

Implementation Path and Effectiveness Evaluation of Cultural and Technological Integration in Rural Revitalization

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Abstract: With the deepening of the rural revitalization strategy, the integration of culture and technology has become an important direction for promoting rural economic development. Rural revitalization not only focuses on agricultural modernization, but also emphasizes the innovative development of culture and traditional industries. The integration of culture and technology plays a crucial role in this process. This article analyzes the implementation path of cultural and technological integration in rural revitalization and explores the combination mode of rural cultural resources such as cultural and creative products, intangible cultural heritage, and traditional handicrafts with modern technology. These combinations not only promote the diversified development of rural economy, but also enhance the competitiveness of rural industries. This article evaluates the practical effectiveness of the integration of culture and technology in enhancing the competitiveness of rural industries and promoting sustainable social development. Research has shown that the integration of culture and technology can optimize the rural industrial structure, promote innovation and dissemination of cultural tourism, handicrafts, and traditional agricultural products, and enhance the attractiveness and market competitiveness of rural areas. This article also proposes improvement measures and future development directions, suggesting further increasing support for rural cultural industries and technological innovation, strengthening cooperation between local governments and enterprises, promoting rural digital transformation, and promoting sustainable development of rural culture and technology integration.

1. Introduction

Since its proposal, the rural revitalization strategy has become an important component of China's overall development. As a key measure to promote China's socio-economic transformation and regional balanced development, rural revitalization not only focuses on the modernization of agricultural production, but also emphasizes the comprehensive improvement of rural society, culture, and ecological environment. In this process, culture plays an irreplaceable role as an important component of rural revitalization. Cultural resources, including local characteristics, intangible cultural heritage, traditional handicrafts, folk customs, etc., are all important assets for rural revitalization. However, relying solely on traditional cultural forms is difficult to meet the needs of modern society, especially in the current wave of informatization and digitization. The continuous advancement of technology has brought new opportunities for innovation and development of rural culture. Especially in the digital age, the deep integration of culture and technology can not only help promote rural economic development, but also enhance the influence and competitiveness of rural culture in the context of globalization.

This article aims to analyze in depth the specific paths and practical effects of cultural and technological integration in rural revitalization, explore innovative models of cultural and technological integration, evaluate their effectiveness in promoting rural economy, cultural inheritance, and social development, and provide theoretical basis for relevant policy formulation and practice. Through the analysis of specific cases, this article will reveal the role and effectiveness of the integration of culture and technology in rural revitalization and propose feasible improvement

suggestions.

2. Overview of Cultural and Technological Integration in Rural Revitalization

The integration of culture and technology has played a role of "1+1>2" in rural revitalization, which not only enhances the added value of cultural products, but also strengthens the overall competitiveness of rural economy. In the current new normal of economic development, this integration is not only a necessary condition for rural economic transformation, but also an effective way for continuous innovation and inheritance of rural culture ^[1].

2.1. The Role of Culture in Rural Revitalization

Culture is one of the core elements of rural revitalization. As the foundation of rural social spiritual civilization construction, rural culture is deeply rooted in the local history and traditions and is a unique symbol and heritage of rural areas. The connotation of rural culture is rich, including traditional folk customs and intangible cultural heritage, as well as local specialty products, traditional arts, and handicrafts. Rural culture not only influences people's values and lifestyle at the spiritual level, but also directly promotes the development of rural economy and social harmony and stability.

Firstly, rural culture can stimulate the cultural identity and sense of belonging of rural residents, laying a solid cultural foundation for the social development of rural areas. Through the inheritance and innovation of culture, rural residents can face the impact of modernization with greater confidence, while also injecting lasting endogenous power into rural development. Secondly, rural cultural products such as traditional handicrafts, folk crafts, and local specialties can serve as one of the economic pillars of rural revitalization, driving rural economic growth through market-oriented operations. Through the cultivation and development of cultural industries, rural areas can not only increase income, but also provide new ideas for the diversification of local industries ^[2].

