

# *Digital Protection and Inheritance Strategies of Weinan Intangible Cultural Heritage under Network Media*

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**Abstract:** With the continuous advancement of global integration and the rapid development of national economy and society, the protection and inheritance of intangible cultural heritage (ICH) are facing unprecedented challenges. Therefore, this article analyzed and explained the inheritance and dissemination of ICH from the perspective of the integration and development of online media and ICH. This article intended to use methods such as questionnaire survey and interview to conduct a questionnaire survey and interview on the implementation effect of the protection and inheritance strategy of Weinan ICH, analyze the participants' understanding and effectiveness of its inheritance, and evaluate its role in the inheritance process. In terms of the number of participants, satisfaction, and cognitive enhancement, satisfaction refers to the satisfaction with the effectiveness of the strategy, while cognitive enhancement refers to the improvement of the understanding of Weinan ICH. The first test had 100 participants, 85% satisfaction, and a 70% improvement in cognition. The number of participants in the second test was 150, with a 90% satisfaction rate and a 75% improvement in cognition. This article helped to broaden and innovate the inheritance and dissemination channels of ICH, and promote the healthy development of China's ICH inheritance and dissemination.

## 1. Introduction

In the long-term process of development and change, China has accumulated a large amount of ICH, which is an indispensable part of Chinese culture. Therefore, in the new era, it is necessary to adapt to the development direction of information network technology, gradually establish a new technology, new methods, and new platforms through the integration of culture and technology. In today's world, the protection of ICH has become an important task. Therefore, in the current new media environment where multimedia such as the internet coexist, using new communication methods and carriers, and through video digitization technology, the ICH of Weinan is better protected, reviving the ancient folk art that is on the brink of extinction, and allowing various traditional arts to innovate and improve in inheritance. This is the only way to promote the protection, inheritance, and development of national cultural heritage.

This article first presents the current situation of digital protection of Weinan ICH, then proposes

strategies combining with online media, and finally provides verification of digital protection and inheritance strategies of Weinan ICH under online media. This article intends to take Chinese traditional cultural heritage as the research object, using various research methods such as interview and questionnaire survey to study its duration and frequency in different video viewing methods.

## 2. Related Work

In today's society, the protection of ICH based on digital technology is no longer suitable for the protection needs of modern society. The sustainable development and protection of ICH based on digital technology is particularly important for ethnic minority areas in China, especially in areas where ICH is concentrated. Feng Xinya intended to use the Xiangxi Tujia brocade as a representative to analyze the protection status and existing problems of ICH in Xiangxi from "point" to "surface". She also analyzed important digital protection processes and key technologies such as digital collection and processing, providing reference for promoting the protection and development of ICH in Xiangxi region [1]. Liu Weihua took the ICH of ethnic minority sports in western Hunan as the research object, and planned to build a new path for the protection of ICH of folk sports in western Hunan based on digital technology [2]. Li Jiesheng suggested using increasingly advanced digital information technology to archive and protect written and image data of traditional martial arts, laying a solid foundation for promoting the sustainable development of traditional martial arts [3]. In view of this, Wang Jianhua planned to use literature in the field of ICH research from China National Knowledge Infrastructure (CNKI) from 2001 to 2021 as the basic data source, and use visual measurement tools to cluster them into themes, forming a visual map to study the current status and hotspots of China's ICH research. He provided a practical and feasible solution for the implementation of ICH, which greatly changed the characteristics of both the production end and the consumer market of ICH projects [4]. Hao T believed that taking the Beijing Hangzhou Grand Canal as an example, he explored its role in the protection of ICH from four aspects: coding, decoding, dissemination, and secondary coding, providing reference for the protection of ICH in China and even the world [5]. However, their research lacks specific measures for the protection of ICH.

Although Weinan City has carried out a lot of excavation, protection, inheritance, and development work on ICH, there are still many obstacles, a series of problems and defects, which are unfavorable for the development of protection and inheritance [6-7]. This requires actively exploring new ways and possibilities in the context of the rapid development of information networks, improving the quality and efficiency of the inheritance and dissemination of Chinese cultural heritage, thereby promoting the driving force of the inheritance and dissemination of ICH, promoting more people's identification and pride in the traditional Chinese culture that is condensed in it, and enhancing the cohesion and centripetal force of the nation [8].

