Research on the Livelihood of Cultural and Tourism Integration in the Huai River Basin Based on VR Panoramic Map

--Taking the Digital Research of Intangible Cultural Heritage as an Example

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Abstract

This article takes the Huai River Basin as the research object and explores the integration of culture and tourism, as well as the digitization of intangible cultural heritage, through the use of virtual reality technology (VR) panoramic maps. By collecting relevant data and analyzing case studies, this paper proposes a research method for the revitalization of cultural and tourism integration in the Huai River Basin based on VR panoramic maps. The research results indicate that this method can effectively showcase the natural scenery, cultural heritage, and folk customs of the Huai River Basin, while providing a new digital research method for intangible cultural heritage. This study has important theoretical and practical significance for promoting the development of cultural tourism, protecting and inheriting intangible cultural heritage in the Huai River Basin.

Keywords

Huai River Basin; VR panoramic map; Integration of culture and tourism; Active state research; Digitalization of Intangible Cultural Heritage.

1. Introduction

With the continuous development of technology, virtual reality (VR) technology has been widely applied in various fields. Especially in the cultural tourism industry, VR technology provides tourists with a brand new travel experience, making tourism activities more diverse and colorful. The Huai River Basin, as one of the important historical and cultural birthplaces in China, has abundant intangible cultural heritage resources. However, traditional methods of cultural heritage protection and inheritance are no longer sufficient to meet the needs of modern people. Therefore, how to use modern technological means, especially VR technology, to innovate the protection and inheritance of cultural heritage in the Huai River Basin has become an urgent problem to be solved.

The Huai River Basin, located in eastern China, is one of the seven major river basins in China, with rich natural and cultural landscapes. The cultural and tourism resources in the Huai River Basin mainly include natural landscapes, historical and cultural heritage, and intangible

cultural heritage. Natural Landscape: The natural landscape of the Huai River Basin mainly includes rivers, lakes, wetlands, mountains, etc. Among them, the Huai River is the main river in the basin, with beautiful scenery along the way and many famous tourist attractions, such as Hongze Lake and Gaoyou Lake. Historical and Cultural: The Huai River Basin is rich in historical and cultural resources, with many cities and cultural sites with a long history. For example, cities such as Nanjing and Yangzhou have a profound historical and cultural heritage, making them famous historical and cultural cities in China. Intangible Cultural Heritage: The intangible cultural heritage of the Huai River Basin is rich and diverse, including traditional handicrafts, folk art, traditional opera, etc. These intangible cultural heritages are important for the culture of the Huai River Basin

2. Relevant Theoretical and Technical Foundations

2.1. Principles of VR panoramic map technology

The principle of VR panoramic map technology is to capture various directions of a space, sew them together using software, and form a three-dimensional simulation environment, allowing viewers to obtain a three-dimensional spatial feeling through the network, as if they are inside.

2.2. Theoretical basis for cultural and tourism integration

The theoretical foundation of cultural tourism integration involves two basic concepts, culture and tourism, and their correlation. Firstly, the integration of culture and tourism is the ultimate goal of human perfection, aiming to promote the transformation and upgrading of culture and tourism, and meet the growing needs of people for a better life. This kind of integration is not just a simple "matchmaking", but a deep level integration at multiple levels such as concept, function, resources, industry, and technology.

2.3. Technical means for digitizing intangible cultural heritage

The digital protection of intangible cultural heritage in the Huai River Basin involves a series of complex technical means and processes, aiming to transform intangible cultural heritage into a shareable and renewable digital form. Firstly, digital acquisition is the first step, capturing various aspects of intangible cultural heritage through various devices and technologies. Next is digital storage, which securely stores the collected data in a database or other digital platform. Digital processing is the analysis and interpretation of data, interpreting intangible cultural heritage from a new perspective. Digital display involves how to present digital intangible cultural heritage to the public through websites, social media, and other means. Finally, digital communication is the dissemination of digital intangible cultural heritage to a wider audience. In addition to these basic steps, there are more advanced technologies and methods for digitizing intangible cultural heritage. For example, blockchain technology can be used to ensure the authenticity and immutability of intangible cultural heritage information. 5G technology can provide faster network speeds, allowing more people to access intangible cultural heritage content in real-time. AI technology has the potential to automate some intangible cultural heritage data processing and analysis tasks.