2.2. The Role of Technology in Promoting Rural Revitalization

The popularization of modern science and technology, especially information technology, digital technology and the Internet, is gradually changing the way of production, lifestyle and management in rural areas. The advancement of technology has brought tremendous opportunities for the transformation of rural economy. Especially with the popularization of information technology, rural areas can achieve information interconnection with urban areas, breaking the limitations of time and space and creating new development space.

Specifically, the role of technology in rural revitalization can be reflected in the following aspects: Firstly, technology provides modern means for agricultural production, such as the application of intelligent agricultural equipment and precision agriculture technology, which can significantly improve agricultural production efficiency and quality. Secondly, technology provides new avenues for the dissemination and protection of rural culture. For example, digital technology enables the preservation and display of intangible cultural heritage through virtual reality (VR), augmented reality (AR), 3D modeling, and other means, enhancing its dissemination effect. Furthermore, technology has also driven the rise of rural tourism and rural e-commerce, becoming a new driving force for rural economic growth. Through the construction of technology platforms, rural areas can showcase their unique cultural resources to the outside world in a short period of time, attracting more tourists and consumers ^[3].

2.3. The Significance of Cultural and Technological Integration

The integration of culture and technology is a crucial element that cannot be ignored in the strategy of rural revitalization. The combination of the two not only promotes the innovative development of rural economy, but also promotes the inheritance and innovation of rural culture. Specifically, the integration of culture and technology can achieve bidirectional promotion: culture provides abundant resources and inspiration for technological innovation, while technology provides modern means for the inheritance and development of culture.

In the process of rural revitalization, technology can help traditional culture break through

geographical and temporal limitations and achieve wider dissemination. For example, local traditional handicrafts can be promoted nationwide or even globally through e-commerce platforms, and intangible cultural heritage can also be sustainably inherited through digital preservation technology. In addition, the combination of cultural content and technological forms can bring new economic growth points to rural areas and promote the diversified development of rural cultural industries. In this process, technology is not only a tool, but also a catalyst for cultural innovation. It can drive the creative design and market-oriented transformation of rural cultural products, making them more in line with the needs of modern consumers [4].

3. Implementation Path of Cultural and Technological Integration in Rural Revitalization

The rural revitalization strategy emphasizes not only the modernization of agricultural production, but also the promotion of innovative development of rural culture, and the integration of culture and technology provides new paths and impetus for the realization of this goal. This section will explore in detail the specific implementation path of cultural and technological integration in rural revitalization, and analyze how cultural products, intangible cultural heritage, rural cultural tourism, and rural education in different fields can use modern technology to promote sustainable development of rural economy and society, as shown in Figure 1.

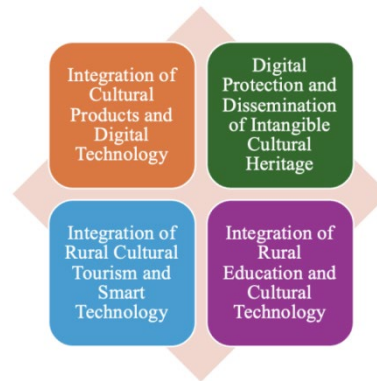


Figure 1: Implementation path of cultural and technological integration in rural revitalization.

3.1. Integration of Cultural Products and Digital Technology

Rural cultural products, such as folk art, handicrafts, and specialty foods, contain rich local cultural resources. The development and dissemination of these cultural products are important components of rural revitalization. However, traditional sales models are often limited to the local market and difficult to reach a broader consumer group. With the continuous development of digital technology, rural cultural products can quickly break the geographical restrictions and enter a broader market with the help of the Internet platform. For example, through e-commerce platforms such as Taobao, JD.com, Pinduoduo, etc., local handicrafts, local specialty foods, and other products can be sold to various parts of the country, and even exported to overseas markets. The application of digital technology not only helps farmers and rural enterprises expand their markets, but also enhances the added value of their products [5].

In addition, short video platforms (such as Tiktok and Kwai) and live broadcast platforms (such as Taobao Live) provide a display window for rural traditional cultural activities. By live streaming local folk activities, traditional festivals, handicraft production processes, etc., more consumers and tourists can be attracted, and the exposure and influence of rural culture can be enhanced. This not only brings economic benefits to rural areas, but also promotes the dissemination and exchange of rural culture.

