Analysis of the Role of Big Data Algorithm Technology in the Construction of Tourism Culture Marketing

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Abstract: Judging from the current development trend of the information age, under the influence of big data, many APPs have also been derived in the tourism industry, which have become an important tool to improve the competitiveness and sustainable development of the tourism industry. Nowadays, the development of the country is getting better and better, and there are more and more items that highlight patriotism. In terms of tourism, with the development of the times, the forms of tourism are gradually diversified, especially red tourism, which is a new type of tourism. Form, which is the embodiment of my country's modern culture, in order to promote the better development of tourism, it is necessary to pay attention to the development of tourism culture marketing construction and other related work, which is very important for improving service quality and the competitive advantage of the tourism industry. Against this backdrop, this study takes Jinggangshan tourism as its context to examine the role of big data algorithms in shaping tourism cultural marketing. By applying big data technologies to the design of UI interactions from multiple dimensions, the research demonstrates how these technologies contribute to the construction of tourism cultural marketing and highlights the value and significance of their application.

Keywords: Big data; Tourism culture; Marketing construction; Role

1. Introduction

With the rapid advancement of science and technology, as well as the widespread adoption of internet and mobile intelligent technologies, big data has become a major driving force for the transformation and growth of numerous industries. Within the tourism sector, big data algorithm technologies provide new opportunities for enhancing the construction of tourism cultural marketing. By integrating these advanced technologies, the tourism industry can promote more scientific, data-driven, and innovative development, thereby improving the dissemination and expression of tourism culture. Through culturally oriented marketing strategies supported by big data, new vitality

can be infused into tourism products, creativity can be strengthened, and the long-term and stable development of China's tourism industry can be further supported.

2. Basic overview of big data

As a product of the times under the background of the rapid development of science and technology, big data is a form of science and technology based on the development of information science and technology. results obtained. Once this new technology is launched, it has been widely cited, which in turn promotes its sound development. At present, many industries and industries are pursuing more efficient work efficiency and quality. Informatization, modernization and intelligence are all industries. The direction and goal of development, and then promote the development of big data. Today, the use of big data analysis and research projects has become a mainstream trend for most companies. The definition of big data is not a fixed concept, but the collection of data, usually the use of network technology to obtain a large amount of hidden data, and to organize and analyze it, so as to be able to work together for different types of organizations. Provide accurate data information as support in decision-making and execution. Nowadays, the use of big data technology has become a mainstream trend in all walks of life and research work.

3. Basic overview of tourism culture marketing construction

Tourism refers to playing in some scenic spots, and there are various ways to play scenic spots. According to the history, culture and nature of different scenic spots, it is decided whether to walk or take a tourist bus. This is the embodiment of different travel traffic orders. Tourism has become an important matter in people's life, and it has gradually formed a culture. In the construction of tourism culture marketing, it is necessary to focus on tourist attractions. Taking red tourism as an example, Jinggang Mountain is the cradle of revolution and natural scenery. It is a national-level scenic tourist area, not only has many revolutionary sites, but also has very beautiful scenery. As for the marketing construction of tourism culture in this area, it is necessary to highlight the characteristics of Jinggangshan's red tourism, to meet the different levels, different needs and diverse requirements of domestic and foreign guests, and to arrange food, accommodation, outdoor activities, entertainment, etc.

4. Problems existing in tourism culture marketing
4.1. Low level of marketing services

The purpose of tourism culture marketing is to expand user groups, introduce tourism culture-related content and various tourism products to users, in order to achieve economic benefits. However, in terms of tourism cultural marketing services, there is often a problem that employees have poor service awareness, ignoring customer service experience and service quality, so that consumers do not enjoy high-quality customer experience, and when problems occur, staff cannot quickly solve customer needs, low work efficiency and poor service attitude have become the labels of most tourism companies, which eventually lead to a large number of customer losses. The lack of professionalism of marketing service personnel, the lack of systematic knowledge training and learning, and the lack of advanced management methods to adapt to the times have greatly hindered the improvement and innovation of the service level of tourism enterprises, and hindered the development of the tourism industry to a certain extent.

4.2. Competitive awareness needs to be improved

In the increasingly competitive environment, most tourism companies do not pay enough attention to the analysis and planning of marketing risks, and the overall marketing work is not carried out in detail, which makes it inevitable that they will take a lot of detours in tourism cultural marketing and have no awareness. Due to the importance of competition, there are certain risks and economic losses in actual marketing, and ultimately it is difficult to achieve the goals of tourism culture marketing and enterprise development.

