

Research on the Innovation and Technology Application Paths and Countermeasures of the Yao Nationality Cultural Industry in Liannan, Guangdong Province

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Abstract:

The innovation and technological application of the Yao nationality cultural industry in Liannan, Guangdong province is an important trend in the current development of the Yao nationality cultural industry. Using a combination of literature research, theory, and practice, this study analyzes the current situation and existing problems of the cultural industry of the Yao ethnic group in Liannan, Guangdong province. It explores how to apply digital technology, virtual reality, AI artificial intelligence and other technological means to the high-quality development path of the cultural industry of the Yao ethnic group in Liannan County, Guangdong province, to “activate” local intangible cultural heritage resources and achieve deep integration of traditional culture and modern technology, Promote the innovation and development of the Yao nationality cultural industry in Liannan, Guangdong province.

Keywords:

Liannan, Guangdong Province, Yao Nationality Culture, Cultural Industry Innovation; Technology Application Paths And Strategies, Digital Technology

1. Introduction

With the continuous development of the digital economy, digital technology empowers the Yao nationality cultural industry, creating favorable conditions and technological support for the development of new forms and models of Yao nationality cultural industry. The research on innovation and technological application of the Yao cultural industry in liannan County, Guangdong Province is also a complex issue involving multiple disciplines. It requires in-depth exploration from the development status, technological application status, combination status, and future development trends of the Yao nationality cultural industry in liannan County, Guangdong Province. It plays an important role and value in the development of industries such as “culture plus tourism”, “culture plus creativity”, and “culture plus technology” in liannan County, Guangdong Province.

2. The Development Status of the Yao Ethnic Group Cultural Industry in Liannan County, Guangdong Province

Through visits and exchanges with the Cultural Museum of Liannan Yao Autonomous County and the China Yao nationality Museum, the author learned that Liannan County is the “hometown of Chinese folk culture and art (singing hall, long drum dance)” and the “hometown of Chinese Yao nationality embroidery art”. It is the hometown of the world's classic music “Yao Dance” and has 34 intangible cultural heritage projects such as Yao singing hall, Yao long drum dance, and Yao marriage customs, as well as 2 national 4A level scenic spots. There are 5 traditional Chinese villages and 6 ethnic minority characteristic villages in China. These intangible cultural heritages are an important component of Liannan Yao nationality culture, representing the essence and characteristics of Yao nationality traditional culture. Liannan also has a group of inheritors and researchers of Yao nationality traditional culture, who inherit and promote Yao nationality traditional culture through various means, promoting innovation and development of Yao culture. Therefore, the author delves into the commercial streets of Sanjiang Town to conduct research on Youling Yao Village and observe their traditional customs, festivals, celebrations, religious ceremonies, etc. in their interactions with Yao residents. At the same time, within the Shilu Yao (Intangible Cultural Heritage) Cultural and Creative Park, the government also provides technical support, market promotion, and other services for the development of the Yao cultural industry through various innovation and entrepreneurship platforms, promoting the rapid development of the Yao nationality cultural industry. However, with the development of the economy and society, the current situation of the Yao nationality cultural industry in Liannan County, Guangdong Province is not optimistic, despite the unique and diverse cultural resources of the Yao ethnic group in Guangdong Province. However, there are still some problems in the development of the cultural industry, such as the balance between the protection and development of cultural resources, the quality of cultural products, and the “commercialization curse” of the cultural industry.

3. Current Status of Technology Application

With the continuous development of technology, Liannan County vigorously promotes the integrated development of “ecology plus”, “culture plus”, and “tourism plus”. The cultural industry of the Yao ethnic group in Liannan County, Guangdong Province is gradually introducing technological means and has achieved certain results. For example, the China Yao Museum (Guangdong Yao Museum) is the only Yao themed museum in China. The museum achieves functions such as virtual building roaming and intelligent navigation, allowing tourists to experience the charm of Yao nationality culture firsthand. In addition, the live music poetry drama “Yao Song Yao Dance” utilizes modern technological means to combine Yao nationality culture with modern music and dance, bringing an audio-visual feast to the audience. The contemporary Yao dance drama “Yao Shan Na Mo Hong” is also a successful case of Liannan Yao Autonomous County using technological means to inherit Yao nationality culture. The drama utilizes modern technological means to combine Yao nationality culture with modern dance, showcasing the life and spiritual style of the Yao people.