From a more macro perspective, the digitization of intangible cultural heritage requires not only the use of technological means, but also a clear strategic planning and methodological system. For example, a digital transformation plan for the field of intangible cultural heritage should be introduced as soon as possible, and a coordinated and unified method system for digital transformation of intangible cultural heritage and standards for the construction and governance of intangible cultural heritage data should be established. At the same time, it is also necessary to explore the balance between digital technology and intangible cultural heritage in order to achieve better protection goals.

3. The Demand and Challenges for the Revitalization of Cultural and Tourism Integration in the Huaihe River Basin

3.1. Current situation and problems of cultural and tourism integration in the Huai River Basin

The integration of culture and tourism in the Huai River Basin is mainly manifested in the following aspects. Huainan, as an important city in the Huai River Basin, has abundant natural resources and dazzling historical and cultural advantages, including industrial culture, folk culture, and rural tourism. In recent years, under the attention and promotion of the Municipal Party Committee and Government, Huainan has actively developed the cultural and tourism industry, including promoting the construction of cultural parks, planning key cultural and tourism projects, and strengthening the protection of cultural relics and intangible cultural heritage, all of which have achieved good results, laying a good foundation for the integrated development of culture and tourism.

Anhui Province is a microcosm of the integration of culture and tourism in the entire Huai River Basin. The unique geographical and cultural conditions make Anhui Province rich in cultural and tourism resources, including the Wanjiang Cultural Region, Huaihe Cultural Region, and Huizhou Cultural Region. In addition, Anhui Province has a large number and high quality of travel agencies, providing a good corporate environment for cultural and tourism integration. However, at the same time, the development of cultural and tourism integration in the Huai River Basin also faces some problems. Firstly, there is still room for improvement in the research and promotion of Huai River culture, and a deeper understanding and dissemination of Huai River culture are needed to enhance its influence. Secondly, ecological and environmental protection issues are also important considerations. For example, strengthening ecological protection and strictly prohibiting the establishment of new mining rights in important areas such as nature reserves are measures that must be considered to promote the integration of culture and tourism in the Huai River Basin. Finally, we should fully utilize the important node position of the Grand Canal connecting the Huai River, Yangtze River, and Yellow River, and promote local economic progress through the development of cultural industries.

Overall, the current situation of cultural and tourism integration in the Huai River Basin is good, with obvious resource advantages. However, it also faces some challenges, such as deep cultural exploration and ecological protection. In the future, it should continue to leverage its unique advantages, solve existing problems, and promote the sustainable development of cultural and tourism integration in the Huai River Basin.

3.2. The needs and challenges of revitalization

The revitalization of cultural and tourism integration in the Huai River Basin has been an important development trend in recent years. This trend aims to bring dual economic and social benefits to the region through the deep integration of culture and tourism. However, achieving this goal is not easy and requires facing the following needs and challenges:

(1) Requirement: Firstly, the Huai River Basin needs to further strengthen the protection and utilization of cultural heritage. This not only helps to inherit history, but also attracts tourists. Secondly, improve the development environment for cultural and tourism integration, such as transforming cultural concepts and establishing the concept of cultural and economic integration. In addition, it is necessary to innovate and create a cultural ecosystem to adapt to constantly changing market demands.

(2) Challenge: How to deeply integrate culture and tourism to truly become a regional economic growth point is a major challenge. In addition, considering the natural environment and historical and cultural heritage of the Huai River Basin, finding a balance between protection

and development is also a challenge. In the digital age, how to use digital technology to empower the integration of culture and tourism, such as the digital dissemination of the Grand Canal culture, is also an important research direction.

To address these challenges, it is recommended to establish a dedicated leadership organization for the integration of cultural and tourism development, to comprehensively plan and manage natural resources and historical and cultural relics. At the same time, strengthen cooperation with all parties, introduce more technology and funds, and promote the sustainable development of cultural and tourism integration in the Huai River Basin.

