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The Impact of Artificial Intelligence (AI) for Transforming Tourism Marketing on the USA Industry Practices

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Abstract

This study explores the transformative role of Artificial Intelligence (AI) in tourism marketing, highlighting its ability to enhance personalization, operational efficiency, and consumer engagement. The objective is to bridge the gap between theoretical capabilities and practical applications of AI in the USA tourism marketing. The methodology employs a PRISMA-based approach, focusing on recent studies from 2020 onward to analyze AI's impact on marketing practices. A thorough examination of 389 publications obtained from databases like Scopus, Google Scholar, and Scimago for detailed qualitative analysis. The key contribution of this paper lies in its structural approach, which discuss the potential of various AI tools such as tailored recommendations and AI chatbots etc., offering fresh insights on their influence on the American Tourism Marketing sector. The report presents a framework for assessing the impact of AI on customer satisfaction and productivity, providing pragmatic solutions for tourism enterprises. In near future AI will develop enhancing human critical thinking and converting human cognition capabilities.

Keywords: Artificial Intelligence, Tourism Marketing, Sustainable Tourism, Data Privacy, Consumer Engagement.

1. INTRODUCTION

In the foreseeable future, Artificial Intelligence (AI) is supposed to become a crucial component of businesses throughout the world [1]. AI has been introduced in many different sectors including Marketing and Management. AI has garnered significant attention from researchers, engineers, technology experts, and analysts, but is now extending itself from its traditional domains to establish a more powerful presence within the domains of management and marketing [2]. The increasing quantity of customer data accessible online, inside big data systems and available mobile phone, makes AI a crucial partner in marketing, as its reliance on data analysis across all areas of its application [3]. Nowadays, Marketing leverages data extensively to a huge scope- from consumer needs and demand research,

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conducting market analyses, gathering customer insights, and monitoring competition intelligence through seeking performances in various communication or distribution channels to assessing of the applied approaches [4].

Contemporary global marketing is predominantly data-driven, automated, astute, and insightful. The precise strategy of digital-age marketing has directly influenced marketing outcomes [5]. Technological advancements have consistently resulted in enduring transformations in marketing, illustrating that marketing may effectively integrate with artificial intelligence (AI) to provide long-term effects and changes [6]. Now the digitalized framework for the marketing mix is Planning, Production, Personalization, Promotion, and Performance (the 5Ps) transformed than the previously designed 4P version. AI-powered marketing has been rising simultaneously alongside the advancement of technology and its implementation in tourism marketing [7]. Tourism Marketing is maintaining the momentum of growth greatly in the 21st century. Marketers can also practically apply AI-based tools to automate repetitive tasks, such as blogs, email marketing campaigns and social media content management, utilizing more time for strategic planning, decision making and creative accomplishment [8].

The global travel industry in 2019 reached a record market size of USD 1.7 trillion but now $1 trillion in yearly spending; the US is the largest domestic travel market in the world [9]. Of all travels that begin in the United States, sixty-eight percent stay within its boundaries. Due to the repatriation of American tourists overseas, domestic demand has somewhat decreased. However, tourism businesses that provide proper services are still doing well; in 2023, [10] five national parks set attendance records, including Joshua Tree National Park which took advantage of the increased popularity of "dark sky" tourism among stargazers [11]. In America, AI customizes the entire visitor experience, from arrival to departure. Utilizing IBM Watson's AI, Hilton's Connie functions as a concierge, assisting guests with recommendations for dining, hotel facilities, and local attractions. [12]. In the same way, visitors may text Rose, an AI chatbot at The Cosmopolitan in Las Vegas, for anything from brief city recommendations to meal reservations [13].

In Predictive analytics we need extensive historical data and sophisticated machine learning algorithms to forecast future outcomes and trends. The application of predictive analytics to gain valuable insights into consumer behavior and consumer's choices and maximize their marketing campaigns respectively [14]. By meticulously researching customer data, companies can uncover significant patterns and current trends in customer actions, such as the specific hotel room they are most likely to book, the optimal time of day they require to make a booking, and the channels they prefer to use for information gathering or preferred communication [15]. By meticulously monitoring consumer behavior

and preferences across many dynamic channels, marketers may acquire a profound insight of their target audience and develop more effective data-driven marketing strategies in the tourism sector through the application of AI [16].

Limited articles investigated the transformation of marketing managers' roles due to AI, as existing literature at the intersection of marketing, decision-making procedures, and intelligent agents remain analyzed [17]. This research demonstrates that AI is widely utilized across various applications; yet its logical understanding of the development of marketing systems is inadequate. Their understanding is inadequate[18]. The author believes that employees who are compassionately driven must enhance their comprehension of how AI may assist their organizations and their personal strategic advantages in tourism destination marketing. This research demonstrates how brand managers might confront AI; nonetheless, the essay is not broadly applicable to the field of marketing [19]. Furthermore, the marketing analysis indicates that competitive marketers in the sector must possess strong branding, together with adequate technological and research proficiency. The authors emphasize that firms must acknowledge the importance of appropriate perception and oversight in information and data management for automated marketing decisions implemented [20]. This study examines the impact of AI on customer interactions, the hurdles associated with AI adoption, and the possible potential of AI in automated and enhanced marketing functions inside marketing departments of the companies. This study aims to examine the contribution of tourism marketing managers through the enhancement of AI capabilities in this area [21].

1) **RO1:** To investigate the benefits of AI in improving the marketing tactics of tourism destinations.
2) **RO2:** To examine the practical application of AI in enhancing marketing strategies of tourism destinations.
3) **RO3:** To evaluate the influence of AI-driven technologies on operational efficiency and cost reduction in tourism.

2. LITERATURE REVIEW

In the global AI tourism industry among the top leading Companies include Microsoft Corporation, Google LLC, and IBM Corporation of USA [22]. IBM Corporation has bolstered its position by leveraging its Watson AI to enhance customer interaction through personalized recommendations and real-time data. IBM's artificial intelligence (AI) solutions are designed to transform complex data into actionable insights [23]. IBM works with worldwide transportation companies and public transit, such as airlines, cruise lines, trains, hotels, and freight and logistics providers, to accomplish technological change and transformation with AI [24].

