AI has a significant potential to impact the hospitality and tourism industries by enhancing operational efficiency and improving customer service, both of which ultimately lead to higher profitability (Bulchand-Gidumal and al., 2024).

It is also worth mentioning that several new technologies have emerged within the broader field of AI. According to Samala (2022), these technologies have contributed to delivering novel and enhanced experiences to customers. Examples include facial recognition technologies, virtual reality applications, chatbots, robots, Artificial Intelligence in Google Maps, language translators, audio tours... (Samala and al., 2022).

While AI certainly enhances tourism experiential services, it cannot surpass the human touch which remains an essential determinant of experiential tourism. For example, AI-powered Chatbots can

provide interactive 24/7 customer support by answering common guest queries, providing personalized recommendations and offers, offering assistance, and even handling simple bookings. Chatbots, are just one example of how AI is being applied in tourism marketing.

It is also important to note that, tourism marketing comprises substantial text-based activities aimed at promoting travel destinations and pertinent tourism offerings such as creating tourist brochures, crafting social media posts, launching email marketing campaigns, producing advertising copies, and issuing press releases, among other tasks (Zhang & Prebensen, 2024). Given that, the role of AI cannot be overlooked, as it increasingly contributes to automating, personalizing and scaling these marketing efforts.

In a similar vein, Prahadeeswaran (2023) summarize the use of AI in tourism marketing by emphasizing its impact on both marketing effectiveness and personalization: AI enables the analysis of large volumes of data to better understand traveler preferences and behaviors. This data-driven approach allows tourism businesses to develop highly targeted marketing campaigns, personalized offers, and customized content for individual customers. Additionally, AI supports dynamic pricing strategies contributing to more effective revenue management (Prahadeeswaran, 2023).

To generalize, it can be said that AI holds a significant promise in marketing research, strategic marketing, and marketing operations (Durmaz & Baser, 2023) and that it serves as an effective complementary dimension to the future of tourism (Samala and al., 2022). However, as mentioned earlier, knowledge about the interrelationship between these concepts remains limited. In the following sections, we aim to address this gap by exploring the applications of AI in the tourism sector with a particular focus on tourism Marketing.

2. Methodology

Our study adopts a narrative review approach to identify, evaluate, and synthesize existing literature on Artificial Intelligence and tourism marketing. To answer our research question, we opted a search strategy described in the following paragraphs.

To locate relevant literature, we used the Web of Science (WOS) database to find the key documents related to our topic.

The search used the following keywords and Boolean search string:

"Artificial Intelligence" OR "AI" OR "Machine Learning" OR "deep learning") AND "tourism" OR "hospitality" OR "travel") and "destination marketing" OR "destination image" OR "tourism marketing" OR "branding". These keywords were searched in the "Topic" field, which means in the title, the abstract and the author keywords. We also applied specific criteria to refine our research:

- Publication year: from 2018 to 2024.
- Type of documents: articles and review articles.
- Web Of Science Categories: « Hospitality Leisure Sport Tourism » or « Management or Business or Sociology ».

These criteria were selected to ensure the relevance, quality, and disciplinary alignment of the literature included in the review. First, we have restricted the publication period from 2018 to 2024

to capture current trends, recent theoretical developments, transformations and methodologies related to the applications of AI in tourism marketing. Second, we included only peer-reviewed articles and review papers to ensure academic rigor and the inclusion of empirically or theoretically grounded research. Finally, we limited our search to the Web of Science categories “Hospitality Leisure Sport Tourism,” “Management,” “Business,” and “Sociology” to reflect the interdisciplinary scope of the topic.

Based on the defined keywords and inclusion criteria, the initial search yielded 66 articles. A primary screening was then conducted using the titles and the abstracts of the articles. The main objective of this phase was to assess the relevance of the articles. We classified the articles according to three relevance levels: high, medium and low. The high relevance category included all the articles that directly addressed the AI’s role in destination marketing, branding, or image formation; how AI shapes tourist perceptions, trust, authenticity, or experiences; and the managerial use of AI by Destination Management Organizations (DMOs), tourism boards, or marketers. The medium relevance category included all articles on AI in tourism broadly (chatbots in hotels, recommender systems, big data in travel); and studies that focus on digital marketing in tourism (social media, User Generated Content (UGC), personalization), even if AI isn’t the main focus. And the low relevance category covered articles where AI was used solely as a methodological tool; studies centered purely on computer science or technical aspects without tourism or marketing implications; and research where AI was not a central element (e.g., Virtual Reality without an AI dimension). We excluded from our analysis all articles classified in the low relevance category.