The application of digital technology: The digital technology application in the cultural industry of the Yao ethnic group in Liannan County, Guangdong Province has

been quite extensive, such as the digital collection of Yao ethnic brocade skills and the digital preservation of Yao music. Digital technology can not only preserve the culture of the Yao ethnic group in Liannan, Guangdong, but also innovate culture through digital technology, thereby promoting the development of the cultural industry of the Yao ethnic group in Liannan County, Guangdong Province.

The application of virtual reality technology: Virtual reality technology can provide a new way to showcase the cultural industry of the Yao ethnic group in Liannan, Guangdong. Through VR architecture roaming, visitors can immerse themselves in the Chinese Yao Museum to learn about the houses, buildings, and surrounding environment of the Yao people,

Experience the local cultural atmosphere and gain a deeper understanding of the culture of the Yao ethnic group in Liannan, Guangdong. Application of artificial intelligence technology:

In terms of interactive experiences such as changing faces and clothes through AI, we have truly connected the digital chain [2]of “digital acquisition, networked transmission, and intelligent computing”.

4. Main Problems

Although the integration of the cultural industry and technological application of the Yao ethnic group in Liannan County, Guangdong Province has achieved certain results, due to the relatively weak foundation of innovation and technological application in the cultural industry of the Yao ethnic group in Liannan. Although the county has rich Yao cultural resources, it lacks the support of high-tech cultural enterprises and leading enterprises, as well as the creative design and technological talents required for the development of various cultural industries, making it difficult to convert cultural resources into economic benefits. Moreover, due to limitations in technological level and capital investment, the supporting role of digital technology in the innovation and technological application of the Yao cultural industry has not yet been fully utilized.

4.1. *Lack of high-tech cultural enterprises and leading enterprises*

There are some problems in the development of high-tech cultural enterprises and leading enterprises in Liannan County, Guangdong Province. Firstly, Liannan Yao Autonomous County has many mountains and few fields, poor production and living conditions, relatively low economic development level, and a lack of development foundation for high-tech industries. Although Liannan County has increased its investment in high-tech industries in recent years, there is still a significant gap compared to developed regions due to its late start. Secondly, Liannan County lacks support from high-tech cultural enterprises and leading enterprises. Although there are some cultural enterprises in the county, most of them are small in scale and lack core competitiveness, making it difficult to become the leading enterprises driving the economic development of the entire county. In addition, the talent resources in Liannan County are relatively scarce, making it difficult to support the development of high-tech cultural enterprises and leading enterprises. Although the county has increased its efforts to introduce and cultivate talents, due to its remote location, it is difficult to attract talents. In the Cultural and Creative Park of the Shilu Yao Ethnic Group (Intangible Cultural Heritage) in October, many cultural enterprises are still in the stage of “individual combat”. Many operators have poor management, single

business projects, and few consumer visits, resulting in poor business performance. Measures need to be taken to solve this problem.

4.2. Lack of creative design and technological talents required for the development of various cultural industries

There are some main problems in the development of cultural industries in the Liannan region of Guangdong Province, among which the most obvious is the lack of creative design and technological talents. This not only limits the development of local cultural industries, but also restricts the overall economic development of Liannan region. Firstly, there is a lack of overall planning and strategic layout for the development of cultural industries in the Liannan region. In this situation, it is difficult to attract enough creative design and technology talents. At the same time, due to the lack of sufficient financial support and policy guarantees, even if these talents come to the Liannan region, it is difficult to fully utilize their potential. Secondly, there are also certain problems with the education level and talent cultivation ability in Liannan region. Although there are some local universities and vocational schools, their professional settings and curriculum arrangements cannot meet the needs of cultural industry development. Moreover, due to geographical and economic limitations, these schools find it difficult to attract outstanding teachers and students, thereby affecting the quality of talent cultivation. Finally, due to the late development of the local cultural industry, the lack of sufficient market share and brand influence, and the widespread phenomenon of low wages and high prices in the local area, it is difficult to attract enough creative design and technology talents, which also makes it difficult for cultural brands to establish. This restricts the integration of the cultural industry and technology application of the Yao ethnic group in Liannan County, Guangdong Province.

