

Original Paper

Research on the Dilemmas and Paths of Promoting Rural Revitalization through Digital Technology

Xupeng Qi

Harbin University of Commerce, Harbin, Heilongjiang, 150028, China

Received: October 28, 2025 Accepted: November 29, 2025 Online Published: December 5, 2025

doi:10.22158/jepf.v11n4p95

URL: <http://dx.doi.org/10.22158/jepf.v11n4p95>

Abstract

As the soul and core support of the rural revitalization strategy, the revitalization of rural culture is deeply embedded in the overall requirements of "prosperous industries, ecological livability, civilized rural customs, effective governance, and prosperous lives". It is not only the key to solving the imbalance in urban-rural development and meeting the growing needs of farmers for a better life, but also the only way to preserve the rural roots, activate the spiritual core of rural society, and inherit excellent traditional Chinese culture. With the rapid development of digital technology, its value in cultural protection, cultural dissemination, and cultural industry development has become increasingly prominent, bringing unprecedented opportunities for the revitalization of rural culture. However, due to various factors such as infrastructure, human resources, digital literacy of villagers, and institutional mechanisms, the actual role of digital technology in the revitalization of rural culture has not been fully realized. Based on a systematic review of the current situation of rural cultural development, this paper deeply analyzes the obstacles to the empowerment of rural cultural revitalization by digital technology, analyzes the existing problems from the dimensions of digital infrastructure, talent structure, cultural excavation and protection, and institutional system, and proposes corresponding practical paths, aiming to provide theoretical reference and practical inspiration for the revitalization of rural culture in the digital age.

Keywords

Rural Revitalization, Revitalization of Rural Culture, Digital Technology, Digital Village, Cultural Protection

1. Introduction

The rural revitalization strategy is the general starting point for the work related to agriculture, rural areas, and rural people in the new era, and the revitalization of culture is the soul of the rural revitalization

strategy. Culture is not only the soft power of rural development but also an important source of the internal driving force of the countryside. The revitalization of culture can effectively promote the revitalization of industries, talents, ecology, and organizations, and is an important path to improve rural governance capabilities and enhance farmers' sense of gain.

With the rapid development of digital technologies, especially information and communication technologies (ICT), artificial intelligence (AI), virtual reality (VR/AR), big data, blockchain, etc., "Digital Village" has become a new direction for the deep integration of China's digital economy strategy and rural revitalization strategy. Digital technologies provide broad space for the revitalization of rural culture by enhancing information acquisition capabilities, promoting cultural dissemination, and innovating cultural experience methods. However, in practice, there are still many practical dilemmas in empowering rural cultural revitalization with digital technologies: problems such as weak infrastructure, serious brain drain, slow improvement of digital literacy, lagging cultural resource protection methods, and imperfect cultural industry chains are intertwined, restricting the penetration and in-depth development of digital technologies in the rural cultural field. Therefore, it is necessary to conduct a systematic analysis of the dilemmas of promoting rural cultural revitalization with digital technologies from both theoretical and practical levels, and propose highly operable and adaptable countermeasure paths to promote the development of rural cultural revitalization towards higher quality and more sustainable directions.

2. Real Dilemmas

2.1 Insufficient Digital Infrastructure

In recent years, with the continuous promotion of the national digital countryside strategy, the digital development foundation in rural areas has been continuously consolidated, the Internet penetration rate has increased significantly, and digital public services have begun to extend to various aspects of village governance and residents' lives. However, the overall development trend still shows obvious unevenness, and the lack of digital infrastructure remains an important bottleneck restricting the revitalization of rural culture. Especially in mountainous areas, hilly areas and remote areas with relatively complex geographical environments, the construction of network communication facilities is restricted by natural conditions, with difficulties in fiber optic laying, high costs and long cycles, resulting in the inability to achieve a stable level of network coverage and signal quality, making local residents at a disadvantage in accessing digital resources and cultural participation. In some areas, although network access has been basically achieved, problems such as insufficient bandwidth, unstable network and aging equipment still exist, resulting in the phenomenon of "difficult to use the network" and "having facilities but no services". In addition, there are obvious economic sustainability dilemmas in the construction of digital infrastructure. Due to the relatively low population density in rural areas, the return on investment in base station construction and maintenance is limited, resulting in a lack of investment motivation for some enterprises and forming a resource supply gap in the form of "market failure". Without stable policy

