

EMERGING FIELDS OF TOURISM MANAGEMENT: SMART TOURISM-THE FUTURE DIRECTION OF TOURISM

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Article History:

Received : 8 September 2023

Accepted : 25 October 2023

Published : 26 December 2023

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ABSTRACT

With the emergence of the new concept of "smart tourism", people have new ways of traveling. This article mainly reviews three aspects that have been hotly discussed in the past, namely ICT and big data, smart cities, and smart destinations, which are closely related to smart tourism, and combines the case of China New Oriental Group to explore the impact of the tourism industry on the future direction of tourism management and people's lives. The research results of this article show that smart tourism will bring more obvious changes and experiences to people's lives, especially in terms of effectively improving tourism experience and improving operational efficiency. There are also some limitations in the research process of this study, and the author also puts forward some constructive suggestions for the future development direction of smart tourism.

Keywords: *Smart tourism, Tourism management, Artificial intelligence, Smart city, Smart destination*

INTRODUCTION

Tourism is a phenomenon that combines social, cultural and economic elements and refers to people traveling to countries or regions that are usually outside their living environment for personal or business purposes. Tourism plays a vital role in the social, cultural and economic development of most countries. Tourism has always been an important part of the global economy, and in recent years the rise of digitalization and the technological revolution has further fueled its transformation. Technological innovation is crucial to the tourism industry, and the rise of smart tourism marks an important turning point in the tourism industry (Buhalis, 2015).

Smart tourism includes a variety of technologies and tools, such as ICT, mobile applications, virtual reality, big data analysis, artificial intelligence, social media, etc. The integration of these technologies creates a new tourism ecosystem for tourists, tourism Operators and destinations offer endless possibilities. As an emerging research direction in the field of tourism management, it is rapidly leading the future of tourism. This concept carries the power of information technology and innovation and is changing the way we travel. It not only provides tourists with a more personalized and convenient travel experience, but also provides huge business opportunities for tourism operators.

From a professional perspective, discussions on smart tourism in the past have mainly focused on the following aspects: ICT and big data, smart cities and smart destinations, etc. Smart tourism can be said to comply with historical development and exist logically. Nowadays, information and communication technology has been widely used in the tourism industry, and technology-based innovation has become the leading trend of the industry and consumers. The core of the smart tourism concept also lies in using ICT to improve processes. Smart tourism represents a unique advancement of information and communication technology in the development of tourism. The management level of tourism is being further digitized, and the degree of intelligence of the tourism system has reached an unprecedented level (Gretzel et al., 2015). The structure of the travel industry is changing, resulting in great changes in how people experience travel experiences.

Nowadays, smart tourism has attracted widespread attention from tourism practitioners, especially in countries such as Spain and China . Most scholars in the past have focused on the impact of the application of technology in tourism on tourism activities (e.g. Buhalis, 1996; Buhalis & Law, 2008; Hays, Page, & Buhalis, 2013; Kah, Vog, & MacKay, 2008), these studies comprehensively investigated the support provided by ICT, including smart booking, smart recommendations and navigation, smart hotels, smart destinations, and smart marketing.

The rise of smart tourism is not only the result of technological progress, but also a response to the current and future challenges of the tourism industry. At the end of July 2023, China's New Oriental Group also began investing in the cultural tourism industry. Based on this case and several related concepts about smart tourism discussed in the article, this article puts forward its own relevant insights and reflects on future research. Smart tourism is of great significance in both tourism research and practice, developing as a framework that can inspire the reimagining and recalibration of all aspects of tourism. This is also an important purpose of writing this article. In the field of tourism management in the future, smart tourism will undoubtedly continue to lead the trend. Research in this area will not only provide deep insights to academics but also provide strategic guidance to practitioners to meet changing market needs. We look forward to contributing valuable knowledge to the emerging field of tourism management through this research to lead the future direction of tourism.

