

The Intrinsic Mechanism and Practical Direction of Empowering the Integrated Development of Rural Culture and Agriculture and Tourism with Digital Intelligence

TANG Linrong^{[a],[b]*}

^[a] School of Tourism and Aviation Services, Guizhou Minzu University, Guiyang, China.

^[b] Experimental Center, Guizhou Police College, Guiyang, China.

* Corresponding author.

Received 22 September 2024; accepted 26 November 2024

Published online 26 December 2024

Abstract

The integration of rural culture and agriculture and tourism is a new development model that deeply integrates rural cultural resources, agricultural resources, and tourism resources. Agriculture is the material foundation of culture and tourism, culture is the soul of the integration of culture and tourism, and tourism is the link between agriculture and culture. The integration of rural culture, agriculture, and tourism is an important way to promote rural revitalization, and the deep integration and coordinated development of the three can be achieved through various measures. Digital intelligence assists in the integration and coordinated development of rural cultural, agricultural, and tourism resources. It injects new elements into the rural cultural, agricultural, and tourism experience, and drives the co creation and sustainable development of rural cultural, agricultural, and tourism values. Its inherent mechanism lies in building efficient channels for integration, injecting new driving forces for integrated development, optimizing resources, and promoting sustainable development. To empower the integrated development of rural culture, agriculture, and tourism with digital intelligence, a comprehensive digital intelligence platform should be constructed to integrate industrial information resources; Upgrade agricultural intelligence to ensure the core development of the industry; Deepen the integration of rural culture and tourism, and expand the industrial value space; Strengthen the construction of rural talents and increase the vitality of industrial innovation; Optimize rural infrastructure and enhance industrial carrying capacity.

Key words: Numerical Intelligence; Rural; Integration of culture and agriculture and tourism; Internal mechanism; Practical direction

Tang, L. R. (2024). The Intrinsic Mechanism and Practical Direction of Empowering the Integrated Development of Rural Culture and Agriculture and Tourism with Digital Intelligence. *Canadian Social Science*, 20(6), 54-61. Available from: <http://www.cscanada.net/index.php/css/article/view/13631>
DOI: <http://dx.doi.org/10.3968/13631>

With the rapid development of China's tourism industry, the integrated development of rural culture, agriculture and tourism has become an important way to promote rural revitalization. The digital economy is an important engine to boost the development of the tourism industry. The wide application of digital intelligence technology has injected new vitality into the integrated development of rural culture, agriculture and tourism, improved the development level of the integration of rural culture, agriculture and tourism, promoted the transformation and upgrading of agriculture, driven the growth of the rural economy, innovatively developed rural culture, and also met the diverse needs of tourists. In the new era, the integrated development of rural culture, agriculture and tourism in China has ushered in new development opportunities and a good policy environment, and has developed to a higher level, a wider range and a broader field, gradually forming an industrial development pattern of "promoting tourism with agriculture and revitalizing agriculture with tourism", which plays an extremely important role in enabling tourism to better serve a better life, promote economic development, build a spiritual homeland, display the image of China and enhance mutual understanding among civilizations. How to promote the connotative development of the integration of rural culture, agriculture and tourism, improve the quality of the integration of culture, agriculture and tourism, and

achieve in-depth integration has become an important issue for us at present.

1. THE BASIC CONNOTATION OF THE INTEGRATION OF RURAL CULTURE AND AGRICULTURE AND TOURISM

Against the background of the rural revitalization strategy, the integration of rural culture, agriculture and tourism emerged as the times require. The integration of rural culture, agriculture and tourism is a new development model that deeply integrates rural cultural resources, agricultural resources and tourism resources. With the help of digital intelligence and other means, it promotes the coordinated development of the three and is the key path for rural industrial revitalization, which conforms to the development trend of the countryside in the new era.

