Research Article
The Digitisation of Intangible Cultural Heritage Oriented to Inheritance and Dissemination under the Threshold of Neural Network Vision

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As economic transformation and social change have taken place, digital media and Internet technology have developed rapidly, and the need for the development of digital research on nonheritage oriented to transmission and dissemination is becoming increasingly strong. On the basis of cultural identity and cultural sovereignty, intangible cultural heritages (ICHs) are disappearing at an alarming rate, ICHs are facing an existential crisis, and their development prospects are worrying. With the emergence of neural network models, the development of digital technology has revived many things that were on the verge of extinction. Traditional cultures and industries that originally seemed unrelated can take on new forms with the help of digital technology, thus enabling ICHs to find new ideas for development. This paper takes Huizhou ICH as an example and tries to design and construct a Huizhou ICH database and a digital map of Huizhou ICH, and it establishes a database for management and operation. The paper applies the information space theory to study the use of digital resources of ICH under the threshold of the neural network and employs digital information technology to recode, reconstruct, and interpret ICH. As a result, traditional ICH items are displayed in a digital way, which improves the public’s recognition of digital ICH items, thereby promoting the inheritance and dissemination of ICH.

1. Introduction
With the rapid development of information technology, digitalization has gradually become the development trend of ICHs’ protection and dissemination due to its advantages of nondestructiveness and wide dissemination [1]. Due to the large scale, various types, and diverse contents of ICH resources, some valuable knowledge cannot be fully revealed and utilised because of the single way of describing and organising existing resources, and the knowledge that cannot be expressed in a visible way is precisely the important content and difficulty of ICH heritage preservation and dissemination.

In the 20th century, with the continuous development of industrial civilization, both urbanization and commercialisation have ushered in great changes, but the preserved cultural heritage is disappearing at an alarming rate, and even on the verge of extinction. The natural environment for survival is being increasingly destroyed, and the Earth’s environment is at risk. The survival and development of ICH has become an important issue in front of the world.

The traditional oral transmission and inheritance method has hindered the modern transmission and development of ICHs. Many ICHs have no corresponding written records or transmission methods, relying entirely on oral transmission. As most of the inheritors are not well educated and economically disadvantaged, and some are already old, young people go out to work and often lose interest in the work of the inheritors. Under the impact of modern digital technology, information technology, and network technology, various memory-based and skill-based ICHs that rely on a unique cultural space are mainly taught by the inheritors themselves are at risk of being lost. Moreover, excessive commercialisation and industrial development
have, to some extent, compromised the integrity and authenticity of the cultural ecology, and ICHs are not protected and passed on in a scientific and effective manner. Urbanisation, commercialisation, and industrialisation have cut into the harmonious relationship formed by the long-term interaction between man and nature, destroying the ecological environment of ICHs, and the cultural space on which they depend is gradually disappearing, with many ICHs facing a serious crisis of survival. Then, there is the lack of localised excavation of ICHs. The cultural connotations, cultural characteristics, and cultural values of many ICHs are unclear, and some even appear homogenised.

In response to the abovementioned heritage environment, ICH is facing an existential crisis, and its development prospects are worrying. In particular, the transmission of the message of originality and integrity has been neglected by economic interests. As the continuation of human civilization as a proof, only inheritance and dissemination will not let our history disappear. But with the passage of time, any heritage will mutate or die, any means of heritage protection is extending the life cycle of heritage, and of course, digital means is no exception.

Technological change is not a quantitative change of gain or loss, but an overall ecological change [2]. Digital media technology is conducive to promoting the development of traditional ICH in the direction of digitisation, thereby promoting the digital theory and practical research of ICH projects. The development of digital and information network technologies has promoted the survival and development of culture and given rise to new business models and modes of digital cultural industries. The 39th statistical report released by the China Internet Network Information Centre shows that, as of December 2016, the size of China’s Internet users reached 731 million, the Internet penetration rate reached 53.2%, and the number of mobile phone users reached 695 million, accounting for 95.1% of the total. The impact of digital technology is very broad, and in addition to the dramatic impact on the development of the cultural industry itself, the impact on cultural consumers cannot be ignored. In the digital age, the cultural consumption behaviour and content preferences of consumers, especially those of the digital native generation, have changed radically, with personalised consumption, customised content, border access, and more.

