

Application of Generative Artificial Intelligence Tool in Tourism in China

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ABSTRACT

With the rapid progress of artificial intelligence and natural language processing technology, large-scale language models such as ChatGPT are increasingly widely used in the tourism industry, profoundly changing the traditional mode of tourism services. This paper discusses the application of Generative AI tools in tourism and its challenges and risks from both the supply side and the demand side. The research points out that travel agencies are faced with the loss of tourists, technical threshold and cost pressure, and tourists also have certain risks when using Generative AI tools for travel planning and decision-making. In order to cope with these challenges and risks, this paper puts forward corresponding countermeasures and suggestions. Travel agencies should get committed to improving information quality, strengthening technical updates and ensuring information security. At the same time, tourists should also be vigilant when using Generative AI tools and plan their travel itinerary properly. These strategies help travel agencies and tourists better adapt to the changes brought by new technologies and promote the sustainable development of the tourism industry.

KEYWORDS

Generative AI tools; Tourism; Artificial intelligence; Large language model; Application prospect

1. INTRODUCTION

With the rapid development of science and technology, artificial intelligence and natural language processing technology have gradually penetrated into all aspects of our lives. Artificial Intelligence-generated content (AIGC) refers to a new production mode that uses artificial intelligence technology to automatically produce content (Ken Davidian, 2023). This production method covers a variety of content modes, including text, video, images, audio, and cross-modal generation (Daniel Truhn, Christian D, 2023). Generative AI tools is the latest representative and breakthrough of generative artificial intelligence technology (AIGC), and its application has realized a leapfrog development from AI-assisted production to AI-automatic production in the field of content production. This change has not only improved the efficiency and diversity of content production, but more importantly, it has changed the basic mode of content production, and the interaction between AI and users has been significantly enhanced.

Generative AI tools is an outstanding artificial intelligence product released by OpenAI, an American artificial intelligence research lab, on November 30, 2022, demonstrating excellent natural language understanding and text generation capabilities with its advanced GPT-3.5 architecture. The outstanding feature of Generative AI tools is that it can show unparalleled efficiency and logical rigor in multiple complex tasks such as text generation and data analysis, which marks an important step in artificial intelligence technology in simulating human thinking and language processing. In March 2023, OpenAI released an upgraded version of GPT-4 model. Compared with its predecessor GPT-

3, GPT-4 not only achieved a significant expansion in model size, but also achieved a qualitative leap in capability. Especially in terms of model input processing and training efficiency, GPT-4 has shown unprecedented improvement. In this context, Baidu quickly launched its self-developed large language model generation AI product - Wenxin Yiyan. At the same time, many media organizations are also actively exploring the innovative application of AI technology, such as the smart media platform launched by CCTV and the digital virtual small series C, etc. These applications provide strong support for the transformation and upgrading of the media industry by deeply integrating AI technology and media business. These technological breakthroughs have not only promoted the rapid development of artificial intelligence technology, but also brought unprecedented changes and opportunities to all walks of life.

The purpose of this study is to explore the change of Generative AI tools on tourism and its impact on tourism providers and consumers. Through in-depth analysis of the application of Generative AI tools in the tourism industry, as well as the challenges and risks it poses to traditional travel agencies and tourists, it is expected that corresponding countermeasures and recommendations can be made to cope with the changes and opportunities brought by new technologies. At the same time, this study will also help promote the innovation and development of tourism, improve the quality and efficiency of tourism services, and provide better tourism experience for tourists.

2. APPLICATION SCENARIOS OF GENERATIVE AI TOOLS IN THE TOURISM INDUSTRY

As a revolutionary technology, Generative AI tools is used in many fields, from education to programming, from daily life consultation to in-depth research in the professional field, it can provide effective help and solutions. In addition, Generative AI tools is able to act as a daily life assistant, providing weather forecasts, news summaries, and even health and fitness advice.

