Research on Intelligent Tourism Management Model Based on Big Data

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Abstract. In the process of the development of intelligent tourism management mode (ITMM), there are still some problems such as the lack of info authenticity and reliability screening, which leads to the difficulty of ITMM to really run the function of convenient tourists. Based on this, this paper first analyses the relationship between big data and Intelligent tourism, then studies the construction planning of ITMM based on big data, and finally gives the specific utilization strategy of ITMM based on big data.

Keywords: Intelligent Tourism, Management Model, Big Data

1. Introduction

With the iterative progress and growth of social economy, people's quality of life continues to improve, and its demand for travel is also growing. On the one hand, people pay more and more attention to the quality and connotation of tourism, especially the convenience and intelligence of tourism; on the other hand, the utilization of computer intelligent tech represented by big data in tourism mgnt has greatly promoted the transformation and improvement of tourism mgnt mode. In this context, the development concept represented by Intelligent tourism has been applied rapidly and achieved remarkable results [1]. However, in the current development process of Intelligent tourism represented by big data, there are still many deficiencies and problems. In the actual utilization process, there is a lack of screening for the authenticity and reliability of info, as well as the lack of objective and scientific data to provide useful decision-making reference for the construction and planning of Intelligent tourism platform. These problems and deficiencies make the current Intelligent tourism mgnt model only in vain, and it is difficult to really run a function in facilitating tourists and promoting the healthy development of tourism.

In addition, thanks to the development of info mobile platform represented by intelligent terminals, tourists can easily and quickly obtain all kinds of travel destination info. In this context, the relevant tourism mgnt agencies and enterprises how to maximize the positive attraction of these info platforms, attract more tourists' attention and visit, and how to effectively deal with tourists' feedback, promote the improvement of tourists' satisfaction, has important value for promoting the development of the whole tourism industry and the growth of tourism economy.
At present, the construction of Intelligent tourism management mode based on big data is mainly to collect and analyze a large number of unstructured data generated by tourists in the travel activities, so as to effectively analyze the behavior habits and consumption preferences of tourists, so as to provide more targeted personalized services and improve the experience of tourists. On the other hand, Intelligent tourism is mainly based on several technologies as shown in Figure 1 below, integrating tourism information framework and infrastructure construction planning, so as to promote relevant tourism management institutions and enterprises to make scientific and reasonable management plans and management decisions. And through big data analysis and mining, it can effectively predict tourists' tourism activities and behaviors, and promote the maximization of tourists' personalized, digital and intelligent tourism needs.

![Figure 1. Technical condition of Intelligent tourism.](image)

In short, the utilization of big data generated by tourists' travel runs an important function in promoting the development of tourism products, the improvement of tourism services, marketing and decision-making development [2]. These big data not only contain huge economic and social value, but also have important value for promoting the transformation and upgrading of tourism industry. Therefore, the real utilization of big data in Intelligent tourism, the realization of tourism big data sharing, data analysis and processing, will help to promote the transformation of traditional tourism marketing to precision marketing mode, promote the pre-positioning, intensive, systematic and integrated management of tourism, bring about data sharing, and meet the rigid demand of tourists for tourism data. Therefore, the research on Intelligent tourism management model on account of big data has important practical value.

2. The relationship between big data and Intelligent tourism

2.1. Data model of intelligent tourism
First of all, big data has the characteristics of large capacity, high-speed info flow, high value and diversity, while the construction of Intelligent tourism is carried out from three dimensions of government, tourists, tourism management institutions and enterprises. Among them, the government level is mainly to build public info platform and administrative management platform to serve tourists; enterprises and tourism management institutions have established big data cloud service centers to facilitate the development of Intelligent tourism management decision-making and services; while the tourists level is mainly to use these platforms, especially the tourism travel e-commerce platform, so as to obtain a better travel experience [3]. It can be seen that the above three dimensions and levels need the assistance and support of big data to ensure the effective operation of the whole system.

2.2. The relationship between big data and Intelligent tourism
Intelligent tourism precision network marketing is to break through the limitation of traditional marketing positioning which can only be qualitative through quantifiable and accurate market positioning tech, and maintain close interaction and communication between enterprises and customers, so as to continuously meet customers' individual needs and establish a stable enterprise
loyal customer group [4]. Through the analysis of big data, the tourist preferences, habits, geographical location, visit history and other info of tourists can be set up for automatic matching, and finally released to the relevant info that tourists may visit and pay attention to. The process of data mining on account of consumer behavior carried out by tourism mgnt institutions and enterprises is shown in Figure 2 below.

3. Construction and planning of Intelligent tourism mgnt mode on account of big data

3.1. The current situation of tourism mgnt mode
There are still many deficiencies and problems in the current tourism mgnt mode, which are embodied in the following aspects. First of all, the lack of integration of tourism resources, although the regional tourism image has begun to take shape, but the popularity is not high enough. Secondly, tourism resources are relatively scattered, there is no industry, and there is a lack of marketing and promotion services such as tourism guidance factors and tourism recommendation. In addition, there is a lack of tour guide, positioning navigation, feature recommendation and other services. These problems and deficiencies make it difficult to accurately analyze the source of tourists in the scenic area, and it is difficult to increase the popularity of the destination tourism, so that more people can understand and share the tourism destination. And it is difficult to increase the number of tourists on the condition of the increase in the number of tourists. Finally, the lack of bigdata info makes it difficult to enhance the experience of tourists, and it is difficult to effectively carry out security emergency and early warning for a large number of tourists.

