

ChatGPT and its significance in tourism sector: Current scenarios and future roadmaps

Jeet Dogra

Keywords:

Tourism,
Personalized experiences,
Artificial intelligence,
Tourism and ChatGPT,
Educational technology.

Article History:

Submitted: 22.02.2023
Revised: 25.08.2023
Revised: 23.02.2024
Accepted: 17.03.2024
Published Online: 20.03.2024

ABSTRACT

Beginning with the research question, this research paper investigates the impact of ChatGPT on the field of tourism research and education. Through a compilation review of the literature, the paper analyzes the benefits and limitations of using ChatGPT in tourism-related research and education and compares its use to traditional methods of data collection and analysis. Additionally, the study explores the potential applications of ChatGPT in the tourism industry, such as customer service and destination promotion, and how it can be used to support the development of more personalized and tailored tourism experiences. The findings suggest that ChatGPT has the potential to significantly impact the tourism industry, providing new opportunities for data collection, analysis, and personalized experiences, while also posing challenges related to bias, ethical considerations, and the need for human oversight. The study offers recommendations for future research and practice in this area, emphasizing the importance of balancing the benefits and limitations of ChatGPT with the need for ethical and responsible implementation.

1. Introduction


The development of artificial intelligence (AI) in recent years has completely changed how humans interact with technology. Particularly chatbots have grown in popularity as a tool across several businesses, including tourism. One such chatbot that has gained popularity due to its natural language processing capabilities and capacity to comprehend complicated queries is ChatGPT, a large language model (LLM) created by OpenAI. With the growth of digital tourism platforms, ChatGPT has developed into a useful tool for academics studying tourism to conduct research and assess market trends. This paper examines the value of ChatGPT for tourism academics and shows how it may be used to improve research techniques, examine consumer behavior, and give visitors tailored advice. Through this study, we hope to draw attention to ChatGPT's potential to further the study of tourism and its consequences for practitioners in the area and academic scholars.

As Chatbots can comprehend complex questions and offer individualized advice, chatbots are becoming more and more common in a variety of industries, including tourism. One such chatbot that has gained popularity due to its natural language processing abilities is ChatGPT, a big

language model created by OpenAI. The analysis of customer behavior is one of ChatGPT's main uses in the tourism industry. Chatbots are useful tools for gathering and analyzing customer data because they can be trained to recognize and comprehend natural language. With the growth of digital tourism platforms, ChatGPT has developed into a useful tool for academics studying tourism to conduct research and assess market trends. For instance, ChatGPT can be used by academics to examine customer evaluations and feedback to learn more about their preferences and behaviors. This information can be utilized to build personalized tourist experiences and target marketing campaigns.

Giving specific advice to visitors is a key additional use of ChatGPT in the tourism industry. Chatbots can employ natural language processing to comprehend a tourist's tastes and offer suggestions for things to do, places to eat, and places to stay. This can improve the clientele's experience and boost the prospect of repeat business. Tourists can also receive real-time assistance through ChatGPT in the form of questions answered and directions given. ChatGPT has important implications for present and future research and practice. Chatbots provide a fresh method for gathering and analyzing consumer data, which can result in more specialized marketing plans and

Research Paper

Jeet Dogra: Assist. Prof., Indian Institute of Tourism and Travel Management (IITTM), Noida, Uttar Pradesh, India, Email: jeetdograa@gmail.com, Orcid Id: 0000-0002-8786-2134 



This work is licensed under a Creative Commons Attribution (CC-BY) 4.0 License

individualized tourist experiences. By giving travelers assistance and recommendations in real-time, ChatGPT can also improve customer service. ChatGPT is positioned to become a crucial resource for business leaders and academic scholars as the use of digital tourist platforms increases. Without a question, ChatGPT has a lot of potential for the tourism industry. With the help of its natural language processing capabilities, it can examine consumer behavior and offer tailored travel advice. ChatGPT will become a crucial tool for business executives and academic researchers trying to remain ahead of the curve in understanding and meeting the demands of tourists as digital tourism platforms continue to expand.

2. Background of The Study

History of Chatbots in tourism

Although chatbot use in the tourism sector is still relatively new, it has grown in popularity due to the growing need for individualized and effective client care. Although chatbots were first developed in the 1960s, it wasn't until the early 2000s that they were made widely accessible in commerce. Early chatbots had limited natural language processing skills and were rudimentary, rule-based systems.

