

Digital Development and Utilization of Jinzhai Red Tourism Resources under the Background of Rural Revitalization

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Abstract

Red tourism has four functions: politics, culture, economy and education. It has obvious social comprehensive effects and helps to strengthen national cohesion and international exchanges. It is necessary to inherit red culture and enhance national cultural consciousness and self-confidence through academic research. Digital countryside is an advanced rural form facing the future development. With the national strategic deployment of "Network Power", "Digital China", "Smart Society" and "Rural Revitalization", the comprehensive application and integration of new technologies such as big data, Internet of Things, mobile internet and artificial intelligence in various fields of agriculture and rural areas have accelerated, and the construction of smart cities has been continuously extended to rural areas. As a result, digital villages have become the focus of construction during the "14th Five-Year Plan" period and ushered in important strategic opportunities. Jinzhai County, Lu 'an City, has been selected into the list of the first batch of national digital rural pilot areas, actively building county-level urban brains, gathering the county's data resources, and igniting a "smart engine" for rural revitalization through AI intelligent computing power empowerment of urban brains. By analyzing the current policy documents, capital investment and construction practice of red tourism and digital countryside, this paper comprehensively expounds the current development background, policy system, development status and trend of digital countryside industry, which can provide decision-making reference for the development of red tourism resources and digital countryside industry market.

Keywords

Digital village; Red tourism; Rural informatization; Jinzhai; Rural vitalization.

1. Introduction

On February 21, 2021, "Opinions of the State Council, the Central Committee of the Communist Party of China on Comprehensively Promoting Rural Revitalization and Accelerating Agricultural and Rural Modernization" (referred to as: No.1 Document of the Central Committee in 2021) was released, pointing out that after the goal and task of getting rid of poverty are completed, a five-year transition period will be set up from the date of getting rid of poverty for counties [1]. On February 25th, 2021, the National Rural Revitalization Bureau was formally established, which will promote the effective connection and smooth transition between poverty alleviation and rural revitalization during the five-year transition period of the 14th Five-Year Plan. As an important direction of national rural revitalization strategy and an important content of building digital China, digital villages have become the focus of attention. The comprehensive social effect of red tourism is obvious, and relevant theoretical research is helpful to strengthen national cohesion and international exchanges. Red tourism has four functions: politics, culture, economy and education. In recent years, the market has developed rapidly, and the proportion of tourists' travel has continued to increase. It is "an organic part of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era's theory of governing the country". It is necessary to conduct in-depth research from the theoretical point

of view to enhance its social influence, so as to achieve the purposes of inheriting the red gene, enhancing national and cultural self-confidence, strengthening national identity, consolidating the existing achievements in anti-poverty and enhancing the active and subjective initiative of the people. It is necessary to use a new research perspective to further promote the supply-side reform, increase the capacity and improve the quality of red tourism, so as to meet the increasing needs of the people more easily and effectively.

2. Development background

Countries in the world attach great importance to digital villages. In recent years, the deep evolution of scientific and technological innovation continues to accelerate, and new technologies, new industries, new products and new models emerge as the times require, changing the traditional production mode and the global economic structure. Major countries in the world have actively laid out their agricultural and rural areas, put digital agriculture in a strategic position of key development, and use modern agricultural information technology to improve agricultural productivity, rural information infrastructure and application popularization rate, so as to provide perfect guarantee for farmers' intelligent and convenient life. The United States, Britain, Germany, France, Japan and other countries attach great importance to the development of smart agriculture, and have successively issued strategies such as "Digital Agriculture", "Agricultural Development 4.0" and "Creation Technology of Next Generation Agriculture, Forestry and Aquaculture Based on Intelligent Machinery and Intelligent IT". China's agricultural and rural development presents new characteristics. During the "Thirteenth Five-Year Plan" period, the national policy of strengthening agriculture and benefiting farmers played a significant guiding role, food security was strongly guaranteed, agricultural transformation and upgrading continued to accelerate, farmers continued to increase their incomes and get rich, the construction of a well-off society in rural areas was solidly and steadily advanced, and the goal and task of getting rid of poverty was basically completed. However, at present, there are still some problems in the development of agriculture and rural areas, such as the weak competition of agricultural foundation, the single income structure of farmers, the gradual flow of rural labor force to cities and towns, and the digital divide between urban and rural areas. It is estimated that by 2025, the urbanization rate of China will reach 65.5%, with more than 80 million new rural migrants. The proportion of agricultural employees will drop to about 20%; The proportion of rural population over 60 years old will reach 25.3% [2]. The epidemic situation in COVID-19 has a profound impact on agriculture and rural areas. The epidemic has affected rural areas, farmers and agricultural production in an all-round way, from the difficulty in purchasing agricultural materials to the circulation of agricultural products, from the difficulty in selling grain and the poor transportation and marketing of "vegetable basket" products to the agricultural industrial chain, and from the inability of farmers to get full employment to the income of farmers. In addition, the epidemic in COVID-19 has exposed many problems in the development and governance of red tourism resources, such as poor farmers' information, poor rural logistics and poor grassroots governance.