In the travel industry, the application of Generative AI tools is particularly special and important. It can provide personalized travel advice according to the needs of users, including but not limited to the choice of travel destinations, travel route planning, local culture introduction, must-see attractions recommendation, etc. In addition, Generative AI tools is able to provide comprehensive support on both the supply and demand side of the travel industry, which not only helps travel operators optimize their services and improve efficiency, but also provides tourists with a more personalized, convenient and safe travel experience.

2.1. Increase Productivity

Generative AI tools is a generative artificial intelligence (AI) model, a large language model with the ability to create new content, and not only to process and use existing data (González-Rodríguez, 2020), it can also help travel agencies complete multiple tasks and increase productivity, such as solving daily scenic queries and creative copy writing (Haleem A, Javaid M, & Singh R P, 2022). Generative AI tools helps travel agencies to provide inspiration and creativity in their work, write materials (Dazhen Tong, Yang Tao & Kangkang Zhang et al., 2023), optimize copy content and provide destination details, etc., so that travel agencies can make more detailed trip planning, including recommended attractions, activities and restaurants, transportation suggestions and trip price strategy suggestions, so as to better meet the needs and preferences of target groups.

2.1.1. Optimizing resource allocation

As a natural language processing tool driven by artificial intelligence technology, Generative AI tools can not only chat and communicate like real people, but also help employees to assist in work, so as to improve efficiency (Ramesh A, Chawla V, 2022). Second, after the integration of Generative AI tools into the digital system used by multiple departments of the hotel, the guest experience is

improved by asking the room occupancy rate, the current status of the room manager, whether there is a guest staying, the room readiness, etc. (Dazhen Tong, Yang Tao & Kangkang Zhang et al. 2023). In the face of a variety of hotel choices, travel agencies can learn about the room facilities, availability, room types and prices of different hotels through Generative AI tools, and allocate resources according to demand. In addition, Generative AI tools can also be used as a monitoring tool to help with management tasks such as demand forecasting and personnel allocation (Dazhen Tong, Yang Tao & Kangkang Zhang et al., 2023). For example, by integrating Generative AI tools into a travel agency's digital system, Generative AI tools can intelligently assign the right travel advisor or staff based on the user's needs and queries. Furthermore, by analyzing conversations and historical data shared between users and employees, Generative AI tools can understand the expertise and capabilities of different employees, and match the most suitable person according to the needs of users to provide more efficient and personalized services.

2.1.2. Virtual concierge service

Generative AI tools plays an important role in tourism services, which can realize the automation of concierge services by learning and analyzing a large amount of tourism-related data (Dazhen Tong, Yang Tao & Kangkang Zhang et al., 2023). On hotel reservations and services, Generative AI tools can help customers make hotel reservations and provide information about hotel services. In addition, it can also provide guidance and support for hotel check-in and delivery of goods; In terms of scenic tour and route guidance, Generative AI tools can provide detailed scenic tour and route guidance services, and customers can consult Generative AI tools at any time about the introduction of scenic spots, opening hours, ticket prices and other questions, and get real-time guidance and suggestions, Generative AI tools can also according to customers' preferences and schedules. To provide them with the best sightseeing routes. In terms of restaurant recommendation and reservation services, travel agencies can consult Generative AI tools on restaurant menus, prices, meal times, etc. according to customers' tastes and preferences, recommend local restaurants, and help complete restaurant reservations; In terms of pick-up and drop-off services, customers can make requests for delivery of items to travel agents through Generative AI tools, such as the delivery of specific items or gifts at the time of hotel booking. Generative AI tools can help customers communicate with travel agents and ensure that items are delivered to the designated location on time.