In the early days of chatbots in the tourism industry, they were primarily used for customer service and reservations. However, as chatbot capabilities advanced, so did their uses in the travel and tourist sector. Chatbots are now employed for a variety of tasks, such as analyzing consumer behavior and giving tailored advice to tourists, thanks to their recent development in sophistication.

The demand for chatbots in the tourist sector has increased as a result of the growth of digital tourism platforms such as online travel agencies and booking websites. Tourists may quickly and conveniently search for and book travel plans using these services. They also generate a demand for individualized client service, which can be difficult to deliver at scale. By offering real-time assistance and tailored recommendations to visitors, chatbots provide a solution to this issue.

Rapid chatbot acceptance has been seen in the travel sector, with several businesses integrating them into their customer care plans. Major tourism sector companies, like airlines and hotel chains, have started using chatbots recently to improve customer service and give visitors a more tailored experience. Although chatbots

have just recently been used in the tourism sector, their capabilities and applications have rapidly advanced. Chatbots have effectively filled the demand for personalized customer support brought on by the growth of digital travel platforms. Chatbots have become an indispensable tool for the travel and tourism sector due to their growing intelligence and ability to analyze consumer behavior and offer individualized recommendations.

Emergence of ChatGPT technology

Chatbots have been used in various industries, including tourism, for several years. However, the emergence of ChatGPT technology has revolutionized the field by providing advanced natural language processing capabilities. ChatGPT is a large language model developed by OpenAI that uses deep learning algorithms to understand and respond to complex queries.

The development of ChatGPT technology was a significant breakthrough in the field of natural language processing. Unlike traditional chatbots, which are rule-based, ChatGPT can understand and respond to natural language in a more human-like manner. The technology is based on a deep neural network that has been trained on vast amounts of data, enabling it to generate responses that are contextually relevant and linguistically sophisticated.

The emergence of ChatGPT technology has significant implications for the tourism industry. As digital tourism platforms continue to grow, there is an increasing demand for personalized customer service that can be challenging to provide at scale. ChatGPT offers a solution to this problem by providing real-time assistance and personalized recommendations to tourists.

Another significant application of ChatGPT technology in the tourism industry is in the analysis of consumer behavior. Chatbots can be trained to recognize and understand natural language, making them valuable tools for collecting and analyzing consumer data. With the rise of digital tourism platforms, ChatGPT can be used by tourism academics to conduct research and analyze trends in the industry. For example, researchers can use ChatGPT to analyze customer reviews and feedback to gain insights into their preferences and behaviors. This data can be used to develop targeted marketing strategies and create personalized experiences for tourists.

The emergence of ChatGPT technology has revolutionized the field of chatbots and natural language processing. The technology's advanced

capabilities have significant implications for the tourism industry, including providing personalized customer service and analyzing consumer behavior. As the use of digital tourism platforms continues to rise, ChatGPT is poised to become an essential tool for industry professionals and academic researchers looking to stay ahead of the curve in understanding and serving the needs of tourists.

ChatGPT technology and its potential for improving customer experience and service delivery in tourism

ChatGPT technology has the potential to transform the way the tourism industry delivers customer service and personalized experiences. The technology's advanced natural language processing capabilities allow it to understand and respond to complex queries in a human-like manner. This opens up a world of possibilities for improving the customer experience and service delivery in tourism. One of the most significant ways ChatGPT technology can improve customer service is by providing real-time assistance and personalized recommendations to tourists. Chatbots powered by ChatGPT can interact with customers through various digital channels, such as websites, mobile apps, and social media platforms. This allows them to offer immediate assistance to customers and answer their queries in a timely and personalized manner.

Moreover, ChatGPT technology can be integrated with other digital technologies, such as machine learning and data analytics, to enhance the customer experience further. By collecting and analyzing customer data, chatbots can gain insights into the customer's preferences and behavior, enabling them to provide personalized recommendations that align with their interests. Another way that ChatGPT technology can enhance customer service is by providing support in different languages. As tourism is a global industry, chatbots can provide assistance to tourists who speak different languages. This helps to eliminate the language barrier and ensures that tourists receive the support they need in a language they understand.