4.3. The marketing methods are backward

At present, the tourism industry is still developing continuously. Although it is relatively slow due to the impact of the epidemic, it is still a major industry that promotes economic development. In the process of development, people often overlook the importance of marketing methods. Compared with other industries, the means are relatively backward, and they have not really responded to market demand to make changes. Although tourism companies have their own set of marketing models, the effect is not satisfactory. The main reason is that the concept of tourism culture marketing staff is relatively backward. Old employees have developed the habit of not adapting to the development concept of the new era, and young employees have gradually developed the work habits of old employees due to environmental factors. This is a major problem for tourism companies. This leads to the backwardness of the overall level of the marketing team of tourism enterprises, thus hindering the improvement of the level of tourism culture marketing.

5. The role of big data algorithm technology in the construction of tourism culture marketing

5.1. Combined promotion of culture and tourism

Today, with the continuous improvement of people's living standards, tourism has become a major preference of people, and culture is the core of tourism, and tourism, as a cultural carrier, has gradually evolved into a tourism culture under the rapid development of the tourism industry. This is a creative act of combining tourism and culture. Through the application of big data algorithm technology, with the blessing of big data technology, the construction of tourism culture marketing can be combined with the actual development of the industry to combine culture and tourism to achieve integrated development. Taking Guilin tourist attractions as an example, it repeatedly displays its own rich tourism resources to highlight the unique landscape culture and historical culture of Guilin. And the culture of ethnic minorities, so that it can repeatedly show the unique humanistic customs and customs [1]. "Impression Liu Sanjie", which is very Guilin-style, can realize the effective combination of culture and tourism under the action of big data, materialize the humanistic connotation into the manifestation of tourism products, attach importance to the connection between culture and tourism, and tap the deep cultural connotation in cultural resources. , and increase the sales proportion of cultural tourism products in the tourism market.

5.2. Implement differentiated marketing

For the marketing of any industry, it is necessary to prescribe the right medicine and targetedness can achieve twice the result with half the effort. The same is true for tourism cultural marketing, which requires the implementation of differentiated marketing methods to carry out marketing according to the characteristics and culture of different tourist attractions. In order to achieve differentiated marketing, it is necessary to calculate based on accurate data information to formulate a more complete marketing plan, which is the reflection of the role of big data algorithm

technology. Differentiated marketing can use the cultural resources of tourist attractions to achieve differentiated marketing, and the specific practice and effectiveness of differentiated marketing is to carry out tourism cultural festivals of different natures according to regional characteristics, so as to highlight local characteristics [2].

Taking the "Chinese Culture Tour" activity carried out by the Tourism Bureau as an example, Gansu Province carried out differentiated tourism and cultural marketing in 2017 by carrying out the Silk Road International Tourism and Culture Festival highlighting the characteristics of Dunhuang, with the help of the history and culture of the Silk Road as the background. To reflect the unique style of the Western Regions, and then to create a very distinctive Gansu color tourism brand image, in order to build a unique style Dunhuang style. This is the manifestation of the effectiveness of differentiated marketing. Such marketing methods can allow people to better experience the unique culture of Dunhuang area and understand the history of the Silk Road, thus further launching the tourism promotion slogan of "Boutique Silk Road, Colorful Gansu" to establish the image of Gansu [3]. Such differentiated marketing has become the main means of tourism culture marketing in the current tourism industry, which is exactly the value and significance of big data algorithm technology. "Cultural Tourism Festival", the tourism festival focuses on highlighting ethnic customs.