Travel and transportation companies are investigating generative AI and machine learning in their business areas to boost efficiency and lower risks. Etihad, Japan Airlines, Delta Air Lines, Lufthansa, and Train Downer of Australia were among the airlines they served [25]. Downer also collaborates with IBM Consulting to get ready for Train DNA's expansion and future development. Additionally, this technology supports predictive maintenance programs for many trains around Australia using near real-time data and sophisticated analytics. Now, the IBM Maximo Application Suite powers it [26].

Google LLC is well-known for its AI-powered products, which include Google Maps, Google Travel, and algorithms that predict travel trends and suggest local experiences. Their continuous improvements in AI and machine learning technologies ensure more personalized and engaging travel experiences [27]. A range of cloud-based AI technologies are available on Microsoft Corporation's Azure AI platform, allowing travel agencies to deploy scalable and efficient AI solutions. Microsoft's focus on trust and security in AI deployments may appeal to travel industry operators who are worried about data protection [28].

2.1. AI

The term "Artificial Intelligence" refers to machines that replicate human cognitive functions, such as learning and problem-solving. Suppose you want to solve a puzzle where you are taking the help your brain function but in AI its main coordinated with the machines [29]. In this contemporary Post COVID world of 2025 the global perspective to promote on the products and service offerings of Tourism Industry has been changed a lot if we consider it than the previous year [30]. Due to modern technological inventions the world re-shaped itself with the introduction of Artificial Intelligence, Virtual Reality etc. components in this relevant field.

2.2. Green and red signals in AI

To get the outmost result we should focus more on the Productivity as from earlier research we get to know that two key properties of artificial intelligence that are particularly relevant to services are the self-learning [31], which automatically enhance their performances with experience or understanding in work and connectivity or connected with in, which allows AI's self-learning capability to boost up to the whole network instead of just one single machine based approach [32]. However, there are some risks and uncertainty involved including job loss; replacement of low skill jobs; loss of control due to autonomous robots and concerns about safety and security. Risk Measurement is an important issue involved but there are more and more opportunities too [33]. There are both positive and negative impacts so AI is not out of it but we expect that this will

bring positive contributions on the economy because of its dynamic wide range of efficiency, and vastly transforming as one of the major priority areas in the Marketing strategies worldwide [34]. Now significant research funding is being directed to the various projects that would give these counties an edge in the competition to find the next significant breakthrough in the development of Artificial Intelligence technology and intelligent man-made machines [35].

2.3 Application of AI in various sectors

Despite Tourism Industries already the usefulness of AI in visible and we can see the uses of AI technology in different parts of the Globe and through various sectors [36]. For Instance, crop management in agriculture, in transportation for autonomous vehicles etc. A 2021 analysis indicates that the AI market has significantly expanded in recent years, with total sales amounting to $28.1 billion in 2018. A recent analysis by PricewaterhouseCoopers forecasts that AI will significantly enhance global GDP, with projections of up to 26% for China, 16% for the USA, and 10% for nations such as New Zealand [37]. The Global AI Market increased by 13 billion in 2023 growing a CAGR of 35.7 % during the forecast period. The consumer's perspectives also changed a lot in the digitalized world where the tourism studies also have witnessed the publication of numerous impactful papers [38]. The level of influence is rising as seen. These Papers discussed marketing and management, Information Communication technology developments, social media and recommender systems [39], shown in Figure 1 and Table 1.

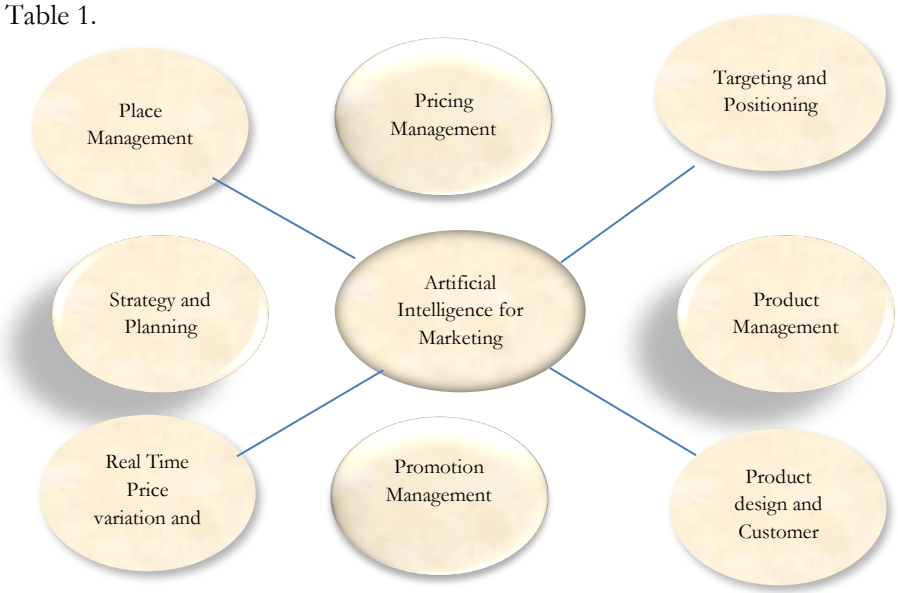

Figure 1: Artificial Intelligence for optimizing marketing strategies (Cited by authors)

Table 1. Application of AI in Tourism Marketing

Segments	Description	Reference
Place Management	Place management is the process of enhancing locations. This is practiced through activities to improve geographical location or to maintain an already achieved expected standard of operation.	[40]
Pricing Management	Pricing management is the procedure by which commercial organizations establish prices, formulate a pricing strategy, and periodically optimize it.	[41]
Product Management	Product management is strategic oversight of the product life cycle development, market launch, and continual support and functional development of a company's products.	[42]
Promotion Management	Promotion management involves setting objectives, collaborating with vendors and business units, planning campaigns, and monitoring results.	[43]
Real Time Price variation and Fluctuating demand	Real-time pricing fluctuations and variable demand are primarily connected to the law of supply and demand, which states that demand for a product change based on its price. We can show some examples regarding this such as : Price elasticity of demand, Price elasticity of demand, Income, Change in demand, Time-based pricing	[44]