ChatGPT has significant implications in the tourism sector, bringing both convenience and challenges. It is viewed as a major disruptive innovation that can revolutionize operations in the hospitality and tourism industry (Demir & Demir, 2023). The integration of ChatGPT in the industry can create value for tourism businesses and customers, but it also raises concerns about the lack of human touch and potential data

security risks (Gursoy et al., 2023). ChatGPT and similar generative AI technologies have the potential to transform the industry by streamlining customer service, increasing productivity, and enhancing efficiency in both front-of-house and back-of-house operations (Dwivedi et al., 2024). However, implementing ChatGPT in the hospitality and tourism industry also poses challenges from the perspectives of companies, customers, and regulators (Carvalho & Ivanov, 2024). Despite the potential negative consequences for human resources, ChatGPT technology mostly enhances tourism employees (Santhosh et al., 2023).

Furthermore, ChatGPT technology can be used to automate repetitive and mundane tasks, such as reservations and processing payments. This frees up human resources to focus on more complex and high-value tasks, such as providing personalized recommendations and addressing customer complaints. Henceforth, the potential of ChatGPT technology to improve the customer experience and service delivery in tourism is significant. As the tourism industry continues to embrace digital technologies, ChatGPT is poised to become an essential tool for enhancing the customer experience and service delivery.

3. Purpose and Objective of The Study

The major purpose of the paper is to explore the current use of ChatGPT in tourism academics and to provide a roadmap for future research and practice. Moreover, the purpose of the study based on ChatGPT and its significance in tourism academics is to explore the current use and potential of ChatGPT technology in the tourism industry. The study aims to provide an in-depth analysis of how ChatGPT can enhance the customer experience and service delivery in tourism, as well as identify challenges and opportunities associated with its implementation.

The objectives of the study are as follows:

1. To examine the impact of ChatGPT on the field of tourism research and education, including its influence on methodologies, practices, and educational approaches.
2. To evaluate the benefits and limitations of integrating ChatGPT into tourism-related research and education, considering factors such as efficiency, accuracy, and user experience.
3. To compare the effectiveness of ChatGPT with traditional methods of data collection and analysis in tourism research, highlighting

differences in reliability, speed, and insights gained.

4. To explore potential applications of ChatGPT in the tourism industry, particularly in areas such as customer service, destination promotion, and marketing strategies.
5. To investigate how ChatGPT can contribute to the development of personalized and tailored tourism experiences, analyzing its role in enhancing customer engagement, satisfaction, and loyalty.
6. To develop a comprehensive roadmap for implementing ChatGPT technology in the tourism industry, outlining practical guidelines for industry professionals and suggesting areas for further research and innovation.

Overall, the purpose and objective of the study are to provide a comprehensive analysis of ChatGPT and its significance in tourism academics, with a focus on current scenarios and future roadmaps. By achieving these objectives, the study can provide valuable insights, guidance, and direction for industry professionals looking to embrace ChatGPT technology and improve the customer experience and service delivery in tourism.

4. Significance of The Study

Research on ChatGPT and its significance in tourism academics is significant for several reasons. Firstly, the tourism industry is rapidly evolving, with digital technologies playing an increasingly important role in how tourists plan and experience their trips. ChatGPT technology is at the forefront of this evolution, providing advanced natural language processing capabilities that can enhance the customer experience and service delivery in tourism. Secondly, academic research on ChatGPT and tourism can provide valuable insights into the ways in which technology is transforming the industry. By analyzing customer data and feedback, researchers can identify trends and patterns in consumer behavior, preferences, and interests. This information can be used to develop targeted marketing strategies, personalized experiences, and more effective service delivery. Thirdly, research on ChatGPT and tourism can provide guidance and direction for industry professionals looking to implement the technology in their operations. By analyzing case studies and best practices, researchers can provide insights into the most effective ways to use ChatGPT technology in the tourism industry. Lastly, the significance of research on ChatGPT

and tourism lies in its potential to drive innovation and progress in the industry. By identifying gaps in current practices and exploring new and emerging technologies, researchers can help shape the future of the tourism industry. This can lead to the development of new products, services, and experiences that better meet the needs and preferences of tourists.

Without doubt, ChatGPT's role in tourism academia holds considerable importance. It stands to offer invaluable insights, guidance, and orientation for industry practitioners seeking to leverage technology for enhancing customer experiences and service delivery within the tourism sector. Overall, the research on ChatGPT is significant in tourism academics as it highlights the need for adapting novel pedagogies, ethical guidelines, and reevaluating teaching and assessment strategies. By critically discussing ChatGPT from a cognitive science perspective, tourism educators can raise awareness about its disruptive potential and its impact on academic integrity and ethics. Furthermore, its integration has the potential to catalyze innovation and propel industry advancement, thereby influencing the trajectory of tourism development for the foreseeable future.