subsidies and financial guidance, the long-term investment difficulty in digital infrastructure has exacerbated the digital divide between urban and rural areas. The lag of digital infrastructure not only prevents rural residents from effectively participating in digital cultural consumption and content production, restricts the sharing and dissemination of cultural knowledge, but also further hinders the digital transformation of rural cultural resources. For example, many villages are unable to start in aspects such as digital cultural display, establishment of rural cultural archives, and digital preservation of cultural heritage due to weak infrastructure, resulting in slow progress in cultural protection and innovation work. Generally speaking, the lack of digital infrastructure has become an important root cause restricting the revitalization of rural culture. Only by accelerating the improvement of construction shortcomings and enhancing the comprehensive digital communication capabilities can we truly provide a solid foundation for empowering rural culture with digital technology.

2.2 Brain Drain and Low Digital Literacy of Villagers

In the process of rapid urbanization in China, the population flow shows an obvious one-way characteristic. A large number of young and middle-aged labor forces gather in cities, leading to the increasingly serious problems of "hollow population" and "age gap" in rural areas. This trend not only impacts the rural labor force structure but also profoundly affects the digital construction ability in the revitalization of rural culture. First of all, rural areas have long lacked digital skill-based talents and cultural creative talents. Due to the limited level of rural economic development, small income growth space, and relatively insufficient public service quality, a large number of young people with cultural innovation awareness, digital skills, and modern management capabilities choose to stay in cities for development, resulting in an obvious talent gap in rural digital culture construction. With the continuous loss of professional talents, it is difficult for rural areas to achieve sustainable progress in aspects such as digital cultural protection, cultural resource development, digital platform operation, and cultural content production. In addition, the overall digital literacy level of local rural residents is relatively low, seriously restricting the application effect of digital technology. Multiple factors such as education level, frequency of using digital tools, and information acquisition channels result in obvious limitations for rural residents in using the Internet, smart terminals, digital platforms, etc. Data shows that rural residents in China generally lack the ability in aspects such as information judgment, data processing, online expression, and digital creation. This not only affects the acceptance of digital cultural products by local farmers but also weakens their initiative in participating in cultural production and cultural dissemination. The lack of digital literacy also causes some rural areas to face greater resistance in promoting smart cultural services, digital public cultural platforms, online learning resources, etc., resulting in a "last mile" break between digital infrastructure construction and actual use. More importantly, the combination of brain drain and low digital literacy makes it difficult for rural areas to build a stable cultural inheritance team and a digital cultural innovation mechanism, which will weaken the vitality of the rural cultural system in the long run. Only by systematically improving the quality of rural digital skill training, building an incentive mechanism to attract talents to return to their hometowns, and establishing a local cultural talent

cultivation system can we fundamentally break through the manpower bottleneck in the revitalization of rural culture in the digital age.