Following this initial screening, only 5 articles were identified as highly relevant and explicitly focused on the intersection of AI and tourism marketing, highlighting the emerging and underdeveloped nature of this research area. To broaden the review and situate these findings within a broader context, we also included 11 studies considered as moderately relevant, related to AI applications in tourism and marketing more generally.

For the next step, we downloaded the full texts for an in-depth analysis. We successfully retrieve 11 full-texts articles which were included in the final review.

3. Results

We present in this section the main findings of the literature review. The section begins with an overview of the selected studies, followed by a discussion of the most commonly reported research gaps identified in our analysis. We then, outline the methodologies employed across the reviewed works. Next, we synthesize the key themes that emerged from the literature concerning AI and tourism marketing. Finally, we conclude with a section that highlights the limitations of existing studies and suggests directions for future research in this field.

3.1. Overview of the selected articles:

Our review included 11 peer-reviewed articles published between 2018 and 2024, with a primary focus on the applications of AI in tourism marketing. **Table 1** provides a summary of key information related to the articles included in our review:

Table 1. Articles included in the analysis

1st Author Full Name	Article Title	Source Title	Publication Year
Cai Danting	Anthropomorphism and OTA chatbot adoption: a mixed methods study	Journal of Travel & Tourism Marketing	2022
Lv Linxiang;	Apology or gratitude? The effect of communication recovery strategies for service failures of AI devices	Journal of Travel & Tourism Marketing	2022
Bulchand- Gidumal Jacques	Artificial intelligence's impact on hospitality and tourism marketing: exploring key themes and addressing challenges	Current Issues in Tourism	2024
Blanco- Moreno Sofia	Big data in tourism marketing: past research and future opportunities	Spanish Journal of Marketing-Esic	2024
Zhang Yaozhi	Co-creating with ChatGPT for tourism marketing materials	Annals of Tourism Research Empirical Insights	2024
Lv, Linxiang	Enhancing customers' life satisfaction through AI-powered personalized luxury recommendations in luxury tourism marketing	International Journal of Hospitality Management	2024
Samala Nagaraj	Impact of AI and robotics in the tourism sector: a critical insight	Journal of Tourism Futures	2022
Ahani Ali	Market segmentation and travel choice prediction in Spa hotels through TripAdvisor's online reviews	International Journal of Hospitality Management	2019
Calderon- Fajardo Victor	Neurotourism Insights: Eye Tracking and Galvanic Analysis of Tourism Destination Brand Logos and AI Visuals	Tourism & Management Studies	2024
Zhu Jingjie	Tourism destination stereotypes and generative artificial intelligence (GenAI) generated images	Current Issues in Tourism	2025

Sigala Marianna	Understanding the impact of ChatGPT on tourism and hospitality: Trends, prospects and research agenda	Journal of Hospitality and Tourism Management	2024
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Source: Compiled by the authors based on reviewed literature.

Regarding the year of publication, six of the articles included in our review were published in 2024, three in 2022, one in 2019 and one in 2025. As for the main sources of the articles, we noted that two articles were published in the journal « *Current Issues in Tourism* » and two other articles in « *International Journal of Hospitality Management* ». All remaining journals contributed only one article each.

3.2. Reported gaps

Across the reviewed studies, recurring research gaps were identified, reflecting the emerging nature of research at the intersection of AI and tourism marketing.

Firstly, several authors reported a need for further research on the concept of AI and its application to the travel, tourism and hospitality industry (Bulchand-Gidumal and al., 2024; Samala and al., 2022). As a result, their studies focused on the applications of AI in the tourism and hospitality sector. Additionally, in relation to Big Data, often used alongside with AI, Blanco-Moreno and al. (2024) noted the absence of bibliometric analyses that address the intersection of Big Data (BD), tourism and marketing and identified this gap as the primary motivation for their research.