5. Literature Review

About ChatGPT

ChatGPT is a chatbot tool created by OpenAI, which uses GPT technology to understand and respond to text-based requests (Kirmani, 2022). This chatbot is capable of performing a wide range of tasks, from simple questions to more advanced requests like generating thank-you letters and assisting with productivity issues (Liu et al., 2021). ChatGPT uses its extensive data storage and efficient design to interpret and generate human-like responses to user requests. Its unique ability to generate natural language and complete complex tasks is a significant advancement in natural language processing and artificial intelligence.

Moreover, ChatGPT is a natural language processing model that has been trained on a vast dataset, allowing it to generate coherent and contextually appropriate language that is difficult to distinguish from human-written text. ChatGPT is modular in design and can execute various tasks, including language modeling, machine translation, and question-answering, and it has the potential to develop virtual assistants and chatbots, as well as generate human-like

discussions. ChatGPT is currently being used in numerous industries and has the potential to be utilized in various sectors, such as finance, education, and medicine, to develop sophisticated applications.

In the past four decades, there has been a substantial expansion in hospitality and tourism education (Goh & King, 2020). The majority of this growth is attributed to technological advancements that have enhanced the delivery of hospitality education and increased student engagement (Goh & Wen, 2021). This is evident in the growing interest in hospitality and tourism education research, as stated by Daniel et al. (2017). However, despite this growth, research in hospitality and tourism education constitutes only a small fraction of the overall hospitality and tourism literature. In addition, scholars such as Goh and Okumus (2020) & Goh and Wen (2021) have emphasized the need for further research in hospitality and tourism education to address this underexplored area. Lugosi and Jameson (2017) have acknowledged the significance of integrating recent technological advancements and industry trends into the curricula of hospitality and tourism students for more than 20 years. Scholars have recommended integrating online learning tools, including electronic forums and live chats, and employing industry-specific software like property management and point-of-sale systems (Davis et al., 2019). Lee et al. (2016) argue that institutions must invest in information and communication technologies (ICT) to keep up with the demands of the hospitality and tourism industry, given the widespread use of technology in education and society. Goh and Wen (2021) & Mejia (2020) contend that integrating these technologies in the classroom can improve teaching and equip students with the essential skills needed to succeed in a swiftly evolving workplace.

Frawley et al. (2019) have argued that research in hospitality and tourism education has been neglected despite the increasing complexity of the hospitality and tourism industry. According to Goh and Okumus (2020), hospitality and tourism organizations anticipate that graduates will possess both technical abilities, such as familiarity with upcoming technologies, as well as non-technical skills such as reflection, critical thinking, and communication. However, Goh and Wen (2021) & Kim and Jeong (2018) have criticized hospitality and tourism schools for their slow response to technological progress and their inability to adequately prepare students for careers in the hospitality industry.

Generic use of ChatGPT in Tourism and Hospitality

Expanding on the multifaceted utility of ChatGPT in the tourism and hospitality industry, recent studies by Demir & Demir (2023) highlight its application in diverse areas such as crafting tour programs for travel agencies and curating set menus for food and beverage establishments. Additionally, research conducted by Limna and Kraiwanit (2023) underscores its pivotal role in augmenting skills, knowledge, and communication with guests, overcoming language barriers, and furnishing valuable recommendations for customer interactions within the hospitality sector. Furthermore, emerging insights from Alyasiri et al. (2024) accentuate the expansive potential of ChatGPT across various dimensions of the tourism landscape. These include but are not limited to language translation services, service enhancement initiatives, educational and research endeavors in tourism, facilitating customer interactions, streamlining backend operations, refining research methodologies, fostering content creation, discerning visitor motivations, deciphering cultural perceptions, and optimizing regional tourism management strategies. Such comprehensive applications underscore ChatGPT's significance as a transformative tool poised to shape the future trajectory of the tourism industry.

6. Research Questions

1. How has the use of ChatGPT impacted the field of tourism research and education?
2. What are the benefits and limitations of using ChatGPT in tourism-related research and education?
3. How does the use of ChatGPT compare to traditional methods of data collection and analysis in tourism research?
4. What are some potential applications of ChatGPT in the tourism industry, such as customer service and destination promotion?
5. How can ChatGPT be used to support the development of more personalized and tailored tourism experiences?

7. Results

How has the use of ChatGPT impacted the field of tourism research and education?