LITERATURE RIVIEW

1. Smart Tourism

Smart tourism refers to initiatives and methods that adopt the unique capabilities of smart technologies at the tourism destination level to achieve specific development goals (Gretzel, 2021). It builds a comprehensive tourism platform that integrates information and communication technology (ICT), integrating tourism resources with ICT technologies such as artificial intelligence, cloud computing, and the Internet of Things to promote the innovative development of mobile communication technology and provide clear information to tourists and service excellence (Zhang, Li, & Liu, 2012). Smart tourism relies on emerging technologies such as social media and mobile technology, and combines smart devices and sensors to collect and utilize large amounts of data to create new value propositions. It is a very popular tourism development trend today.

The main antecedents of smart tourism include the development of information technology, the popularization of mobile technology, the rise of social media, big data and artificial intelligence (also one of the focuses of this article) and the fierce competition in the tourism market, etc. It is precisely because these antecedents are intertwined that they jointly promote the rise of smart tourism. Make travel more convenient, personalized and keep pace with the times.

In this new era, we have personally experienced the era and process of smart tourism as an emerging field leading the future direction of tourism, and the tourism industry is highly dependent on information and attaches great importance to information intensity (Law et al. 2014; Koo et al. 2015; Werthner and Klein 1999; Benckendorff et al., 2014), it is natural to apply the concept of wisdom to tourism, so the emergence of smart tourism as a social approach is unquestionable and logical (Hunter et al. 2015).

So far, research related to smart tourism has covered multiple fields, among which "smart cities" and "smart tourism destinations" are mostly discussed (e.g. Fuchs, 2006; Munar, 2012; Presenza, Micera, Splendiani, & Del Chiappa, 2014; Sigala and Marinidis, 2012) Therefore, these two points will also be reviewed in detail in the following article. Smart tourism may profoundly affect our business model as well as its view on strategy, tourism enterprises must seriously face and take advantage of the opportunities, challenges and support of smart tourism, and redefine their business model to remain competitive (Schmidt Rauch and Schwabe, 2014).

We can know that through the discussion of smart tourism, we can improve the following aspects: First, improve the travel experience, because smart travel technology can provide a more personalized, convenient and high-quality travel experience, and travelers can plan more easily Itineraries, navigation destinations, and personalized suggestions and recommendations; second, smart technology and data analysis help to improve travel safety, including risk warnings, real-time traffic information and emergency rescue services; at the same time, smart tourism can create employment opportunities, Promote local and global economic growth, attract more tourists and more.

Then the smart tourism to be discussed in this article mainly covers the following three mainstream discussion parts: information and communication technology and big data, smart city and smart destination.

2. Information and Communication Technology and Big Data

2.1. Information and Communication Technology

So far, information and communication technology (ICT) has been widely used in fields such as public education, energy conservation, environment and infrastructure construction, with the goal of promoting economic growth, sustainable development and social progress (Hall et al., 2000). Today, it also plays a key role in smart tourism. Tourism organizers use ICT technology to provide travelers with convenient, personalized and intelligent tourism services. This enables tourists to better plan their trips and enjoy their destinations, while helping destination managers optimize resource utilization, improve safety and sustainability. Overall, ICT technology has revolutionized the tourism industry and paved the way for the development of smart tourism.

The rise of information and communication technologies has been influenced by multiple factors that intersect with technological, social and economic dimensions. Including the development of computer technology, development of the Internet, digitization and digital technology, progress in communication technology and social and cultural changes, etc.

ICT technology has changed people's lifestyles, social interactions and ways of working. Of course, it also includes factors such as the trend of globalization, open standards and open source movements, market demand and business opportunities, government support and investment, scientific research and innovation, etc. They have jointly promoted the rapid development and popularization of information and communication technology, becoming a modern society and an integral part of the economy. This technological evolution continues to shape our world, impacting every industry and sector.