The utilization of AI is also impacting from a deep space in the Tourism and Hospitality world, directly impacting areas including tourists' demand, tourists' experiences and individual perceptions, proper destination management, and forecasting tourists' behaviors that means the way tourists interact with service providers and their review and service providers follow up too [45]. AI has made the work more productive in a diverge range and improved the working capability by saving time also reducing costs. Smartphones are also being updated every year where we can search for package deals, book travel reservations with airlines during purchasing air tickets, online travel agencies, train and ferry operators, look for nearby attractions or travel destinations, examine the present meteorological and climatic conditions, then review the news [46]. Tourist itineraries can be organized using platforms like Google Street View, which provide precise, high-resolution digital images of global geographical areas, while AI technology in

mapping services use Global Positioning. System to provide information on the shortest or most available convenient routes to visit [47], shown in Figure 2 and Table 2.

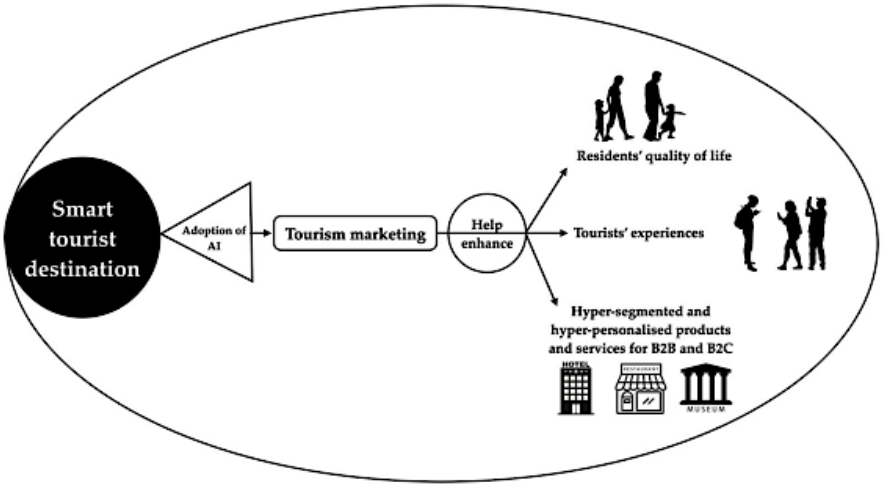

Figure 2. STDs' tourism marketing through AI and its interaction [48]

The destination consists of various key components that are being branded as a single independent entity under the umbrella or mushroom theme of the destination and the perceived image and tourist's expectations are also very subjective for each individual prospective traveler [49].

Table 2. A list of relevant previous publications to address the research gaps

Methodology	Key Objectives & Findings	Implication	Source
Systematic Literature Review	Explored the application of AI in enhancing tourism marketing strategies and its impact on customer engagement.	Provided a roadmap for AI implementation in tourism marketing.	[50]
Empirical Case Study	Analyzed real-world implementation of AI-driven chatbots in improving customer experience in tourism.	Demonstrated the practical benefits of chatbots in improving customer interaction.	[51]

Methodology	Key Objectives & Findings	Implication	Source
Quantitative Survey	Investigated the effectiveness of AI-based recommendation systems in influencing booking behaviors.	Highlighted the potential of AI systems to increase booking rates and revenues.	[52]
Mixed-Methods Research	Examined the integration of AI with other digital technologies like IoT and blockchain in tourism marketing.	Showed the synergy between AI and other technologies in creating innovative marketing strategies.	[53]
Bibliometric Analysis	Identified key research trends and themes in AI applications within the tourism sector.	Offered insights into emerging research areas and directions in AI for tourism.	[54]
Qualitative Content Analysis	Studied the role of AI in addressing ethical challenges like data privacy and algorithmic biases.	Stressed the importance of addressing ethical concerns for sustainable AI adoption.	[55]
Machine Learning Simulation	Simulated the impact of predictive analytics on optimizing hotel pricing strategies.	Validated the economic benefits of AI tools in dynamic pricing.	[56], [57]
Exploratory Case Study	Explored the use of AI for real-time personalization in online travel platforms.	Proved the feasibility of real-time AI personalization for improving customer experiences.	[57]
Meta-Analysis	Synthesized evidence from multiple studies on AI's role in enhancing operational efficiency.	Offered a comprehensive view of AI's operational benefits across the tourism industry.	[58]
Ethnographic Study	Assessed the cultural adaptation of AI technologies in tourism marketing across regions.	Emphasized the importance of cultural considerations in AI adoption.	[59]
Delphi Method	Gathered expert opinions on the future potential and challenges	Identified future trends and potential	[60]

Methodology	Key Objectives & Findings	Implication	Source
	of AI in tourism marketing.	barriers to AI adoption in tourism.	
Experimental Design	Tested the effectiveness of AI-driven tools in improving marketing campaign outcomes.	Showed significant improvements in campaign performance due to AI integration.	[61]
Cross-Sectional Survey	Evaluated consumer trust in AI technologies in tourism marketing using survey data.	Revealed key factors influencing consumer trust in AI technologies.	[62]
Longitudinal Study	Measured the long-term impact of AI adoption on customer loyalty and satisfaction.	Suggested strategies for improving customer retention using AI.	[63]
Action Research	Collaborated with stakeholders to design AI-based interventions in tourism marketing.	Provided practical insights for implementing AI in tourism marketing strategies.	[64]

3. METHODOLOGY

The methodology for exploring the impact of AI in tourism marketing is informed by the necessity to investigate both theoretical and practical aspects [65]. The inquiry considers the intricacies of the tourism industry, marked by dynamic consumer interactions, variable demands, and dependence on contemporary technologies. This study synthesizes existing knowledge with practical examples to elucidate the integration of AI in tourism marketing techniques [45]. Marketing initiatives enhances artificial intelligence system technologies including voice recognition, text conversion, face recognition, decision-making process, personal identification, geographical navigation [42]. To address these difficulties, the authors have opted to conduct a study of AI inquiries. During the investigation, the secondary data collection method required. Our findings encompass the authors' interpretation and assessment of results [40]. All the process as shown in Figure 3.