2.3 Lack of Work on the Excavation and Protection of Rural Culture

Rural culture carries the important genes of Chinese civilization and is an important part of the national cultural system. However, in the context of rapid modernization, the excavation, collation, and protection of rural culture face many difficulties, and the core problem lies in the multiple imbalances among institutions, talents, and social participation. On the one hand, both the physical and intangible cultural heritages in rural areas are continuously changing in the natural evolution process, and their cultural forms and functions are inevitably affected by time, environment, and social changes. Many historical buildings, sites, skills, and traditional ways of life are gradually disappearing. The protection of cultural heritage relies on scientific monitoring, systematic recording, and long-term update mechanisms, but most rural areas lack professional equipment and financial support and are unable to carry out high-quality digital collection of cultural resources and archival management. At the same time, the policy support is still not systematic enough, and the cultural protection plans in various places lack continuity, often showing tendencies such as "emphasis on application for protection rather than actual protection" and "emphasis on construction rather than maintenance", resulting in fragmented and formalized cultural heritage protection. On the other hand, there is an obvious lack of professional talents in the field of rural cultural research and protection. For a long time, the research tradition of "emphasis on physical rather than intangible" has led to the lack of in-depth excavation and systematic protection of many folk cultures, festival ceremonies, traditional skills, etc. with living resilience, and the number of relevant research talents is insufficient and the structure is single. In addition, the cultural protection awareness of the general public is weak. Villagers often regard cultural heritage as a historical relic with little relevance to real life and lack enthusiasm and a sense of achievement in cultural protection, making cultural protection lack a mass base and difficult to form a wide-ranging social co-governance pattern. In the process of tourism development and urbanization construction, many local projects pay more attention to economic benefits and ignore cultural authenticity, and even cultural symbolization and over-commercialization phenomena occur. Generally speaking, the lack of systematicness in the work of rural cultural excavation and protection not only makes precious cultural resources face the risk of loss but also weakens the internal driving force for the revitalization of rural culture. Therefore, it is necessary to build an integrated mechanism for cultural protection through digital technology, institutional innovation, and social mobilization to provide a solid guarantee for the inheritance and activation of rural culture.

3. Overall Ideas on Empowering the Revitalization of Rural Culture with Digital Technology

The development of digital technology has provided unprecedented opportunities for rural revitalization, especially for the revitalization of rural culture. The revitalization of rural culture not only concerns the protection and inheritance of cultural heritage, but also relates to the spiritual reshaping and cultural value reproduction of rural society. In the context of the digital age, digital technology has gradually become

a new engine for promoting the revitalization of rural culture. Generally speaking, the empowerment of digital technology in rural cultural revitalization is mainly reflected in three aspects: strengthening digital infrastructure, promoting the digital inheritance of rural culture, and promoting the upgrading of rural cultural productivity. The three are interconnected and jointly constitute a systematic path for rural cultural revitalization.

3.1 Improve the Construction of Digital Infrastructure: The Prerequisite Support for the Revitalization of Rural Culture

Digital infrastructure is the underlying support for promoting the revitalization of rural culture and a key prerequisite for narrowing the urban-rural digital divide and achieving cultural equalization. In many rural areas, due to practical constraints such as geographical conditions and insufficient financial investment, problems such as insufficient network signal coverage, aging equipment, and the lack of digital cultural public service platforms still exist, restricting the digital development of rural culture. Therefore, generally speaking, promoting the revitalization of rural culture must start with improving digital infrastructure.

On the one hand, it is necessary to promote the upgrading and popularization of communication networks. By accelerating the layout of 5G base stations, promoting gigabit fiber optic cables to the countryside, and implementing weak signal blind spot filling projects, etc., stable network access conditions can be provided for rural areas, enabling the acquisition, sharing, and dissemination of cultural resources to have the necessary technical environment. On the other hand, the digital cultural service capabilities in rural public areas should be strengthened. By building facilities such as digital rural libraries, smart libraries, and digital rural large screens, rural residents can realize the learning and experience of digital culture locally. In addition, establishing a unified digital storage platform for rural cultural resources, including intangible cultural heritage databases, rural image archives, building model atlases, etc., is also an important part of enhancing the modernization of cultural governance.

Generally speaking, the improvement of digital infrastructure not only provides a channel for the dissemination of digital cultural resources, but also lays a material foundation for the digital construction of rural culture, the development of cultural industries, and cultural sharing. It is the starting project for realizing the revitalization of rural culture.

3.2 Promote the Digital Inheritance of Rural Culture: An Important Path for Cultural Value Reproduction

The core of the revitalization of rural culture lies in the protection and inheritance of culture, and digital technology provides a new carrier and new possibilities for rural cultural resources, especially traditional cultural heritage. Through digital means, the real record, long-term preservation, innovative expression, and wide dissemination of rural cultural resources can be achieved, thus effectively extending the vitality of rural culture.