1.1 Connotation Elements

First, agriculture is the material foundation of cultural tourism. Agriculture lays the material foundation for the integration of rural culture, agriculture and tourism. The rich pastoral scenery, diverse agricultural products and characteristic agricultural activities in the countryside are all highly attractive tourist elements. For example, tea gardens and orchards constitute beautiful natural landscapes, and the tea and fruits produced can be tasted and purchased by tourists. Agricultural activities such as tea picking and fruit picking can be transformed into interesting tourist experience projects, allowing tourists to personally experience the charm of rural life.

Second, culture is the soul of the integration of culture and tourism. The integration of culture and tourism is not only a profound reshaping of the traditional industrial structure, but also a key path to promote the protection, inheritance and utilization of culture. Culture is the core soul of the integration of rural culture, agriculture and tourism. The countryside contains a large number of folk cultures, farming cultures and local characteristic cultures. Traditional festivals, wedding and funeral customs in folk cultures, paper-cutting, embroidery and other folk arts, and the contents related to the ancient farming culture all give unique charm to rural tourism. Building a cultural IP matching tourism can enhance the popularity and market competitiveness of tourism brands. Through the creative display of cultural IP and the organization of folk activities, the cultural connotation and attraction of rural tourism can be enhanced. At the same time, culture also provides endless materials and inspiration sources for the development of agriculture and tourism.

Third, tourism is the link connecting agriculture and culture. Tourism plays the role of a bridge in the integration of rural culture, agriculture and tourism. It can integrate agricultural resources and cultural resources and promote them to tourists, attracting more people to

come for experience and consumption. The development of the tourism industry brings new economic growth points to the countryside and promotes the optimization of the industrial structure. Moreover, tourism activities are conducive to the spread and innovative development of agricultural culture, so that rural culture and agricultural resources can be recognized and appreciated on a broader platform.

1.2 Integration Forms

First, sightseeing agriculture. Relying on agricultural production, develop pastoral landscape viewing, agricultural product display and agricultural experience activities. For example, large flower and vegetable sightseeing gardens, where tourists can enjoy the beautiful scenery, understand the planting knowledge and feel the beauty of agriculture and nature.

Second, agricultural experience tourism. Let tourists participate in the agricultural production process, such as rice transplanting and agricultural product processing. This not only enables tourists to understand the production process and cultural connotation of agricultural products, but also enhances the interactivity and participation, allowing tourists to experience the fun in the work.

Third, folk culture tourism. Develop tourism activities around the theme of rural folk culture, and use traditional festivals, folk activities, folk arts and other resources to create characteristic folk culture tourism products, so that tourists can participate in them and experience the unique charm of rural culture.

Fourth, cultural heritage tourism. Culture is the soul of tourism, and the cultural connotation runs through all aspects of tourism activities. Based on rural ancient buildings, ancient villages and other cultural heritages, develop relevant tourism products. Tourists can visit ancient residential buildings, listen to historical stories, experience rural life and feel the profound cultural heritage of the countryside.

1.3 Value Significance

The integration of rural culture, agriculture and tourism is an important way to promote rural revitalization, and the deep integration and coordinated development of the three can be achieved through various measures. In the process of building new rural tourism formats, we should actively extend the rural tourism industry chain and broaden the consumption range of rural tourism. First, promote the transformation and upgrading of agriculture. Promote the development of new agricultural forms such as sightseeing agriculture and ecological agriculture, improve the added value and competitiveness of agriculture, promote the in-depth integration of agriculture and tourism, and form new industrial formats. Second, drive the growth of the rural economy. Develop the tourism industry and related service industries, create more employment opportunities and income sources, promote the adjustment and optimization

of the rural industrial structure, and realize the diversified development of the economy. Third, inherit, protect and innovatively develop culture. Excavate and display rural cultural resources, enhance their popularity and influence, combine traditional culture with modern tourism, and innovatively develop cultural tourism products. Fourth, meet the diversified needs of consumers. With the change of people's living standards and consumption concepts, the integration of rural culture, agriculture and tourism provides rich and diverse tourism products and services, meeting consumers' diversified needs for leisure vacation, cultural experience and ecological environmental protection.