From the perspective of tourists, smart tourism still has considerable room for development. Huang, Yuan and Shi (2012) emphasized that true smart tourism should combine ICT to meet tourists' needs. The application goal of intelligent systems in tourism is to maximize tourist satisfaction by improving resource management efficiency. Intelligent ICT is expected to make sense of experience, acquire and retain knowledge, and react quickly and successfully to new situations (Rudas and Fodor, 2008)

. In a smart tourism environment, this technology is a key component of information systems, promising to provide tourism consumers and service providers with more relevant information, better decision support, greater flexibility, and ultimately a more enjoyable experience. Tourism experience (Gretzel, 2011; Werthner, 2003; Sigala and Chalkiti, 2014).

Through research on ICT, we can make tourism more convenient and efficient, and promote international cooperation, cultural exchanges and global trade. At the same time, ICT technology also provides a platform for innovation and encourages new business models and entrepreneurial activities. This contributes to economic growth and job creation. This has a very strong positive social attribute for the tourism industry.

2.2 Big Data

Big data is a term that refers to massive data sets with large, diverse and complex structures that are difficult to store, analyze and visualize for further processes or results (Sagiroglu & Sinanc, 2013). It is A relatively new field of inquiry, it provides organizations and companies with large amounts of

different types of data from which to gain valuable insights into customer perspectives, preferences, needs and attitudes. Big data plays a key role in smart tourism by collecting and analyze large amounts of tourist data to help destination managers better understand tourist needs, optimize resource allocation and provide personalized experiences. This helps increase tourist satisfaction, improve destination management and promote the sustainable development of the tourism industry.

The rise of big data is driven by a variety of factors, involving many aspects such as technology, society and economy: for example, the widespread application of digital technology allows more and more data to be generated and stored in digital form; at the same time, the advancement of sensor technology Enable various devices and systems such as smartphones, IoT devices, monitoring equipment, etc. to collect large amounts of real-time data; from a business needs perspective, organizations realize the potential of extracting insights and knowledge from big data, which can be used to improve decision-making, improve efficiency and create business value. Together, they have promoted the rise of big data and triggered data-driven decision-making and innovation in various fields. The development of big data has had a profound impact on many industries and fields, including business, science, medical, government and social fields.

While big data continues to develop, it has also brought a series of impacts on the tourism industry: one is better decision support, because big data analysis can provide organizations with more information and insights, helping them make more informed decisions. Decision-making, including market trends, customer needs, and resource allocation; second, from the perspective of innovation and competitive advantage, using big data analysis, companies can identify new business opportunities, optimize products and services, and maintain competitiveness in the market; third is Big data allows companies to provide personalized products and services according to individual needs and preferences, improving customer satisfaction; fourth, big data analysis helps urban planners better understand urban operations, improving the efficiency and reliability of resource utilization. Persistent. However, the rapid development of big data has also brought many potential challenges and negative effects: for example, the collection and analysis of big data may violate personal privacy rights, ensuring data security and privacy protection has become an important issue; The quality and accuracy of data are not necessarily high, which may lead to wrong decisions and insights; third, the popularity of digital technology and big data may exacerbate the digital divide and disadvantage those who cannot access or understand big data; The scale of data storage and processing makes it a target. Data breaches and security breaches can lead to information disclosure and identity theft. In conclusion, big data has great potential, but it also comes with some risks and challenges. Proper management and supervision of big data applications is key to ensuring that its positive impacts are maximized and negative effects minimized. According to the Intel IT Center Big Data Analytics Survey, big data faces several challenges: data growth, data infrastructure, data governance/policy, data integration, data velocity, data variety, data compliance/governance, and data visualization.

In summary, information and communication technology and big data provide travelers with rich experiences and support, helping to optimize their travel plans and experiences. There are many opportunities for the travel industry, including increased efficiency and innovation, but the challenges associated with its deployment also need to be fully understood and addressed.