In terms of cultural protection, digital technology enables high-precision collection and holographic recording. It includes digital archiving of cultural resources such as ancient buildings, rural sites, and traditional skills through methods like 3D scanning, VR/AR technology, high-definition image collection,

and AI restoration, to build a digital cultural heritage library that can be permanently preserved. Digitalization can not only break through the limitations of traditional protection methods but also provide high-quality data support for academic research, cultural education, and cultural dissemination. In terms of cultural display, digital technology presents rural culture to the public in a more vivid and immersive way through forms such as virtual exhibition halls, digital maps, online intangible cultural heritage classes, and AR interactive experiences. Digital display breaks geographical restrictions, enabling rural culture to go out of the countryside, reach cities, and even go international, significantly expanding the influence of rural culture.

In terms of cultural dissemination, the application of new media platforms has brought the dissemination of rural culture into the "decentralized" era. Short video platforms, live broadcast platforms, graphic platforms, etc. enable rural cultural resources to be seen more widely. Contents such as rural cultural stories, intangible cultural heritage skills, and farming culture achieve the regeneration of cultural value through personalized expression and interactive dissemination. The "IP-based", symbolic, and visual expression of rural culture makes it more in line with contemporary communication logic, enhancing cultural attractiveness and dissemination power.

Therefore, digital inheritance is not only an effective path to protect rural culture but also a key means to stimulate cultural vitality and promote the modern development of rural culture.

3.3 Develop the Digital Cultural Industry: Stimulate the Internal Driving Force for the Revitalization of Rural Culture

The ultimate goal of the revitalization of rural culture is to achieve the creative transformation and innovative development of cultural value, making cultural resources truly "come alive", "be put to use", and "become popular". The application of digital technology has opened up a new space for the upgrading of the rural cultural industry, enabling cultural resources to be deeply integrated with the modern industrial system, thus forming a sustainable industrial development model.

First, digital technology can improve the development quality and productization level of local cultural products. By using digital design, digital packaging, e-commerce sales, brand marketing, etc., resources such as traditional intangible cultural heritage handicrafts, farming culture symbols, and rural natural landscapes can be transformed into cultural and creative products, digital cultural and creative products, cultural and tourism souvenirs, etc. with market appeal, forming a channel for the transformation of cultural value into economic value.

Second, digital technology promotes the innovative development of rural cultural experience formats. "Culture + technology + tourism" integration models such as immersive experiences, online and offline combined cultural festivals, digital farms, and rural research tours make rural cultural products more diverse and the scenarios more abundant, attracting more urban people to participate in rural cultural consumption.

Finally, the construction of a digital operation system can improve the management and service levels of rural cultural industries. Through digital operation tools such as big data platforms, digital ticketing,

tourist behavior analysis, and industry monitoring, the industrial dynamics can be accurately grasped, the efficiency of cultural supply can be improved, and the construction of rural cultural brands can be promoted.

Generally speaking, the development of the digital cultural industry is the key driving force for rural cultural revitalization, which helps to form a cultural industry system with sustainable benefits and promotes the transformation of rural cultural revitalization from "resource advantages" to "industrial advantages".

4. Practical Paths for Empowering Rural Cultural Revitalization with Digital Technologies

4.1 Improve the Construction of Rural Digital Infrastructure and Lay a Solid Foundation for Cultural Revitalization

4.1.1 Promote the Upgrading of Rural Communication Networks and Enhance the Popularization Level of Networks

The popularization degree of rural communication networks directly determines the coverage rate and accessibility of digital cultural construction, which is a fundamental link in promoting rural cultural revitalization. At present, there are still weak network coverage or signal blind spots in some remote mountainous areas of our country, seriously restricting the spread and sharing of digital culture. Therefore, the layout of 5G base stations in rural areas should be strengthened, and the construction cost should be reduced through financial subsidies, joint construction and sharing by communication enterprises, etc., to increase the number and density of base stations. At the same time, promote the "gigabit fiber optic cable going to the countryside" project to extend high-speed broadband networks to administrative villages and even natural villages, and enhance the network access capabilities of rural families and public facilities. In addition, implement the rural weak signal blind spot filling project, and use new technologies such as satellite Internet, micro base stations, and in-building distribution systems to solve the problem of insufficient network coverage in remote areas. The government should establish a cooperation mechanism with communication enterprises to achieve cost sharing, policy support and result sharing, and promote the balanced development of communication infrastructure. Through network upgrading, provide a high-quality information channel for the sinking of digital cultural content, and enable rural cultural revitalization to have a stable, high-speed and inclusive network foundation.