As the province with the most ethnic groups in my country, it gathers the cultural customs of different ethnic groups, and combines the unique history and geographical customs of Yunnan to demonstrate the collision and exchange of ethnic culture and international culture. In terms of tourism and cultural marketing in Inner Mongolia, it mainly reflects regional characteristics, and carries out the Hulunbuir Ice and Snow Festival and the Badain Jaran Desert Cultural Tourism Festival based on the geographical resources of its grasslands, forests and deserts. To attract more tourists, **Figure 1** shows the role of big data algorithm technology in differentiated marketing.
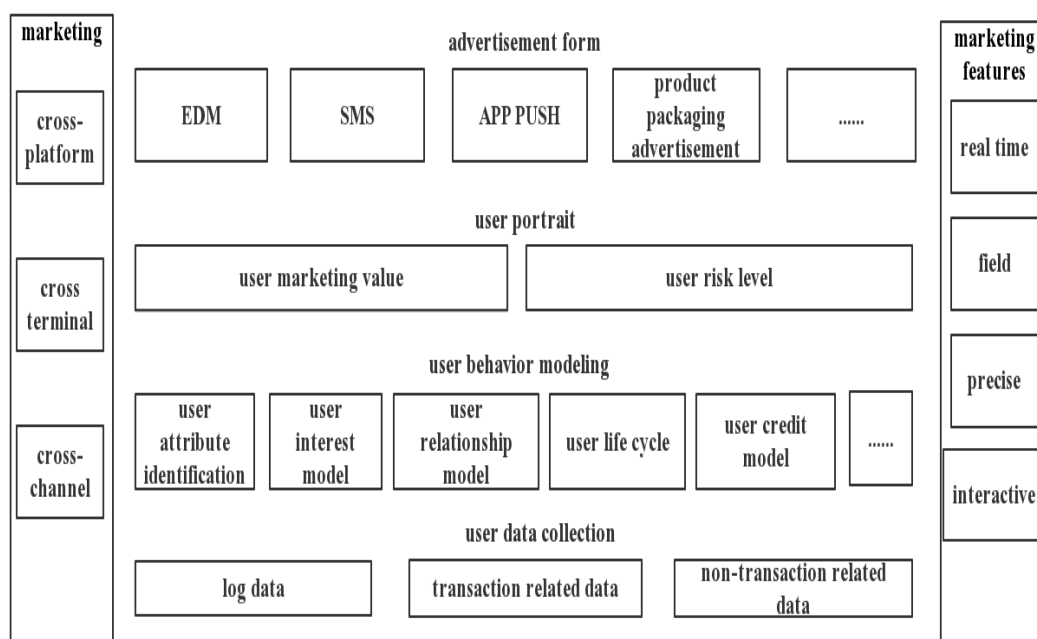

Figure 1. Marketing ideas of big data algorithm technology.

5.3. Multi-channel promotion of tourism culture

In tourism culture marketing, effective publicity is crucial, yet determining the right promotional approach has long been a key challenge. With the support of big data algorithm analysis, tourism culture can now be promoted through multiple channels, enabling broader dissemination and more diverse marketing strategies. Media campaigns, film and television integrations, and cultural tourism festivals can all be used to enhance the image of tourist destinations and attract wider customer groups. Big data technology makes it possible to evaluate and expand these publicity channels, identify the most suitable options, and tailor promotional strategies to market demand, consumer segmentation, and tourism demand elasticities, such as those represented in the formula below (cross-elasticity coefficient of tourism demand). This provides a foundation for developing a more comprehensive and targeted publicity system [4].

$$E_d = \left| \frac{Q_{x1} - Q_{x0}}{Q_{x0}} \div \frac{P_{y1} - P_{y0}}{P_{y0}} \right|$$

5.4. Clarify brand positioning and build brand line

In the construction of tourism culture marketing, tourism enterprises can use big data algorithm analysis to clarify their brand positioning, clarify their main culture, and make detailed market segmentation according to regional and cultural characteristics, so as to make their market position more accurate. In terms of the cultural connotation of the tourism brand, Wuyishan ended its own way of following the trend, and began to pay more attention to the excavation of its own characteristics. After conducting a detailed market research, the tourism brand was positioned as "health care". Tourists come to Wuyi Mountain in search of "health care", regardless of the off-season and peak seasons, and not only for the scenic spot. For example, the well-known tourism culture of Gansu has built a golden tourist route of the Silk Road by taking advantage of the excellent historical and cultural resources in the region [5].

6. Conclusion

In general, in the era of wide application of big data technology, if the tourism industry wants to develop better, it must make full use of the east wind of big data, especially for the construction of tourism culture marketing, through the application of big data algorithm technology , with the help of data and information calculation to understand the economic benefits brought by various tourism cultural marketing to tourism enterprises, so as to build a better tourism cultural marketing model. In order to break through the bottleneck of traditional tourism cultural marketing, and then promote the tourism industry to achieve long-term and stable development. To vigorously promote tourism culture through vigorous marketing, so that the tourism industry can maintain a stable development trend in the context of the current economic slowdown.

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References

[1]   Yang Z, 2022, Research on the Training Mode of Information Management Professionals under the Background of Big Data: Taking Lijiang University of Culture and Tourism as an Example. Journal of Jiangsu Economic and Trade Vocational and Technical College, 2022(2): 61–64.

[2]   Zhao Y, Zhang X, 2022, Research on the Application of Big Data Technology in the Development of Ecotourism: Taking Henan Province as an Example. Modern Business, 2022(10): 39–41.

[3]   Ding H, 2022, Research on the Integrated Development of "Internet +" Ice and Snow Tourism Industry under Big Data. Industry and Technology Forum, 2022, 21(7): 16–17.

[4]   Liu Y, 2022, Tourism Behavior Clustering Algorithm based on Big Data. Computer Programming Skills and Maintenance, 2022(3): 80–82.

[5]   Gao G, 2021, Research on the Impact and Promotion of Data Application on the Development of Tourism in Hebei Province, thesis, Hebei University.