3. Smart cities

In the previous research, smart tourism refers to the ICT-integrated urban tourism platform, which is based on the development of innovative mobile technology, combining tourism resources with

information technologies such as artificial intelligence, cloud computing, and Internet of Things, to provide specific cities for tourists. Provide clear information and efficient services (Wang, Li, & Li, 2013; Zhang, Li, & Liu, 2012). There is a close connection between smart cities and smart tourism, with smart city technology providing tourists with a more convenient and comfortable travel experience. According to Kaminos, Pallot, and Schaffers (2013), the main pillars of any urban intelligence are human capital, infrastructure, and information, among which information is crucial. Through intelligent transportation systems, intelligent buildings, and big data analysis, tourists make it easier to navigate, book services and enjoy the smart conveniences of your destination. This enhances the attractiveness of the destination and increases visitor satisfaction, while also promoting the sustainable development of smart cities.

The rise of smart cities has been affected by many antecedents. First, it relies on the rapid development of information and communication technology (ICT), including technologies such as the Internet, Internet of Things, mobile communications, and big data analysis. The key foundation; the second is that the acceleration of global urbanization has made cities face more challenges, including traffic congestion, resource management, environmental protection and quality of life for residents, and smart city technology is seen as a way to solve these challenges; the third is Smart city technology provides new business opportunities for enterprises, including intelligent transportation systems, smart buildings, urban security solutions, etc., which attracts participation and investment from the private sector; fourth, scientific research and technological innovation continue to promote the progress of smart city technology. New solutions and applications are constantly emerging. A series of antecedents have driven the rise of smart cities, which aim to improve the efficiency, sustainability, security and quality of life of their residents. As technology continues to advance, smart city development will continue to expand across the globe.

The rise and development of smart cities may have a variety of consequences. From the perspective of improving the quality of life, smart city technology can improve the quality of life of urban residents. For example, intelligent transportation systems can reduce traffic congestion, and smart buildings can provide a more comfortable and efficient living environment; at the same time, one of the goals of smart cities is to improve resource utilization efficiency, including energy, water resources, and infrastructure. This helps reduce the city's energy consumption and environmental impact; the development of smart city technology also creates certain employment opportunities and attracts innovative enterprises, promoting the city's economic growth; at the same time, big data analysis and smart city The platform can help urban planners better understand urban operations and thus better manage urban resources. But over-reliance on smart city technology can leave cities vulnerable to technological glitches or attacks, such as cyberattacks or system crashes. Since knowledge management is also an important dimension of urban governance, learning and knowledge are crucial to smart cities and smart tourism destinations, and knowledge management is also one of the main dimensions of destination governance (Ruhanen, Scott, Ritchie, & Tkaczynski, 2010), which can pose management and training challenges.

In short, the emergence of smart cities represents a way for modern society to respond to challenges, through the application of information technology to improve the sustainability, efficiency and quality of life of residents, while improving the tourism experience.

4. Smart destinations

Baggio and Del Chiappa (2014) define a tourism destination as a network system of stakeholders that provide services to tourists, supplemented by a technological infrastructure designed to create a digital environment that supports collaboration, knowledge sharing, and open innovation. The convergence of the digital revolution and information and communication technologies has triggered the development of new communication networks, thus challenging traditional technology scenarios and making smart cities and smart tourism destinations the basis for urban and tourism competitiveness (Batty et al. 2012).

There is a close relationship between smart destinations and smart tourism, both of which are committed to leveraging technology and data to enhance travel experiences. Smart tourism destinations are an extension of the smart city concept, which aims to improve tourism experiences and manage destinations through information communication technology (ICT) and other digital technologies. Smart destinations focus on destination management and improve urban environment and resource utilization through intelligent infrastructure, big data analysis and urban planning. Smart tourism focuses on the needs of tourists and provides tourists with a more convenient and personalized travel experience through mobile applications, virtual tour guides and personalized recommendations. The two are intertwined and jointly drive the digital transformation and sustainable development of the tourism industry.