The objective was to offer a comprehensive perspective on the tourism industry by marketers and Artificial Intelligence based tech specialists at the convergence of AI and marketing. Consequently, marketing managers exchanged insights regarding their intended contributions, credentials, and the influence of their roles

on enhancing AI capabilities to attain their objectives [23]. The investigation commenced with a through searching across databases including Journals such as: Scopus, Google Scholar, Scimago [66], utilizing the terms "Artificial Intelligence in Marketing" and "Artificial Intelligence and Tourism Marketing," systematically exploring the relationship between "Artificial Intelligence" and "Tourism Marketing."

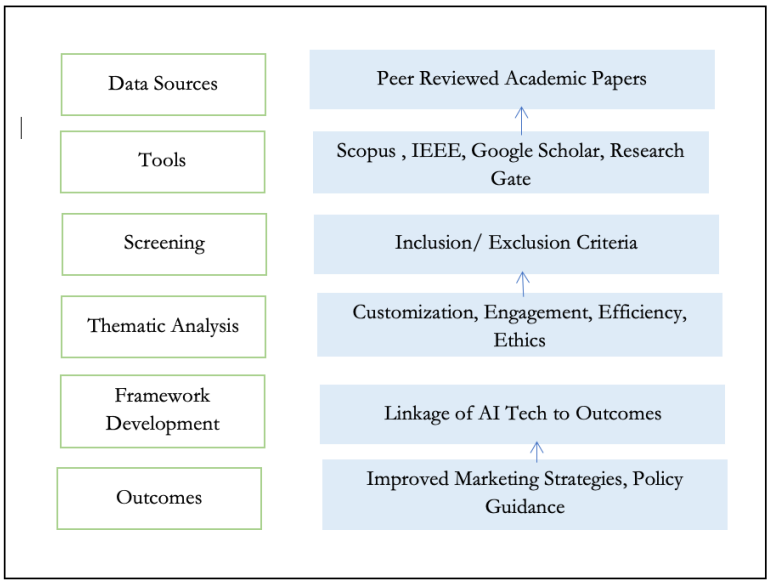

Figure 3. Article Screening for Methodology

Owing to the multifaceted character of the subject, qualification is confined solely in "title" level. Given that the topic has garnered heightened interest since 2020, the article aims to incorporate the latest ideas with enhanced scientific precision, limited to professional peer-reviewed papers [67]. A thorough search was performed to obtain the required data, including the name/title, keywords, citations, abstract, and other relevant research information. The writers identify a total of 2,370 papers using the specified keywords. The authors have chosen 389 papers that fulfill the study's requirements. Consequently, the study intentionally excludes review-based qualitative studies. Of the 253 studies eliminated, 118 were ultimately incorporated. Inclusion criteria such as : Peer reviewed academic papers, relevance to AI in Tourism Marketing, Last 4 years studies and Exclusion from non-relevant topics, outdated studies, non- peer reviewed. Subsequent to the processes of data inclusion, exclusion, and segmentation, the author analyzes the current study related to artificial intelligence and tourism marketing environmental organizations. The author conducted several manual searches for the paper [23]. The author initially inputs two or more keywords into Google Scholar that precisely reflect the existing literature.

Information on customer preferences and technology advancements is also taken into account to present a realistic depiction of AI tool utilization [68]. The data points are examined for patterns and trends that provide deeper understanding of the broader implications of AI in tourism marketing. The study identifies how customers engage with AI-driven services, revealing the impact of new technologies on consumer behavior, happiness, and business performance [69].