## 3. Methods

### 3.1 Problems Facing Heritage Protection

#### (1) Preservation of information integrity

The primitive environment of ICH is unique to it, and correspondingly, it carries a special type of information. From the perspective of information transmission, ICH is a form of information that arises when the efficiency of information dissemination is low. It faces a transformation in its survival mode in new contexts [9-10]. However, it should also be noted that digital information technology does not fully record all cultural codes, and it is inevitable that certain information may be missing, which to some extent leads to a bias in public perception. The media is not a complete

mirror image in the dissemination of ICH, but a selective result. ICH often cannot be separated from local cultural living spaces. In the process of mass communication, it is generally only possible to provide necessary descriptions of itself, and cannot synchronously and completely display the local cultural living spaces [11].

#### (2) Lack and reproduction of culture

ICH is generated in agricultural society, and it is the externalization of people's thoughts and consciousness. It represents the sense of belonging and cultural value contained in mass social communication, behavior, and habits through sound, language, image, posture, skills, and other means. It is a concentrated reflection of a nation's spiritual sustenance, customs and habits, life wisdom, aesthetic standards, and group identity. When protecting ICH, cultural protection work cannot be entirely entrusted to a single technology, in order to digitize culture and minimize the negative impact of digitization [12-13]. If one blindly pursues a novel cultural style with strong visual impact and only focuses on the dissemination of ICH on the surface, but disrupts the cultural ecological environment in which it grows, it would inevitably lead to the loss of the intrinsic spirit of traditional culture.

### **3.2 Measures to Be Taken for the ICH of Weinan at Present**

(1) Efforts from multiple parties to continuously strengthen the foundation of ICH protection and inheritance

Weinan City quickly establishes a municipal level ICH protection leadership group, actively seeking effective communication and cooperation with relevant universities and colleges through various channels. All relevant departments should cooperate with each other and strive to do their work well. Firstly, information related to the "ICH" project is collected, organized, classified, and archived, and the archives of "old artists" are established in a targeted manner. Secondly, the protection units for folk artists are determined; their unique skills are systematically managed and deeply excavated, and attention is paid to the organization and preservation of their image materials. The "Weinan Hundred Collection ICH TV Boutique Series" has been produced to preserve these cultural relics in a visual and intuitive form. Thirdly, a series of activities for ICH to enter schools can continue to be held. The Weinan National ICH Education Base has been established, and various forms of ICH projects such as opera, music, art, and handicrafts have been carried out [14].

(2) Taking multiple measures simultaneously to effectively enhance the protection and support of inheritors.

The rights and subject status of inheritors of ICH are an important principle and content of ICH protection. Weinan City has provided comprehensive protection and support to the inheritors of ICH in terms of establishing archives, resolving treatment issues, and building platforms. Specifically, firstly, the preservation of archives should not only use methods such as photos and videos, but also register, compile, and organize archives. The second is to implement learning subsidies for inheritors at all levels. The third is to regularly hold various training sessions, academic discussions, and skill competitions. The fourth is to focus on the radiation and promotion of traditional craft demonstration villages, such as Nanshe Village in Guolu Town, Chengcheng County Anli Town Castle Village, Fengyuan Town Fengyuan Village, and demonstration and promotion of surrounding townships.

#### (3) Building an ICH industry base and accelerating the industrialization of ICH projects

The integration of ICH with tourism, exhibition and other industries has been continuously promoted, such as Chengcheng Yaotou Porcelain, Huaxian Shadow Puppetry, Hancheng Xinggu, etc., all of which have preliminary conditions for industrialization; 47 ICH sites, including Tongguan Roujiamo, Laomiao Laogu, and Tongguan ancient warships, have all achieved initial

industrialization.

Information dissemination I:

$$I = \sum_{k=0}^n f(t)x^k a^{n-k} \quad (1)$$

Formula for data growth model:

$$N = a * e^{rt} \quad (2)$$

Among them, N represents the amount of data; a represents the initial amount of data; r represents the data growth rate; t represents time. This formula can be used to analyze the growth trend of data related to ICH, in order to better carry out digital protection and inheritance.

User engagement formula:

$$U = P * E \quad (3)$$

Among them, U represents user engagement; P represents the user's interest in ICH; E represents the ease of use of online media. This formula can help develop strategies to increase user engagement and promote the inheritance of ICH.

Formula for the application effect of digital technology:

$$D = Q/M \quad (4)$$

Q represents the contribution of digital technology to the protection and inheritance of ICH, and M represents the investment cost of digital technology. This formula helps to evaluate the advantages and disadvantages of different digital technologies, in order to select more effective technologies for protection and inheritance.

