Research of Smart Tourism Management Model under the Background of Big Data

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Abstract: In recent years, communication and information technology have developed rapidly, and various industries are rapidly transforming into digitalization, informatization, and intelligence, thus entering a new era of big data. Smart tourism is no longer a slogan. It has become the goal of the transformation of the tourism. In the context of the development of big data, the essence of smart tourism is researched and the ideas of smart tourism development and construction are discussed. A platform can be used to build tourism service prediction and feedback, and the path of building a smart platform can be discussed.

1. Big Data and tourism

1.1. The concept and connotation of big data
The continuous development of technology has made the concept of big data widely recognized by academia and industry. Introducing the concept of big data and related technologies into the tourism industry are important to promote the tourism industry. It is of great significance to build a travel information sharing mechanism based on big data and participants of all parties to promote the coordinated in various regions and assist travelers in making appropriate decisions. The core technology used in the big data platform is cloud computing, which includes data storage and analysis. It can effectively judge the information contained in a large amount of data accurately and provide decision-making basis at all levels of the tourism. Big data can be understood as various types of data, and the technology of storing and analyzing.

1.2. Big Data and tourism
As early as July 2011, China issued a strategy for building smart tourism. It plans to use ten years to basically realize the intelligence of tourism industry. In 2014, Tourism Administration identified the annual theme as smart tourism. The purpose is to promote the construction of smart tourism. To a certain extent, smart tourism can be regarded as the foundation of digital, and its construction adapts to the current developing digitalization and informationization.

2. The problem of smart tourism under the background of big data

2.1. Inadequate Information infrastructure
Although it has been a long time since China proposed the slogan of smart tourism, the construction of smart tourism is still preliminary, and the infrastructure construction is seriously insufficient. At present, most of the tourist attractions have achieved wireless network coverage, but as far as the construction requirements of smart tourism are concerned, the tourist attractions also need to expand their own information infrastructure to increase the capacity and speed of information transmission.
The construction of smart tourism requires that various scenic spots can dynamically collect tourists’ visit and distribution information in a timely manner, but most scenic spots at this stage do not have this ability. Smart tourism requires each scenic spot to have an information management system to achieve effective management of the internal resources, so that it can be fully combined with tourist resources. But at this stage most of the scenic spots have not built relevant information management systems. On the whole, China’s tourism industry has initially possessed the ability to transmit data information, but it has not been able to effectively collect and integrate data, resulting in the data transmission equipment that has been completed being unable to fully play its own practical value. In addition, various scenic spots have not paid enough attention to the issue of information security when constructing their own information infrastructure, resulting in the inability to effectively protect the information of tourists with a large hidden danger of information security.

2.2. The value of data resources is not fully mined
China has not yet formed a unified tourism information database without shared and open scenic spots, resulting in the various data collected by each scenic spot cannot be effectively integrated, and the big data cannot be used. Related technologies process data cannot mine the information contained. The Internet and information technology has made the management of scenic spots fully aware of the importance of digital information. However, each scenic spot lacks a unified standard in collecting digital information. There are big differences in the cycle of data collection and update, and it can not guarantee the accuracy of its own information collection. Such problems lead to the information data collected by various scenic spots can only play a certain role, unable to meet the relevant requirements of sharing and openness.

2.3. Insufficient good professionals
Traditionally, the tourism is a service industry, and its employees lack a sufficient understanding of engineering technology. With the development of big data, the tourism industry needs a large number of information technology talents, software engineering talents, and data analysis talents in smart construction. Smart tourism cannot leave the support of outstanding talents in construction, but the tourism industry continues to use the traditional views in training and recruitment, resulting in the team unable to meet the smart tourism need.

3. Construction of smart tourism management platform under the background of big data
The key to smart travel is to build a management platform with the help of big data technology. On this platform, tourists can query various types of tourist routes, learn about a series of preferential measures introduced by various scenic spots, and give reasonable suggestions for the travel of tourists, and can display relevant scenic spot information according to the needs of tourists. In addition, this platform can provide personalized services for tourists. For example, buying tickets, booking hotels, selecting travel plans, and displaying various information of scenic spots in real time during travel. The managers of scenic spots can learn the number of tourists who may travel to their scenic spots in a future period. Local management can understand the impact of the arrival of tourists on local transportation, accommodation and other industries on this management platform. The basic architecture and core model of the platform during the construction process are shown in figure 1. The construction will greatly improve the convenience of tourists traveling, and improve the service efficiency of management personnel and local departments.
The construction of the smart tourism management platform enables the sharing of information among various scenic spots, enterprises, local departments and tourists in the scenic spots, and effectively solves the information barriers in the traditional tourism. It is of great significance to protect the interests of tourists during the travel and improve the management of scenic spots. In building a smart tourism management platform, according to different stakeholders involved in the tourism industry, it can be divided into four sub-platforms. The first is the government tourism management sub-platform, its role is to provide relevant government departments to carry out related information. The second is the tourist sub-platform to provide related services for tourists. The third is the tourism enterprise sub-platform to provide enterprises with the data needed for enterprise to help companies adopt reasonable operating strategies. The fourth is community residents. Above platforms essentially rely on the same database but divide the relevant information according to the actual needs of different groups of people.