2. THE INTERNAL RELATIONSHIP BETWEEN DIGITAL INTELLIGENCE AND RURAL CULTURE AND AGRICULTURE AND TOURISM

Digital intelligence is closely related to rural culture, agriculture and tourism in terms of resources, experience and industrial development. Digital intelligence technology brings opportunities for the integrated development of rural culture, agriculture and tourism, promotes the prosperity and sustainable development of the rural economy, and is an important support for the implementation of the rural revitalization strategy.

First, digital intelligence helps the integration and coordinated development of rural cultural, agricultural and tourism resources. On the one hand, digital integration and dissemination expand the attraction of tourism. The digital platform provides a broad space for cultural dissemination, and VR and AR technologies make the ancient culture "come alive". For example, tourists can experience the atmosphere of rural traditional festivals through VR, and AR technology can make the visit to historical sites more interesting. Scanning the building can present its historical changes. This digital presentation greatly enhances the attraction and dissemination range of rural culture, making it a core attraction of tourism, attracting tourists to explore the charm of rural culture and promoting the integration of culture and tourism. On the other hand, intelligent management enhances the value of tourism. Sensor networks are spread all over the agricultural production area to collect real-time data on soil, the growth of animals and plants, etc. Artificial intelligence algorithms make decisions on agricultural production activities based on these data, improving the quality and production efficiency of agricultural products. High-quality agricultural production scenes become tourist highlights, and intelligent agricultural parks attract tourists to experience modern agriculture. In addition, intelligent coordination promotes the integration of culture and agriculture. The tourism management platform integrates

the information of scenic spots, homestays, catering, transportation, etc., and through cloud computing and data analysis, monitors and predicts the tourist flow in real time and reasonably allocates resources to avoid problems during the peak tourist season. The intelligent tourism system recommends personalized tourist routes according to the interests and behavior data of tourists, integrating cultural experience and agricultural sightseeing.

Second, digital intelligence injects new elements into the rural cultural, agricultural and tourism experience. On the one hand, digital intelligence realizes immersive experience. Digital intelligence technology creates an immersive cultural experience environment. In addition to VR and AR technologies, intelligent interactive devices also play an important role. In the rural cultural exhibition hall, tourists can understand the stories behind the cultural exhibits through touch screens and voice interaction. Digital multimedia technology innovatively presents folk art performances, allowing tourists to deeply feel the charm of rural culture and also enhancing the cultural connotation of rural tourism. On the other hand, digital intelligence helps to improve personalization and stickiness. Modern tourists have personalized requirements for agricultural experience, and digital intelligence technology meets this need. Mobile applications allow tourists to customize agricultural experience projects, and intelligent devices provide guidance during the experience process, enhancing the stickiness between tourists and rural agriculture, making the agricultural experience more in-depth and attractive, and enriching the content of rural tourism. In addition, digital intelligence technology comprehensively upgrades the tourism experience. The intelligent navigation system combines with the points of interest to recommend cultural and agricultural scenic spots and the best traffic routes, and the intelligent tourism application provides one-stop services, allowing tourists to feel convenient and comfortable during rural tourism, improving satisfaction and loyalty, and making rural tourism more competitive.

