

Research on the Improvement Mechanism of Digital Cultural Tourism for Empowering Rural Revitalization under the Background of Epidemic Prevention and Control: A Case Study of Luniao Town in Hangzhou

Bangyan Li, Dan Zhou, Yuhui Wu, Peng Xu, Wenjing Zhou

Nanjing Audit University, Nanjing, Jiangsu, 211815, China

Abstract: Under the background of epidemic prevention and control, digital cultural tourism has been fully developed and applied. However, while digital cultural tourism has empowered rural revitalization in the context of the epidemic, its pain points have become increasingly prominent. This paper deeply analyzes the development of the digital cultural tourism project of Hangzhou Luniao Town- "Digital Wisdom Luniao", in order to draw the improvement mechanism of current digital cultural tourism to empower rural revitalization.

Keywords: Epidemic prevention and control, Rural revitalization, Digital Cultural Tourism.

1. Introduction

When epidemic prevention and control has become the norm, offline cultural tourism consumption is inevitably falling into the dilemma of weak growth because of the restricted population mobility. So digital cultural tourism, a new industrial form that uses online digital technologies such as the Internet to promote the development of the cultural tourism industry, has sprung up to compensate the cultural and tourism needs of the public caused by the normalized epidemic prevention and control. At the same time, 2022 is also a key year for the National Rural Revitalization Strategic Plan (2018-2022). In order to achieve the goal of rural revitalization such as accelerating the development of rural industries, further increasing farmers' incomes, and further improving rural infrastructure construction, various localities have explored and formed a number of unique rural revitalization models and experiences where digital industries and rural cultural tourism is widely integrated. Practice has proved that rural cultural tourism is an important starting point for accelerating rural revitalization. As an engine for promoting the high-quality development of domestic social economy, digitalization can effectively upgrade the cultural tourism industry, make up for the current shortcomings of the rural cultural tourism industry to a certain extent, and bring new development opportunities and improve the quality of development for the rural cultural tourism industry.

However, while digital cultural tourism is empowering rural revitalization in the context of the epidemic, its pain points have become increasingly prominent. Due to the characteristics of 'large area and scattered distribution' in rural areas, the operation and sinking management of digital cultural tourism in rural areas are facing challenges, and the rigorous supervision are increasingly difficult to achieve. At the same time, China's digital cultural tourism itself also has problems such as lack of high-quality products, low economic benefits, and uneven levels of informatization. In addition, the pneumonia epidemic has also had a direct impact on people's consumption psychology and consumption patterns. The necessary quarantine has an obvious impact on crowd-

gathering industries. According to the collation of public data, China's cultural tourism industry has suffered a serious impact during the epidemic. After the epidemic, the cultural tourism industry has picked up, but due to the unclear development trend of the epidemic, the recovery of China's cultural tourism industry and compensatory cultural tourism consumption are still facing great challenges.

All in all, with the continuous implementation of the rural revitalization strategy, the application of the promising digital cultural tourism industry in rural tourism is considered to be an important path to achieve the rural revitalization strategy. At the same time, the domestic research on the mechanism of digital cultural tourism to empower rural revitalization is not mature, and there is a lack of effective solutions to various problems in the process of digital cultural tourism empowering rural revitalization. Therefore, in the context of the development of digital technology and the integration of cultural tourism, this paper strives to provide a reference for development planning thinking and construction path for similar types of villages by investigating the "digital intelligence + cloud service + ecological chain" system in Luniao Town, Yuhang District, Hangzhou.

2. The Development Status of Digital Cultural Tourism and Rural Tourism Under the Background of The Epidemic

Affected by the covid-19 pandemic, the development of digital cultural tourism and rural tourism is facing various opportunities and challenges.