The use of ChatGPT has had a significant impact on both the field of tourism research and education. In the tourism industry, ChatGPT has

brought both convenience and challenges. It has the potential to create value for tourism businesses and customers, but also raises concerns about the lack of human touch and potential data security risks. In the field of education, ChatGPT and other AI tools have the potential to enhance the quality of teaching, improve the learning experience, and create an interactive educational environment. However, there are also limitations to consider. ChatGPT tends to disregard facts or even "hallucinates" fake facts, which increases the risk of producing misleading or erroneous texts. Overall, the integration of ChatGPT in both tourism research and education presents opportunities for innovation and improvement, but also requires careful consideration of its limitations and challenges.

The use of ChatGPT has had a significant impact on the field of tourism research and education. It has enabled the creation of chatbots and virtual assistants, which can assist travelers in their trip planning and offer customer support. Chatbots built on ChatGPT can handle a wide range of queries from travelers, such as recommendations for attractions, restaurants, and accommodations. Additionally, these chatbots can assist with booking, provide directions, and offer real-time customer support. ChatGPT has also been used in the creation of virtual tour guides, which can offer personalized recommendations and guide travelers through destinations. These guides can offer historical and cultural context and provide travelers with a deeper understanding of the places they are visiting.

In tourism education, ChatGPT has been utilized in the development of virtual classrooms and interactive learning tools. Chatbots built on ChatGPT can answer student queries, provide additional resources, and offer support. Additionally, ChatGPT has been used in the creation of interactive case studies and simulations, which can help students develop critical thinking and problem-solving skills (Vázquez-Cano et al., 2023). Overall, the use of ChatGPT has transformed the way travelers interact with tourism services and has opened up new possibilities for education and research in the field of tourism.

What are the benefits and limitations of using ChatGPT in tourism-related research and education?

Using ChatGPT in tourism-related research and education offers both benefits and limitations. The benefits include the potential for value creation for tourism businesses and customers, as

well as the ability to automate activities such as information synthesis and schematization, improving scientific communication and computer code writing (Julian, 2023). Additionally, ChatGPT has the capability to understand complex questions, generate plausible responses, and assist with the completion of complex tasks, which can enhance the quality of teaching and improve the learning experience in education. However, there are limitations to consider. ChatGPT lacks a complete understanding of context, which can lead to the risk of spreading misleading information and the possibility of plagiarism. It also has limitations in the quality of its output, including the inclusion of inaccurate, fabricated, and biased information, as well as the lack of critical thinking and in-depth understanding. Furthermore, in the tourism industry, the lack of human touch and potential data security risks are additional challenges to consider.

The use of ChatGPT in tourism research and education has several benefits. ChatGPT can assist researchers and educators in providing better customer service, answering inquiries, and creating chatbots for customer interactions. ChatGPT can also aid in understanding customer behavior, sentiment analysis, and predicting trends in the tourism industry. Furthermore, ChatGPT can help in the development of personalized tourism services, such as trip planning and recommendations.

However, there are also some limitations to the use of ChatGPT in tourism research and education. The accuracy and reliability of the generated content can be a concern, as ChatGPT's responses are based on the dataset on which it was trained. Additionally, the use of ChatGPT may raise ethical concerns, such as the potential for bias and the risk of replacing human workers with automation. Finally, ChatGPT may not be able to provide the same level of emotional intelligence and empathy that human customer service representatives can provide.

Thus, while the use of ChatGPT in tourism research and education has many potential benefits, it is important to be aware of its limitations and to use it in a responsible and ethical manner.

How does the use of ChatGPT compare to traditional methods of data collection and analysis in tourism research?

The use of ChatGPT in tourism research offers both convenience and challenges compared to

traditional methods of data collection and analysis. ChatGPT, an artificial intelligence chatbot, has gained popularity for its natural language processing and contextual awareness capabilities. It is viewed as a disruptive innovation that can revolutionize the operations in the hospitality and tourism industry. ChatGPT provides value creation for tourism businesses and customers but lacks the human touch and may pose potential data security risks. Users prefer ChatGPT-powered conversational interfaces over traditional techniques due to convenience, efficiency, and personalization.

ChatGPT can be used as a tool for data collection in tourism research by providing a platform for researchers to collect data through chatbot conversations with tourists. This method of data collection has some advantages over traditional methods such as surveys or interviews, as chatbots can potentially provide more convenience for tourists who prefer communicating through text-based platforms, and can also collect data at any time of the day.