2.1.3. Develop loyalty programs

According to Chui et al. (2022), ChatGPT can also be used to generate synthetic data to train and improve machine learning algorithms to automatically classify customer reviews (Jim Euchner, 2023). From the insights gleaned from guest data, ChatGPT as an intelligent assistant can play an important role in customizing loyalty program rewards to better meet guest preferences and priorities. For example, depending on their preferences and needs, ChatGPT can offer them special treatment such as upgrades, free accommodation, discounts on events or dining experiences (Carvalho I, Ivanov S, 2023). The active communication and contact established with travel agencies is a key factor to improve customer engagement and satisfaction (Limna P, & Kraiwanit T, 2023). When customers get personalized service and response after interacting with travel agencies, they will deeply feel that they are valued and understood by travel agencies. This experience of value and understanding will further enhance customers' trust and loyalty to the travel agency, and make them more inclined to choose the travel agency as their preferred partner again and become long-term loyal customers. At the end of the trip, Generative AI tools provides personalized recommendations and reminders by analyzing customers' travel preferences, spending habits, preferences and feedback. For example, the use of points system, exclusive benefits for members, special discounts, new destination recommendations, etc., to make the relationship between travel agencies and customers closer.

2.2. Tourists

However, Generative AI tools provides valuable advice before the trip, real-time assistance during the trip, and in-depth review and summary after the trip. Before a trip, Generative AI tools can provide valuable advice and guidance to visitors. On a trip, Generative AI tools can also be a loyal assistant to tourists. Whether it's solving an urgent problem or when you need travel-related information, visitors can get help by having an instant conversation with Generative AI tools. When the trip is over, Generative AI tools can help tourists record their travel experiences and activities, or write relevant travel documents and reviews. Visitors can share their travel stories with Generative AI tools and get inspiration and advice for writing travel notes, blogs or social media posts.

2.2.1. Before the tour

Generative AI tools, as the latest representative of generative artificial intelligence, has rich knowledge reserves and information processing capabilities (Dogan Gursoy, Yu Li & Hakjun Song, 2023; Yunxi Yan, Biao Li & Jinyuan Feng et al, 2023). which can quickly and accurately process data from various travel websites and provide cost-effective destination information and recommendations (IpKin Anthony Wong, 2023). Whether it is understanding the destination's climate, local cultural differences, or essential travel items, ChatGPT is able to accurately answer tourists' questions and generate personalized travel customized routes through interactive means (IpKin Anthony Wong, 2023) as well as create alternative itineraries, routes, and transportation options by evaluating various alternatives. It provides tourists with more choices (Yogesh K. Dwivedi, Nir Kshetri & Laurie Hughes et al, 2023; Vianna C, 2023). enabling tourists to make preparations in advance and greatly improving the efficiency of travel planning. Secondly, ChatGPT can assist with booking and booking inquiries, helping visitors understand availability, prices and the entire booking process (Carvalho I. and Ivanov S, 2023). For example, if a tourist wants to book a hotel or a flight, they can ask Generative AI tools directly for that information. Generative AI tools can offer a variety of options, including different price ranges, hotel or airport locations, facilities and more. At the same time, Generative AI tools can help visitors understand the booking process and handle booking inquiries, such as what information to fill in, when to pay, how to confirm the reservation, how to change or cancel it, etc.

2.2.2. During tour

Generative AI tools, as an intelligent conversation robot, plays an important role in tourist travel. It is not only an information provider, but also a caring assistant, providing all kinds of help and support for visitors. It can play a variety of roles according to individual needs to guide tourists around (IpKin Anthony Wong, Qi Lilith Lian & Danni Sun, 2023). such as acting as a local resident, travel blogger, tour guide, etc., to provide personalized advice to tourists, and show them pictures, videos and virtual Tours of the suggested places in the itinerary (Dwivedi, Yogesh K, et al, 2023). If you are unable to use the local language fluently IpKin Anthony Wong, (Qi Lilith Lian & Danni Sun, 2023). Generative AI tools, as a language translation tool, can quickly and accurately translate the questions or instructions of tourists into a specific language style and provide a more attractive and localized communication experience with the correct prompts (Carvalho I & Ivanov S, 2023) so as to make their travel more convenient and smooth. In addition, Generative AI tools can provide real-time navigation and positioning services for visitors during the tour. By interacting with visitors, Generative AI tools can provide them with information about nearby attractions, restaurants and shopping, and help them plan the best route based on their location. It can also answer tourists' questions in real time, such as local culture, historical background and other knowledge, so that tourists have a better understanding of the location. In the event of a dangerous situation, Generative AI tools can also provide emergency rescue services. Whether it is a health problem, an accident or other emergency, visitors can connect with first responders through Generative AI tools and get the necessary assistance. This brings great security to tourists and enables them to enjoy their trip with greater peace of mind.