In other studies, the identified gaps were more specifically related to applications of AI in tourism marketing. For example, Zhang & Prebensen (2024) argue that there is no prior research that has explicitly examined whether ChatGPT-generated marketing text can be distinguished from content generated by tourism marketing experts. Similarly, Zhu and al. (2025) highlighted the need for practical applications of Generative Artificial Intelligence (GenAI) in tourism. Furthermore, Sigala and Al. (2024) argued that more research is required to provide a deeper understanding of the adoption, use, and implications of AI technologies for both tourism providers and tourists.

Additional research has identified gaps more specifically related to AI applications in the context of marketing. For instance, Ahani and al. (2019) developed a market segmentation algorithm, noting that insufficient attention has been given to the development of new methods for market segmentation based on online reviews. Moreover, as very limited research has specifically examined how personalized luxury cues within tourism products affect customers' psychological states in the pre-purchase phase, Lv and al. (2024) addressed this gap in their study. Finally, Calderón-Fajardo and al. (2024), investigated how AI generated images, specifically destination brand logos and combination marks, influence consumer attention and emotional response. According to the authors, traditional tools such as surveys and questionnaires, often fail to capture the full complexity of tourist experiences.

3.3. Research methodologies

Table 2 summarizes the types of studies and the methods used in the reviewed articles. The listed methods correspond to those employed by the authors cited, in the same order.

Table 2. Types of study and methods used

Types of study	Articles	Methods used in the articles
Conceptual	Blanco-Moreno and al. (2024); Samala and al. (2022); Sigala and al. (2024)10/21/2025 11:59:00 PM	Bibliometric analysis; Systematic study; Multi-expert approach.
Empirical	Ahani and al. (2019); Bulchand- Gidumal and al. (2024); Calderón-Fajardo and al. (2024); Zhang & Prebensen (2024); Zhu and al. (2025)	Interviews + focus groups + survey; Online experiment; Machine learning approach; Experiment; Image analytics.
Empirical with a framework	Cai, al. (2022); Lv and al. (2022); Lv and al. (2024)	Semi-interviews + experiments; Experiments; Experiments.

Source: Compiled by the authors based on reviewed literature.

As shown in

Table 2, the sample included both conceptual papers and empirical studies employing qualitative and quantitative methodologies. it should be noted that most studies use experiments, alongside with traditional methods such as interviews and surveys. Moreover, some studies use data-driven methods like image analytics and machine learning approaches.

3.4. AI in tourism marketing: themes

Following the selection and analysis of the articles included in the review, several recurring themes emerged. Across these, four key themes stood out:

3.4.1. AI in tourism marketing strategy and personalization

One of the most prominent areas where AI is transforming tourism is marketing strategy and personalization. Several studies (Ahani and al., 2019; Blanco-Moreno and al., 2024; Bulchand-Gidumal and al., 2024; Lv and al., 2024; Zhang & Prebensen, 2024) have focused on AI's use and impact of AI in hotel marketing, luxury tourism marketing, market segmentation for spa hotels and the application of artificial neural networks in tourism marketing.

For instance, Zhang and al. (2024) analyzed the use of ChatGPT in tourism marketing text generation, and found out that ChatGPT not only has the potential to deceive human detection but can also effectively create marketing materials comparable in quality and impact to that created by tourism marketing professionals. From a managerial perspective, the authors suggest that tourism marketing specialists should view generative AI chatbots, such as ChatGPT, as virtual assistants and co-create with them to enhance the efficiency of routine marketing operations.

Furthermore, the authors propose that tourism marketers and managers should adapt their roles in marketing practices, by embracing collaboration with AI tools, hence considering ChatGPT as a co-creator rather than solely a disruptor.

Regarding hotels marketing, two key studies analyze the use of AI. First, Lv and al. (2024) inspected AI's role in luxury tourism and concluded that personalized recommendations of luxury tourism products can enhance customers' life satisfaction by improving their positive self-perception, thereby enhancing their sense of self and self-esteem. The authors, argue that as AI technology continues to evolve, luxury tourism brands must adapt to harness its full potential and leverage AI technology to enhance customers' life satisfaction (Lv and al., 2024). Second, Bulchand-Gidumal and al. (2024), forced on AI's impact on hospitality and tourism marketing and summarize in their article AI's contribution to hotel marketing, customer processes and services through smart and predictive customer care (AI applications will empower new CRM and revenue management capabilities and will revolutionize the way in which customer value is focused and analysed) and by enabling predictive and augmented product and service design (AI will help design products and services in a predictive, dynamic, and adaptive manner) (Bulchand-Gidumal and al., 2024).