### 3.3 Promoting the Protection of ICH Based on Online Media

(1) Expanding the inheritance and dissemination of ICH, improving its quality and efficiency

Due to the constraints of time and space, traditional media presents many problems such as low audience acceptance, narrow dissemination scope, and poor dissemination continuity, which make it face great limitations in inheritance and dissemination, making it difficult to truly reproduce its original appearance and cultural space. The emerging media of network information technology, due to its characteristics of permanent preservation and timely dissemination, can effectively solve the difficulties in inheritance and dissemination of ICH in various regions due to rights restrictions, ensuring that ICH and the diverse cultural characteristics contained therein can be effectively inherited and disseminated.

(2) Breaking down traditional technological barriers and allowing audiences to better enjoy more spiritual enjoyment

In the context of the development of information networks, virtual reality technology has achieved effects that traditional protection methods cannot achieve, meeting the personalized and diverse experience needs of audiences for ICH. This not only expands the application fields of virtual reality, promotes its technological innovation, but also highlights its unique personality and cultural connotations, making it truly integrated into modern society's life.

(3) Establishing and improving the dissemination of ICH

Genetic databases and commercial databases promote the inheritance and dissemination of ICH and the two-way interaction of cultural industries.

The establishment of the Chinese ICH Genetic Information Database has been accelerated:

Using information networks as a means, the construction of ICH digital resource libraries and characteristic ICH digital resource libraries has been accelerated, and based on this, the Chinese

ICH genetic information database has been constructed and improved.

The construction of the ICH Business Information Database has been accelerated:

Only by adhering to the idea of keeping up with the times and seeking progress while maintaining stability can the inheritance and dissemination of ICH be better carried out. At the same time, the mindset of keeping pace with the times and seeking progress must be adhered to while maintaining stability. While effectively protecting ICH, it is also necessary to make appropriate use of its commercialization, marketization, and industrialization to promote the inheritance and dissemination of ICH. It is necessary to establish a specialized commercial information database for ICH, organically combining promotion and quality enhancement, truly enhancing its visibility, promoting the branding and market-oriented construction of ICH inheritance and dissemination, and using this to build an industrialized platform to promote the inheritance and dissemination of ICH.

## 4. Results and Discussion

### 4.1 Statistics of Website Traffic

This article intends to use methods such as literature review and interviews to investigate online visitors and quantitatively analyze network traffic.

The daily average traffic and traffic change rate are shown in Figure 1. On January 1, 2023, the daily average traffic is 1000, with a 20% change rate in traffic. On February 1, 2023, the daily average traffic is 1500, with a 10% change rate in traffic.