The social environment inevitably changes, and with it, the cultural memories rooted in these social environments are forgotten, and texts from the past lose their self-evidentness and become subject to interpretation. In this new era, texts cannot continue to be self-evident and are caught in the tension created by the time and space gap between the text and the present. For ICH, in addition to traditional methods of transmission and conservation, new conservation concepts have emerged in response to technological change. Digital technology has revived many things that were on the verge of extinction. Traditional culture and industry, which originally seemed unrelated, can form new links and cross borders with the help of digital technology, expanding many new business models and finding new ideas for heritage development. New digital media technologies can be used to capture, process, reproduce, interpret, preserve, and disseminate cultural heritage, shifting it from uniqueness, subjectivity, and exclusivity to plurality, duality, and sharing. More importantly, the intervention of digital technology not only changes the way cultural heritage exists but also changes the public’s perception of cultural heritage and the way it is passed on.

For a thousand ICHs, it is not only necessary to pass them on but also to use modern technology and discourse systems to reinterpret them, giving them a new cultural connotation and making them relevant to modern life. In other words, digital information technology can be used to recode, reconstruct, and interpret ICH and make it accessible to the public at the cultural level of digital technology. While reconstructing ICH, digitisation also brings about changes in the public’s behaviour of perceiving, consuming, and using heritage, i.e., humanistic perception, reflection, and action on the digital dimension of technology, which is a universal value orientation. Digital heritage resources can vividly reflect the cultural forms of various regions. There are many studies on language and rituals, and it is more helpful to promote dialogue with the public with different cultural psychology. It guides people to love and learn about traditional culture at a large level.

In 1954, Japan established a record-keeping system for non-heritage in the revision of the Cultural Property Protection Law [3], in which the University of Oz in Japan carried out digital preservation of the lion dance, a non-heritage of the Oz region [4]. In 1976, the Library of Congress in the United States established the folkloric preservation centre, which has been engaged in the digital preservation of folklore materials. The Traditional Music Archive at Indiana University and the World Music Archive at Harvard University use digital technology to preserve music archives. The European Union Cultural Heritage Online (ECHO) makes full use of the potential of new media for archival preservation, academic and educational exploration, cultural heritage sharing, etc. [5]. The Asia-Pacific Cultural Centre for UNESCO has established the Asia-Pacific database on African heritage to comprehensively document the cultural messages of African heritage. The Louvre in France, the Uffizi museum in Italy, the British Museum in the UK, the National Museum of Ethnology in Japan, and a number of other museums and libraries have transformed and preserved heritage information digitally. It is worth mentioning UNESCO’s Memory of the World project, the European Union’s Content Creation Initiative, the United States’ American Memory, and the Microsoft Asia Research Institute’s eHeritage programme in the United States.

Foreign theoretical research on the digital aspects of cultural heritage predates that of China. Weiss [6] argues for community-based documentation, dissemination, and production of ICHs and the complexity of digital heritage in preserving heritage in the digital age. Ginsburg et al. [7] argues that the design of applications for visual interfaces and foreground browsing of digital cultural heritage facilitates the understanding of cultural heritage. Li [8] discusses the Indian government’s digital preservation measures for cultural
heritage resources, etc. Salins et al. [9] emphasise the need to use digital technology for the preservation and use of cultural heritage to ensure that cultural heritage should be made available to the public, i.e., for recreation, education etc. While the above analyses the digitisation of cultural heritage in terms of regional or project or technological realisation, Cameron and Kenderdine and Kalay et al. [10] theorizes the digitisation of cultural heritage from a cultural and media-critical perspective. In addition, the annual conferences related to multimedia and virtual world heritage have created a topic on the digitisation of cultural heritage, and scattered studies have been published from time to time.

