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Research on the Development of Jinan Smart Tourism in the Age of Big Data

Ainiaio Wang

Shandong Xiehe University, 250100, Jinan, China.

Email: 84872099@qq.com

Abstract. The development of smart tourism in Jinan lags behind Yantai and Qingdao, which is inferior to other well-known tourist cities in China, such as Beijing and Hangzhou. Under the innovation of network technology and the construction of big data, the development of smart tourism in Jinan presents problems such as low level of construction, difficulty in coordination, insufficient technical support, and lack of professional talents. This paper proposes a development strategy, namely, strengthening big data construction, government leaders lead, promote technological innovation and cultivate professional talents.

1. Introduction

In 2011, the National Tourism Administration proposed to develop “smart tourism” twice, and proposed to use “Ten years of time” to initially realize “smart tourism” in China. The National Tourism Administration established 2014 as the year of smart tourism, with the theme of “Beautiful China Tour – 2014 Smart Tourism Year”. The National Tourism Administration clearly stated that all localities should use smart tourism as the theme to guide smart tourism cities and scenic spots. In particular, it is necessary to strengthen the development and integration of tourism resources and products in the areas of smart services, smart management and smart marketing, and promote the transformation of tourism into a modern service industry with information technology. In January 2015, the National Tourism Administration issued the “Guiding Opinions on Promoting the Development of Smart Tourism”. In August of the same year, the General Office of the State Council issued the “Several Opinions on Further Promoting Tourism Investment and Consumption” for the first time to systematically promoting “Internet + Tourism”. The national 4A-level scenic spots and smart rural tourism pilot units have realized the full coverage of free WIFI, intelligent tour guides, electronic explanations, online reservations, information push and other functions, creating 10,000 smart spots and smart tourism villages across the country.

Under the development of the Internet, China's smart tourism has received great government attention, policy and financial support. Under the framework of smart city construction, it is in the country's “Smart Tourism Pilot City” and “Smart Tourism Scenic Area Pilot Unit”. Driven by such work, smart tourism is developing at a relatively fast pace. Relevant units in various regions are systematically promoting the construction and operation of smart tourism in accordance with government guidance.

2. Background

The start of smart tourism construction in Shandong Province was relatively early. As early as the “Twelfth Five-Year Plan” was proposed, 17 cities in Shandong Province started the construction of smart tourism cities based on their own tourism characteristics, and adopted smart tourism information platforms, such as the official Weibo, WeChat, QQ and various APPs, vigorously promote their tourism image and promote the continuous development of local tourism. In 2014, the Jinan Municipal Tourism



Bureau completed the “Jinan City Smart Tourism Master Plan”, and introduced smart tourism scenic spots, hotels, and tourism social sub-plans to solve the problems of major tourism enterprises in information construction. In 2018, in order to strengthen the construction of smart tourism cities the Jinan City Tourism Development Committee proposed to establish a provincial and municipal data joint review work platform and industrial data collection platform, and do a good job in the operation and management of websites and new media, and promote the construction of a tourism consulting service system. The final goal is to improve the tourism public service platform in Jinan. From the three aspects of Jinan smart tourism wisdom management, smart marketing, and smart services, the following are analysed:

In terms of wisdom management: Although Jinan has the promulgation of relevant documents and laws, the government has not carried out a unified planning and rational development of tourism management in Jinan. In terms of tourism scenic spots, Jinan tourism scenic spots have not fully realized intelligent management, and there are still many management questions, such as ticket management, scenic area health, etc.

In terms of smart marketing: Although Jinan has developed various websites and APP for marketing of tourism products; it has found that the website has active problems, such as not being able to update travel-related information in time, and imperfect travel information. Secondly, the popularity of websites and APP in the province is not high, and even the awareness rate in this city. The digital development method is like a virtual design, which is difficult to achieve the goal of smart marketing.

In terms of smart services: most of the scenic spots in Jinan have not been intelligent. Except for the World's Best Spring Scenic Area in the four A-level scenic spot, the information construction of other scenic spots is at an initial stage. Although Jinan invests in smart tourism service hardware and software facilities, it is far from enough for the development and demand of smart tourism.