2.2.3. After tour

Generative AI tools, as a large-scale pre-trained language model, can understand and generate human language. At the end of the trip, if tourists want to describe tourist activities such as attractions, hotels or restaurants that they experienced, they may have difficulty finding the right words or expressions. At this point, they can use Generative AI tools to help them organize and express this information (Carvalho I & Ivanov S, 2023). For example, visitors can enter their impressions of an attraction, and Generative AI tools will generate a description based on that information. This description will not only contain all the key information provided by the visitor, but it will also be expressed in a smooth and infectious way. In this way, tourists can easily share their travel experience. Second, Generative AI tools can also be used to generate reviews of hotels or restaurants. Visitors can enter their opinion of the hotel's comfort, cleanliness or quality of service, or how they feel about the restaurant's taste, quality of service or ambience. Generative AI tools will then generate a comment based on this information. This review will express the true feelings of the traveler in a persuasive and engaging way, which will help them share their travel experience on social media or serve as a reference for other travelers.

3. CHALLENGES AND RISKS

3.1. Risks of Information Authenticity and Credibility

Since Generative AI tools and other artificial intelligence technologies can automatically generate text, ChatGPT is unable to make reasonable explanations and trace the source of its output, and may produce wrong information and false information (Dogan Gursoy, Yu Li & Hakjun Song, 2023). The content produced by ChatGPT pays more attention to rationality than authenticity, which will lead to the spread of some false information or fake comments (Carvalho I. and Ivanov S, 2023). If these false information or false comments are circulated in the recommendation or description of the travel itinerary, it may mislead tourists and even threaten the personal safety and property safety of tourists, which will reduce their trust in travel agencies, and then affect the reputation and business of travel agencies. In addition, since the algorithms of technologies such as ChatGPT are set by human developers, subjectivity and bias can occur, which can also affect the authenticity and credibility of information (Yunxi Yan, Biao Li, 2023). Therefore, when using Generative AI tools for tourism planning and decision-making, we must pay attention to its potential information risks. Due to the time-limited training data of Generative AI tools, the information provided by Generative AI tools may be inaccurate or outdated. Specifically, if certain travel-related information changes after Generative AI tools's knowledge deadline, such as scenic area opening and closing times, traffic conditions or travel policies, Generative AI tools may not be able to provide up-to-date and accurate real-time information. Therefore, when using Generative AI tools, users should be fully aware of the incompleteness or delay of their information and remain highly alert when dealing with travel decisions involving time sensitivity.

3.2. Technical Threshold and Cost Pressure Risk

The continued development and operation of ChatGPT does require huge investments, especially in infrastructure such as large data centers and high-performance computers (Dogan Gursoy, 2023). These resources are key to keeping Generative AI tools running efficiently and processing large amounts of data. For some small travel agencies, they may not have the financial and technical resources to introduce and implement Generative AI tools technology. This financial and technical barrier can put small travel agencies at a disadvantage in a highly competitive market environment. In addition to financial and technical barriers, the rapid updating and development of technology is another challenge. AI technologies, including Generative AI tools, are evolving rapidly, which means that travel agencies need to keep up with the latest technology trends and update and maintain relevant

technical equipment. This continued commitment can put additional cost pressure on travel agencies, especially for smaller ones with limited resources and funds. In addition, technological updates and maintenance may also cause travel agencies to face certain risks and uncertainties when introducing new technologies.