4.3. Insufficient support of digital technology for innovation and technological application in the Yao cultural industry

Digital technology can provide strong support for the development of the Yao cultural industry. However, there are still some shortcomings in the application of digital technology in the Yao cultural industry. In the process of digital transformation, there are insufficient supply of high-quality content, thin cultural content, and a lack of original and high-quality cultural and creative products[3]. Liannan lacks high-end digital cultural projects such as the "Digital Cultural Relics Library", "Digital Duobao Pavilion", and "Palace Museum Famous Paintings", as well as high-quality IPs that focus on Yao nationality culture; Due to the low level of economic development in the Yao ethnic area, there are certain difficulties in the development of emerging enterprises, leading to a lack of new digital culture emerging enterprises in the local area. In addition, there is a significant gap between local digital technology and first tier cities in China. For example, in the Chinese Yao Museum, although digital technologies such as AI dressing, VR building roaming, and touch screen interaction are applied, there are also network delays, outdated equipment, and limited content. There is still a significant gap between digital technology, content updates, and visual effects compared to the Palace Museum.

5. The Development Path of Innovation and Technology Application in the Cultural Industry of the Yao Ethnic Group in Liannan, Guangdong

5.1. Accelerate the construction of cultural industry infrastructure and create a group of high-tech cultural enterprises

Accelerating the construction of cultural industry infrastructure and creating a group of high-tech cultural enterprises is an important guarantee for promoting the development of the cultural industry. Firstly, the government should increase investment in the infrastructure construction of the cultural industry, including the construction of cultural industry parks, cultural and creative industry bases, digital cultural industry bases, etc., accelerate the popularization of various digital infrastructure such as high-speed mobile internet networks, 5G base stations, fiber optic networks, etc., and improve the infrastructure system of the "cloud, network, and end" of the cultural industry[4]. The second is to strengthen the operation and management of cultural industry infrastructure. The government and enterprises should jointly strengthen the operation and management of cultural industry infrastructure, improve the efficiency and economic benefits of infrastructure use. At the same time, the government can also encourage and support the innovation and improvement of cultural industry infrastructure through various policy measures. With the help of relevant provincial and municipal support policies, the government can consolidate the main position[5] of state-owned cultural enterprises as the "backbone", and continuously improve the service level and comprehensive benefits of infrastructure. The third is to create a group of high-tech cultural enterprises. The government should increase its support for high-tech cultural enterprises, provide technical support and market promotion services through various policy measures, and promote the rapid development of high-tech cultural enterprises. In short, to accelerate the construction of cultural industry infrastructure and create a group of high-tech cultural enterprises, it is necessary to increase investment in cultural industry infrastructure construction, strengthen the operation and management of cultural industry infrastructure, and create a group of high-tech cultural enterprises. By utilizing its advantages in production scale and high-tech accumulation, the digital transformation and development of Yao cultural resources should be carried out, with a focus on breaking through virtual reality Key core common technologies such as 3D anime games and 5G+AI technology groups play an important role in promoting the high-quality development of the Yao cultural industry in Liannan, Guangdong.