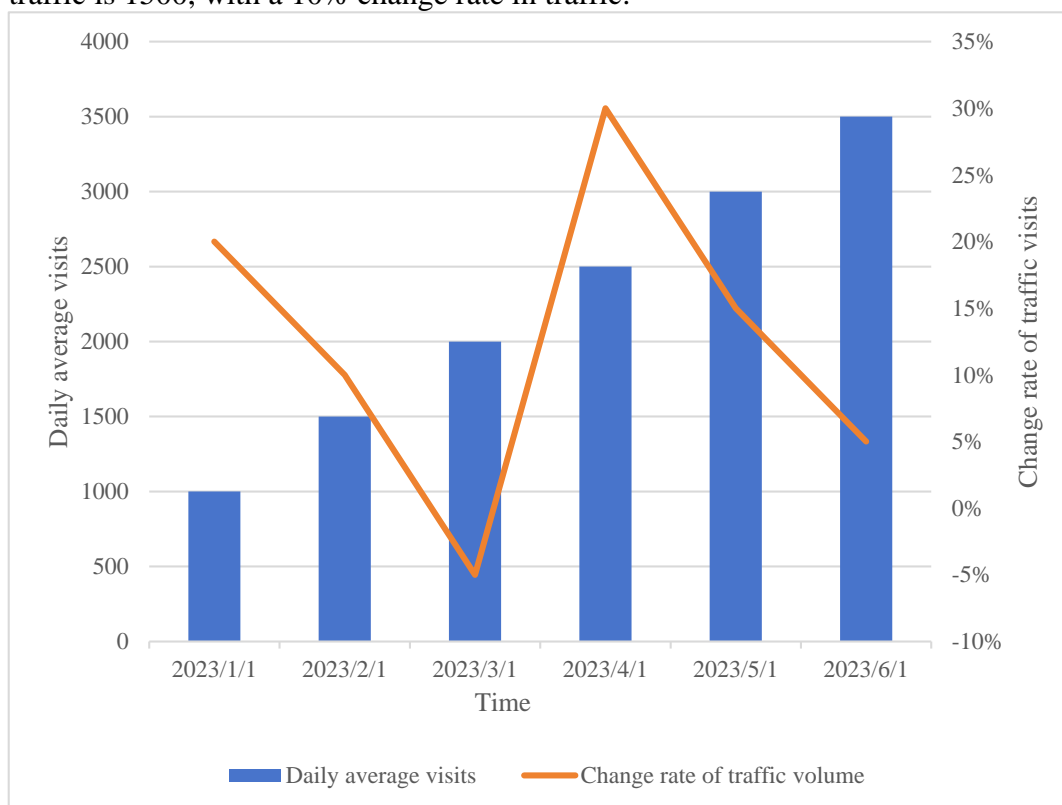


Figure 1: Daily average traffic and traffic change rate

### 4.2 Experiment on User Interaction Participation Level

This article intends to obtain relevant information on user participation behavior through interactive methods such as online lectures and community forums, and evaluate the effectiveness

and attractiveness of each strategy by comparing and analyzing the interaction frequency and satisfaction under different interaction methods.

The frequency and satisfaction of user interaction under different interaction modes are shown in Figure 2. The frequency of user interaction for online lectures is 1000 times per month, and the satisfaction rate of interaction is 90%. The frequency of user interaction in community forums is 1500 times per month, with a satisfaction rate of 95%.

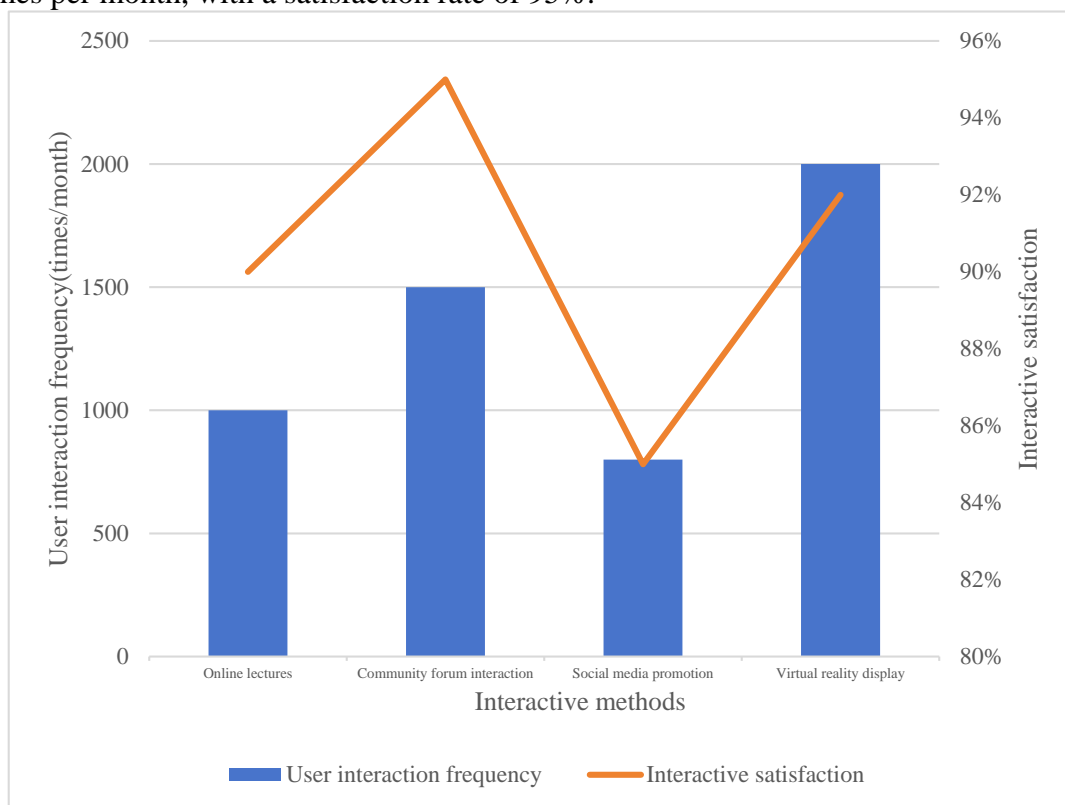


Figure 2: User interaction frequency and satisfaction under different interaction modes

### 4.3 Subjective Evaluation of Inheritance Effect

This article intends to use methods such as questionnaire survey and interview to conduct a questionnaire survey and interview on the implementation effect of the protection and inheritance strategy of Weinan ICH, analyze the participants' understanding and effectiveness of its inheritance, and evaluate its role in the inheritance process.