Most of the current research on the digitisation of nonheritage is concerned with the digital framework of heritage, the language of digital technology, database issues, digital museums, digital libraries, etc., and rarely with the issue of the discourse of cultural subjects. There are more discussion on the digitisation technology of cultural heritage and few discussion on the cultural issues, ethical issues, intellectual property issues, rights and interests of cultural subjects, and issues of the interpretative power of heritage in the process of digitisation of cultural heritage. Domestic academic research on the digital conservation of ICH and ICH databases is still in its infancy, but both academics and practitioners have realised the importance and practical significance of digitisation of ICH. However, due to the multidisciplinary design and knowledge span of ICH digital research, many of the existing domestic studies face the dilemma of systematic and in-depth research, the disconnection between technology and practice, and the lack of in-depth communication between theoretical scholars and technical personnel. In order to change this situation, this paper takes Huizhou ICH as an example for research, tries to design and construct Huizhou ICH database and Huizhou ICH digital map, and discusses the management and operation of the database. Using information space theory in the context of neural networks, this paper studies the use of digital resources of ICHs, uses digital information technology to recode, re-construct, and interpret ICHs, and makes them accessible to the public at the cultural level of digital technology, thus promoting the transmission and dissemination of ICHs.

2. Concepts Related to Nonheritage

2.1. Cultural Heritage. "Cultural heritage" is a composite term, with "culture" as a qualifier and "heritage" as a central term to distinguish it from other heritage such as natural heritage and agricultural heritage. The term "cultural heritage" is commonly used today and has its origins in the western expressions for human cultural heritage in its material form, which was officially used in 1972 when the 17th UNESCO World Heritage Convention was adopted in Paris. It was only in 1985 that the internationally accepted term "cultural heritage" was universally used in China. Following the recommendations of some UNESCO member states, and along with the deepening of heritage conservation and awareness worldwide, the international community has formed a consensus that cultural heritage. The authors of [11] includes both tangible and intangible cultural heritage dimensions. The tangible cultural heritage refers to the materialised and physical remains of human culture, and the scope and classification of the human heritage system is given in Figure 1.

2.2. Intangible Cultural Heritage. UNESCO established a Folklore Expert Committee in 1982 to conduct a research on ICH through the establishment of an ICH department, and the concept of "intangible cultural heritage" has been gradually adopted by the socially accepted international community. The intangible heritage includes arts, crafts, languages, literature, folklore, myths, customs, beliefs, rituals, and other traditional cultures. Influenced by Japan’s use of the concept of “intangible cultural property,” UNESCO changed the title of “Nonphysical Heritage” to “Intangible Heritage” in 1992. In 2011, UNESCO adopted the Universal Declaration on Cultural Diversity and other important documents, officially using the term intangible cultural heritage and emphasising the importance of intangible heritage to the world’s cultures and to the cultural diversity and creativity of humanity. In 2003, UNESCO adopted the Convention for the Safeguarding of the Intangible Cultural Heritage, the revised version of which states that the term “intangible heritage” refers to the heritage of communities and groups, and sometimes to individuals. The convention emphasises the heritage, ecological, and creative aspects of ICH as well as the sense of cultural identity and continuity. Specific information on the conceptual classification of UNESCO’s ICH is given in Table 1.

The concept of ICH and the related elaboration used in this paper follow the content of the ICH Law adopted in 2011, as shown in Table 2. In terms of broad categories, they are divided into 5 major categories, but in terms of subdivision, they are divided into 6 subcategories or 10 categories, as shown in Figure 2.

The representative items of ICH are classified as shown in Figure 2.

2.3. Digitisation. In this paper, Huizhou is not only a geographical concept but also a cultural concept, which is an important area in the sense of traditional Chinese culture. Due to the objective and subjective factors, the objects examined and researched in this paper are the nonheritage in the Huizhou region, which refers to the whole territory of Huangshan City (Huangshan district, Huizhou district, Tunxi district, She county, Man county, Qimen county, Xuancheng city, and Jixi county), and the Huizhou cultural region has established a four-level list system of nonheritage. Most of the unique and representative ICH projects in Anhui Province originate from the Huizhou region. The region’s nonheritage projects cover the ten categories of the state council’s nonheritage list, and all types of nonheritage projects have different characteristics.