3. Development status of digital village construction in Jinzhai

"Smart medical care" alleviates the difficulties of medical treatment for urban and rural residents and the imbalance of medical resources; "Wisdom Education" realizes the full coverage of wisdom classrooms in primary and secondary schools and teaching points in the county; "Smart Transportation" realizes real-time scheduling, monitoring and operation of urban and rural bus lines[3]; "Smart Tourism" allows tourists to use their mobile phones to inquire about scenic spots anytime and anywhere, make an appointment, or use VR to visit

scenic spots, and experience the beautiful scenery of Jinzhai ... Jinzhai County builds an operation and command center with county as a whole, and realizes the intelligentization of county and township governance. The county gathers information resources at the county, township and village levels, and now it has access to 7 departments with a total of 7,693 channels of video surveillance, coordinating a picture of four digital villages and towns' first demonstration sites, empowering rural industry development and optimizing information management resource allocation[4]. At the same time, it is open to many departments, such as emergency, urban management, health and health, ecological environment, etc., to realize cross-disciplinary organization and multi-sectoral coordination, and to realize the effect of coordinated management by all levels and departments.

At the same time, Jinzhai has built three digital middle stations, providing core capacity support for digital rural construction, covering data middle stations, smart middle stations and business middle stations, which serve as data hubs, AI capacity hubs and dispatching hubs of all departments at all levels in the county, respectively, providing solid support for digital urban and rural construction. Jinzhai also established a system network including standard specification system, security system and operation management system, and established project construction standards, information security standards and operation management standards respectively[5].

It is understood that Jinzhai County, relying on the basic platform of urban brain and the empowerment of AI algorithm, has developed and launched several application service scenarios. Among them, the application of smart medical scene, through the remote consultation center composed of ECG center, imaging center, inspection and testing center and other platforms, can alleviate the difficulties of medical treatment for urban and rural residents and the imbalance of medical resources. In terms of smart education scenarios, 114 smart schools were built to realize the full coverage of smart classrooms in primary and secondary schools and teaching points in the county, and resources such as special classes, famous teachers' classes and prestigious online classes were used to provide information-based assistance for teachers and students' teaching, bringing high-quality teaching resources to remote schools and promoting the improvement of teaching quality.

Smart transportation realizes real-time scheduling, monitoring and operation of urban and rural bus lines. Combined with the use of electronic stop signs and bus APP, it reduces bus operation costs and provides more convenient services for people to travel safely. In terms of smart tourism, digital technology should be fully used to help the development of global tourism, so as to realize real-time access of multi-scenic spot data and all-weather intelligent supervision. In the future, with the continuous integration and excavation of information resources, Jinzhai will put more application scenarios for the convenience and benefit of the people online one after another, and accelerate the realization of a beautiful blueprint for the integration of urban and rural digital development[6].

4. The general trend of the industry

Generally speaking, the development status of the whole red tourism resources development market and digital villages is as follows:

4.1. The industry is in its infancy, and infrastructure construction is relatively advanced.

In recent years, the construction of digital agriculture and rural areas has made solid progress and made historic achievements. However, due to the poor foundation, weak foundation and weak quality of agricultural and rural informatization, the development of red tourism resources is still in its infancy. According to the comprehensive calculation of the Ministry of

Agriculture and Rural Affairs [7], in 2019, the overall level of rural development of digital agriculture in counties nationwide reached 36%, including 41% in the eastern region, 37% in the central region and 31% in the western region. In addition, according to the evaluation results of the research report "County Digital Village Index (2018)", the construction of county digital villages in China is in the initial stage as a whole, and the development level of digital infrastructure is at a relatively high level. The digital development level of rural economy, rural governance and rural life is relatively lagging behind, and there is much room for improvement. Among the 1880 county-level cities, counties and autonomous counties participating in the evaluation, the average value of the county-level digital village index is 50, and the average values of the four sub-indexes of rural digital infrastructure, rural economy digitalization, rural governance digitalization and rural life digitalization are 71, 40, 43 and 45 respectively[8].