4.1.2 Strengthen the Ability of Rural Public Digital Cultural Services

The public digital cultural service system is an important support for rural cultural revitalization, and the degree of its construction directly affects the cultural accessibility of farmers and the improvement of their digital literacy. It is necessary to focus on promoting the construction of facilities such as digital rural libraries, smart libraries, and smart cultural squares, and make them the core carriers for villagers to obtain knowledge, culture, and information. For example, digital rural libraries can provide convenient knowledge resources for villagers through e-readers, smart bookshelves, and cloud borrowing systems; smart libraries can use RFID technology and self-service borrowing and returning systems to improve

management efficiency and the level of rural reading services. At the same time, cultural facilities such as rural large screens, digital exhibition systems in village history museums, and digital platforms for intangible cultural heritage should use technologies such as touchscreens, voice interaction, and immersive displays to enable villagers to experience the charm of the local culture in their living spaces. By combining new construction and upgrading, the rural public cultural service should shift from "having a venue" to "having content" and "having experiences", forming a cultural service network that is shared by all, convenient to use, and intelligent and efficient, and promoting the true integration of digital culture into the daily lives of villagers.

4.1.3 Establish a Digital Storage Platform for Rural Cultural Resources

Rural cultural resources are characterized by being scattered, vulnerable to damage, and passed down orally. Establishing a digital storage platform is crucial. It is necessary to use technical means such as high-definition image acquisition, document scanning, 3D modeling, and drone aerial photography to build a multi-dimensional cultural data system including an intangible cultural heritage database, a regional memory database, a 3D model atlas of rural buildings, and a rural image archive. By systematically collecting and digitally organizing traditional village buildings, folk activities, farming production methods, historical documents, and oral history materials, the long-term preservation and reuse of cultural resources can be achieved. The digital storage platform not only has a recording function but can also achieve cross-regional sharing and online access of cultural resources through cloud storage, providing reliable data support for education, research, and cultural and tourism development. At the same time, the platform should establish a security backup and permission management mechanism to ensure copyright protection and security protection of cultural data during the sharing process. By constructing a systematic, standardized, and continuously updated digital resource library, a solid information foundation can be laid for rural cultural revitalization.

4.1.4 Promote the Sharing of Digital Cultural Resources

The digital cultural resource sharing mechanism is a key link in the integrated development of urban and rural cultures, capable of effectively breaking through the limitations of the uneven spatial distribution of cultural resources. The co - construction and sharing model of "urban cultural centers - rural cultural stations" should be promoted. Through sharing courses, exhibitions, and resource libraries, high - quality urban cultural resources can be brought to the countryside. For example, urban cultural centers can provide professional courses, cultural lectures, digital performances, etc. for rural cultural stations to improve the level of rural cultural services. Cultural and tourism enterprises can also share the development of rural cultural resources. By jointly developing cultural and creative products, tourism routes, and intangible cultural heritage experience activities, resource complementarity and industrial win - win results can be achieved. University cultural resources can also support the digital collation and innovative dissemination of rural cultures through scientific research projects, academic research, student volunteer services, etc. Through multi - subject participation and cross - regional cooperation, the flow and redistribution of cultural resources between urban and rural areas can be realized, enabling rural

areas to continuously obtain content, talents, and technical support, injecting stable impetus into cultural revitalization.