3.3. Application prospects of VR panoramic maps in cultural and tourism integration

VR panoramic maps have shown broad application prospects in the integration of culture, tourism, and cultural relics. With the help of VR technology, these fields can achieve higher quality development and provide tourists with more in-depth and immersive experiences. For example, museums can use VR technology to provide audiences with a more realistic and vivid exhibition experience, allowing cultural relics and intangible cultural heritage to be better displayed. In the context of the Internet of Things and virtual symbiosis technology, the boundaries of industries are gradually being broken, and vertical linkage and horizontal crossborder have become new features of the development of the cultural and tourism industry. Emerging technologies such as AR and VR provide new possibilities for "cultural tourism+technology", making cultural tourism experiences more diverse and diverse. In order to further promote the development of the cultural and tourism industry, it is necessary to innovate the design and creation of application scenarios for virtual reality digital cultural and tourism products, and accelerate their industrial implementation and operation. This can not only attract more tourists to tourist destinations, but also continuously increase tourist traffic, achieving the transformation of cultural and tourism IP resources into XR digital cultural and tourism products. With the continuous advancement of technology, we can look forward to more features in the future, such as VR cloud gaming, map navigation, AI travel photography, voice explanations, etc. These features will further enrich the cultural and tourism experience, allowing tourists to experience different cultures and landscapes anytime, anywhere. At the same time, promoting the construction of smart cultural and tourism platforms, combined with technologies such as 5G and big data, has also brought new opportunities to the cultural and tourism industry.

4. Design of a VR Panoramic Map Based Revitalization Plan for Cultural and Tourism Integration in the Huai River Basin

4.1. Objectives and principles of scheme design

4.1.1. Objective

One is to use VR panoramic map technology to enhance the display effect of cultural and tourism resources in the Huai River Basin and attract more tourists. The second is to promote the economic development and cultural inheritance of the Huai River Basin through the integration of culture and tourism. The third is to innovate cultural and tourism products, provide rich and diverse tourism experiences, and meet the diverse needs of tourists. Fourthly, establish a comprehensive cultural and tourism service system to enhance tourist satisfaction and loyalty.

4.1.2. Principles

(1) Technology leadership: Fully utilize cutting-edge technologies such as VR panoramic maps to enhance the technological content and innovation of cultural and tourism products. (2) Cultural priority: Taking the historical and cultural heritage of the Huai River Basin as the core,

we aim to create cultural and tourism products with local characteristics. (3) Integrated development: Breaking the traditional boundary between culture and tourism, achieving deep integration and interactive development of culture and tourism. (4) Service orientation: Focusing on tourists, providing high-quality, convenient, and comfortable tourism services to enhance their travel experience. (5) Sustainable development: Emphasize environmental protection and community participation to achieve the sustainability of cultural and tourism development.

4.2. Production and application of VR panoramic maps

Based on the design and research of the revitalization plan for cultural and tourism integration in the Huai River Basin, the production and application of VR panoramic maps can follow the following steps:

(1) Data collection and organization: Firstly, it is necessary to collect relevant geographic, cultural, and tourism information of the Huai River Basin, including geographical location, topography, historical and cultural sites, tourist attractions, etc. These information can be obtained through technologies such as remote sensing and geographic information systems (GIS).

(2) 3D model making: Based on the collected data, create a 3D model of the Huai River Basin. These models can include elements such as terrain, buildings, landscapes, etc. You can use professional 3D modeling software such as 3ds Max, SketchUp, etc. for production.

(3) Panoramic shooting and image stitching: Using a panoramic camera to capture important scenic spots in the Huai River Basin and obtain high-quality panoramic images. Combine these images to form a complete VR panoramic map. Image stitching software such as PTGUI and Autopano Giga can be used for operations.

(4) Interactive design and development: Add interactive features to VR panoramic maps, such as clicking on hotspots to display detailed information, path planning, etc. Game engines such as Unity and Unreal Engine can be used for development.

(5) VR Experience Optimization: Test and optimize the created VR panoramic map to ensure that users have a good visual and interactive experience while browsing. Adjustments and optimizations can be made to image quality, performance, interaction, and other aspects.

(6) Application promotion and display: Apply the produced VR panoramic map to cultural tourism promotion, navigation and other fields in the Huai River Basin. It can be promoted and displayed through official websites, mobile applications, offline experience centers, and other channels.

(7) Data analysis and optimization: Collect data on users using VR panoramic maps, analyze user behavior and needs, continuously optimize and update VR panoramic maps, and improve user experience.

Through the above steps, the production and application of VR panoramic maps can be achieved based on the design and research of a dynamic plan for cultural and tourism integration in the Huai River Basin.