3. Problem

3.1. Coordination is Difficult

For a long time, there have been many phenomena such as multi-head management and cross-disciplinary relationship in the tourist attractions and scenic spots in Jinan. The construction of the smart tourism system and the construction of the data integration platform, which involve multiple management departments and many cooperative enterprises. It is difficult to achieve unified coordination and sharing of resources. This makes the construction of smart tourism very difficult.

3.2. Low Level of Construction

Overall, Jinan City's scenic area information and digital construction has made some progress, but it still presents a different phenomenon of information. In addition to the World's Best Spring Scenic Area, the information construction of other scenic is at an initial stage. There is still no complete intelligent management; there are still many management problems, such as ticket management, scenic area health. In generally speaking, the overall construction level of Jinan City's scenic spots is low, and it cannot keep pace with the construction of similar cities or similar scenic spots.

3.3. Technical Support is not Enough

The structure of the smart tourism system mainly includes three modules: “smart management”, “smart service” and “smart landscape”. In the system construction, many front-end technologies such as position location, real-time monitoring, security warning, human-computer interaction, etc. which are needed. Based on the concept of big data, Jinan tourism should organically combine with these technologies, and carry out tracking services and improvements later. Obviously, Jinan's smart tourism system construction or financial reasons or technical reasons, there is no corresponding perfect technology development and support.

3.4. Lack of Professional Talents

Smart tourism is a new type of tourism construction that emerges with the development of modern information society. It will certainly lack professional talents for smart tourism. At present, although

Jinan has many colleges and universities, there are more than 100,000 professional and technical personnel. However, there is a considerable lack of expertise in smart tourism. Jinan related institutions have not set up special smart tourism courses in tourism majors. Travel agencies have not re-educated existing tour guides. Jinan urgently needs talents related to smart tourism to support and even complete the construction of Jinan's smart tourism management, service and marketing.

4. Proposals

4.1. *Strengthen Big Data Construction and Organize Basic Information*

The foundation of smart tourism is information collection and data processing. Tourism big data construction needs to integrate and aggregate the internal data of tourism bureaus, tourist attractions, tourism enterprises and other industries and municipal, transportation, public security, industry and commerce, meteorology, land, construction, operators, OTA, search engines and other industry data. At the same time, with the help of big data mining, analysis and visual display technology, the multi-dimensional and accurate analysis of the operation of the tourism industry, for tourism management decision-making, strategic development, industry monitoring, public services, emergency command, precision marketing, tourism statistics, research reports, tourism index and other provide big data support.

First, build a tourism Data Center to support the sharing of tourism information across departments, regions and levels. It satisfies the data exchange and sharing between the vertical, horizontal, scenic and tourism enterprises of the tourist, and provides data services for the operation monitoring, public service and tourism marketing of the tourism industry. Secondly, collect basic data such as tourist attractions, restaurants, travel agencies, tourism companies, employees, tourist toilets, and travel advisory service points, and exchange data with provincial bureaus, tourism-related horizontal departments, and scenic spots. Third, establish a Tourism Industry Monitoring Center, which to comprehensively monitor tourism industry data, provide industry information service for the tourism and information publishing services based on big data analysis.

4.2. *Government-Led and Multi-Party Cooperation*

The construction of smart tourism involves many aspects, and it is not enough to be competent. Especially in the initial stage, governments at all levels, social enterprises, and the masses need to unify their thinking, cooperate closely, actively cooperate, and jointly build and solve the difficulties and challenges in the construction process.

First, give full play to the government's leading role, the provincial government of Jinan Smart Tourism Development leads the member units and sets up a special leadership coordination group. Form a work pattern of "unified command, responsible at all levels". Second, fully coordinate corporate cooperation and win-win. In the process of project promotion, the investment construction enterprises of related projects of "Smart Travel" or related industries often encounter cross-contradictions and disputes, at this time, it is necessary to coordinate the interests of enterprises in a timely manner. Let the enterprises stand on the basis of mutual benefit and win-win, take the initiative to obey the entire "smart tourism" development planning and the overall needs of the construction, through project coordination meetings, exchange meetings and other forms, jointly discuss the problems encountered in the cracking work, and jointly obtain benefits. Maximize and achieve mutual benefit and win-win. Third, social participation. Through multi-party positive publicity, encourage all everyone to join the building of smart tourism based on the starting point of common development and progress, and promote the effective integration of tourism with other industries such as eating, living, and traveling. Under the overall environment of network construction, promote the joint promotion of tourism and other industries, and thus better meet the needs of tourists, promote the application of smart tourism systems in all walks of life, and ultimately promote the harmonious development of smart tourism.