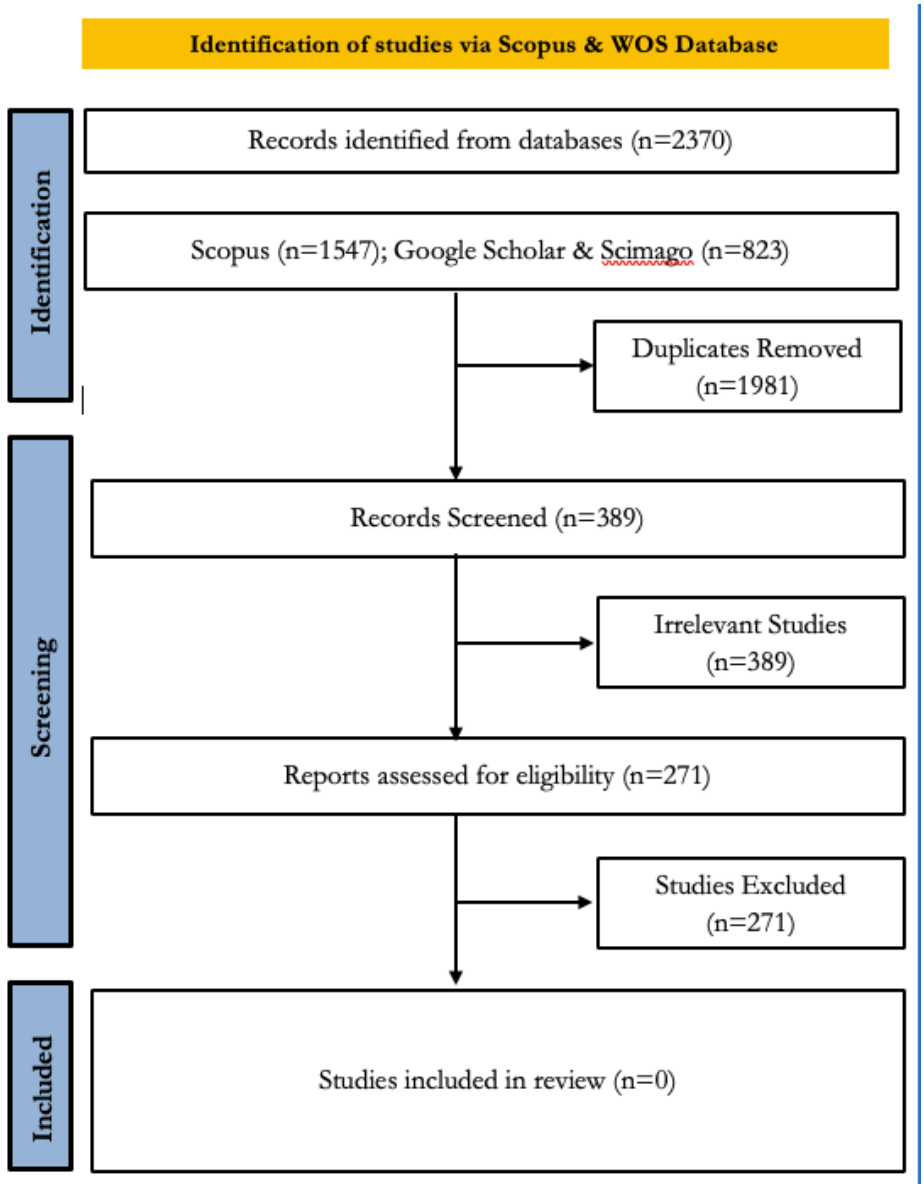

Figure 4. A PRISMA diagram

This study employed the PRISMA methodology (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) to guarantee a systematic approach to data selection and analysis, as shown in Figure 4. [70]. The model illustrates the process of identifying relevant studies, including the initial level of 2,370 papers, from which 389 were selected based on specific criteria. Following exclusions based on relevance and quality, 118 studies were ultimately included in the analysis. This process helped refine the focus on AI's impact on tourism marketing, ensuring the inclusion of the most up-to-date and peer-reviewed research.

This paper acknowledges the possible ethical dilemmas posed by AI, including issues related to privacy and fairness. These factors are evaluated in conjunction with the beneficial results AI can provide, fostering a balanced viewpoint on its function within the tourism industry. The objective is to emphasize not just the capabilities of AI but also its limitations and the circumstances under which it can provide durable advantages. The results indicate that artificial intelligence (AI) markedly improves tourism marketing through enhanced personalization, operational efficiency, and decision-making processes [71]. Artificial intelligence tools, including predictive analytics and virtual assistants, enhance consumer engagement and expedite services, addressing critical research inquiries regarding their uses and advantages [72]. This observation enhances adore the necessity for governments and practitioners to incorporate AI into tourist initiatives, engage in workforce enhancement, and tackle ethical issues such as data protection. There are few limitations for bias in data selection as it depended on Peer reviewed academic papers from established databases, emphasized paper published from last 4 years.

The study recommends evidence-based policies that promote investment in AI-driven tourist marketing tools and encourage collaborations between technology companies and tourism stakeholders to enhance efficiency and customization. Policymakers must emphasize frameworks that address ethical issues, including data privacy and algorithmic biases, to guarantee equitable AI deployment [73]. Future research ought to concentrate on reconciling data heterogeneity, investigating economical AI solutions for small business, and amalgamating AI with nascent technologies such as block chain and the metaverse. Longitudinal research on the enduring effects of AI on tourism marketing is also crucial [74].

4. RESULTS AND DISCUSSION

In the 4th industrial revolution Artificial Intelligence (AI) was introduced in many different fields such as: research, aeronautics, automobile industries and in educational sectors etc. [75]. Tourism Marketing Strategies with the help of AI will enhance the scope of opportunities towards achieving sustainable goals in the hospitality and tourism sector both on performance efficiency and client service

growth, which will boost up and increase the productivity, service quality and thus result in the profitability of the industry [76]. The result as shown in Table 3, the living standard of life will also improve but the technological paradigm adopted by AI will exacerbate its ecological footprint and economic disparities without enhancing living standards for all, it was stated [77].

Table 3: AI Impact on Tourism Marketing

AI Application	Description	Impact on Tourism Marketing	Examples in USA	Reference
Personalized Recommendations	AI systems use customer preferences to recommend travel locations, lodging options, and things to do.	Improves personalized and customized travel experiences.	AI-powered platforms such as Airbnb and Expedia provide customized travel arrangements.	[78]
Chatbots and Virtual Assistants	Chatbots with AI capabilities help with customer service and offer travel advice.	Improve consumer engagement through immediate interaction.	American Airlines uses AI chatbots for customer service and flight information	[79]
Predictive Analytics	AI analyzes data to predict trends and customer behavior.	Increase marketing efficiency by targeting the right audience.	Predictive analytics by companies like TripAdvisor or Booking.com	[80]
Sentiment Analysis	AI systems examine social media and internet reviews to gauge customer mood.	Helps in refining marketing strategies and improving customer service.	AI sentiment analysis by Visit California to assess traveler feedback.	[81]

AI Application	Description	Impact on Tourism Marketing	Examples in USA	Reference
Social Media Marketing	AI determines the ideal content and promotion time by analyzing social media trends.	Increase engagement and brand awareness through tailored social campaigns.	AI tools used by brands like Nike or Hilton for targeted social media ads.	[82]

4.1 AI in improving quality of Tourism Marketing Services

In the Figure 5 we can give insight of the application of AI which directly affect in the Tourism Marketing which opens the door to some opportunities in the future coming days. Tourism marketers can utilize AI solutions for dynamic customer experience, optimize advertising, and rise productivity.