The rise of smart destinations is driven by a variety of factors, the first of which must be the rapid development of ICT. The literature on smart tourism destinations shows that these tourism destinations use information and communication technology to enhance the development and production of tourism processes (Wang, 2013), and technologies such as the Internet, mobile communications, and big data analysis provide key foundations for smart destinations; Due to the fierce competition in the tourism industry, destinations need to constantly innovate to attract tourists. And the needs and expectations of tourists have changed. They want a more personalized and convenient experience during travel, and smart destination technology can meet these needs; government support and investment are also antecedents (Schaffers et al. 2011), and finally social media and online reviews play an important role in travel decisions.

The development of tourist destinations can significantly improve the tourist experience by providing personalized information and advice to help tourists better plan and enjoy their trips. This helps to improve tourist satisfaction; at the same time, it adopts sustainable technologies and practices, reduces resource consumption and environmental impact, and contributes to the realization of sustainable tourism; the most noteworthy point is that in emergency situations, Smart destination technology can provide timely alerts and information to help tourists and residents better respond to natural disasters, health crises or other emergencies, and it can improve the safety of cities and tourist areas, including surveillance and emergency communication systems, with Help reduce crime and provide a safer travel environment; finally, from a marketing perspective, providing smart services and personalized experiences can attract more tourists to visit, thereby increasing tourism revenue.

Overall, smart tourism destinations are a concept full of innovation and digital technologies that aim to enhance tourism experiences, promote sustainable urban development and enhance knowledge sharing. It represents the future development direction of tourism, integrating information and communication technology into destination management and services to meet the changing needs of tourists.

CASE STUDY: NEW ORIENTAL ENTERS THE CULTURAL TOURISM INDUSTRY

New Oriental Education Technology Group Co., Ltd. is currently the largest education and training institution in China, and its main business is education and training. On July 19, 2023, Beijing New Oriental Culture and Tourism Co., Ltd. (hereinafter referred to as New Oriental Culture and Tourism) was established. The legal representative is Yu Minhong (the founder of New Oriental), with a registered capital of 1 billion yuan; on July 21, New Oriental announced its new entrepreneurial direction: To develop cultural tourism for middle-aged and elderly people. From then on, New Oriental will operate in three fields: education, life, and cultural tourism. Yu Minhong, founder of New Oriental, said: "We are full of confidence in the prospects of new business, and will continue to use our unique advantages and expertise to capture new market opportunities." New Oriental, who is willing to start a business, has set its sights on the cultural industry after Dongfang Selection. In the travel business, new entrepreneurial projects are aimed at middle-aged and elderly people.

The development of New Oriental's cultural tourism business this time is roughly divided into two directions. One is to rely on the "Oriental Selection to See the World" Douyin account (Douyin is currently the most popular video social software in China) to take netizens to visit tourist destinations. Sell cultural tourism products; the other is to use your own educational resources to customize and sell original cultural tourism products. In fact, the live broadcast cost of "Oriental Selection to See the World" is relatively high, because it is basically done in other places, and the income from selling other people's products is relatively small. In the long run, New Oriental still needs to build its own cultural tourism products.

The threshold of the tourism industry is not low. Under the premise that the industry emphasizes high-quality development, New Oriental, as a particularly smart company, still chooses a diversified strategy and is not satisfied with operating in just one field. By expanding its business into the cultural tourism field, it implemented a diversification strategy to reduce risks and dependence on a single market and chose to target its cultural tourism business to middle-aged and elderly people, a market with potential. As the trend of population aging increases, the travel demand of middle-aged and elderly people is also increasing, which provides New Oriental with market opportunities. It also has a fixed online business model to promote and sell cultural tourism products through Douyin accounts and other online platforms. This model is attractive in the current digital age and can reach a wider audience. Although it can quickly promote its products by relying on platforms such as Douyin, New Oriental also plans to customize and sell its own cultural and tourism products. This in-house product development helps increase profitability and enhance brand value.