4.3. *Promote Technological Innovation*

The development of smart tourism requires the improvement of smart travel system, including smart management module (including information release management, OA collaborative office management,

complaint management and tourism supervision management, statistical analysis management, mobile government management), and smart service module (including tourism information service). , travel e-commerce service, e-ticket service, location and navigation service, self-guided tour service, personal mobile terminal APP service), smart scenic area module (including scenic spot ticket online booking, scenic real-time flow control alarm, safe scenic spot monitoring, operating vehicle scheduling, Online viewing, parking lot management, emergency broadcast). The construction of a smart tourism system requires the attention and participation of well-known enterprises in information technology, Internet of Things technology, and consulting services. The government must lead the technological innovation of enterprises, give guidance and support in science and technology, and actively strive for national support. By accelerating efforts, we will strengthen the advantages of smart travel clouds and travel big data.

4.4. Cultivate Professional Talents

The development of smart tourism requires talents. The Jinan municipal government, enterprises, universities and training institutions should jointly build a smart tourism talent platform, improve the incentives for talents, job training, assessment and supervision mechanisms, and enhance the overall professional competence of the information talent team. First, the most direct is to seek cooperation with schools and enterprises, and to help cultivate "smart tourism" technology by relying on the school's powerful educational resources and advanced experimental environment. At the same time, explore cooperation with domestic "smart tourism", IT and other related mature enterprises, establish a joint base between the government and schools or enterprises, and set up a dedicated development talent team. Secondly, introduce the domestic tourism management talents or cultivate local cadres at the same time. The imported tourism management talents require relevant certificates such as tourism qualifications, and must have relevant tourist attractions and scenic spots work experience. It is necessary to cultivate tourism management-related talents from local towns, village cadres, retired old experts, and old teachers. These people are familiar with the local folk customs and at the same time can serve the locals for a long time, with natural advantages and conditions. Good social resources can actively promote the construction and development of "smart tourism". Third, strengthen the education and training of talents. The tourism industry is developing very rapidly, especially the development of "smart tourism". The development and management of relevant information technology is very fast. After introducing and cultivating relevant talents, establishing a special education management system and regularly training. Talents provide a good environment for exchanges and studies, academic promotion, and quality development training to help talents grow and mature, and ultimately serve the development of "smart tourism".

5. Conclusion

With the innovation of network technology and the promotion of big data construction, it is extremely urgent for the tourism industry to adopt intelligent means to manage. Facing the supply-side reform of the tourism industry and the transformation of old and new kinetic energy, we should make full use of the leading role of the big data in the tourism industry. Through informationization, it will trigger a comprehensive transformation of tourism development strategy, business philosophy, operation mode and industrial structure, and comprehensively promote the transformation and upgrading of the tourism industry.

As a provincial capital city, Jinan is behind the development of smart tourism in Yantai and Qingdao. From the perspective of smart tourism construction projects, the pace of developing smart tourism in Jinan is slightly slower than other well-known tourist cities in China, such as Beijing, Hangzhou and Nanjing. In order to build a tourist city in Jinan, enhance the intelligent information construction of tourist attractions, strengthen service quality, enhance the efficient tourist information service based on tourists, and improve the intelligent, modern and industrialized scientific management of Jinan tourism industry. It is necessary to accelerate the pace of building smart tourism under the framework of smart city construction. Under the opportunity of tourism supply-side reform and the development of new and old kinetic energy, we will take the opportunity of smart tourism construction to adjust the tourism industry in an all-round way and improve the quality of tourism products. Promoting the sustainable

development of tourism in Jinan is of great significance to maintaining the vitality of Jinan's local economy and community development.

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