3.3. Data Security and Privacy Protection Risks

Given the powerful power of language models in capturing personal information, we must be alert to potential privacy violations and user harm (IpKin Anthony Wong, 2023). During the travel process, tourists often need to use various apps and devices to obtain travel information, book hotels, purchase tickets, and more. However, these apps and devices may collect a large amount of tourists' personal information and location data, which undoubtedly poses a threat to tourists' privacy (IpKin Anthony Wong, 2023). Because ChatGPT processes large amounts of sensitive personal and travel information data, it is essential to establish strong cybersecurity protocols and ethical data management standards (Dogan Gursoy, 2023; Enkelejda Kasneci, Kathrin Sessler & Stefan Küchemann et al, 2023). This is not only to protect the privacy of tourists, but also to avoid criminals using this information to commit fraud or other illegal activities. When the personal information of tourists is collected and used, there may be a risk of illegal disclosure or abuse.

3.4. Overdependence Leads to the Risk of Interpersonal Apathy

ChatGPT offers travelers unprecedented convenience in providing more personalized and accurate travel advice and information (IpKin Anthony Wong, 2023). However, this convenience can also lead to some potential problems. When tourists over-rely on Generative AI tools for travel information and advice, they may gradually reduce their traditional communication and interaction with guides, other tourists, etc. Interpersonal communication is an important part of the tourism experience, which provides tourists with the opportunity to deeply understand the local culture, customs and customs, and over-reliance on Generative AI tools may reduce the social value of the tourist travel experience. In addition, over-reliance on Generative AI tools can also put visitors at risk of being trapped in an "information cocoon," where they only receive information that suits their preferences and biases, leading to limited vision and narrow thinking. This may not only cause tourists to miss out on a diverse travel experience, but may also make them isolated when they are led down a personalized path (Carvalho I. and Ivanov S, 2023). This isolation may exacerbate alienation and apathy in interpersonal relationships, negatively affecting the mental health and social interactions of visitors.

4. ANALYSIS OF COPING STRATEGIES

4.1. Measures to Improve Information Quality and Trust

First of all, travel agencies should establish a sound information review mechanism. The importance of this mechanism is that it can ensure the authenticity and reliability of tourism information, so as to protect the rights and interests of consumers. Specifically, travel agencies should carefully review and verify information on travel arrangements, hotel accommodations, transportation and other aspects to prevent the spread of false information. In addition, travel agencies should update and review the information regularly to ensure the timeliness and accuracy of the information. Secondly, travel agencies should choose reputable suppliers and establish long-term and stable cooperative relations with them, clarify the rights and obligations of both parties, sign contracts and strictly abide by the contract. At the same time, travel agencies should also regularly evaluate and supervise suppliers to ensure that the information provided by suppliers is true and reliable and reduce information risks. Finally, travel agencies should provide tourists with clear and transparent service information, including detailed information about travel itinerary, hotel, transportation and so on. This information should be presented in a way that is easy to understand so that the traveler has a full

understanding of the entire trip. In addition, travel agencies should also provide tourists with evaluation and feedback channels, in order to timely understand the needs and opinions of tourists, and constantly improve the quality of service. By providing transparent service information, travel agencies can increase the trust of tourists and improve their satisfaction and loyalty.

4.2. Measures to Reduce the Technical Threshold and Cope with Cost Pressure

First of all, travel agencies should make reasonable and efficient use of their existing technical resources. Through tools such as travel management systems and online booking platforms, travel agencies can deal with customer needs more quickly and improve the response speed of services. Secondly, since the introduction and application of technology often require a large amount of capital and human resources investment, travel agencies can greatly reduce the technical threshold and cost pressure through joint research and development with technology companies, scientific research institutions and other partners, and obtain professional technical support and resource sharing. Finally, in the operation process of travel agencies, the optimization of business processes is an important means to improve operational efficiency. By optimizing business processes, travel agencies can reduce unnecessary links and costs and improve operational efficiency. This can not only reduce the operating costs of travel agencies, but also improve customer satisfaction and loyalty. In the process of optimizing business processes, travel agencies should pay attention to the needs and experience of customers to ensure that the optimization of business processes can truly improve customer satisfaction.