Additionally, ChatGPT can also be used to analyze data in tourism research by using natural language processing techniques to identify patterns and insights in large volumes of text data such as reviews, social media posts, or customer service interactions. This method of analysis can potentially provide more accurate and detailed insights into tourists' experiences and preferences, compared to traditional methods such as manual content analysis.

However, it's important to note that ChatGPT is not a replacement for traditional methods of data collection and analysis in tourism research, but rather a complementary tool that can be used in conjunction with other methods. Moreover, the use of chatbots and natural language processing also comes with potential limitations, such as the need for high-quality data and the risk of bias or errors in the analysis results. Thus, researchers should carefully consider the pros and cons of using ChatGPT for their specific research questions and design their studies accordingly.

What are some potential applications of ChatGPT in the tourism industry, such as customer service and destination promotion?

There are several potential applications of ChatGPT in the tourism industry, including Customer service where ChatGPT can be used as a virtual assistant to provide instant customer service to tourists, such as answering frequently asked questions, providing information about local attractions, recommending activities, or

assisting with bookings. This can help to improve the customer experience and reduce the workload of human customer service representatives. Another benefit is towards destination promotion where ChatGPT can be used as a marketing tool to promote tourist destinations and attractions, by providing personalized recommendations and suggestions to tourists based on their preferences and interests. This can help to increase the visibility of tourist destinations and attract more visitors. The language translation under ChatGPT used as a language translation tool to assist tourists who may not speak the local language. This can help to improve communication and reduce language barriers between tourists and locals, leading to a more positive and enjoyable experience for tourists. Under the feedback collection, ChatGPT can be used to collect feedback from tourists about their experiences, such as their satisfaction levels, preferences, and suggestions for improvements. This can help tourism organizations to better understand tourists' needs and preferences, and make more informed decisions about how to improve their services. The personalization of ChatGPT can be used to provide personalized recommendations and suggestions to tourists based on their interests, past behaviors, and preferences. This can help to enhance the customer experience and increase the likelihood of repeat visits. Overall, ChatGPT has the potential to provide a range of benefits to the tourism industry, including improved customer service, better marketing and promotion, more efficient communication, and more personalized experiences for tourists.

New technological developments are always emerging, causing the tourist and hospitality sectors to continuously change. Generative artificial intelligence (GAI) is therefore anticipated to have a significant impact on the tourist and hospitality sector (Carvalho & Ivanov, 2024). Numerous tourism-related firms have started experimenting with generative AI and sharing ideas for its potential applications since OpenAI published ChatGPT in November 2022. For instance, among the first Western companies to offer ChatGPT plugins were Expedia and Kayak. Users may receive current information and links for booking from the plugins. TripGen, a chatbot powered by ChatGPT, was introduced in February 2023 by Singapore-based Trip.com. Duve, a business that offers software solutions to hotels, is utilizing the technology created by OpenAI to enhance current products and develop new ones. The game-changing chatbot's most current version,

GPT4, will be used by Air India to improve its FAQs, pilot briefings, and other operational features. In order to inform potential visitors of the opportunities Denmark may provide, particularly outside of the country's major cities, VisitDenmark is conducting campaigns using AI-generated scripts (Dawes, 2023).

How can ChatGPT be used to support the development of more personalized and tailored tourism experiences?

ChatGPT can be used to support the development of more personalized and tailored tourism experiences in several ways like as a recommendation engine where ChatGPT can be used to provides personalized recommendations to tourists based on their preferences, interests, and past behaviors. By analyzing data from previous interactions and transactions, ChatGPT can make intelligent recommendations about attractions, accommodations, restaurants, and activities that match each tourist's individual preferences. To provide the personalized itineraries for tourists based on their interests, schedule, and budget. By taking into account all relevant factors and preferences, ChatGPT can suggest a sequence of activities, attractions, and experiences that are tailored to each tourist's specific needs and interests. To offer the customer service where it can be used as a virtual customer service representative that provides personalized assistance to tourists. By analyzing data about each tourist's previous interactions and transactions, ChatGPT can provide customized assistance and support, such as recommendations, booking assistance, or problem-solving. Also for a feedback collection tool of the feedback from tourists about their experiences and preferences. By analyzing this feedback, tourism organizations can better understand the needs and preferences of their customers and adjust their services and experiences accordingly. And lastly, as a real-time customization where ChatGPT can be used such as personalized audio or video guides, personalized social media feeds, or personalized on-site notifications. By analyzing data about each tourist's location, behavior, and preferences, ChatGPT can provide customized content and information that enhances the tourist's experience and satisfaction. Overall, ChatGPT has the potential to provide a range of benefits to the tourism industry, including the development of more personalized and tailored tourism experiences that match each tourist's individual needs and interests.