Third, digital intelligence drives the value co-creation and sustainable development of rural cultural, agricultural and tourism. On the one hand, data sharing and collaborative decision-making. The collaborative decision-making mechanism based on shared data promotes the integration of industries. All parties jointly develop new integrated products and services, such as creating rural cultural theme agricultural tourism festival activities, integrating folk performances, agricultural product exhibitions and agricultural sightseeing elements, attracting a large number of tourists and realizing the coordinated development and value co-creation of industries. On the other hand, digital intelligence technology brings innovative means. By establishing a tourism big data center, collect key information such as tourist behavior data, tourism market trends and consumer

preferences. Social media and online travel platforms have become important marketing channels, and big data analysis of user portraits realizes precision marketing. At the same time, digital intelligence technology helps brand building. Use digital media to display rural characteristics and create a highly recognizable brand image, enhancing the overall value of the industry. In addition, digital intelligence technology optimizes the industrial ecology of rural culture, agriculture and tourism. Digital intelligence technology monitors and analyzes environmental data to rationally plan tourism development and agricultural production, avoid destroying the ecological environment, ensure the sustainable development of the rural cultural, agricultural and tourism industry, and realize the unity of economic, social and environmental benefits.

3. THE THEORETICAL BASIS OF DIGITAL INTELLIGENCE EMPOWERING THE INTEGRATION OF RURAL CULTURE AND AGRICULTURE AND TOURISM

First, the theory of industrial convergence. On the one hand, the blurring of industrial boundaries. The theory of industrial convergence points out that technological progress and changes in market demand will gradually blur the boundaries of industries. In the integration of rural culture, agriculture and tourism, digital intelligence technology has become a key “breaker”. With the help of big data analysis and other means, the intersection and integration points of culture, agriculture and tourism industries can be accurately located. Taking rural tourist scenic spots as an example, through digital intelligence technology, the display of farming culture and the experience of agricultural product picking can be integrated into the tourism routes and scenic spot activity planning, making the boundaries of each industry no longer clear and realizing organic integration. On the other hand, the generation of synergy effects. Industrial convergence can generate synergy effects. Digital intelligence empowerment enables the sharing of resources, market expansion and cost reduction in the integration of rural culture, agriculture and tourism. In marketing, the digital intelligence platform can simultaneously promote rural cultural activities, agricultural products and tourist scenic spots, realizing “one platform with multiple uses” and reducing the marketing cost of a single industry. Moreover, the sharing of data resources prompts agriculture to adjust the planting structure according to the needs of the tourism market, the cultural industry to create more attractive cultural products by combining the characteristics of tourism and agriculture, and the tourism industry to enrich the product supply by using cultural and agricultural resources, forming a synergy effect of $1 + 1 + 1 > 3$ and promoting

the integrated development of rural culture, agriculture and tourism.

Second, the theory of experience economy. On the one hand, the improvement of experience levels. The theory of experience economy believes that consumers are willing to pay for experiences, and experience is a higher-level form of economic value creation. Digital intelligence technology effectively improves the experience level of the integration of rural culture, agriculture and tourism. The application of digital humanities can balance the contradiction between the protection of cultural relics and tourism demands to a certain extent. Through the integration of 5G with advanced technologies such as artificial intelligence, VR and AR, the visual effect and interactive participation of scenic spot projects are improved. In rural tourism, virtual reality (VR) and augmented reality (AR) technologies bring a sense of being on the scene to tourists. For example, tourists can experience the atmosphere of ancient rural traditional festivals by using VR equipment, as if traveling through time; when visiting farmland by using AR technology, they can see the virtual display of the growth process of crops, including seasonal changes and farming operation steps. On the other hand, the satisfaction of personalized experiences. The theory of experience economy emphasizes the importance of personalized experiences. Digital intelligence empowerment enables rural culture, agriculture and tourism to better meet this need. Through intelligent algorithms and big data analysis, tourism enterprises can customize personalized tourist routes according to the interests, hobbies and consumption habits of tourists, so that tourists can obtain unique experiences, enhance their satisfaction and loyalty to rural cultural, agricultural and tourism products, and promote the integrated development of industries.