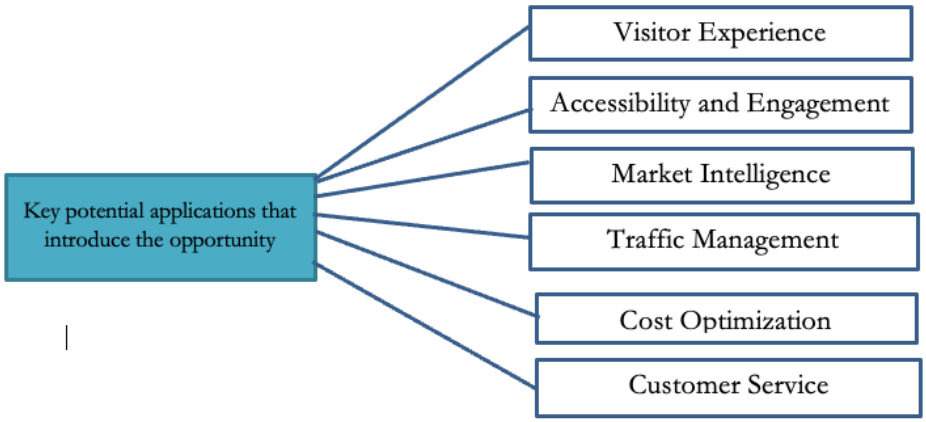

Figure 5. Potential applications in AI Tourism Marketing

Artificial intelligence develops personalized marketing thoroughly investigating tourist data to recommend tailored locations and activities. Chatbots and virtual assistants offer 24/7 client service, while predictive analytics helps demand forecasting, pricing optimization, and resources. In predictive analytics, AI tools examine historical booking data, climatic observations, and social media trends to forecast demand for destinations. This allows tourism marketers to optimize their pricing strategies, adjust promotions, and plan staffing requirements based on predicted demand, ensuring that they are prepared when interest in a destination peak season. Tools like IBM Watson and SAS can help businesses make data-

driven decisions to maximize profits while delivering targeted, relevant offerings. Artificial intelligence facilitates content creation, sentiment analysis, and visual identification, allowing marketers to maintain relevancy and trends responsiveness. By employing dynamic pricing, optimizing voice search, and promoting sustainable travel, AI may improve the accuracy and effectiveness of marketing strategies, ultimately increasing customer engagement to Marketers effectively. Authors can give insight into the application of AI to directly affect Tourism Marketing, which opens the door to some opportunities in the coming future days [83]. Firstly, this will improve the tourist experience with more interactive, personalized and comfortable travel, while increasing responsiveness to customer demand 24/7.

4.2. AI-enhanced strategies and traditional methods in tourism marketing

AI personalization involves utilizing artificial intelligence (AI) to customize messaging, product recommendations and services to individual users. After analyzing information and gathering experience from user perceptions [84]. AI-driven tools can craft personalized preferences that enhance customer experience and boost customer engagement. Secondly, Higher accessibility with diversified offers based on culture, demographic perspectives and recreational services [85]. This also shapes the holiday planning in a more precise manner. Thirdly, Increase market intelligence and data usage capability also capacity for STP specially the market segmentation and customer profiling. Market segmentation improves resource efficiency, Product development, Customer retention, marketing results provide better Competitive advantage, deliver better customer service [86]. Then, it affects the visitor flows optimization and efficient traffic management with real-time data and automated decision making. The programs are inside developed so human intelligence isn't required much to complete the task. Price or Cost Optimization becomes more supportive predictive maintenance, resource usage, operation and procurement [87]. The design is fully automated for its internal core activities and delivers better experience through basic customer services. This is how AI provides a much better time-consuming optimum level service to its customers related to the Tourism Sector beside other stakeholders too [88].

AI for tourism businesses have been performing a crucial role. Tourism Toronto, leveraging AI to achieve the core insights into tourist behaviors and preferences by seamlessly analyzing large datasets which include social media activity, tourist booking trends, and their spending patterns. This data-driven approach allows Tourism Toronto to shape more targeted and efficient marketing strategies, implementing those promotional efforts resonate with diverse groups of tourists [51]. Additionally, AI helps tailor Toronto's tourism offerings to better meet the specific needs and desires of these segments, from cultural enthusiasts to adventure lovers. This improves the range of revenue generation than earlier

periods. Then, Hilton arrives with their Energy management systems. Hilton Hotels AI to optimize energy use within the hotels, enhancing sustainability and operational efficiency [48]. This system monitors and analyzing energy usage patterns, identifying fields of excessive consumption of the customers and adjusting the range of heating, maintaining ventilation, and air conditioning (HVAC) systems accordingly ensuring actual comfort level while minimizing waste [47].

This approach has reduced energy expenditure in an unbelievable way. Lastly, Disneyland. Disneyland Parks is procuring data from wristbands provided to hotel guests, along with various IoT sensors and cameras throughout the resort. The parks can monitor and analyze real-time visitor movement and identify overcrowded areas. This data-driven approach supports Disneyland implementing efficient crowd management strategies and improving guest experiences [45].

4.3. AI impacting on the Profitability of Tourism Business

The given Figure 6 will discuss the application of AI in the Business Field. In this graphic illustration, several applications of artificial intelligence system in the tourism sector and the benefits associated with them are highlighted. An explanation of each point is provided as follows:

1) Machine Learning in tourism industry: In the tourism business predictions of trends, optimization of pricing and enhancement of consumer experiences are all achieved through the utilization of machine learning algorithms powered by artificial intelligence [42]
2) Factor Recognition: Using facial recognition technology that is powered by artificial intelligence, tourism marketing operations such as check-ins, security, and tailored services may be streamlined resulting in improved customer convenience and operational efficiency [40]
3) Translation and Creative Content: The use of artificial intelligence systems that generate creative material and give real-time language translation makes communication easier for travelers and increases their involvement with the culture they visit [38].
4) Personalized Marketing: The use of artificial intelligence allows for the delivery of tourist marketing campaigns that are adapted to the tastes and behaviors of customers, delivering personalized travel recommendations and promotions.
5) Seasonality and Overcrowding: By anticipating tourist flows and advising off-peak travel hours, artificial intelligence can assist in the management of seasonal changes and overcrowding. This helps to ensure a fairer distribution of visitors [89].
6) Smart Operational Management: Several operational procedures, including resource allocation, scheduling, and inventory management, are

optimized using artificial intelligence, which results in increased efficiency and decreased costs [90].

These descriptions illustrate how AI tools have the capability to transform the tourism industry by boosting client experience, improving service delivery, and tackling operational difficulties.