Furthermore, Ahani and al., (2019), investigated how machine learning approaches can be utilized for spa hotel segmentation and travel choice prediction, based on traveler reviews and ratings. Their study confirmed that the proposed hybrid machine learning methods effectively function as an incremental recommendation agent for spa hotel and resort segmentation by leveraging the vast amounts of BD generated through online social media platforms. This approach highlights the potential of AI-driven analytics to enhance targeted marketing efforts in the hospitality sector (Ahani and al., 2019).

Additionally, Blanco-Moreno and al., (2024) emphasize that leading hotels, tourism businesses, and marketing consultants need to actively leverage AI to innovate, improve processes, and extract maximum value from data. They argue that marketing professionals should prioritize further research into specific problems they want to address using big data and AI, given the broad range of current applications, such as predicting tourism demand, analyzing tourist satisfaction, and performing market segmentation. This focused research will help unlock more strategic and effective uses of AI within tourism marketing.

3.4.2. Generative AI and visual representation of destinations

Among the articles included in our review, two specifically examined the use of AI-generated images and visual representations of destinations in their studies. Calderón-Fajardo and al., (2024) explored how AI-generated destination brand logos and combination marks influence consumer attention and emotional responses. Similarly, Zhu and al. (2025) investigated how AI-generated images can reinforce stereotypes of tourism destinations.

The key conclusions from the mentioned studies are twofold: first, marketing professionals can leverage advanced neuroscientific methods to optimize the visual presentation of destinations thereby enhancing the tourist experience and influencing destination choice. Second, while GenAI plays a positive and creative role by augmenting the work of creative professionals and enhancing tourists' sensory engagement and visual memory, Zhu and al. (2025) caution that GenAI tends to

produce highly homogenized images. This limitation risks oversimplifying the diversity of destinations and perpetuating stereotypical representations.

3.4.3. AI in customer interaction and experience

One of the most prominent applications of AI in tourism lies in enhancing customer service and experience. Nevertheless, the integration of AI into customer-facing roles also raises new challenges. For instance, Cai and al. (2022) highlight concerns from both customers and companies regarding how anthropomorphic cues, such as human-like language or appearance in chatbots, impact trust, comfort, and user expectations. The authors argue that Online Travel Agencies (OTAs) should focus more on chatbots' anthropomorphic emotional message cues to strengthen the customers' intentions to use these OTAs chatbots, foster productive relationships, and increase overall engagement.

In addition, in relation to the challenges related to the use of AI in customer services, Lv and al., (2022) argue that businesses must develop tailored communication strategies to respond effectively when AI devices fail, recognizing that not all service failures are perceived equally by customers. Regarding that, the authors stipulate that managers should consider AI devices as social actors to understand how AI service failures threaten consumers' psychological needs. It is also important to recognize the varying impacts of such failures and to pay close attention to the communication style AI uses when interacting with consumers (Lv and al., 2022).

3.4.4. AI and robotics in tourism

Regarding the use of AI and robotics in tourism, one key study investigates how new emerging technologies like chatbots, virtual reality, language translators, etc... can be effectively applied in travel, tourism and hospitality industry (Samala and al., 2022). The authors highlight several important findings: (1) Facial recognition technology facilitates the travel process for customers; (2) Virtual Reality helps tourists access natural resources, general infrastructure, tourist infrastructure, and destination facilities, influencing their purchasing behavior and decision-making; (3) Chatbots provide comprehensive information related to destination and tourist infrastructure; (4) Robots enhance customer engagement and experience by offering novel services and assistance within hospitality facilities; (5) Google Maps assists tourists in navigating general and tourist infrastructure; (6) Language translators enable tourists to communicate effectively with local residents; and (7) Optimization services present customers with the best available options by listing optimal prices (Samala and al., 2022).

3.5. Limitations and future perspectives

The studies included in our review provide valuable insights into the use of AI technology in the tourism sector, particularly in tourism marketing. Building on these insights, this section focuses on potential directions and opportunities for future research in this field. These are about the use of AI in the tourism sector in general, the use of GenAI and ChatGPT in particular, and the impact of AI on tourism customers' behavior.