3.2. Digital Protection and Dissemination of Intangible Cultural Heritage

Intangible cultural heritage is a treasure of rural culture, which includes various forms such as traditional handicrafts, local operas, folk dances, and traditional festivals. However, with the

advancement of modernization, many intangible cultural heritages are facing the risk of gradually disappearing. To address this issue, the introduction of digital technology has provided an effective way for the protection and inheritance of intangible cultural heritage.

Through digital technology, traditional intangible cultural heritage can be preserved in various forms such as visual materials, audio, and 3D models. For example, traditional handicrafts can preserve their production process and essence through high-definition photography and recording processes. Local operas and folk dances can be recorded through audio and video, allowing future generations to learn and inherit them. More advanced is the application of virtual reality (VR) and augmented reality (AR) technology, which enables people to not only watch these traditional arts through screens, but also experience the cultural charm of them in person. For example, using VR technology to recreate scenes of traditional dance, or using AR technology to combine the content of traditional festivals with the interaction of modern audiences, not only preserves the essence of traditional art, but also enhances its viewing and appeal.

3.3. Integration of Rural Cultural Tourism and Smart Technology

Rural cultural tourism is an extremely important part of the rural revitalization strategy. It can not only drive local economic development, but also enhance the cultural influence of rural areas. The application of smart tourism technology provides a richer and more interactive experience for rural cultural tourism, enabling tourists to have a deeper understanding of the cultural background and historical heritage of the countryside [6].

Firstly, through big data analysis, tourism service providers can understand tourists' behaviors and preferences, thereby providing personalized tourism services. For example, recommending customized travel itineraries, unique activities, etc. based on tourists' historical records and preferences to enhance their satisfaction and loyalty. Secondly, the application of AR and VR technology also makes rural cultural tourism more vivid and interesting. Tourists can obtain detailed information about rural history, culture, and attractions through AR glasses or mobile applications, increasing interactivity. For example, when tourists scan an ancient building through AR technology, they can see its historical background, construction process, and related cultural stories, allowing tourists to have a richer cultural experience while visiting [7].

Smart tourism technology not only improves the quality of tourism services and tourists' experience, but also provides modern means for cultural dissemination in rural areas, which helps to enhance the awareness and attractiveness of rural culture.

3.4. Integration of Rural Education and Cultural Technology

The development of rural education is another important aspect of rural revitalization, and the inheritance of culture and the assistance of technology are playing an increasingly important role in rural education. By combining modern educational technology with the inheritance of local culture, rural education can better serve the development of rural students and enhance the educational value of rural culture.

Firstly, modern educational technologies such as distance education platforms and online educational resources provide rural students with broader learning opportunities. Rural schools can use these platforms to provide remote video courses for students to understand and learn about traditional rural culture, and to educate and inherit cultural heritage. Secondly, the introduction of modern technology has also brought more innovative teaching models to rural education. For example, through virtual laboratories and interactive educational software, rural students can conduct experimental operations at home to enhance their practical and hands-on abilities. At the same time, combining local traditional handicrafts and intangible cultural heritage for education can stimulate students' cultural confidence and national identity.

Through the combination of culture and technology, rural education can better inherit and promote local culture, not only providing students with richer learning resources, but also helping to promote the sustainable development of rural culture [8].

4. Evaluation of the Effectiveness of Cultural and Technological Integration in Rural Revitalization

The successful implementation of the rural revitalization strategy cannot be separated from the deep integration of culture and technology. The combination of culture and technology not only promotes innovation and development of rural cultural industries, but also brings comprehensive progress to rural society. This chapter will evaluate the actual effectiveness of the integration of culture and technology in rural revitalization, with a focus on analyzing the enhancement of rural cultural industries, the dual benefits of cultural inheritance and innovation, the promotion of industrial diversification, and the promotion of sustainable development. Through the analysis of these fields, this article will reveal how technology drives the transformation of rural economy and provides new growth points for rural revitalization, as shown in Figure 2.