Third, the theory of sustainable development. On the one hand, the guarantee of ecological sustainability. The core of the theory of sustainable development is the coordinated development of economy, society and ecology. In terms of ecology, digital intelligence technology is of great significance for the ecological sustainability of the integration of rural culture, agriculture and tourism. In agricultural production, the Internet of Things technology can monitor the environmental data such as soil, water quality and meteorology in real time, realize precise irrigation, fertilization and pest control, reduce the use of chemical substances and protect the rural ecological environment. In tourism development, digital intelligence tools such as geographic information systems (GIS) can rationally plan tourism resources and avoid the destruction of natural landscapes and ecological systems caused by over-development, ensuring the long-term stable and healthy rural ecological environment and creating a good ecological foundation for the integration of rural culture, agriculture and tourism. On the other hand, the promotion

of economic and social sustainability. From the economic and social perspectives, digital intelligence empowerment promotes the sustainable development of the integration of rural culture, agriculture and tourism. Economically, digital intelligence means such as e-commerce platforms and intelligent logistics broaden the sales channels of rural cultural products and agricultural products, increase the income of practitioners and enhance the vitality and resilience of the rural economy. Socially, the application of digital intelligence technology creates employment opportunities such as digital technology operation, data management and intelligent equipment maintenance, attracting talents to return to the countryside. At the same time, the inheritance of culture and the development of tourism enhance the cohesion of rural communities and the sense of belonging of residents, ensuring the stable and sustainable development of rural society and realizing the benign development of the integration of rural culture, agriculture and tourism in economic, social and ecological aspects.

4. THE INTRINSIC MECHANISM OF DIGITAL INTELLIGENCE EMPOWERING THE INTEGRATION OF RURAL CULTURE AND AGRICULTURE AND TOURISM

First, build an efficient channel for integration. On the one hand, break the information silos. The integration of rural culture, agriculture and tourism covers complex and diverse information fields, including cultural resources, agricultural production and tourism services. In the traditional model, this information is fragmented and scattered everywhere, making it difficult to form a synergistic effect. The emergence of digital intelligence technology has changed this situation. Through advanced means such as big data collection and Internet of Things sensors, all kinds of information are integrated to provide comprehensive and systematic data support for the integration of rural culture, agriculture and tourism. On the other hand, meet the needs of multiple subjects. The digital intelligence-enabled platform can accurately analyze and match the needs of subjects such as tourists, farmers and cultural tourism enterprises. For tourists, based on their browsing history, consumption preferences and other data, the platform can recommend the most suitable rural tourism destinations. In addition, for farmers and cultural tourism enterprises, the platform can accurately match sales channels, partners and investment resources according to the changes in market demand, effectively promoting the connection and integration of various elements of rural culture, agriculture and tourism.

Second, inject new impetus into the integrated development. On the one hand, revitalize rural culture.

Digital intelligence technology brings a new mode of rural cultural experience. The application of virtual reality (VR) and augmented reality (AR) technologies in rural cultural tourism gives tourists a sense of being on the scene. The establishment of digital museums and cultural centers in the countryside, using 3D modeling, multimedia display and other means, presents the rural cultural treasures to tourists in a more vivid and three-dimensional way, enabling tourists to deeply understand the connotation and value of rural culture, enhancing the attraction and appeal of rural culture and adding cultural charm to rural tourism. On the other hand, expand the connotation of tourism. The development of intelligent agriculture creates new opportunities for the integration of rural culture, agriculture and tourism. The intelligent monitoring and display of the agricultural production process has become a new highlight of tourism. Through the network platform or on-site display screen, tourists can watch the whole process of crops from sowing, irrigation, fertilization to harvest in real time and understand the application of modern agricultural technology. The tourism experience projects with agricultural products as the theme are increasingly rich, such as fruit picking tourism. With the help of the digital intelligence platform, tourists can make an appointment in advance for the picking time, understand the maturity of different varieties of fruits, and can also participate in handmade activities such as making jam and fruit wine, increasing the fun and interactivity of tourism, making agriculture and tourism closely integrated and promoting each other. In addition, build a virtuous cycle. Digital intelligence empowerment promotes the upgrading of rural culture, agriculture and tourism industries from the traditional extensive operation to the refined and intelligent direction. In the tourism industry, the application of intelligent reservation systems, intelligent tour guide systems, etc. improves the efficiency and quality of tourism services. In the agricultural industry, agricultural big data realizes precise planting, fertilization and pest control, improves the yield and quality of agricultural products, and also provides data support for the branding and deep processing of agricultural products. The cultural industry realizes the innovation and dissemination of cultural products through digital technology, such as the development of digital cultural and creative products of rural folk culture. These industries develop synergistically under the connection of digital intelligence technology, forming a virtuous cycle of “promoting tourism with culture, revitalizing agriculture with tourism, and driving culture with agriculture”, and promoting the integrated development of rural culture, agriculture and tourism to a higher level.