4.2. The government's financial input is obviously insufficient, and social capital becomes the main force.

Financial input is an indispensable and important support to promote the construction of agricultural and rural informatization, and the financial input of county agricultural and rural informatization is obviously positively correlated with the development level of county digital agriculture and rural areas. In 2019, the financial investment in county-level agricultural and rural informatization construction was 18.2 billion yuan, accounting for only 0.8% of the national financial support for agriculture, forestry and water. Among them, there are as many as 310 counties with less than 10,000 annual financial input, and 536 counties with less than 100,000 annual financial input, which is seriously insufficient [9]. In 2019, the social capital investment of county-level agricultural and rural informatization construction in China was 47.9 billion yuan, which was 2.6 times of the financial investment. Among the top 100 counties in China, the social capital investment is 3.3 times of the financial investment; Among the top 500 counties, social capital investment is 2.7 times of financial investment. Across the country, there are 962 counties where social capital investment exceeds financial investment. To sum up, the cooperative promotion mechanism of digital agriculture rural construction with the government as the guide, the market as the main body, and social participation has begun to play a role, and the co-construction pattern of enterprises' active investment, farmers' and new agricultural business entities' extensive participation is taking shape.

4.3. Based on its own characteristics, explore differentiated development paths.

The county is the main battlefield to implement the strategy of "digital village", and the secretary of the county party committee is the "first-line commander" of rural revitalization. Under the guidance of national policies, each county, based on its own characteristics and resource endowment, has established a "digital village" development model that matches the development of local rural characteristic industries, rural government management and service capabilities, and farmers' production and living standards.

Jinzhai County, Lu 'an City, Anhui Province is a mountainous county with the largest area and the largest population in Anhui Province. In order to promote the construction of digital countryside, Jinzhai County has increased its investment in improving the level of digital application of education, and carried out the construction of smart schools: First, improve the construction of campus infrastructure, and adopt advanced optical access technology to realize campus optical network with large bandwidth, high reliability and multi-scene coverage on campus[10]; The second is to complete the deployment of "5G+ Ultra HD Video+Internet of Things", and adopt advanced technologies such as face recognition and AI algorithm to realize full coverage of campus video surveillance, automatic alarm of abnormal behaviors, quick identification of students' identities, etc., to help build a safe campus; Third, it is a 5G remote interactive teaching application with the theme of sharing educational resources between

urban and rural areas[11]. Through the 5G high-speed mobile network, it can realize the remote viewing of high-definition teaching live classroom, and help children in poor and remote areas enjoy the teaching content of famous teachers as well as students in famous schools. Yicheng City, Hubei Province, has innovated online processing mechanisms such as rural medical care, social security, old-age care and disability assistance, and realized functions such as online certificate processing, service consultation, qualification examination and approval, and promoted the convenience and popularization of grassroots services.

5. Red tourism and digital empowerment, multi-identity and value creation path.

In the cultural tourism industry, the concept of value co-creation has gradually attracted the attention of scholars at home and abroad. As an important part of business, especially after the introduction of digital technology, the value creation logic of tourism has gradually changed from product-led to service-led, and the value creation practices of producers and consumers at different levels and in different sub-sectors continue to emerge, which is an important way to realize the development of tourism destinations and the innovation of supply mode in the future.

5.1. Red Tourism Resource Endowment and Value Evaluation Ideas Based on Big Data Technology

First, the data collection of red tourism network comments.

From Ctrip, MaHoneycomb, Qunar, Tuniu, Tongcheng and other travel software, we collected a large number of travel comments of scenic spots related to red tourism, and imported these comments into Excel for summary, and screened out the effective comments.

Secondly, the identification and evaluation of tourist attractions and hot spots.

First, select the tourist destinations one by one from the Excel table to form a new Word document. Then, summarize the words and sort them in descending order, so that the hot attractions and hot spots can be seen at a glance[12]. Secondly, we can start with the tourists' emotion, import the online text data about hot attractions and hot spots into ROST, carry out word segmentation and sentence segmentation, manually screen out the effective text data, and obtain objective and accurate results of tourists' emotion analysis, so as to evaluate and analyze its value.