5.2. Enhance the treatment of local scientific and technological talents and strengthen the team of high-end scientific and technological talents

Improving the treatment of technology talents in Liannan County, Guangdong Province, and strengthening the high-end technology talent team are important measures to accelerate local technological innovation and economic development. Therefore, local government departments need to increase investment in the development of the cultural industry and formulate targeted policies for the introduction and cultivation of scientific and technological talents. One is to establish specialized policies for the introduction of high-level cultural and creative industry talents. Improve the treatment of local scientific and technological talents, establish and improve relevant incentive mechanisms for scientific and technological talents, and these policies can include preferential measures such as providing housing subsidies, children's education resources, and medical security. The second is to increase the introduction of technology leading talents and teams in the field of digital culture industry. Provide higher treatment and a better development platform to attract them to develop in Liannan County. At the same time, the government can also

provide entrepreneurial funds, technical support, market promotion and other support through science and technology plans and special funds to attract scientific and technological talents to innovate and start businesses in Liannan County. Support these talents and teams in carrying out scientific research work, provide a better innovation and entrepreneurship environment for scientific and technological talents, and promote the development of Liannan's digital culture industry. The third is to establish a multi-level and multi-form talent training system. The government, enterprises, and universities should jointly establish a multi-level and multi-form talent training system to provide support for Liannan's cultivation and introduction of high-end scientific and technological talents. These training systems can include measures such as collaborating with universities and research institutions to carry out talent training projects, organizing various technical training and seminars, and supporting enterprises to establish internal talent training mechanisms. Based on their own characteristics, local universities and research institutes should, Establish a multi-level and multi-form talent cultivation system, prioritize the establishment of professional discipline systems, curriculum standards, and enterprise job standards related to the cultural industry, integrate Yao culture related elements into relevant professional courses, and cultivate more scientific and technological talents that meet the needs of the cultural and creative industry. Through the above measures, strengthen the high-end scientific and technological talent team, and create a highland for technological innovation talents in the cultural industry of the Yao ethnic group in Liannan County, Guangdong Province.

5.3. Promoting technological innovation in cultural enterprises and improving the quality of technology application services

Cultural enterprises should actively engage in technological innovation and cater to new market demands with new technologies and products[6]. We strongly support and widely use high-tech means in the cultural field, including digital means, big data, etc., to collect consumers' cultural consumption preferences in real-time through various sensor devices and positioning systems, and promote local tourism consumption through the immersive environment created by new technologies such as VR/AR. For example, using VR technology to showcase the full range of local singing hall activities, and adding Yao Long Drum Dance in the Yao Museum to deepen tourists' perception of traditional folk festivals of the Yao people, enhance interactive experiences, enrich local cultural experiences, create a digital cultural industry structure with Yao characteristics, create greater economic benefits for the local cultural industry, and migrate content storage to the cloud through cloud VR technology using 5G and cloud computing technology, It can reduce users' hardware requirements and costs for devices, promote the widespread application of VR technology, and create a batch of cultural and creative products that combine cultural value, usage value, and aesthetic value, as well as high-quality cultural IPs with the characteristics of the "Yao" brand. For example, through 5G and VR technology, live broadcasts of content such as "Yao Song · Yao Dance", contemporary Yao dance drama "Yao Shan Na Mo Hong", and world classic music "Yao Dance" are created, That is, the audience can watch in real-time, enhance interaction, attract consumers, promote the transformation and upgrading of cultural enterprises with the innovative power of "culture plus technology", and improve the quality of technology application services.

6. Countermeasures for the Innovation and Technology Application of the Yao Nationality Cultural Industry in Liannan County, Guangdong Province

6.1. Do a good job in top-level design and scientific planning

Do a good job in top-level design and scientific planning for the development of digital cultural industry. If the development of Liannan's cultural industry can receive strong support from municipal and county-level governments, many problems will be easily solved. Because the government can coordinate and promote the innovation and development of the Liannan Yao cultural industry in terms of policies, funds, and other aspects, in the “Liannan Yao Autonomous County County Commercial Construction Work Plan (2022-2025)”, scientifically formulate the “Liannan Digital Culture Industry Development Plan” 3-5 year development plan, establish a coordination and leadership mechanism for the development of the digital culture industry at the city and county levels, and accelerate the construction of the “Digital Liannan” work leadership group, Promote the implementation of the development plan for the digital culture industry, accelerate the construction of provincial-level ethnic ecological industrial parks, cultivate and develop digital culture industry clusters according to local conditions, promote the integration of digital culture and the real economy, and transform technology and ecological advantages into economic advantages and development advantages through the “technology plus ecology plus agriculture plus cultural tourism” model, creating a highly well-known “digital culture characteristic Yao ethnic village” in China.