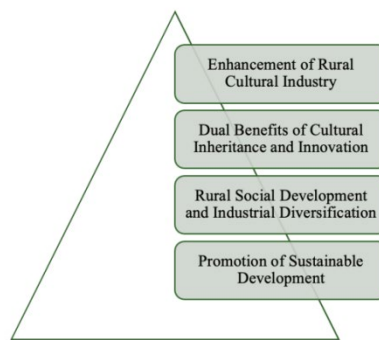


Figure 2: Evaluation of the effectiveness of cultural and technological integration in rural revitalization.

4.1. Enhancement of Rural Cultural Industry

The integration of culture and technology has led to innovative transformation and development of traditional rural culture. For example, many places have combined traditional intangible cultural heritage with modern design, developed cultural and creative products with local characteristics, and commercialized them through e-commerce platforms, promoting local economic development.

4.2. Dual Benefits of Cultural Inheritance and Innovation

The integration of culture and technology not only contributes to the digital preservation of intangible cultural heritage, but also promotes and disseminates it on a larger scale, enhancing cultural confidence. Many traditional skills have gained new life, attracting the participation of the younger generation and breaking down barriers to intergenerational inheritance ^[9].

4.3. Rural Social Development and Industrial Diversification

The intervention of technology has made rural industries more diversified, and industries such as agriculture, tourism, culture, and handicrafts have achieved cross-border integration and development. Rural revitalization no longer relies solely on agricultural production, but has formed a diversified economic structure, promoting the comprehensive progress of rural society.

4.4. Promotion of Sustainable Development

The integration of culture and technology in rural revitalization is not only reflected in the economic and cultural aspects, but also promotes environmental protection and sustainable development. For example, through the guidance of green technology and the development of cultural industries, the utilization efficiency of rural resources can be improved, while promoting the development of industries such as ecotourism and ecological agriculture ^[10].

5. Policy Recommendations for the Integration of Culture and Technology in Rural Revitalization

The smooth implementation of the rural revitalization strategy relies on the deep integration of culture and technology, and policy support is crucial. In order to effectively promote the integration of culture and technology in rural revitalization, the government, enterprises, and all sectors of society need to work together to formulate and implement a series of supportive policies. The following are several policy recommendations on how to promote the integration of rural culture and technology, as shown in Figure 3.

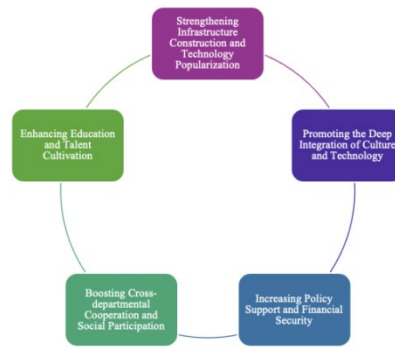


Figure 3. Policy recommendations for the integration of culture and technology in rural revitalization.

5.1. Strengthening Infrastructure Construction and Technology Popularization

Infrastructure is the foundation for promoting rural revitalization and cultural and technological integration. There is still a significant gap in infrastructure, especially information infrastructure, in rural areas. In order to improve the level of technological application in rural areas, the first step is to increase investment in rural information infrastructure construction. The government should increase investment in modern information infrastructure such as the Internet, 5G and optical fiber network, especially in remote rural areas, to ensure the smooth flow of the information highway and provide a solid hardware guarantee for the popularization of modern technology.

In addition, the government should also help rural residents improve their information literacy and master the ability to use digital tools and technologies through subsidies, technical training, online education, and other means. By providing technical training, Internet application guidance and learning opportunities for innovative technologies, we can help rural people quickly adapt to the changes brought about by technology, so as to better use modern technology to serve agricultural production, cultural communication and rural economic development ^[11].

5.2. Promoting the Deep Integration of Culture and Technology

The integration of culture and technology is one of the core elements in rural revitalization. The government should encourage cooperation between local governments and enterprises, promote the deep integration of cultural and creative industries with modern technology, especially in the fields of traditional handicrafts, folk art, and intangible cultural heritage. Special support funds or innovative projects can be established to support the cultural and creative industries in rural areas, promoting the modernization transformation of traditional cultural products. Through digital platforms, e-commerce platforms, and intelligent technology, rural specialty products can be sold online, expanding market channels, enhancing the added value and market competitiveness of rural cultural products.