Thirdly, the analysis and evaluation of the spatial and temporal characteristics and network structure of domestic and foreign tourist flows.

In order to more intuitively understand the relationship between hot spots at home and abroad, we import the online comment text into ROST software, and use the function of "social network and semantic network analysis" to generate the social semantic network diagram of hot spots. Through this map, we can more intuitively and accurately identify the tourist hotspots and the relationship between them.

Fourthly, the construction of the evaluation system of red tourism resources based on emotion analysis.

The crawled online comment data is imported into ROST software. Firstly, the overall emotion of tourists visiting red tourism resources is analyzed, and the overall emotional presentation of tourists visiting red scenic spots is known. Then, the comments that mainly affect tourists' emotional perception are selected from the original online comment text, and they are classified and coded, so that the factors that affect tourists' emotion can be known more accurately. Based on these data, the related evaluation system of red tourism resources can be constructed.

5.2. Development of Red Tourism Resources under Digital Empowerment

First, the demand level-the starting point of value co-creation.

According to the big data crawled by the Internet, the tourist market is analyzed by using text analysis and other methods, mainly including:

(1) analysis of tourists' perception based on web text analysis (cultural perception, Perception of facilities, environment, food, emotion, management, landscape and risk); Attitude analysis of tourists (cognitive tourism attitude, emotional tourism attitude and behavioral tourism attitude); Tourist behavior analysis (decision-making behavior, spatial behavior).

(2) Through literature review, field investigation, in-depth interview and other methods, the influencing factors of tourists' empowerment are studied: identifying the influencing dimensions of red tourists' perception of greater empowerment in Gansu; Through empirical research, this paper analyzes the relationship among customer digital empowerment, brand attachment, promoting positive attitude and loyalty.

Second, the supply level-the role reconstruction and value drive at the micro level.

(1) Micro-level: through interviews, questionnaires and other methods, research on digital involvement and happiness of tourism stakeholders.

(2) Mesoscopic level: through text analysis, field investigation and other research methods, Analyze the digitalization, acceptance and cooperation network of related enterprises, organizations and communities; Analyze the new product development, promotion and integration mode under digital empowerment (including the integration of 5G, blockchain, intelligent terminal, AR/VR, digital media, short video, etc. with red tourism).

5.3. Interaction between pluralistic identity and the development and utilization of red tourism

Through the digital development and utilization of red tourism resources, the interaction between development subjects and consumption subjects will be enhanced, and self-identity, local identity, cultural identity and national identity will be clearly strengthened, so as to give full play to the comprehensive effect of red tourism in minority areas of Gansu Province.

5.4. Development of Red Tourism Resources with Digital Empowerment, Multi-identity and Value Co-creation

The mode construction provides a platform for interaction and value creation for both producers and consumers of red tourism products through digital empowerment, follows the service-oriented logic, and effectively improves self-efficacy, role-playing, cultural learning, and social skills, etc., so as to provide a value-creating platform for interaction, information sharing, knowledge sharing, and resource sharing for suppliers and demanders in minority areas of Gansu Province, eliminate communication barriers, integrate resources, strengthen the involvement of suppliers and demanders, enhance the comprehensive social effects, and realize the red tourism value chain.

6. Concluding remarks

With the adjustment of national strategy and the blessing of corresponding policies in the new development period of the 14th Five-Year Plan, the development of digital villages in China has ushered in a huge opportunity period. Through intelligence gathering and quantitative analysis, it can be seen that the whole digital village industry in China is in its initial stage and has entered a period of rapid development. At the same time, with the sinking of smart cities to counties, the county governments have become the main driving force of digital villages. Relying on the traditional methods of literature research and field investigation, using the new methods of qualitative and quantitative content analysis, obtaining relevant data from various ways, such

as field interviews, literature review, online comments, etc., on the basis of a comprehensive and systematic evaluation of the endowment of China's red tourism resources, the research on digital empowerment development of red tourism resources is carried out, revealing the interrelation and internal mechanism of digital empowerment, multi-identity and value co-creation, and expanding the research field of tourism development. We should pay enough attention to providing theoretical reference for China's red tourism, providing theoretical basis for China's regional economic and social development and effective social governance, and promoting local cultural identity and self-confidence, local sustainable development, cultural cohesion of Chinese residents and the identity of political parties and countries.

Acknowledgements

This paper is supported by Anhui University of Finance and Economics Undergraduate Research Innovation Fund, with the project number of XSKY22238.

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