From the perspective of the tourism environment, the number of domestic tourists in 2020 decreased by 52.1% year-on-year to 2.879 billion person-times, and the total tourism revenue decreased by 61.0% to 2.23 trillion yuan year-on-year. With the normalization of epidemic prevention and control, the number of domestic tourists reached 3.246 billion in 2021, and the total tourism revenue was 2.92 trillion yuan. Although the tourism industry has picked up in 2021, there is still a big gap from 2019 before the epidemic (the number of domestic tourists and the total tourism revenue in

2019 were 6 billion and 5.73 trillion yuan, respectively). According to the Ministry of Culture and Tourism, the total number of domestic tourism trips in the first quarter of 2022 reached 830 million, a decrease of 194 million over the same period of the previous year, a decrease of 19.0%, and the domestic tourism revenue (total tourism consumption) was 0.77 trillion yuan, an increase of 0.03 trillion yuan over the same period of the previous year, an increase of 4.0%, and the development of tourism in the general environment will gradually recover and grow against the trend.

In the context of epidemic prevention and control, rural tourism still occupies an important position in tourism. According to the data, from January to August 2020 alone, the number of people receiving leisure agriculture and rural tourism in China reached 1.207 billion, and the income from leisure agriculture and rural tourism reached 592.5 billion yuan. In the process of rural tourism industry development, digital cultural tourism has broad prospects for empowering rural revitalization. With the establishment of the National Rural Revitalization Bureau in 2020, the rural revitalization strategy has begun a new historical process. Among them, as a representative of rural emerging industries, digital cultural tourism is an important starting point for rural revitalization, which helps to enrich the single industrial structure of rural areas and radiates to promote the overall improvement of economy, society, ecology and civilization in rural areas.

In the process of development over the years, the pain points and difficulties of rural cultural tourism have become increasingly prominent. First of all, although some rural areas have begun to develop digital cultural tourism, they are still in the initial stage of hardware investment greater than the degree of smart application, and it is difficult to facilitate tourists and serve local villagers to play a practical application effect. Secondly, rural digital cultural tourism products tend to be of low quality, no obvious characteristics and low levels of standardization. Most of them are mainly low-end products with limited functions. Moreover, they have not been integrated with local characteristic culture and related resources. Third, with the further development of cultural tourism, the rural cultural tourism industry is also facing more challenges in terms of resource integration, industrial planning, ecological protection, and emergency treatment. The rural cultural tourism industry urgently needs to take 5G, big data, Internet of Things, artificial intelligence and other technologies as the starting point to overcome the pain points and difficulties in its development.

3. The Development Strategy of Digital Cultural Tourism in Luniao Town

Luniao Town is located in Yuhang District, Hangzhou with agriculture and tourism for its pillar industries. Luniao Town began upgrading from smart tourism and digital villages in 2019. The project is called "Digital Wisdom Luniao", which includes three modules: Digital Intelligence Village, Digital Intelligence Governance and Digital Intelligence Tourism.

In the digital intelligence tourism module, global tourism data such as tourist attractions, homestays (farmhouses), public services, and agricultural product sales in Luniao territory are centrally collected, stored, processed and applied. At the same time, real-time monitoring of scenic spots, tourism product analysis, tourism economic indicators and other important information will also be presented on this platform, providing assistance for the operation and

management of Luniao tourism. Based on these data, Luniao was able to further improve its service management system. At the same time, by analyzing the data left by tourists on the platform, the accuracy of marketing services has also been improved. In addition, the intelligent service platform created for tourists covers tourism information acquisition, tourism planning decision-making, tourism product payment, tourism experience process, tourism feedback evaluation and other tourism stages to help tourists Elevate the travel experience.

In 2020, the tourism reception volume of Luniao Town reached more than 1.2 million person-times, achieving tourism income of 160 million yuan. Moreover, the average income of farmers in Luniao Town reached 39992 yuan, with an annual increase of 2700 yuan. The successful practice of Luniao Town provides a worthy practice model for digital empowerment of rural cultural tourism industry. Among them, the development path of the cultural tourism industry in Luniao Town relying on the digital platform mainly has the following:

3.1. Developing the "Meet Luniao" Wechat Applet

The "Meet Luniao" WeChat applet integrates functions such as route booking, map guide, ticket booking, accommodation booking, parking inquiry and purchase of agricultural products, enabling tourists only take "20 seconds to enter the park, 30 seconds to check in". It has improved the overall level of tourism management informatization, and provide convenience for tourists to visit.