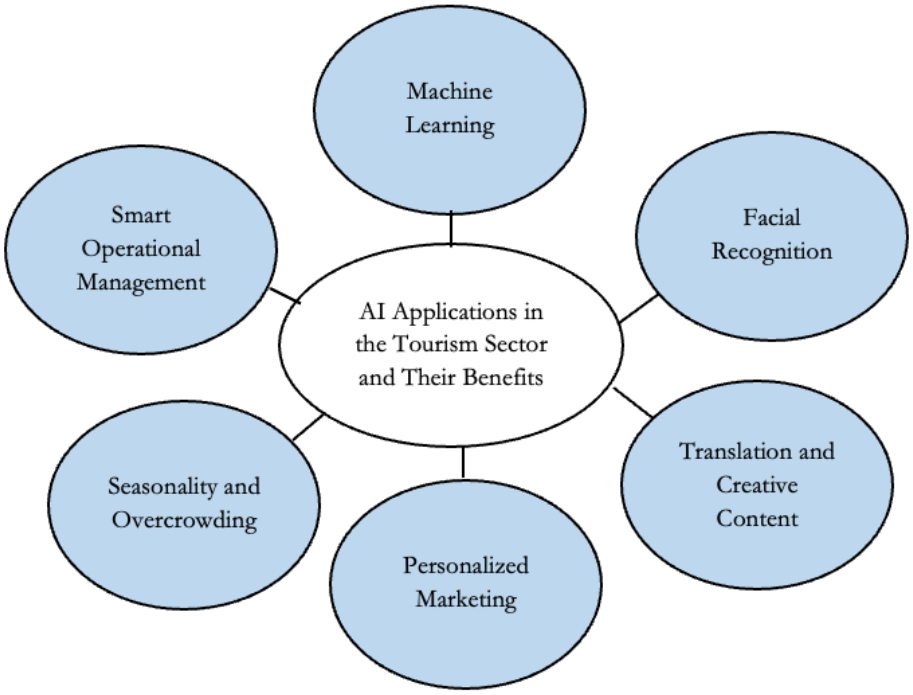

Figure 6. AI Applications in the Tourism Sector and Their Benefits

4.4 Metaverse disruptions to tourists' behavior and experience

The emergence of the Digital Metaverse world enhanced societal relationships among consumers, peer groups, and suppliers within the tourism sector [72]. The connection among these three entities is further enhanced in the Metaverse internal environment (Fig. 2). Traditional vacation planning is significantly disturbed, since the Metaverse offers tools to enhance vacation, inspiration and facilitate further planning through it. Audio Visual user-generated content shared by previous passengers on social media has long been evaluated as valuable information for future travelers to inspire their vacation aspirations [59].

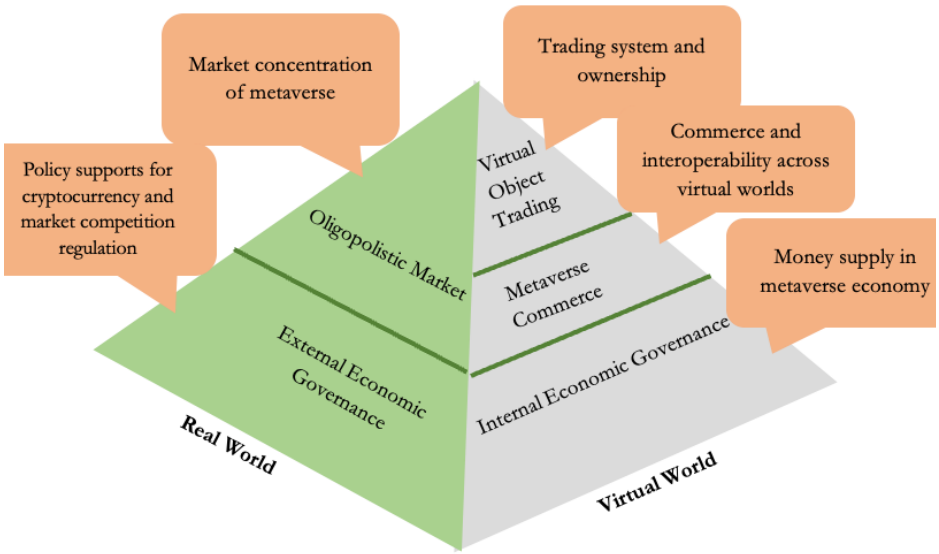

Figure 7: The industry's market structure of the metaverse

Photographs and films can communicate intangible experiences from previous travelers to observers. Nevertheless, the absence of tactile feedback in those stimuli may result in an inability to evoke viewers' mental imagery and sense of presence. Tourism-made products and experiences are challenging to assess. Owing to its unseen attributes, travelers frequently gather user-generated content from various sources to evaluate and contrast potential possibilities, so circumventing suboptimal purchases [57].

Prior to traveling, the Metaverse facilitates digital twins and other interface tools, enabling consumers to examine alternatives inside an immersive environment. Consequently, Metaverse provides potential travelers the option to digitally experience places and amenities [91]. Physical site visits can be accurately replicated in the virtual realm. While traveling in the site, the Metaverse can enhance the traveler's entertainment level. Tourists appreciate both in-person and virtual social interactions while traveling. Metaverse aids tourists in obtaining enhanced textual and/or audio-visual information upon their arrival at destinations or sites of cultural heritage and historical significance [92]. Metaverse can be utilized for remembering memories, serially documenting and sharing user-generated content, enhancing data storage capabilities, and interacting with those who gained same experiences. Users can "re-experience" previous events and exchange media and available resources with their intimate network. They can also disseminate media to everyone interested in the trip, showcasing immersive media enriched reviews [81].

4.4. Metaverse disruptions to tourism management and marketing

Metaverse is an engaging, evolving, and groundbreaking digital platform that showcases travel destinations, attractions, events, and hospitality offerings. From the perspective of tourist suppliers, Metaverse offers a robust platform for the promotion of tourism products and services via interactive involvement [65]. It assists organizations in enhancing their understanding of potential consumers' requirements, desires, and choices. Tourism geographical destinations and service marketers can utilize this revolutionary platform to display their appeal in the digital realm.