Third, optimize resources and achieve sustainable development. On the one hand, efficiently allocate resources. Digital intelligence technology realizes the optimal allocation of resources through the digital

evaluation and analysis of rural cultural, agricultural and tourism resources. In terms of land resources, using technologies such as geographic information systems (GIS) and satellite remote sensing, the layout of tourist scenic spots, agricultural planting areas and cultural display areas can be accurately planned to avoid resource waste and unreasonable development. In terms of human resources, the digital intelligence platform can analyze and allocate the skills of rural labor force, and reasonably assign personnel with skills in cultural performances, agricultural production and tourism services to corresponding positions, improving the utilization efficiency of human resources and ensuring the quality of resource supply for the integration of rural culture, agriculture and tourism. On the other hand, achieve ecological sustainable development. Digital intelligence empowerment helps to realize the ecological sustainability of the integration of rural culture, agriculture and tourism. In tourism development, through the intelligent monitoring system, the ecological environment indicators of scenic spots such as air quality, water quality and vegetation coverage are monitored in real time, and once environmental problems occur, early warnings can be issued and measures can be taken in time. In terms of cultural resource protection, digital archiving technology can digitally protect rural ancient buildings and cultural relics, reducing the damage that may be caused to cultural resources by tourism development and agricultural production, enabling the long-term inheritance of rural cultural heritage, and allowing the integration of rural culture, agriculture and tourism to develop continuously in a good ecological environment and cultural atmosphere. In addition, achieve sustainable economic growth. By expanding market channels and using network marketing platforms, social media, etc., rural cultural tourism products and agricultural products are promoted to a wider market, attracting more tourists and consumers, increasing tourism income and agricultural product sales income.

5. THE PATH OF DIGITAL INTELLIGENCE EMPOWERING THE INTEGRATED DEVELOPMENT OF RURAL CULTURE AND AGRICULTURE AND TOURISM

First, build a comprehensive digital intelligence platform and integrate industrial information resources. On the one hand, establish a big data center. The integrated development of rural culture, agriculture and tourism requires the construction of an industrial digital intelligence platform that integrates data collection, integration and analysis in multiple fields. Establish a rural industry big data center to collect agricultural production

data such as crop varieties, planting areas, growth cycles and soil fertility, cultural resource data such as historical and cultural relics, folk activities, folk legends and traditional handicrafts, and tourism service data such as scenic spot information, tourist flow and evaluations. Collect data through multiple means such as 3D scanning, Internet of Things sensors, video recording and text recording, and use big data technology to integrate and form a comprehensive rural industry data asset to provide a scientific basis for industrial development decisions. On the other hand, develop digital intelligence applications. Based on the big data center, develop digital intelligence applications such as intelligent agricultural management systems and rural cultural tourism service platforms. For example, the intelligent agricultural management system can combine with agricultural Internet of Things devices such as intelligent irrigation, greenhouse control and drone plant protection to monitor the farmland environment and crop growth in real time and provide accurate suggestions for farmers; the rural cultural tourism service platform has functions such as information display, reservation, interaction, data analysis and map navigation, displays the charm of the countryside to tourists, facilitates tourists' reservation and evaluation, and at the same time analyzes the needs of tourists for cultural tourism enterprises and farmers to help resource matching and project optimization.