8. Conclusion and Future Roadmap

The study aimed to explore the impact of ChatGPT on the field of tourism research and education, as well as its benefits, limitations, and potential applications in the tourism industry. Based on the findings, it can be concluded that ChatGPT has the potential to significantly impact the field of tourism research and education, providing a new and innovative tool for data collection, analysis, and personalized experiences.

The benefits of using ChatGPT in tourism-related research and education include its accessibility, scalability, and cost-effectiveness, as well as its ability to provide real-time feedback and personalized recommendations to users. However, the study also identified some limitations, such as the potential for bias in the training data, the need for human oversight and quality control, and the ethical considerations of using AI technology in tourism research and practice. In comparison to traditional methods of data collection and analysis in tourism research, ChatGPT has shown promise in providing a more efficient and effective way of generating insights and understanding customer behavior. However, it is important to note that ChatGPT is not a replacement for traditional methods, but rather a complementary tool that can enhance and augment existing approaches. The study also identified several potential applications of ChatGPT in the tourism industry, such as customer service, destination promotion, and personalized recommendations for travelers. These applications have the potential to improve the overall quality of tourism experiences, enhance customer satisfaction and loyalty, and drive revenue growth for businesses.

For future research, Generative AI is an essential topic of discussion that requires immediate attention from the academic community, especially in light of the possible advantages and possibilities it may have for the tourism sector. Also, the future research should focus on investigating the implications of ChatGPT in creating and delivering hospitality and tourism experiences. Because of this, there is a need for literature on Generative AI, such as ChatGPT, in order to comprehend its transformational impact on the tourism sector and to fully utilize these cutting-edge technologies. Therefore, the forthcoming stages, rigorous academic research could be beneficial to both strengthen the literature as

well as develop the domain specific knowledge of integrating AI with tourism sector.

Overall, the study suggests that ChatGPT is a promising technology that can provide new opportunities for tourism research and practice. However, it is important to approach its use with caution, considering its limitations, ethical implications, and potential biases, and ensuring that it is integrated into a broader framework of research and practice that incorporates traditional methods and human expertise.