3.1. Government Tourism Department
For the relevant government departments, it can remotely access the government tourism department sub-platform set by the system from the computer. It can accurately understand the operation of various tourist attractions in its own jurisdiction, realize real-time monitoring of tourist attractions and predict the future operation status of scenic spots. When an accident occurs in a scenic spot within the jurisdiction, the sub-platform can timely transmit the relevant information to the management department. The management department can respond in time according to the real-time data transmitted by the sub-platform, and quickly resolve the emergency accident to minimize the negative impact on the normal operation of the scenic spots.
3.2. Travelers
With the development of the Internet, there are already various types of travel websites that can provide basic information query and reservation services. However, since such systems are usually developed by third-party companies, there is a certain amount of information in the same scenic spot. Errors and delays in the information causes more inconvenience to actual travel. In addition, during the use of travel service websites and apps developed by third-party companies, there are “price increases” and “bundle sales” and many other acts that damage consumers’ rights and interests, and cannot effectively guarantee tourists’ own legitimate rights and interests. The emergence of smart travel platforms has effectively solved the traditional third-party travel websites and apps, and it can accurately and timely reflect various information of various scenic spots. It can also prompt the real-time flow of people in various areas of the scenic spot, effectively plan the tourist route and the travel experience of tourists.

3.3. Tourist enterprises
First of all, with the help of a smart tourism management platform, tourism enterprises can realize the sharing of various information in the entire industry, effectively reduce the cost of obtaining various information for enterprises, and avoid the repeated use of industry internal resources. Secondly, the information of tourists can be collected effectively, and the relevant information of tourists’ travel can be fully understood. The valuable information contained can be mined, which in turn enables enterprises to provide more accurate services to tourists. Finally, tourism companies can also use this platform to effectively promote themselves to enhance their popularity and influence in the market.

3.4. Community residents
Facilitating service facilities community residents, and the development of smart tourism and tourist attractions can realize real-time query of roads, weather, and leisure and entertainment facilities around residential areas through mobile smart terminal systems within tourist attractions. The use of the facility to determine when you can choose to use it. Various attitudes, wishes and opinions of community residents can be fully expressed. Government tourism departments, enterprises and tourists can perceive the status of community residents through this platform.

4. The construction path of smart tourism platform under the background of four big data

4.1. Attach importance to the role of big data in smart tourism
In the context of the era of big data, how to accelerate the advancement of tourism informatization, and then effectively use the storage and computing power of big data cloud computing technology in smart tourism data speed up tourism informatization. Therefore, the government’s tourism sector and service providers should pay attention to the role of big data platforms in smart tourism. Using big data platform as a means of tourism to effectively solve the information asymmetry phenomenon. Both government tourism authorities and other practitioners should fully realize that big data plays a role in tourism industry.

4.2. Accelerate the construction of smart tourism service platform
To promote the construction of a smart tourism service platform, it is necessary to make certain changes to the management model at the current stage, and then encourage practitioners in the tourism industry to apply the latest technology. The scenic spot should be encouraged to cooperate with communication service providers to optimize the basic information service facilities within the scenic spot. Each scenic spot should build its own smart tourism service platform according to its own actual situation, and accumulate experience for the intelligent construction of the entire tourism industry. The key to accelerating the construction of platform is to strengthen technical support for practitioners and actively transform its own service model.
5. Conclusion

The essence of smart tourism construction is to apply Internet technology, Internet of Things technology, cloud computing technology, information technology, etc. to the tourism industry. It combines tourism infrastructure with dynamic tourist information and makes decisions at all levels of the tourism industry that changes at any time. The key to smart tourism is to build a big data platform, which can enable the practitioners to understand the relevant information in a timely manner and make appropriate decisions based on the information. Based on the current situation of big data smart tourism, this paper proposes the construction method and implementation path of this platform.

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