For example, the digital preservation and display technology of intangible cultural heritage can provide innovative ways of disseminating traditional crafts and local cultural characteristics. Through technologies such as virtual reality (VR) and augmented reality (AR), traditional cultural resources are modernized and presented to increase their interactivity and viewing value, thereby attracting a

wider audience. This can not only protect and inherit rural cultural heritage, but also inject new economic vitality into rural revitalization.

5.3. Increasing Policy Support and Financial Security

The successful implementation of cultural and technological integration in rural revitalization requires strong policy support. The government should strengthen policy support for rural cultural and technological integration projects, provide necessary financial support and tax incentives. Special funds can be established to support the digital transformation, innovation projects, and technological research and development of rural cultural industries, encourage enterprises to invest in rural cultural industries, and enhance technological content and added value.

In addition, the government should establish more innovation and entrepreneurship support policies to encourage cultural and technological innovation in rural areas. By providing low interest loans, tax reductions, and other measures, the innovation costs of enterprises can be reduced, the vitality of market entities can be stimulated, and the integration and development of rural culture and technology can be promoted. At the same time, the government can also strengthen the branding cultivation and promotion of rural cultural industries, enhance the market awareness and influence of rural cultural products.

5.4. Boosting Cross-departmental Cooperation and Social Participation

Rural revitalization involves not only agriculture, but also multiple fields such as culture, technology, and education, thus requiring cross departmental cooperation. The government should strengthen cooperation among departments such as culture, agriculture, science and technology, education, etc., form a joint force, and promote the deep development of cultural and technological integration in rural revitalization. For example, the cultural department can collaborate with the technology department to jointly promote the application of digital technology in traditional culture; The agricultural sector can collaborate with the education sector to cultivate rural talents and promote the application of technology.

In addition, the government should encourage social organizations, enterprises, research institutions, and other parties to participate in relevant projects for rural revitalization. Through the participation of social capital, it can effectively promote the flow of resources and the sharing of technology, promote the diversified development of rural cultural and technological integration projects, and form a good situation of joint participation and benefit for the whole society.

5.5. Enhancing Education and Talent Cultivation

The combination of culture and technology in rural revitalization requires a large number of talents with relevant knowledge and skills. Therefore, strengthening education and training in rural areas, especially in primary and secondary schools, vocational schools, and higher education, is crucial. The government should strengthen investment in rural education infrastructure, improve the teaching conditions of rural schools, especially the construction of information technology education resources, and promote the use of modern technology to carry out diversified cultural and technological education in rural schools.

At the same time, specialized vocational skills training courses should be offered for young people in rural areas to cultivate their ability to master modern technology and understand local culture. For example, digital skills and innovative thinking can be taught to rural students through online education platforms and remote teaching, enhancing their employability and entrepreneurial abilities. In addition, enterprises and social organizations should be encouraged to participate in rural cultural education, promote rural youth to protect and promote local culture through technological means, and enhance their cultural confidence and innovation ability.

Through these policy recommendations, the process of cultural and technological integration in rural revitalization will be further promoted, which can not only promote the comprehensive development of rural economy, but also effectively inherit and innovate rural culture, and promote sustainable social development.

6. Conclusion

This article explores the application path and practical effects of cultural and technological integration in rural economic and social development through in-depth analysis of the integration of culture and technology in rural revitalization. Firstly, this article focuses on analyzing how culture and modern technology are deeply integrated in the fields of intangible cultural heritage protection, rural cultural product innovation, and smart tourism, enhancing the cultural dissemination and economic competitiveness of rural areas. Secondly, the article points out the important role of technology in the inheritance, innovation, and promotion of traditional culture, especially with the help of digital and intelligent technologies, rural cultural industries can achieve wider market coverage and sustainable development. Finally, this article also evaluates the effectiveness of cultural and technological integration in rural revitalization through case studies, and proposes policy recommendations and improvement measures. Through these analyses, this article provides new ideas and theoretical basis for the development of cultural industries in the rural revitalization strategy, laying the foundation for the deep integration of culture and technology in future rural revitalization, and has important practical guidance significance.

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