4.3. Implementation pathways and strategies for liveliness

The implementation methods and strategies for the revitalization of cultural and tourism integration in the Huai River Basin based on VR panoramic maps can be carried out from the following aspects:

(1) Resource integration and optimization: Fully tap into the natural landscape, historical culture, folk customs and other tourism resources of the Huai River Basin, integrate and optimize them, and form distinctive cultural and tourism products. At the same time, utilizing VR technology to virtualize the display of scenic spots and improve the tourist experience.

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(2) Technological innovation and application: Using VR panoramic map technology to provide tourists with an immersive travel experience. By utilizing technologies such as 3D modeling and virtual reality, we aim to create virtual scenic spots where visitors can enjoy the beautiful scenery of the Huai River Basin at their doorstep.

(3) Interactive experience and service upgrade: With the help of VR panoramic map technology, develop highly interactive tourism projects, such as online tour guides, voice navigation, VR games, etc., to increase tourist participation. Meanwhile, through big data analysis, personalized travel recommendations and services are provided to tourists.

(4) Cross border cooperation and brand promotion: Strengthen cross-border cooperation with related industries such as culture, education, and technology, and jointly promote the development of the cultural and tourism industry in the Huai River Basin. By organizing various activities, competitions, and other forms, we aim to enhance the brand awareness and influence of cultural and tourism brands in the Huai River Basin.

(5) Industrial Integration and Collaborative Development: Promote the deep integration of cultural and tourism industries, form an industrial chain, and achieve resource sharing and complementary advantages. By means of policy support and capital investment, we aim to promote the healthy and sustainable development of the cultural and tourism industry in the Huai River Basin.

(6) Talent cultivation and team building: Strengthen the training and introduction of cultural and tourism talents in the Huai River Basin, and improve the professional quality and service ability of practitioners. At the same time, establish a sound incentive mechanism to attract more outstanding talents to invest in the cultural and tourism industry in the Huai River Basin.

(7) Smart tourism and management innovation: By utilizing modern information technologies such as big data, cloud computing, and the Internet of Things, we aim to build a smart tourism system in the Huaihe River Basin and achieve refined management of tourism resources. Provide convenient travel services for tourists through intelligent hardware, mobile apps, and other means.

In summary, the revitalization of cultural and tourism integration in the Huai River Basin based on VR panoramic maps requires comprehensive planning and implementation from multiple aspects to enhance the tourism quality and attractiveness of the Huai River Basin, and promote the common development of regional economy and culture.

5. Empirical Research Using the Digitization of Intangible Cultural Heritage as an Example

5.1. Current Status and Issues of Digitalization of Intangible Cultural Heritage

The current situation and problems of digitalization of intangible cultural heritage in the Huai River Basin are a complex topic. The application of digital technology in intangible cultural heritage has brought new development ideas for the protection of intangible cultural heritage in the Huai River Basin, such as combining the artistic characteristics and vitality of flower drum lanterns to further study the application of digital technology in intangible cultural heritage protection. However, although the emergence of digital technology has brought breakthroughs in recording, displaying, producing, and selling intangible cultural heritage protection, there are still some key challenges.

Firstly, the digital foundation of intangible cultural heritage is relatively weak, which leads to a significant intergenerational imbalance in the inheritance of intangible cultural heritage. At the same time, the dissemination channels of intangible cultural heritage are single and lack influential digital brands, which limits the dissemination of intangible cultural heritage. Secondly, the digital dissemination of intangible cultural heritage requires further innovative

breakthroughs, and how to effectively combine commercial development is also an unresolved issue.

Nevertheless, digital technology still provides new avenues and possibilities for the protection and inheritance of intangible cultural heritage. For example, big data shows that young people are leading the online dissemination and consumption of intangible cultural heritage, showing a rapid upward trend, which has become an important model for the protection and inheritance of intangible cultural heritage. The metaverse, characterized by the expansion of reality and digital twins, has also opened up a new era for the inheritance of intangible cultural heritage's authenticity and vitality.

5.2. Intangible Cultural Heritage Digitalization Scheme Based on VR Panoramic Map

The digital scheme for intangible cultural heritage is based on VR panoramic maps, aiming to digitize and inherit intangible cultural heritage through virtual reality technology. This plan includes the following steps:

(1) Data collection and organization: Firstly, we need to collect a large amount of intangible cultural heritage materials, including various forms such as text, images, audio, and video. These materials can be obtained through libraries, archives, the Internet and other ways. After collecting sufficient information, we need to organize and classify it for subsequent data processing.