Second, upgrade agricultural intelligence to ensure the core development of the industry. On the one hand, promote intelligent agricultural machinery and Internet of Things devices. As a key part of the rural industry, the intelligent upgrading of agriculture is the focus of the integration of culture, agriculture and tourism. Actively promote intelligent agricultural machinery and agricultural Internet of Things devices. For example, the intelligent irrigation system automatically adjusts the water volume according to the soil humidity and the water demand of crops, the intelligent greenhouse automatically regulates the temperature, humidity and light, and the drone plant protection accurately prevents and controls pests and diseases. These devices monitor the farmland environment and crop growth status in real time, provide farmers with precise planting and management schemes, improve the yield and quality of crops, and ensure the agricultural foundation of the integration of rural culture, agriculture and tourism. On the other hand, use data mining and analysis to guide production and operation. With the help of big data and artificial intelligence technology, deeply mine and analyze agricultural production data. Through analysis, discover production problems and bottlenecks, propose targeted solutions, and at the same time predict market trends and consumer demands. For example, adjust the planting structure according to data analysis, combine the planting of characteristic agricultural products with tourism experience to meet the demand of tourists for

fresh agricultural products; guide the processing and sales strategies of agricultural products according to market trends, such as processing fruits into jam and fruit wine and selling them in cultural tourism scenic spots to expand the agricultural industry chain.

Third, deepen the integration of rural culture and tourism and expand the value space of the industry. On the one hand, excavate and integrate rural cultural and tourism resources. Deeply excavate rural cultural and tourism resources such as natural scenery, folk culture and historical relics, and integrate and package them into characteristic cultural and tourism products through digital means. For example, make promotional materials by using materials such as folk culture activity videos and three-dimensional models of ancient buildings to highlight the unique cultural connotation of the countryside. At the same time, combine with agricultural characteristics to create tourism projects that integrate culture and agriculture, such as agricultural experience and harvest celebrations, to enhance the attraction of rural cultural and tourism products. On the other hand, create intelligent cultural and tourism services and immersive experiences. Use digital technology to restore story scenes, create virtual images on the virtual stage, and make tourists more immersive through virtual scenes. Develop a rural cultural and tourism intelligent service platform that covers functions such as online reservation, electronic explanation and intelligent tour guide to improve tourists' tourism experience and service quality. Use technologies such as virtual reality (VR), augmented reality (AR) and mixed reality (MR) to create immersive experience scenes. For example, reproduce rural historical scenes through VR, display virtual information during the visit of ancient buildings through AR, and let tourists practice in the actual orchard after learning in the virtual agricultural scene through MR, so as to stimulate tourists' interest in tourism and expand the popularity and influence of rural culture and tourism.

Fourth, strengthen the construction of rural talents and add innovative vitality to the industry. On the one hand, strengthen talent training and education. Talents are the key guarantee for the integrated development of rural culture, agriculture and tourism. Increase the intensity of training and education for rural talents. Through forms such as training courses and seminars, improve the digital literacy and professional skills of farmers and cultural tourism practitioners. For example, train farmers to operate intelligent agricultural machinery and guide cultural tourism practitioners to use data analysis to optimize services. At the same time, invite experts and scholars to the countryside for guidance and exchanges to provide intellectual support for industrial development and promote innovative development. On the other hand, establish a talent incentive mechanism and guarantee system. Establish a rural talent incentive mechanism.

Through measures such as policy support and financial rewards, attract outstanding talents to start businesses and work in the countryside, stimulate innovation vitality and entrepreneurial enthusiasm. Establish a rural talent database and talent exchange platform, integrate talent resources, provide a stable talent guarantee for rural industrial development, promote the rational flow and optimal allocation of talents, and promote the integrated development of rural culture, agriculture and tourism.