3.2. Principles of Intelligent tourism construction
The Intelligent tourism system on account of big data should combine its own characteristics, carry out the overall mgnt and construction according to local conditions, taking into account the overall situation, and unifying standards and norms [5]. In order to bring about the effective integration of tourism mgnt and tourism resources, and to build the mgnt force and scale effect, the construction of Intelligent tourism should follow the principles as shown in Figure 3 below.
3.3. The goal and idea of Intelligent tourism construction on account of big data

The construction of Intelligent tourism on account of big data needs to be carried out from three dimensions: industrial chain integration, regional integration and tourist integration [6]. At the level of industrial chain integration, we should introduce more participants into tourism resources and bring about the digitalization and intellectualization of tourism services. Secondly, on the regional integration level, it is necessary to bring about the integration of geographical location, tourism routes and economic interests, so as to construct an effective regional interest distribution mechanism. In addition, in the aspect of tourist integration, it is mainly to bring about the effective integration among tour groups, free travelers and temporary individual tourists.

In the target level of Intelligent tourism construction on account of big data, we need to give full run to the value of big data, bring about the rapid and rich release of tourism resources, and the efficient sharing of tourism resources, tourism activities and tourism project info, and bring about the intelligent mgnt, intelligent service and marketing of tourist destination tourism. In addition, through the informatization construction of tourism big data, improve the service level of announcement, promote the e-commerce development of tourism enterprises, and expand their tourism market share. Finally, by improving the overall tourism environment, ensuring the safety and quality of tourism, promoting tourism greatly promotes the development of regional economy.

3.4. Construction planning of intelligent tourism

First of all, on account of the Internet and IoT, build a unified intelligent tourism operation platform integrating marketing, service and mgnt. Secondly, make full use of the value of big data to bring about the effective analysis and early warning of passenger flow. Through the effective collection of the real-time tourist number, source area and stay time of each scenic spot, the development trend of tourist flow, the distribution of tourists and the types of tourists can be effectively analyzed, and the info can be pushed to the relevant managers in the form of visualization, so as to provide the condition for the mgnt decision-making.

4. Utilization of Intelligent tourism mgnt model on account of big data

4.1. Specific utilization of tourism brand construction

The utilization of Intelligent tourism mgnt mode on account of big data in the construction and utilization of tourism brand of scenic spots is mainly through the realization of the introduction function of scenic spots, map navigation, WeChat activities, scenic area strategy, member mgnt, surrounding accommodation, food recommendation and other functions. By bringing tourists one-stop tourism service, we can greatly enhance the tourists’ sense of tourism experience, and build a positive promotion of tourism brand awareness and brand image. Secondly, through ticket booking, hotel info and other related classic consultation and recommendation, the brand building has been greatly improved.

4.2. Marketing mgnt and ticketing of Intelligent tourism

The Intelligent tourism marketing mgnt mode on account of big data can open up the info flow and sharing in the reception mgnt system, agent sales channels and open platform sales channels. In the marketing mgnt level of scenic spots, the related functions of product mgnt, sales mgnt, channel mgnt, scheduling mgnt, partner mgnt, recharge and withdrawal mgnt and system settings are bring about. In the docking disrun level, the functions of product authorization, synchronization, off shelf and synchronization are bring about. In addition, the overall mgnt framework and structure are shown in Figure 4 below, so as to bring about the functions of staff mgnt, authority mgnt, ticket setting, gate setting, travel agency mgnt, member mgnt, financial mgnt and various report analysis.
5. Conclusion

In summary, the utilization of big data in the process of Intelligent tourism mgnt is conducive to the realization of tourism big data sharing, data analysis and processing, promoting the transformation of traditional tourism marketing to precision marketing mode, promoting the pre-positioning, intensive, systematic and integrated mgnt of tourism, and realizing data sharing to meet the rigid demand of tourists for tourism data. This paper studies the data model of Intelligent tourism by analyzing the relationship between big data and Intelligent tourism. Through the research on the construction planning of Intelligent tourism mgnt mode on account of big data, this paper analyzes the construction principles and objectives of Intelligent tourism mgnt mode. Through the analysis of the specific utilization of Intelligent tourism mgnt mode on account of big data, the specific utilization of big data in marketing mgnt, ticketing mgnt and brand mgnt of Intelligent tourism is given.

References
[1] Bai Liyan. Design and implementation of Qinhuangdao Intelligent tourism mgnt platform under big data environment [J]. Journal of Yanshan University, 2019 (8): 100-102.
[2] Chen Wenjuan. Research on the utilization of big data mining in Intelligent tourism [J]. Info recording materials, 2018,19 (4): 114-115.
[3] Hu Shungeng, Wei Jinwu. Research on big data and its utilization in telecom operation [J]. Telecom tech, 2015 (1): 14-17.
[4] Liu Shuna. The development strategy of rural eco-tourism in the era of "Internet plus" [J]. holiday tourism, 2018 (2): 118-121.
[5] Zhang Linjing. Research on the construction of Intelligent tourism system of tourism destination in the era of self-driving -- a case study of Guizhou Province [J]. Journal of Guizhou University of Finance and economics, 2019 (9): 5-8.
[6] Zhao HaoChen. Thinking and practice of Intelligent tourism mgnt mode under the background of big data [J]. Tourism overview, 2019 (7): 25-27.