Metaverse is fast evolving and presents companies with new prospects for significant brand engagement and the possibility of large-scale direct sales [63]. In addition to highlighting popular destinations, tourism marketers can leverage the Metaverse for sustainability by showcasing lesser-visited sites to potential tourists, thereby alleviating congestion at overcrowded locations [93]. Metaverse is inherently immersive. Consequently, it enables users to observe the visuals and perceive the audio while also fostering a sense of engagement, interaction, and tactile experience in the digital realm. Metaverse can thus foster an unmatched sense of presence for users through digital events and experiences. Metaverse increases market insights and promotes research and development in short R&D [61], [90]. Analogous to website navigation, trip blog composition, and travel photo distribution, users generate digital footprints while engaging with the Metaverse and connecting with others. These extensive data sets can enhance tourism suppliers' understanding of their clients' identities and requirements. Tourism suppliers can actively utilize Metaverse to facilitate dialogue, drive sales, and translate client input into actionable business information. Attribution can pinpoint touchpoints and assess various strategies to enhance conversion [59].

4.5. Implications

This research can explore the long-term effects of AI implementation on personalized content marketing and customer retention. The Ethical Foundation of AI in Dynamic Tourism Marketing, Emotional Intelligence, Personalization at a Deep Emotional Level [94]. We know that AI can segment customer data and recommend products and services based on past behavior, it often struggles to personalize marketing on an emotional and experiential level, cultural sensitivities or regional differences, Complex Customer Service. The way we interact with consumers has been transformed a lot in tourism destination marketing. The significant developments occur in other fields of marketing include artificial intelligence and computer education. It creates distinct opportunities for storytelling or demonstration and in advertisement [85]. The interconnection among people and information, technology, brands and services will alter. Even

Hospitality Marketing firms will be required to adjust their campaigns for interconnectedness into the modern digital economy through the application of artificial intelligence technologies [95].

The capacity of AI to perpetually learn and analyze tourist purchasing intentions and emotions will enhance the targeting and direction of future marketing strategies, resulting in significant automation and personalization within the tourism sector. Ongoing, ongoing, and live discussions will persist over deep thinking, intelligent AI, and continuous or catastrophic learning. Marketers can gain insights into customer psychology through AI, which enhances specificity and originality; hence, the integration of human emotion with machine intelligence yields efficient results and conserves time [72]. The conventional marketing paradigm is undergoing transformation due to the use of Artificial Intelligence, which automates several jobs, enhances efficiency, and minimizes human errors. AI will soon support marketers in decision-making by delivering data-driven insights for Social Media Management, Customer Relationship Management (CRM), Marketing Campaign Development, and Event Planning, among other areas. While human creativity is essential in digital marketing, AI will inevitably transform marketers' methodologies, enhancing operational efficiency in Tourism Marketing [67].

4.6. Limitations and Future Directions

Although Artificial Intelligence (AI) has transformed the Tourism Marketing Industry, certain restrictions must be resolved for wider adoption and effect. A major drawback is the insufficiency of high-quality datasets, which frequently constrains the capabilities of AI systems [63]. The tourist sector is heterogeneous, and its disjoined data architecture presents difficulties in consolidating multiple information sources for efficient AI implementation. Moreover, ethical challenges, including data privacy and algorithmic biases, significantly hinder AI adoption in the tourism industry. These issues necessitate rigorous governance frameworks and open methods to guarantee equity and inclusiveness [30]. A further barrier is the substantial expense linked to the development and upkeep of AI systems. Small and medium-sized tourism firms (SMEs) frequently lack the resources necessary to invest in innovative technology. Moreover, insufficient technological experience and trained labor in the field complicate the effective use of AI solutions. Future research will require concentration on creating economical and scalable AI systems specifically designed to address the distinct issues faced by tourist locations [24]. This will involve enhancing AI's ability to interpret unstructured data, such traveler reviews and social media content, to obtain more profound insights into client preferences. It will be essential to establish strong frameworks to tackle ethical concerns, specifically with data privacy and security. Another further interesting study domain will encompass the integration of AI

with nascent technologies, like the internet of things, block chain, and virtual reality [21]. This will result in seamless and immersive tourism experiences. Furthermore, longitudinal research investigating the enduring effects of AI integration on tourist operations and visitor happiness would yield significant insights. Collaboration among academia, industry professionals, and politicians is crucial for developing AI solutions that are both novel and pragmatic [19].

5. CONCLUSION

This study reveals that AI is utilized in many various dimensions of Tourism Marketing. AI brings innovation to the traditional system of tourism marketing and management throughout the world. Stakeholders of Tourism are applying those functional tools and media in their operation for the hope of a better outcome in the Future. AI also changes the theme of field of the marketing mix as more identified with the innovative approach. AI is normally implemented operationally in communications, usually focusing on just one task or single task or multiple activities. This is based on the idea since we first engaged with the practical application of AI, businesses are now showing positive responses to the integration and experimentation of this revolutionary technology. This study aimed to examine and clarify the broader implications of AI in tourism marketing. The authors have examined diverse real-time uses of AI in marketing and endeavored to evaluate most prominent and dynamic sectors of tourism marketing. There is significant potential to examine the subtle applications of AI within conventional sales and marketing frameworks in the Tourism Industry [8]. AI will increasingly seem cleverer and more capable of enhancing human critical thinking, becoming more human-like and ultimately surpassing human creative thinking abilities. The advancement of AI is poised to heighten concerns over individual and organizational security, while the current debate between privacy and personalization is expected to broaden its focus to encompass more nuanced elements of tourism marketing.

In the near future, AI technologies will revolutionize the tourism marketing industry with Emotion AI, which will enable tourism companies to design experiences based on travelers' emotional attitude. The brands will assess how a customer feels about a destination or an advertisement in real time, using facial expressions, voice tone, and other physiological cues or body language. This marketing content and recommendations will be hyper-personalized. AI-generated virtual travel companions collaborating with conversational AI and immersive technologies like VR and AR, these companions will help travelers plan their trips, serve as interactive, intelligent guides during visits. These virtual assistants could recommend facilities based on recent conditions, real-time mentoring, enhance sightseeing with immersive experiences, making each journey feel personalized adventure.

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