3.2. Creating a "Honey Pear" IP

Luniao Town is famous for its pears. In the creation of the characteristic style of Luniao Town, the IP elements of honey pear are fully integrated and used, presented in landscape sketches, amusement facilities, style characteristic streets. The IP elements are also used in homestay reception points, tourist service center vending machines and other places that tourists must pass. The characteristics of honey pear are highlighted everywhere, quickly becoming a tourist punching point.

Through large-scale comprehensive tourism promotion meetings, tourism IP pop-up stores, Hangzhou International Day, Yuhang Cultural Tourism Shanghai Promotion Conference, Hangzhou "City Memory Workshop" and other promotional activities, the IP image of Honey Pear successfully has gone far beyond the Luniao Town. The brand perception of "Luniao Honey Pear" was rapidly improved. More and more people have generated the intention of "Visit Luniao, Eating Honey Pear", bring the direct effect to the tourism industry in Luniao Town.

3.3. Carrying out Live Commerce and Online Cloud Tours

In the context of the epidemic, Luniao Town has cultivated a group of "influencer" who sell specialties through live commerce to develop the online economy of rural agricultural products. Ms. Song Yiyuan, the founder of "Shenxian Chicken", sold 17,000 "Shenxian Chickens" live during the epidemic. Even Guo Jian, the mayor of Luniao Town, once walked into the live broadcast room to share and promote Luniao pears with the anchor. Its online platform has reached more than 472,000 views, which has promoted the hot sales of honey pears, effectively promoted the increase in income of fruit farmers and the economic recovery after the epidemic.

At the same time, Luniao Town has carried out online cloud tours which is convenient for cultural tourism consumers who cannot visit offline due to various reasons such as epidemic prevention and control, and promotes their willingness to consume rural cultural tourism products.

3.4. Online Publicity Empowering Offline Consumption

In 2021, in accordance with the requirements of "grasping epidemic prevention and control with one hand, and resuming work and production with the other hand", Luniao Town held various festivals and exhibitions, tourism recommendation meetings, and issued 200,000 tourism consumption coupons, effectively driving the offline consumption of scenic spots, catering, accommodation and agricultural products, which has promoted the rapid recovery of the tourism industry in Luniao Town in the post-epidemic era.

3.5. The Booming Economy of Homestays and Farmhouses

Luniao Town is rich in tourism resources, ranging from the national 4A level scenic spot of natural ravine landscape and the Xian Valley Whitewater Rafting Scenic Spot to the Yuhang Anti-Japanese War Memorial Hall based on red culture and new tourism formats such as RV camping park, paragliding flight camp and Maotang glass boardwalk. Abundant tourism resources have promoted the rapid development of the homestay and farmhouse economy in Luniao Town. The economy of homestays and farmhouses has become a characteristic pillar industry of Luniao tourism and a new engine for the development of rural tourism industry. There are more than 270 homestays and farmhouses in the town, accounting for nearly 40% of the total number of the district, including 68 boutique and characteristic homestays.

Through the construction of digital villages represented by the above practices, Luniao Town has seized the major historical opportunity of rural revitalization, making the rural economy develop steadily, which contributes to the reception of more than 420,000 tourists in the past five years and the tourism consumption of 924 million yuan. Its development path is worth studying and promoting.