First, it is widely agreed that there is need for future research regarding the use of AI in the tourism sector and several authors support this view. For instance, Samala and al. (2022) suggest that there is a need to carry out more research studies on the AI concept as well as its application in the industrial tourism setting. The authors argue that additional studies are necessary to shed light on the complexities that might arise before business undertakings in the tourism industry due to the application of AI technology. In addition, the authors suggest that there is a need to conduct comprehensive research studies on AI in tourism so that the overall implication of the technology can be critically assessed. It will help to capture the positive as well as the negative impact on the technology on the industry, the businesses, and the customers (Samala and al., 2022). In the same vein, the article about the AI's impact on hospitality and tourism marketing suggests that future research may benefit from the involvement of AI experts with a greater understanding of the tourism sector to explore cultural and AI-diverse issues (Bulchand-Gidumal and al., 2024).

Second, there is a specific focus on GenAI that needs, according to several researches, to be explored. Zhu (2025) argues that there is a need for ongoing discussions surrounding the deployment of GenAI in shaping destination images and the complex relationships between GenAI and tourism. Also, as Sigala and al. (2022) focused on the use of ChatGPT in destination management, they mentioned that more exploration is needed to understand how ChatGPT enhances the competitiveness of destination management and how it can ensure the fairness, accuracy and authenticity of destination information. Furthermore, according to Zhang and al. (2024), future investigations are needed for designing and crafting AI prompts to achieve optimal marketing outcomes.

Finally, there is a need to analyze, more and in depth, the impact of AI on tourism consumer's behavior. Actually, further research could explore other important dependent variables, such as how future purchase intentions and brand image may be triggered by personalized luxury tourism recommendations (Lv and al., 2024). Moreover, (Cai and al., 2022) argue that there is a need for further research regarding customers' chatbot usage intentions. Finally, it had been noted that more research is need to gain a better understanding of the impact of AI-devices service failure on consumers' perception.

Discussion

It can't be argued that the tourism sector is undoubtedly changing because of AI. This review confirmed that AI is changing how organizations in the industry are managing their operations and especially how they conduct their marketing.

In reviewing the selected articles, four core themes emerged where AI is significantly transforming the tourism sector: (1) marketing strategy and personalization, (2) Generative AI (GenAI) and destination visual representation, (3) AI-driven customer interaction and experience, and (4) the integration of robotics and automation in tourism services. These themes reflect a wide range of AI applications that extend from content generation and customer profiling to service delivery and immersive branding strategies. While the reviewed studies collectively highlight the growing integration of AI in tourism, several limitations and gaps were identified across the literature. The findings of our review demonstrate that research on the topic is shattered, that several aspects related to tourism marketing research, strategy formulation, and the implementation of marketing decisions need to be explored from the organizations' point of view. As for the perspective of the

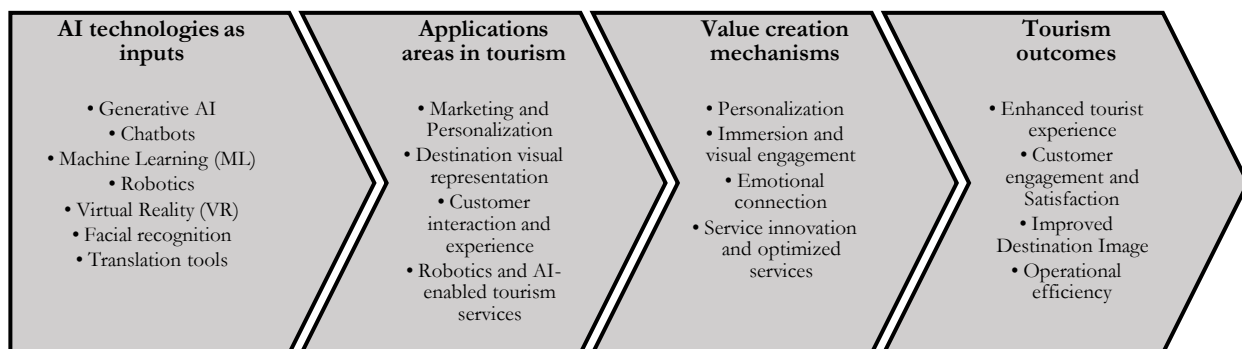
customers, more research is need to understand how AI impacts their perceptions and their behavior regarding tourism products, destinations and experiences.

Moving forward, researchers should continue to investigate how AI can be applied both effectively and responsibly to address the continuously evolving nature of the tourism sector. In addition, more comprehensive and methodologically sophisticated reviews are needed to deepen our understanding of the topic.