(2) 3D modeling: Next, we will use 3D modeling techniques in computer graphics to reconstruct intangible cultural heritage scenes in 3D. This requires professional modelers to use professional software such as 3ds Max and Maya to create and optimize models based on the collected data.

(3) VR panoramic map production: After completing the 3D model, we need to import it into the VR panoramic map production tool. These types of tools can help us stitch multiple 3D models together and generate interactive panoramic maps. Users can immerse themselves in intangible cultural heritage scenes by wearing VR helmets.

(4) Interactive experience design: In order to enhance the user's sense of participation and immersion, we can add some interactive elements to the VR panoramic map, such as voice navigation, touch interaction, etc. In addition, some educational and entertainment games can be developed to allow users to learn about intangible cultural heritage knowledge in the game.

(5) Platform Publishing and Promotion: Finally, we need to publish the completed digital plan for intangible cultural heritage on corresponding platforms, such as VR glasses, mobile devices, web pages, etc. At the same time, promote this plan through media promotion, online and offline activities, etc., so that more people can understand and use it.

5.3. Methods and processes of empirical research

5.3.1. Empirical research methods

(1) Literature review: Firstly, by consulting relevant books, journals, reports, and online resources, understand the background information of the history, geography, culture, and intangible cultural heritage projects in the Huai River Basin. At the same time, collect research results and cases on the digitization of intangible cultural heritage both domestically and internationally, providing theoretical support and reference for subsequent research.

(2) Data collection: Use a combination of qualitative and quantitative methods to collect data. Qualitative data is mainly obtained through on-site inspections of intangible cultural heritage projects in the Huaihe River Basin, interviews with inheritors, experts, and relevant personnel from local government departments to understand the current situation, inheritance difficulties, digital needs, and other information of intangible cultural heritage projects. Quantitative data is collected through online surveys, questionnaire surveys, and other

methods to collect relevant data on intangible cultural heritage projects in the Huaihe River Basin, such as the number, distribution, and audience size of intangible cultural heritage projects.

(3) Data analysis: Organize and analyze the collected qualitative and quantitative data. Qualitative data mainly adopts content analysis method to summarize, refine, and summarize interview records and on-site investigation materials. Quantitative data uses descriptive statistics, correlation analysis, regression analysis, and other methods to reveal the current characteristics, influencing factors, and development trends of intangible cultural heritage projects in the Huai River Basin.

(4) Case study: Select typical intangible cultural heritage projects in the Huai River Basin for indepth research, analyze their successful experiences and challenges in the digitalization process. By comparing and analyzing the digitalization strategies and methods of different intangible cultural heritage projects, this study explores the best practices applicable to the digitalization of intangible cultural heritage projects in the Huai River Basin.

(5) Policy recommendations: Based on research results, propose policy recommendations for the digitization of intangible cultural heritage in the Huai River Basin. These suggestions may include specific measures such as government support, financial investment, technology research and development, talent cultivation, and cooperation mechanisms.

5.3.2. Empirical research process

(1) Establish research objectives and questions: Clarify the purpose of this study to explore the current situation, influencing factors, and development trends of digitalization of intangible cultural heritage projects in the Huai River Basin, and propose corresponding policy recommendations.

(2) Design research plan: Determine specific steps such as research methods, data sources, sample selection, data processing, and analysis.

(3) Data collection and organization: Conduct field investigations, interviews, and data collection according to the research plan, and organize and classify the collected data.

(4) Data analysis and interpretation: Using statistical and qualitative analysis methods, analyze the collected data to reveal the current characteristics and influencing factors of digitalization of intangible cultural heritage projects in the Huaihe River Basin.

(5) Case study and comparative analysis: Select typical intangible cultural heritage projects for in-depth research, compare and analyze the digital strategies and methods of different projects, and summarize experiences and lessons learned.

(6) Policy recommendations and conclusions: Based on the research results, propose policy recommendations for the digitization of intangible cultural heritage in the Huai River Basin and write a research report.