4.3. Data Security and Privacy Protection

When dealing with data security and privacy protection risks, we should take a series of comprehensive measures to ensure the security and privacy of user data to ensure that visitors can reduce the risk when using Generative AI tools and improve the level of data security and privacy protection. First of all, for data transmission and storage, the use of high-strength encryption algorithms can ensure the confidentiality and integrity of data during transmission and storage. Also choose a reputable storage device or cloud service provider with security safeguards that can provide an additional layer of security and take steps to prevent unauthorized access and data breaches. Second, establish a strict permission control and access management system, including authentication and permission control for access to Generative AI tools, to ensure that only authorized personnel can access user data. By implementing multi-level authentication and approval processes, the risk of unauthorized access and data breaches can be reduced. At the same time, permission settings should be regularly reviewed and updated to ensure that they are consistent with current security requirements. Finally, by providing detailed educational materials and privacy tips, users are clearly explained how Generative AI tools collects, uses and stores data. This helps increase users' awareness of privacy and reduces the risk of unnecessary data sharing and misuse. At the same time, it provides easy-to-understand privacy Settings and options that give users more control over their data.

4.4. Balance and Warmth in Interpersonal Relationships

In view of the risk of interpersonal apathy caused by excessive dependence, we can take effective measures to reduce the risk of interpersonal apathy and enhance the connection and interaction between users and others. First, when using Generative AI tools, users can use some prompts or guidance to emphasize that the technology is an auxiliary tool, not a way to replace human interaction. Remind users to maintain attention and maintenance of relationships and make them aware that over-reliance on technology may have a negative impact on relationships. Secondly, by providing social activity suggestions or recommending relevant social platforms, users can be encouraged to actively participate in social interactions in real life. This can balance technology use and interpersonal interaction, and promote the healthy development of interpersonal relationships. For example,

recommend some fun social events or offline gatherings to help users build more connections and interactions with friends and family. In addition, Generative AI tools can be designed with emotional support to provide users with warmth and companionship. Provide users with emotional support and empathy through sentiment analysis and responses in conversations. This allows users to feel more emotional care and companionship, reducing the risk of interpersonal apathy.

5. SUMMARY AND OUTLOOK

With the rapid development of industrial intelligence technology, Generative AI tools, as an advanced natural language processing tool, has a promising future in the tourism industry. This paper aims to explore the application scenarios of Generative AI tools in the tourism industry from an academic perspective and analyze its impact on the tourism industry, especially from a multi-stakeholder perspective. While Generative AI tools brings innovation and change to the travel industry, it also brings a number of risks, including the risk of authenticity, reliability and technical barriers and cost pressures faced by travel agencies. Visitors will also face issues of data security and privacy protection, the balance and warmth of interpersonal relationships, and the accuracy and timeliness of information. To address these risks, we propose a series of countermeasures. As the technology continues to evolve and advance, we expect Generative AI tools to become more widely and deeply used in the travel industry. Future research could further explore more application scenarios for Generative AI tools in the tourism industry, such as intelligent guides and assistants, tourism safety and emergency response, destination management and operations. In short, Generative AI tools brings new opportunities and challenges to the tourism industry. With the proper application of Generative AI tools and effective risk prevention measures, we can realize its full potential to drive the development and innovation of the tourism industry. With the continuous advancement of technology and the expansion of application scenarios, we believe that the tourism industry will usher in a better future through the integration of new technologies such as Generative AI tools.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest between and among the authors.

ACKNOWLEDGEMENTS

This study is funded by the 18804170006/QY2017002 project of Xi'an International Studies University.