The number of participants, satisfaction, and cognitive improvement are shown in Figure 3. Satisfaction refers to the satisfaction with the effectiveness of the strategy, while cognitive enhancement refers to the improvement of the understanding of Weinan ICH. The first test has 100 participants, 85% satisfaction, and a 70% improvement in cognition. The number of participants in the second test is 150, with a 90% satisfaction rate and a 75% improvement in cognition.

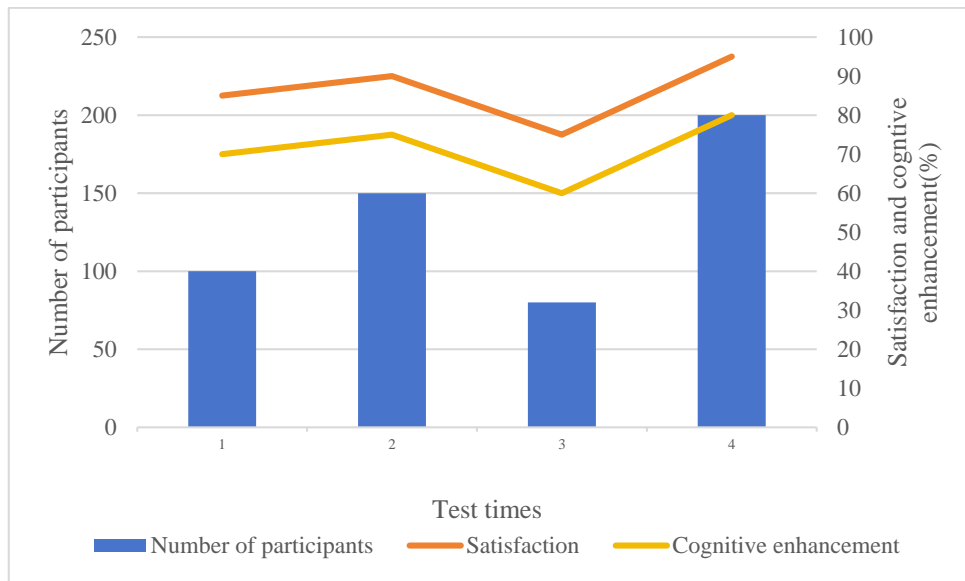


Figure 3: The number of participants, satisfaction, and cognitive enhancement

The positive attitude towards the inheritance of ICH is shown in Table 1. The proportion of positive attitudes towards the inheritance of ICH is increasing.

Table 1: Changes in positive attitudes towards the inheritance of ICH

Test times	Changes in positive attitudes towards the inheritance of ICH (%)
1	75
2	80
3	65
4	90
5	95

#### 4.4 Video Viewing Behavior Experiment

This article intends to take Chinese traditional cultural heritage as the research object, using various research methods such as interview and questionnaire survey to study its duration and frequency in different video viewing methods.

The number of views and average viewing time for different video viewing methods are shown in Table 2. Interactive documentary watches 1500 times, with an average viewing time of 30 minutes.

Table 2: The number of views and average viewing time for different video viewing methods

Video viewing method	Number of views (times)	Average viewing time (minutes)
Video tutorial	1000	20
Interactive Documentary	1500	30
Short video collection	800	15
Immersive experience video	2000	40

## 5. Conclusions

The rapid development of the Internet has broken the restrictions of time and space, creating more mature technical conditions and more diversified channels, methods and platforms for the inheritance and dissemination of ICH. At the same time, it has also widened its dissemination scope, improved its dissemination effect, and had a far-reaching impact. Therefore, the opportunity of this rapidly developing era must be seized to promote the deep integration of culture and science and technology, and apply them to the inheritance and dissemination of ICH. It is necessary to innovate in development and develop in innovation, in order to promote China's sustainable and active inheritance and dissemination of excellent traditional Chinese culture in the new era. Taking this as a starting point, the aim is to promote the creative transformation and innovative development of excellent traditional Chinese culture, with it as its main content, in modern society.

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