4.2 Promote the Deep Integration of Digital Technologies and the Inheritance of Rural Cultures

4.2.1 Digital Collection and Protection of Rural Cultural Resources

Digital collection technologies provide unprecedented tools for the protection of rural cultures, enabling traditional cultures to be preserved in a more accurate and complete manner. Using technologies such as VR/AR, 3D scanning, panoramic photography, and high - definition image collection, multi - dimensional records can be made of traditional villages, ancient buildings, folk activities, farming tools, handicraft processes, etc. For example, through three - dimensional reconstruction, the virtual restoration of the appearance of ancient buildings can be achieved, which is not only convenient for research but also provides data basis for restoration; the use of AI restoration technology can improve damaged images and old photos, bringing new life to cultural materials. For intangible cultural heritage techniques, full - process video recording and interactive perspective collection can be adopted to permanently preserve endangered techniques. For folk cultures such as dialects, clan genealogies, and local oral histories, systematic archiving can be achieved through voice collection and text digitization, providing rich materials for rural cultural research. Through digital protection, rural cultural resources have shifted from "prone to disappearance" to "permanently preservable", providing a sustainable digital foundation for cultural inheritance.

4.2.2 Digital Display and Dissemination of Rural Cultures

Digital display technology can present rural culture in a more vivid way, breaking through geographical and spatial limitations and achieving the wide spread of culture. Through virtual exhibition halls, digital cultural tourism maps, AR interactive experiences, online intangible cultural heritage classes, etc., traditional cultural elements can be presented to users in a visual and interactive form. For example, virtual exhibition halls can move village history museums and intangible cultural heritage museums online, enabling tourists to have an immersive experience without visiting; AR technology can provide real-time cultural explanations in scenic spots or ancient villages, allowing tourists to see the restoration of historical scenes through their mobile phones. The construction of the metaverse rural cultural space can create a virtual cultural community for the countryside through digital twin technology, realizing cross-time and space cultural experiences and making the countryside a cultural symbol in the digital world. Digital display not only enhances the sense of experience but also forms a new channel for cultural dissemination, expanding the national and even global influence of rural culture.

4.2.3 Leveraging New Media Platforms to Expand Cultural Dissemination Power

New media provides an efficient, low-cost, and wide-coverage channel for the dissemination of rural culture, enabling rural culture to quickly gain dissemination popularity and social influence. Relying on platforms such as Douyin, Kuaishou, Xiaohongshu, and WeChat Video Accounts, rural cultural IPs with dissemination power can be created, such as intangible cultural heritage experience live broadcasts, short videos of farming culture, rural documentaries, and live broadcasts of folk festivals. Through content

planning, storytelling expression, and imaging aesthetics and other techniques, the originally "niche" rural culture becomes perceptible, visible, and disseminable. For example, recording the process of traditional crafts through short videos can attract the attention of the young group; showing rural festivals and farming scenes through live broadcasts can increase the social popularity of rural culture. At the same time, the "Cultural Talent Incubation Program" should be adopted to cultivate local creators and involve villagers in content production, making them the main body of cultural dissemination. New media has shifted cultural dissemination from "static display" to "dynamic circulation", effectively enhancing the influence and recognition of rural culture.

4.2.4 Empowering Intangible Cultural Heritage Inheritors with Digital Technology

Intangible cultural heritage inheritors are the key inheriting subjects of rural culture, but they generally face problems such as limited dissemination channels, small audience, and weak profitability of skills. Digital technology can provide them with all-round empowerment, including short video shooting training, live broadcast skills guidance, digital planning courses, etc., enabling them to independently carry out content creation and enhance their influence. At the same time, by building an online sales channel for intangible cultural heritage products, through e-commerce platforms, live broadcast e-commerce, brand packaging, digital marketing, etc., the market transformation ability of intangible cultural heritage skills can be improved, enabling traditional skills to be "seen", "sold", and "profitable". In addition, digital copyright protection services can provide confirmation and rights protection support for intangible cultural heritage works, preventing cultural resources from being misused or infringed, and making the rights and interests of inheritors more guaranteed. Digital technology has extended the inheritance of intangible cultural heritage from offline oral instruction and master-apprentice inheritance to online dissemination and industrial development, realizing the modern transformation of the inheritance mode of traditional skills.