REFERENCES

- [1] Daniel Truhn, Christian D. Weber & Benedikt J et al. A pilot study on the efficacy of GPT-4 in providing orthopedic treatment recommendations from MRI reports [J]. Scientific Reports, 2023, 13(1): 20159
- [2] Ken Davidian. New Space and Generative Artificial Intelligence [J]. New Space, 2023, 11(3): 148-150
- [3] González-Rodríguez M, Díaz-Fernández M & Pacheco Gómez C. Facial-expression recognition: An [1] emergent approach to the measurement of tourist satisfaction through emotions [J]. Telematics and Informatics, 2020, 51, 101404.
- [4] Haleem, A, Javaid, M, & Singh R. P. An era of ChatGPT as a significant futuristic support tool: A study on features, abilities, and challenges [J]. Bench Council Transactions on Benchmarks, Standards and Evaluations, 2022, 2(4), 100089.
- [5] Pawel Korzynski, Grzegorz Mazurek & Andreas Altmann et al. Generative artificial intelligence as a new context for management theories: analysis of ChatGPT [J]. Central European Management Journal, 2023, 31(1): 3-13
- [6] Dazhen Tong, Yang Tao & Kangkang Zhang et al. Investigating ChatGPT-4's performance in solving physics problems and its potential implications for education [J]. Asia Pacific Education Review, 2023.

- [7] Ramesh A & Chawla V. Chatbots in Marketing: A Literature Review Using Morphological and Co-Occurrence Analyses [J]. *Journal of Interactive Marketing*, 2022, 57(3), 472-496.
- [8] Carvalho I. and Ivanov S. ChatGPT for tourism: applications, benefits and risks [J]. *Tourism Review*, 2023, 79(2): 290-303.
- [9] Limna P, & Kraiwanit T. The role of ChatGPT on customer service in the hospitality industry: An exploratory study of hospitality workers' experiences and perceptions [J]. *Tourism and hospitality management*, 2023, 29(4), 583-592.
- [10] Yunxi Yan, Biao Li & Jinyuan Feng et al. Research on the impact of trends related to ChatGPT [J]. *Procedia Computer Science*, 2023, 221: 1284-1291.
- [11] Dogan Gursoy, Yu Li & Hakjun Song. ChatGPT and the hospitality and tourism industry: an overview of current trends and future research directions [J], *Journal of Hospitality Marketing & Management*, 2023, 32(5):79-592.
- [12] IpKin Anthony Wong, Qi Lilith Lian & Danni Sun. Autonomous travel decision-making: An early glimpse into ChatGPT and generative AI [J], *Journal of Hospitality and Tourism Management*, 2023, 56:253-263
- [13] Yogesh K. Dwivedi, Nir Kshetri & Laurie Hughes et al. Opinion Paper: “So what if ChatGPT wrote it?” Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy [J]. *International Journal of Information Management: The Journal for Information Professionals*, 2023, 71: 102642
- [14] Vianna C. What will ChatGPT mean for the travel industry? [EB/OL] (2023-05-15) [2023-12-06]. <https://www.xola.com/what-will-chatgpt-mean-for-the-travel-industry/>
- [15] Dwivedi, Yogesh K, et al. Leveraging ChatGPT and other generative artificial intelligence (AI)-based applications in the hospitality and tourism industry: practices, challenges and research agenda [J]. *International Journal of Contemporary Hospitality Management*. 2023.
- [16] Carvalho I & Ivanov S. ChatGPT for tourism: applications, benefits and risks [J]. *Tourism Review*. 2023.
- [17] Jim Euchner. Generative AI [J]. *Research-Technology Management*, 2023, 66(3): 71-74
- [18] Enkelejda Kasneci, Kathrin Sessler & Stefan Küchemann et al. ChatGPT for good? On opportunities and challenges of large language models for education [J]. *Learning and Individual Differences*, 2023, 103: 102274
- [19] Chaves A C, Egbert J & Hocking T D et al. Chatbots Language Design: The Influence of Language Variation on User Experience with Tourist Assistant Chatbots [J]. *ACM Transactions on Computer-Human Interaction*, 2022, 29(2), 1–38.
- [20] Dogan Gursoy, Yu Li & Hakjun Song. ChatGPT and the hospitality and tourism industry: an overview of [1] current trends and future research directions [J]. *Journal of Hospitality Marketing & Management*, 2023, 32:5, 579-592
- [21] Yunxi Yan, Biao Li. Research on the impact of trends related to ChatGPT [J]. *Procedia Computer Science*. 2023, 221:1284-1291.