4. The Summary of The Improvement Mechanism of Digital Cultural Tourism Empowering Rural Revitalization

The successful practice of Luniao Town provides a template for all localities to develop the digital cultural tourism industry to accelerate the realization of the rural revitalization strategy. The perfect path of digital cultural tourism to empower rural revitalization that Luniao Town explores is summarized as follows:

4.1. The Development of The Rural Digital Cultural Tourism Industry Should Attach Great Importance to The Management of Talents

In recent years, in the process of developing the pear industry, Luniao Town has actively carried out cooperation with universities and scientific research institutes, and actively promoted the introduction and placement of talents

in the pear industry. In 2020, Luniao Town implemented a cooperative project with Zhejiang University focused on the research and application of quality improvement and efficiency improvement technology in ecological pear orchard in Luniao Town. In the project, more than 10 technologies including bio-strengthening pear nutrition, organic fertilizer of the pear tree, pear fruit storage and preservation, the "zinc-rich pear" and the "selenium-rich pear". Moreover, in cooperation with scientific research institutions of Zhejiang Agriculture and Forestry University, Provincial Academy of Agricultural Sciences and other colleges, Luniao Town continues to carry out research and promotion in various aspects such as breeding of new varieties, standardized production, disease prevention and control, and whole plant utilization.

In addition to the introduction of pear industry-related talents, Luniao Town also proactively introduces digital high-end talents, which promotes the digitization of the production and sales process of pears. Take Chen Bo, deputy general manager of Hangzhou Sanguo Industry Co., Ltd., as an example: he started a business at Luniao Town in 2015. In addition to assisting birth through digital control and other technologies, he also opened up online and offline sales channels, taking digitalization as the core to promote the development of the Luniao pear industry, and driving the common development of more than 30 cooperative households and more than 100 retail households in the surrounding areas.

Digital cultural tourism is an active area for innovation and talent is the guarantee for achieving innovation. The development of rural digital cultural tourism has rapidly expanded the demand for talent volume and put forward higher requirements for the comprehensive ability of talents. Taking Luniao Town as an example, Luniao Town not only needs talents related to the pear industry, but also digital talents, especially compound talents with comprehensive knowledge, and operational talents in the new field of "digital + cultural tourism" also have great demand. To develop the rural digital cultural tourism industry, all localities should also accelerate the construction of digital talent teams, pay attention to the attraction, development and retention of talents.

4.2. Rural Digital Cultural Tourism Products and Services Should Be More Diversified and Distinctive

Affected by the pneumonia epidemic, the characteristics of various needs is expected to be more refined. According to the results of the questionnaire submitted by the author of this paper, the purpose and demand of rural tourism visitors show diversified characteristics (see the table below). The tourists' needs of the top three are to taste farmhouse food, enjoy the idyllic scenery and participate in agricultural experience activities.

In the process of developing the digital cultural tourism industry, Luniao Town has fully diversified and specialized its products and services. Luniao Town not only has the national 4A level scenic spot based on natural resources, the Xian Valley whitewater rafting scenic spot, but also the Yuhang Anti-Japanese War Memorial Hall based on red culture, and a series of new tourism formats including RV camping park, paragliding flight camp and Maotang Glass Boardwalk. In terms of cultural tourism products, Luniao Town not only develops a series of peripheral cultural and creative products

such as Pear Xiaoliu, Xiaoli Jun featuring honey pears, but also regularly holds special activities such as the New Year Goods Festival to launch paper-cutting, blue dyeing, kites, and bamboo utensils and other diversified cultural tourism products. In addition, Luniao continues to empower the local cultural tourism industry through culture and festival

activities, and hold special activities such as the New Year Goods Festival, the Mountain Flower Festival, and the Honey Pear Festival, which further promote the integrated development of agricultural cultural tourism.

Your main activities in rural tourism attractions [multiple choice]

Table 1. Partial recovery results from the questionnaire survey conducted

Options	subtotal	proportion
Enjoy the idyllic scenery	110	78.57%
Participate in agricultural experience activities	45	32.14%
Participate in farming experience activities	59	42.14%
Taste farmhouse delicacies	111	79.29%
Purchase of agricultural and sideline products	29	20.71%
Chess, Carla	41	29.29%
other	5	3.57%
This question is validly filled in	140	

4.3. The Role of The Government Should Be Brought into Play to Optimize the Development Environment of Digital Cultural Tourism

In the face of the pain points and difficulties in the development of the digital cultural tourism industry, local government departments should give full play to the role of planning guidance, policy support and organizational coordination, introduce and implement relevant policies, and continuously optimize the development environment of the digital cultural tourism industry.