6.2. Utilizing the latest technology and high-end equipment

The uniqueness of the cultural industry lies in its spiritual attributes, such as live concerts or listening to Yao dance music, which can provide the audience with a sense of spiritual satisfaction and pleasure. It can be seen that enhancing the immersive and interactive experience of cultural product display is particularly important. Therefore, encouraging cultural enterprises to use the latest technological methods, from visual, auditory, tactile and other aspects, to deeply integrate the latest technology and content production, and achieve multi-dimensional interaction with users, requires local government departments to introduce relevant preferential policies, and focus on supporting a group of leading cultural industry enterprises, Encourage cultural enterprises to introduce high-end technological equipment, such as VR, AR, holographic imaging, 4K/8K. High end equipment such as super perception, through the extensive application of new generation information technologies such as 5G, artificial intelligence, big data, and cloud computing in the cultural industry, enables technological innovation to better serve the innovation of the cultural industry and promote its innovation and development.

6.3. Building an online museum and open sharing of data

The China Yao Museum (Guangdong Yao Museum) provides a detailed display of the history and culture of the four major branches and thirty branches of the Yao ethnic group in China, as well as the world's Yao ethnic group. It is currently the largest and most complete professional museum of Yao cultural relics in China. However, the museum is located in Liulian Village, Sanjiang Town, Liannan Yao Autonomous County, far from the provincial capital and first tier cities. For tourists who need to understand Yao culture and cannot go to the site, the best way is to rely

on the existing materials of the Chinese Yao Museum, combined with the support of 5G and human intelligence, to build an online Chinese Yao Museum based on AR+VR+MR, create an immersive reading scene, and allow tourists who cannot go to the local area, Through remote viewing, virtual performances, and joint online and offline linkage, the authenticity, experience, and empathy of the viewing can be enhanced, and the user base can be increased. By opening and sharing data, Yao culture can be brought to the world, becoming the only way for high-quality development of the Yao cultural industry in Liannan County, Guangdong Province[7].

7. Conclusions

In summary, the integration of innovation and technological application in the cultural industry of the Yao ethnic group in Liannan County, Guangdong Province is a practical need to create a highly well-known “digital cultural characteristic Yao ethnic village” in China. It is an important way to introduce a high-end scientific and technological talent team and achieve high-quality development of the cultural industry of the Yao ethnic group in Liannan County, Guangdong Province. Therefore, in response to the lack of high-tech cultural enterprises and leading enterprises, the lack of creative design and technological talents required for the development of various cultural industries, and the insufficient support of digital technology for the innovation and technological application of the Yao cultural industry, in order to achieve high-quality development of the Yao cultural industry in Liannan County, Guangdong Province, it is necessary to use the latest technology and high-end equipment to create a highly well-known “digital cultural characteristic Yao village” brand in China, Based on the development path of innovation and technological application in the cultural industry of the Yao ethnic group in Liannan, Guangdong, we will carry out top-level design and scientific planning, accelerate the construction of cultural industry infrastructure, create a group of high-tech cultural enterprises, improve the treatment of local scientific and technological talents, introduce high-end scientific and technological talent teams, promote technological innovation in cultural enterprises, and improve the quality of technological application services. Of course, the author’s research level is limited, and there are inevitably shortcomings in the paper. In the future, the integration of the cultural industry and technological applications of the Yao ethnic group in Liannan, Guangdong will become closer, and the application of digital technology, virtual reality, artificial intelligence and other technological means will be more widespread, providing stronger impetus for the development of the cultural industry of the Yao ethnic group in Liannan County, Guangdong Province.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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