Based on the main findings of our review, we tried to build a conceptual framework that synthesizes and illustrates the relationships between the concepts on which we focused our research. The conceptual framework we developed is grounded in the thematic analysis and aims to offer a structured understanding of how AI technologies are currently shaping tourism in general and tourism marketing in particular.

The proposed conceptual framework (Figure 1) identifies four main interconnected layers: (1) AI technologies; (2) the applications areas in tourism of AI technologies; (3) the value creation mechanisms; and (4) the tourism outcomes.

Figure 1. Conceptual framework: AI integration in tourism



Source: elaborated by authors based on reviewed literature.

The first layer identifies the enabling AI technologies found across the literature, including: Generative AI; Chatbots; Machine Learning (ML); Robotics; Virtual Reality (VR); Facial recognition and translation tools.

These technologies support the second layer, which reflects the main application areas of AI in tourism: (1) marketing and personalization (Ahani et al., 2019; Blanco-Moreno and al. 2024; Bulchand-Gidumal et al., 2024; Lv et al., 2024; Zhang et al., 2024), (2) destination visual representation using generative AI (Calderón-Fajardo et al., 2024; Zhu et al., 2025), (3) AI in customer interaction and experience (Cai et al., 2022; Lv et al., 2022), and (4) AI and robotics in service delivery (Samala et al., 2022).

The third layer identifies the value creation mechanisms derived from these applications, such as personalization, immersive content generation, emotional connection, and service innovation and optimized services.

These mechanisms translate into the fourth and final layer of the framework: the outcomes observed in the literature, including enhanced tourist experience (Lv et al., 2024), improved destination image (Zhu et al., 2025), stronger customer engagement (Cai et al., 2022), and operational efficiency (Bulchand-Gidumal et al., 2024).

This review offers several important theoretical implications for the study of AI in tourism. First, this review highlights the absence of consistent theoretical grounding across the reviewed studies, suggesting that the field is still in an early, exploratory phase. Second, the proposed conceptual framework contributes to theory by synthesizing fragmented knowledge across studies into a structured understanding of how AI is integrated into tourism marketing, and specifically in customer interactions, service delivery, and visual representations.

That being said, the proposed conceptual framework can serve as a starting point for building new theory or refining existing ones.

Conclusion

This review aimed to explore the role of AI in the tourism sector, with a particular focus on its applications in tourism marketing. Our main findings highlight the transformative role of AI in reshaping tourism marketing and enhancing tourism experiences. Although the intersection of AI and tourism marketing is a growing field, the number of studies explicitly addressing this relationship remains limited, indicating ample opportunities for both conceptual and empirical development. The main findings of our study highlight the transformative role of AI in reshaping tourism marketing and enhancing tourism experiences. Moving forward, researchers should continue to investigate how AI can be applied both effectively and responsibly to address the continuously evolving nature of the tourism sector.

Like any other study, the present study has some limitations. First, as we mentioned in the section dedicated to the methodology, our literature search was conducted exclusively using the WOS database applying specific criteria related to publication period, language, and document type. This approach may have limited the scope of our results and may not fully represent the current state of research on this topic. To address this limitation, future studies consider including additional databases to gain a better and deeper understanding of the topic.

Second, limiting our research to the period 2018-2024 may have excluded earlier foundational or influential work, potentially reducing historical or theoretical continuity. Future reviews could address this by incorporating earlier literature to trace the evolution of key concepts and provide a more longitudinal perspective on the field's development.

Third, the exclusion of grey literature omits practical or emerging perspectives not yet captured in peer-reviewed publications. Future research might consider incorporating selected grey literature to provide a more practice-oriented or real-time view of developments in the field.

Fourth, limiting the search to selected WOS categories may exclude relevant studies published in adjacent disciplines or maybe misclassified under different categories. This limitation can be addressed by using broader search parameters or cross-database comparisons to capture interdisciplinary work more effectively.

Finally, while this review offers a structured synthesis of recent literature on AI in tourism marketing, it did not incorporate bibliometric or qualitative content analysis tools such as VOSviewer or NVivo. The inclusion of such tools could have provided deeper insights into thematic patterns, author networks, and emerging trends. Future studies may benefit from

integrating these methods to enhance the analytical depth and methodological rigor of the review process.

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