6. Research Results and Analysis

6.1. Evaluation of Cultural and Tourism Integration Effect Based on VR Panoramic Map

VR panoramic maps, as an emerging virtual reality technology, have been widely applied in the cultural and tourism industry. By evaluating the cultural and tourism integration effect of VR panoramic maps, we can understand the advantages and disadvantages of this technology in practical applications, and provide reference for future research and improvement. Here are some suggested evaluation metrics:

(1) Immersion: Can VR panoramic maps provide users with an immersive experience, making them feel similar to the real world. Immersion can be evaluated through methods such as user surveys and psychological experiments.

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(2) Interactivity: Does the VR panoramic map have sufficient interactive capabilities to allow users to freely explore the virtual world. Interactivity can be evaluated by testing the user's smoothness of operation and navigation accuracy in VR panoramic maps.

(3) Information richness: Can VR panoramic maps provide users with rich cultural and tourism information, helping them better understand and experience the destination. You can evaluate the information points on the map to understand their richness and practicality.

(4) Personalized recommendation: Can VR panoramic maps provide personalized travel itinerary and activity recommendations to users based on their interests and needs. You can evaluate the accuracy and satisfaction of system recommendations by evaluating user feedback.
(5) Cross platform compatibility: Can VR panoramic maps run normally on different devices

and platforms to meet the needs of different users. Cross platform compatibility can be evaluated by testing the performance on various devices and platforms.

(6) Timeliness of data updates: Can the data of VR panoramic maps be updated in a timely manner to ensure that users can obtain the latest tourism and cultural information. The timeliness of data updates can be evaluated by comparing the differences between new and old data.

(7) Cost effectiveness: Whether the development and maintenance costs of VR panoramic maps are reasonable, and whether the value it brings to users matches its costs. Cost effectiveness can be evaluated by estimating development and maintenance costs, as well as evaluating user value.

(8) Social impact: The impact of VR panoramic maps on the development of the cultural and tourism industry, cultural exchange, environmental protection, and other aspects. Social impact can be evaluated through analysis of relevant policies and industry dynamics.

By comprehensively evaluating these indicators, we can comprehensively understand the effectiveness of VR panoramic maps in cultural and tourism integration, providing a basis for further research and improvement.

6.2. Analysis of the effects and impacts of digitalization of intangible cultural heritage

The digitization of intangible cultural heritage (ICH) is an important direction for the integration and development of culture and tourism in recent years. In the Huai River Basin, the digitalization effect and impact of intangible cultural heritage under this integration background are mainly reflected in the following aspects:

(1) Protecting and Inheriting Intangible Cultural Heritage: Digitalization of intangible cultural heritage can digitize and store the rich intangible cultural heritage resources in the Huai River Basin, making them unrestricted by time and space, and effectively protecting and inheriting them. At the same time, digital technology can also accurately record and restore intangible cultural heritage skills, providing convenience for future research and learning.

(2) Enhancing the dissemination power of intangible cultural heritage: The digitization of intangible cultural heritage can spread the intangible cultural heritage of the Huai River Basin to the whole country and even the world through new media platforms such as the internet and mobile devices, enhancing its influence and popularity.

(3) Innovative intangible cultural heritage tourism products: Digitalization of intangible cultural heritage can provide rich materials and inspiration for the integrated development of culture and tourism in the Huai River Basin. Through digital technology, intangible cultural heritage elements can be integrated into tourism product design, innovating intangible cultural heritage tourism products, and enhancing the attractiveness of tourism products.

(4) Promoting local economic development: Digitalization of intangible cultural heritage can promote the development of cultural industries in the Huai River Basin. Through innovative

utilization of intangible cultural heritage, it can attract more tourists, promote the development of tourism industry, and thus drive the development of local economy.

(5) Enhancing the public's sense of identification with intangible cultural heritage: Digitization of intangible cultural heritage can make the intangible cultural heritage in the Huai River Basin more intuitive and vivid, enhance the public's sense of identification and participation in intangible cultural heritage, and enhance the social value of intangible cultural heritage.

Overall, in the context of cultural and tourism integration in the Huaihe River Basin, the digitization of intangible cultural heritage can not only effectively protect and inherit intangible cultural heritage, enhance its dissemination, but also innovate cultural and tourism products, promote local economic development, and enhance public identification.