First, in the context of epidemic prevention and control and economic and social development, the government should firmly grasp the strategic base point of expanding domestic demand, link up and down, coordinate departments, and interact with governments and enterprises, and continuously promote the digital intelligence of consumer products, consumption methods, and consumption scenarios. Yuhang District of Hangzhou City, which Luniao Town belongs to, has issued the "Implementation Plan for the Implementation of the National, Provincial and Municipal Package of Policies and Measures to Stabilize the Economy in Yuhang District", which has specially formulated 19 policy measures to encourage the development of festivals, encourage the issuance of consumption coupons, promote automobile consumption, and promote the consumption of cultural and tourism sports in order to promote consumption.

Second, government departments should create a favorable development environment for the production subjects, channel entities and terminal entities of digital cultural tourism from the aspects of enterprise investment and financing, talent introduction, and industrial cluster construction. In recent years, Yuhang District has deeply explored new digital technologies, new industries, new formats and new models, and strived to optimize the development environment of the digital economy industry, including digital cultural tourism, so that the core industries of the digital economy have developed rapidly, and the digital transformation has penetrated into all fields of the industrial economy, and the added value of the core industries of the digital economy in the region will be 160.57 billion yuan in 2021.

Third, the government should formulate supporting policies for organizational guarantees, fiscal and tax incentives, consumption promotion, etc. Through comprehensive means such as simplifying administration and decentralization, optimizing services, and improving efficiency, digital cultural market entities including smart tourism platforms, digital towns and tourism e-commerce enterprises will be activated. According to the statistics of Yuhang District, in 2021, the tax department of Yuhang District reduced taxes and fees by more than 11.966 billion yuan by establishing a service commissioner mechanism for major projects to attract investment and investment, actively participating in investment promotion negotiation meetings, and providing services for small and medium-sized enterprises in high-frequency tax-related matters such as R&D expense aggregation and income accounting, reducing the burden on enterprises. In addition, Yuhang District also promotes the "Intelligent Office" service to improve the efficiency of digital services and create a high-quality business environment. The "Intelligent Office" service is a new mode of government service with the means of big data application innovation and business process reengineering. Thanks to this service, after the enterprise declaration, the system automatically extracts the relevant information of the enterprise, and after receiving the document, the system automatically makes a licensing decision in seconds without manual intervention in the whole process. The "Intelligent Office" service has benefited more than 800 enterprises in Yuhang District in 2021, increasing the efficiency of these enterprises.

5. Conclusion

This paper deeply analyzes the development strategy of Luniao Town's use of digital cultural tourism to empower rural revitalization. Moreover, by summarizing development experience at Luniao Town, this paper proposes improvement mechanism digital cultural tourism for empowering rural revitalization. Under the background of epidemic prevention and control, digital cultural tourism has been fully developed and applied, and its prospects for empowering rural revitalization are broad. As digital cultural tourism continues to penetrate into people's lives and the attention of national and local governments increases, digital cultural tourism will

predictably have a better development environment, providing more opportunities for rural revitalization. The author also hopes that the improvement mechanism of digital cultural tourism to empower rural revitalization proposed in this paper can be continuously improved in practice.

Acknowledgment

This paper is funded by the 2021 Practical Innovation and Entrepreneurship Training Program For College Students of Nanjing Audit University(2021SX15002Z).

References

- [1] He Xiaoqian & Liu Yu. (2022). The formation background, driving mechanism and development path of digital cultural tourism. *Market Forum*(02), 28-33+38.
- [2] ZHANG Li, YUAN Xueyi & YIN Chuanhao. (2021). An Exploration on the Construction of Digital Cultural Tourism in the Post-epidemic Era. *Contemporary Tourism* (13), 13-14+17.
- [3] WU Zheng. (2018). Research on the Development Status and Marketing Strategy of Characteristic Homestays in Hangzhou: A Case Study of Luniao Town, Yuhang District. *Zhifu Era* (01), 212.