The following information can be obtained from the case: First, from the perspective of New Oriental's target group, it has chosen the elderly who are currently a relatively limited group to develop, which is also the group of people who have "money and leisure" as the saying goes. The target is very clear; Second, the channels chosen by New Oriental are mainly online (relying on the Internet, that is, the ICT and big data mentioned in this article); third, New Oriental's business relies on its own brand to explore the tourism industry that it has not yet entered, which is a comparison. Aggressive strategy.

Based on the research of this article, the author believes that from the current situation of smart tourism in my country, first of all from the development of ICT and big data, my country's information network and big data are currently very developed and transparent, and New Oriental

needs to actively collect data related to tourism information, accurately understand passenger needs, develop personalized experiences, and provide real-time navigation and feedback: integrate GPS, maps and real-time traffic data, develop intelligent navigation tools to assist tourists in destination navigation, and provide instant feedback to improve the convenience and convenience of the travel experience. safety.

The second is from the perspective of smart cities. First of all, New Oriental must integrate data from various cities to provide tourists with real-time information and optimize travel planning and itineraries; secondly, it must develop smart city navigation applications to provide tourists with customized city exploration experiences. Finally, it is necessary to promote sustainable tourism practices and advocate smart cities in line with sustainable development goals.

Third, combined with smart destinations, first of all, the destination's attractions, services and culture can be digitized to establish a comprehensive destination information platform to provide tourists with real-time and rich tourism information; from the perspective of interactive experience, Develop interactive applications and augmented reality (AR) technology to enable tourists to interact with destinations, understand history, culture and stories, and provide a more in-depth travel experience; finally, use big data and artificial intelligence to provide personalized travel suggestions and route planning and offers, based on tourists' interests and needs, to improve travel satisfaction and loyalty.

Undoubtedly, successfully building a smart tourism system across the country is a long-term and arduous task, involving technological innovation, cooperation between the government and enterprises, and other challenges in the design and operation stages. In our opinion, clarifying the functions of the government and enterprises and understanding the changes in functions in smart tourism is of great significance for gradually discovering and solving difficulties at the macro level. Challenges such as unifying standards and cultivating qualified talents also need to be put on the agenda. In general, New Oriental's decision to enter the cultural tourism business is a strategic decision, but it also faces industry challenges with fierce competition and high thresholds. They need to effectively integrate education and cultural tourism resources and cooperate with the government while maintaining a long-term strategic vision to ensure success in this emerging field.

LIMITATIONS AND FUTURE RESEARCH

1. Lack of diverse case studies: This article only cites the case of New Oriental Group starting the cultural tourism industry, while the field of smart tourism is very extensive, including various types of businesses and applications. Future research could consider including more different types of cases to gain a more comprehensive understanding of the development of the smart tourism field.
2. Regional and temporal diversity: The geographical (China area) and temporal (recent months) limitations of the cases mentioned in this article do exist. Future research could cover cases from more countries and regions, as well as development trends across different time periods.
3. Social and psychological factors: Considering the popularity of social media and smart technology, the tourism industry actually needs to pay more attention to the social and psychological factors of users. This can include user concerns about privacy and security, as well as the potential psychological effects of overuse. This is a very important future research direction.
4. Sustainability and ethical considerations: As the importance of sustainable tourism increases, more attention needs to be paid to the sustainability of tourism; and from the perspective of user privacy, ethical issues also need to be considered. Future research could examine more deeply how smart

tourism promotes sustainable practices and cultural preservation. It is hoped that this paper will help researchers to more fully explore the social, technological, and environmental impacts of smart tourism.

AUTHOR CONTRIBUTIONS

All authors played a role in conceptualizing the research and drafting the manuscript. In simple words, all team members provided support in various aspects of this paper.

CONFLICTS OF INTEREST

The manuscript has not been published elsewhere and is not under consideration by other journals. All authors have approved the review, agree with its submission and declare no conflict of interest on the manuscript. This paper published as part of 1st International Conference On Business & Management (1ST ICBM) 2023.

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