6.3. Implementation degree of liveliness and assessment of sustainable development

6.3.1. Assessment of the degree of implementation of cultural and tourism integration in the Huaihe River Basin

(1) The degree of integration of cultural and tourism resources: Various regions in the Huai River Basin have initially achieved the integration of cultural and tourism resources. By creating a batch of tourism products with local characteristics, the attractiveness of tourism has been enhanced.

(2) Development level of cultural and tourism industry: The cultural and tourism industry in the Huaihe River Basin has become an important pillar of regional economic development, with continuous growth in tourism revenue and continuous improvement of the cultural and tourism industry chain.

(3) Quality of cultural and tourism services: The tourism service quality in the Huai River Basin has been significantly improved, the tourism environment has been optimized, and tourism services (4) Depth of cultural and tourism integration development: The Huai River Basin is actively exploring new models of cultural and tourism integration development, such as cultural tourism, ecological tourism, rural tourism, etc. The depth and breadth of cultural and tourism integration are constantly improving.

6.3.2. Assessment of Sustainable Development of Cultural and Tourism Integration in the Huaihe River Basin

(1) Ecological Environment Impact: In the process of promoting cultural and tourism integration in the Huai River Basin, emphasis is placed on ecological protection. Through scientific planning and management, damage to the ecological environment has been effectively avoided.

(2) Cultural resource protection: While developing the cultural tourism industry, the Huai River Basin also pays attention to the protection and inheritance of cultural heritage. By organizing various cultural activities, the cultural literacy of the public has been enhanced.

(3) Economic and Social Impact: The promotion of cultural and tourism integration has a positive effect on enhancing the economic and social development of the Huai River Basin, but at the same time, attention should also be paid to possible problems such as excessive development and depletion of tourism resources.

(4) Policy support: The government has provided strong policy support in promoting the integration of culture and tourism in the Huai River Basin, creating a favorable environment for the sustainable development of the cultural and tourism industry.

7. Conclusion and Outlook

From the research conclusions and main findings, this article explores the application of intangible cultural heritage digitization in tourism by studying the VR panoramic map of cultural and tourism integration in the Huaihe River Basin. The main findings include: (1) VR panoramic maps can provide visitors with an immersive experience, enabling them to better understand the culture and history of the Huai River Basin. By combining intangible cultural heritage projects with VR technology, it is possible to increase tourists' interest and participation in intangible cultural heritage projects. (2) Digitalization of intangible cultural heritage projects. By digitizing intangible cultural heritage projects, they can be easily shared and disseminated on the Internet, attracting more tourists and researchers to pay attention and participate. (3) VR panoramic maps can promote the development of the cultural and tourism industry in the Huai River Basin. By applying VR technology to tourism, it can improve tourist satisfaction and tourism revenue, thereby promoting the rapid development of the cultural and tourism industry in the Huai River Basin.

However, there are also some limitations and shortcomings in this study: (1) This study is mainly based on empirical analysis and lacks in-depth theoretical exploration of intangible cultural heritage digitization and VR technology. Future research can further explore the principles and application mechanisms of these technologies, providing more theoretical support for practice. (2) This study only takes the Huai River Basin as an example for research, and further research is needed on the digitization of intangible cultural heritage and the integration of culture and tourism in other regions. Future research can expand its scope to other regions to verify the universality of this study. (3) This study did not involve the evaluation of the practical application effect of VR panoramic maps in the digitization of intangible cultural heritage through on-site investigations and user feedback, providing more accurate guidance for practice.

In response to the above limitations and shortcomings, future research can be expanded in the following directions: (1) Strengthen theoretical research, deeply explore the principles and application mechanisms of intangible cultural heritage digitization and VR technology, and provide more theoretical support for practice. (2) Expand the research scope to other regions to verify the universality of this study, and compare the digitalization of intangible cultural heritage and cultural tourism integration in different regions. (3) Conduct practical application evaluation, evaluate the actual effect of VR panoramic maps in the digitization of intangible cultural guidance for practice.

In summary, a study on the revitalization of cultural and tourism integration in the Huai River Basin based on VR panoramic maps - taking the digitalization of intangible cultural heritage as an example, this paper explores the application of digitalization of intangible cultural heritage in tourism by studying the VR panoramic map of the revitalization of cultural and tourism integration in the Huai River Basin. Although there are some limitations and shortcomings, this study provides a new perspective and method for the study of intangible cultural heritage digitization and cultural tourism integration, and provides certain reference value for future research and practice.

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