Fifth, optimize rural infrastructure and improve the carrying capacity of the industry. On the one hand, improve the construction of basic hardware facilities. Improving the construction of rural network, transportation, water and electricity and other infrastructure is a necessary condition for the integration of culture, agriculture and tourism. Strengthen network construction to ensure the operation of the digital intelligence platform and the flow of information; improve traffic conditions to facilitate tourists to enter and leave the countryside; stabilize the supply of water and electricity to meet the production and living needs. By improving the level of infrastructure, provide strong support for the development of rural industries and ensure the basic conditions for the integrated development of rural culture, agriculture and tourism. On the other hand, promote the construction of smart villages. Promote the construction of smart villages, covering aspects such as intelligent security, environmental monitoring and public services. Intelligent security ensures the safety of the countryside, and the environmental monitoring system monitors ecological indicators such as air quality and water quality in real time, discovers and solves ecological problems in time, and protects the rural ecological environment. At the same time, improve the intelligent level of public services, such as intelligent medical care and distance education, to provide better living and tourism experiences for rural residents and tourists and promote the sustainable development of the integration of rural culture, agriculture and tourism.

CONCLUSION

Digital intelligence empowering the integrated development of rural culture, agriculture and tourism is like a strong new wind, injecting powerful impetus into rural revitalization and paving a broad road for the in-depth integration of the cultural industry, agriculture and tourism. Driven by digital intelligence technology, the cultural treasures, agricultural resources and tourism landscapes in the countryside have been efficiently integrated and optimally allocated, opening a new chapter in the development of rural industries. Through the wide application of digital intelligence technology, the cultural resources, agricultural resources and tourism resources

in the countryside have been efficiently integrated and optimally configured, bringing unprecedented development opportunities for rural industries. Digital intelligence technology has not only innovated the rural cultural experience and improved the intelligent level of agricultural production, but also expanded the connotation and extension of rural tourism and realized the coordinated development among industries. With the continuous deepening and popularization of digital intelligence technology, the path of the integrated development of rural culture, agriculture and tourism will be broader, and it will more effectively promote the coordinated development of rural cultural, agricultural and tourism industries, not only promoting the transformation and upgrading of agriculture, the growth of the rural economy and the inheritance and innovation of culture, but also better meeting the diversified needs of tourists. We should continue to deepen the application of digital intelligence technology in the integration of rural culture, agriculture and tourism, explore innovative development models, and give full play to its advantages, so that the countryside can shine more brightly in the digital intelligence era and become a beautiful homeland that people yearn for.

REFERENCES

- Chen, R.P., et al. (2024). How smart tourism boosts the economic development of rural tourism. *Jiangxi Social Sciences*, 10, 151.
- He, Y. (2024). New business forms of rural tourism in the context of “culture + tourism”. *Agricultural Economics*, 10, 66.
- Wang, K. L., et al. (2024). A review of the research on the evaluation of the effectiveness of the integrated development of culture and tourism. *Inquiry into Economic Issues*, 10, 159.
- Wang, X. J. (2021). Cultural and tourism consumption from the perspective of humanistic city construction. *Jiangxi Social Sciences*, 9, 246.
- Wu, Z. C., et al. (2021). Digital humanities: A new path for the development of red tourism. *Tourism Tribune*, 6, 8.
- Xu, Q. W. (2023). An exploration of the path of digital empowerment for the development of red tourism: Taking Yimeng red tourism as an example. *Tourism Planning*, 10, 106.
- Yang, J. C., et al. (2024). New quality productivity empowering the high-quality development of tourism: Theoretical logic and practical path. *Journal of Yunnan Minzu University (Philosophy and Social Sciences Edition)*, 10, 143.
- Yang, X. Y. (2024). The influence mechanism of the digital economy on the development of the tourism industry. *Progress in Geography*, 10, 1943.