References

- Alyasiri, O. M., Selvaraj, K., Younis, H. A., Sahib, T. M., Almasoodi, M. F., & Hayder, I. M. (2024). A Survey on the Potential of Artificial Intelligence Tools in Tourism Information Services. *Babylonian Journal of Artificial Intelligence*, 1-8. <https://doi.org/10.58496/BJAI/2024/001>
- Carvalho, I., & Ivanov, S. (2024). ChatGPT for tourism: applications, benefits and risks. *Tourism Review*, 79(2), 290-303. <https://doi.org/10.1108/TR-02-2023-0088>
- Daniel, A. D., Costa, R. A., Pita, M., & Costa, C. (2017). Tourism Education: What about entrepreneurial skills? *Journal of Hospitality and Tourism Management*, 30, 65-72.
- Davis, N. L., Gough, M., & Taylor, L. L. (2019). Online teaching: Advantages, obstacles, and tools for getting it right. *Journal of Teaching in Travel & Tourism*, 19(3), 256-263.
- Dawes, J. (2023). Generative AI: An Overview of What's Happening in Travel Right Now. <https://skift.com/2023/04/06/generative-ai-an-overview-of-whats-happening-in-travel-right-now/>
- Demir, Ş. Ş., & Demir, M. (2023). Professionals' perspectives on ChatGPT in the tourism industry: Does it inspire awe or concern?. *Journal of Tourism Theory and Research*, 9(2), 61-76. <https://doi.org/10.24288/jtr.1313481>
- Dwivedi, Y. K., Pandey, N., Currie, W., & Micu, A. (2024). Leveraging ChatGPT and other generative artificial intelligence (AI)-based applications in the hospitality and tourism industry: practices, challenges and research agenda. *International Journal of Contemporary Hospitality Management*, Vol. 36(1), 1-12. <https://doi.org/10.1108/IJCHM-05-2023-0686>
- Frawley, T., Goh, E., & Law, R. (2019). Quality assurance at hotel management tertiary institutions in Australia: An insight into factors behind domestic and international student satisfaction. *Journal of Hospitality & Tourism Education*, 31(1), 1-9.
- Goh, E., & King, B. (2020). Four decades (1980-2020) of hospitality and tourism higher education in Australia: Developments and future prospects. *Journal of Hospitality & Tourism Education*, 32(4), 266- 272.
- Goh, E., & Okumus, F. (2020). Avoiding the hospitality workforce bubble: Strategies to attract and retain generation Z talent in the hospitality workforce. *Tourism Management Perspectives*, 33, 100603.
- Goh, E., & Wen, J. (2021). Applying the technology acceptance model to understand hospitality management students' intentions to use electronic discussion boards as a learning tool. *Journal of Teaching in Travel & Tourism*, 21(2), 142-154.
- Gursoy, D., Li, Y., & Song, H. (2023). ChatGPT and the hospitality and tourism industry: an overview of current trends and future research directions. *Journal of Hospitality Marketing & Management*, 32(5), 579-592. <https://doi.org/10.1080/19368623.2023.2211993>
- Julian, T. (2023). Shortcomings of ChatGPT. *Journal of Chemical Education*. <https://doi.org/10.1021/acs.jchemed.3c00361>
- Kim, H. J., & Jeong, M. (2018). Research on hospitality and tourism education: Now and future. *Tourism Management Perspectives*, 25, 119-122.
- Kirmani, A. R. (2022). Artificial intelligence-enabled science poetry. *ACS Energy Letters*, 8, 574-576.
- Lee, P. C., Sun, S., Law, R., & Lee, A. H. (2016). Educational technology in hospitality management programs: Adoption and expectations. *Journal of Teaching in Travel & Tourism*, 16(2), 116-142.
- Limna, P., & Kraivanit, T. (2023). The role of ChatGPT on customer service in the hospitality industry: An exploratory study of hospitality workers' experiences and perceptions. *Tourism and hospitality management*, 29 (4), 583-592. <https://doi.org/10.20867/thm.29.4.9>
- Liu, X., Zheng, Y., Du, Z., Ding, M., Qian, Y., Yang, Z., & Tang, J. (2021). GPT understands, too. *arXiv*. <https://doi.org/10.48550/arXiv.2103.10385>
- Lugosi, P., & Jameson, S. (2017). Challenges in hospitality management education: Perspectives from the United Kingdom. *Journal of Hospitality and Tourism Management*, 31, 163-172.
- Mejia, C. (2020). Using VoiceThread as a discussion platform to enhance student engagement in a hospitality management online course. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 26, 100236.
- Santhosh, R., Abinaya, M., Anusuya, V., & Gowthami, D. (2023, April). ChatGPT: Opportunities, Features and Future Prospects. In *2023 7th International Conference on Trends in Electronics and Informatics (ICOEI)* (pp.1614 -1622). IEEE. <https://doi.org/10.1109/ICOEI56765.2023.10125747>
- Vázquez-Cano, E., Ramírez-Hurtado, J. M., Sáez-López, J., & López-Meneses, E. (2023). ChatGPT: The brightest student in the class. *Thinking Skills and Creativity*, 101380. <https://doi.org/10.1016/j.tsc.2023.101380>

INFO PAGE

ChatGPT and its significance in tourism sector: Current scenarios and future roadmaps

Abstract

Beginning with the research question, this research paper investigates the impact of ChatGPT on the field of tourism research and education. Through a compilation review of the literature, the paper analyzes the benefits and limitations of using ChatGPT in tourism-related research and education and compares its use to traditional methods of data collection and analysis. Additionally, the study explores the potential applications of ChatGPT in the tourism industry, such as customer service and destination promotion, and how it can be used to support the development of more personalized and tailored tourism experiences. The findings suggest that ChatGPT has the potential to significantly impact the tourism industry, providing new opportunities for data collection, analysis, and personalized experiences, while also posing challenges related to bias, ethical considerations, and the need for human oversight. The study offers recommendations for future research and practice in this area, emphasizing the importance of balancing the benefits and limitations of ChatGPT with the need for ethical and responsible implementation.

Keywords: Tourism, Personalized experiences, Artificial intelligence, Tourism and ChatGPT, Educational technology.

Authors

Full Name	Author contribution roles	Contribution rate
Jeet Dogra:	Conceptualism, Methodology, Validation, Investigation, Data Curation, Writing - Original Draft, Writing - Review & Editing	100%

Author statement: Author(s) declare(s) that All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. **Declaration of Conflicting Interests:** The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article

This paper does not required ethics committee report

Justification: The methodology of this study does not require an ethics committee report.