4.3 Enhance Cultural Productivity and Stimulate the Vitality of Rural Cultural Revitalization

4.3.1 Promote the "Productization of Local Culture" with Digital Technology

For local culture to truly "come alive", it must be productized and marketized. Digital technology can play a key role in cultural and creative design, brand building, market promotion, etc. For example, through digital packaging design, IP image construction, visual recognition system development, etc., farming culture, folk memories, and intangible cultural heritage elements can be transformed into cultural commodities such as digital cultural and creative products and rural souvenirs. At the same time, by using e-commerce platforms and social media, precise marketing and dissemination of products can be achieved, enabling local cultural products to move from the local market to the national market. By applying live broadcast sales, short video planting grass, etc., the product exposure can be increased and the sales channels can be broadened. In addition, digital design tools can also assist handicraftsmen in creative innovation, combining traditional craftsmanship with modern aesthetics and increasing the added value of products. Through digital empowerment, local culture realizes the diversification of

product forms and the expansion of market coverage, effectively enhancing the economic value of the cultural industry.

4.3.2 Deeply Develop the Rural Cultural Experience Industry

The rural cultural experience industry is a key area for the integrated development of cultural revitalization and rural tourism, featuring strong experientiality, strong participation, and high added value. Digital technologies can be used to create new cultural and tourism products such as immersive farming experiences, interactive experiences in intangible cultural heritage workshops, and visits to digital farms. For example, VR technology can be used to recreate the scenes of the farming era, allowing tourists to experience the farming process in a virtual environment; intelligent guided tour systems can provide real-time explanations for folk festivals and events, enhancing the depth of cultural experiences; and a digital rural research and study system can offer research and study courses that integrate agriculture, ecology, and culture for teenagers. Combining the natural landscapes, folk festivals, and agricultural resources of the countryside, a composite industrial chain of "culture + agriculture + education + tourism" can be constructed, transforming cultural experiences from single sightseeing to deep participatory experiences. Through the development of the experience industry, rural culture can be operated in an IP-based and branded manner, making the countryside a cultural consumption destination and a growth point for the experience economy.

4.3.3 Building a Digital Operation and Management System for the Rural Cultural Industry

For the rural cultural industry to achieve high-quality development, it is necessary to establish a digital operation system to improve management efficiency and service levels. A digital ticketing system can be constructed to enable online reservation and passenger flow management for tourist attractions and festivals; through a cultural and tourism big data platform, the sources, preferences, and behavior trajectories of tourists can be analyzed to guide the optimization of cultural content supply and market strategies. At the same time, a digital supervision platform for the rural cultural industry can monitor project construction, fund use, and market order in real time, achieving standardized and transparent management. Using a brand building system, the rural cultural IP, cultural and creative products, and tourism projects can be subject to unified brand design and marketing planning to enhance the recognition of rural cultural brands. In addition, the deep integration of digitalization in all aspects of the industrial chain, such as production, dissemination, and sales, should be promoted to make the operation of the rural cultural industry more efficient, scientific, and sustainable. Through the construction of a digital operation system, continuous impetus and management guarantees are injected into the development of the rural cultural industry.

5. Conclusion

Digital technologies have brought new development opportunities for rural cultural revitalization and play an irreplaceable role in cultural protection, cultural dissemination, and cultural industry innovation. However, to truly make digital technologies the core driving force for rural cultural revitalization, it is

necessary to address the shortfalls in infrastructure, improve the rural talent structure, improving the Cultural Protection Mechanism, enhancing the Digital Literacy of Villagers and Building a Sustainable Cultural Industry Ecosystem.

The future of rural cultural revitalization will surely be a process of co-construction and sharing by multiple stakeholders. It requires the joint efforts of the government, universities, enterprises, social organizations, and rural residents to jointly promote the construction of digital villages, enabling digital technologies to truly penetrate into the "capillaries" of rural cultural development and driving rural culture to bring it back to life.

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