With the development of mathematics and computer science, digitisation [12, 13] has become a highly modern term of art. The original meaning of digitisation was to replace the traditional decimal system with binary. Binary was initially used for data processing, i.e., the digital
representation of text, language, images, sound, etc. Through data conversion and processing, in the binary system, each 0 or 1 is a bit, and the bit is the smallest unit of data storage. Today, the concept of digitisation is much more than a combination of bits—one is no longer a static and intuitive symbolic meaning.

Digital technology has permeated all areas and levels of society and has greatly influenced how people learn, work, and live. However, it is not easy to define the term digital not only because digitisation is a new phenomenon but also because it is changing rapidly and is clearly dynamic, making it difficult to define a fixed concept.

This article will focus on digitisation at the cultural level, and the concept of digitisation covered below refers mainly to the various digital technologies using the digital 0s and 1s as a medium. As there are many different kinds of ICHs, there are real difficulties in using a unified digital technology for digital preservation, transmission, and industrialisation.

Figure 1: Scope and classification of the human heritage system.

Table 1: Classification of UNESCO’s ICH concepts.

| Serial number | Category                                          |
|---------------|---------------------------------------------------|
| 1             | Oral traditions and expressions                   |
| 2             | Performing arts                                   |
| 3             | Social practices, rituals, and festivals          |
| 4             | Knowledge and practices about the natural world and the universe |
| 5             | Traditional handicrafts                           |

Table 2: Classification of the ICH Law of the People’s Republic of China.

| Serial number | Category                                                   |
|---------------|------------------------------------------------------------|
| 1             | Traditional oral literature                               |
| 2             | Traditional fine arts, calligraphy, music, dance, drama, and acrobatics |
| 3             | Traditional techniques, medicine, and calendars           |
| 4             | Traditional etiquette, festivals, and other folk customs  |
| 5             | Traditional sports and recreation                         |
| 6             | Other intangible cultural heritage                        |

Figure 2: Classification of representative items of ICH.
In the real world, certain ICHs have lost their audiences, soil, and space for survival, but the virtual reality built by digitisation opens up a new space for the survival and development of ICHs, and ICHs can find their own way of communication.

3. Neural Network Models

3.1. Principle of Artificial Neural Networks. The principle of a neural network [14, 15] is as follows: a neural network has multiple neurons connected, somewhat similar to the Internet, which is an interconnection of servers. The neurons in a neural network are connected in a certain hierarchy and rules. In general, a neural network consists of three layers, namely, the input layer, the hidden layer, and the output layer, while the hidden layer can choose more than one neuron, as shown in Figure 3. Each neuron processes the input data, and the specific processing operations are based on the transfer function and learning function. Neurons between different convolutional layers are connected to each other, and there are no neurons between the same layers. When the weight of the connection layer changes, the neural network completes the training process.

We think of each connection in a neural network as a processing unit, which transforms and aggregates the input data. Each processing unit has a limited capacity, but when there are multiple processing units, it is more powerful. The individual processing units work in concert to adjust the weights on each connection and eventually simulate the data accurately. This adjustment process is a learning process that relies on a series of learning algorithms. The process is complex and may take place thousands of times. Learning ends when the error is within tolerance or a predetermined number of times has been reached. If the trained network model achieves a predetermined accuracy, the data can be processed.

There are various artificial neural networks currently available, such as BP neural networks [16, 17], adaptive resonance theory [18, 19], avalanche networks [20, 21], bidirectional associative memory [22, 23], and Boltzmann machines, but the more widely used is the BP network model. The BP neural network model is described in detail in Section 3.2.

3.2. The BP Neural Network. The error back-propagation algorithm is often used in the training of multilayer feedforward networks, and this method is needed to adjust parameters during the training process, which is called the BP network. The basic idea of the BP algorithm is that there is a forward learning signal and a reverse error signal in the learning process. In the forward learning signal, it is transmitted from the input to the hidden layer and then to the output layer, whereas the reverse signal is in the opposite direction. The reverse error signal is passed from the output layer, and when there is a large error between the network output data and the desired data, that error is passed to the hidden layer. The error is assigned to different neurons depending on the weights of the connections as it passes and finally passes out of the input layer.

Figure 4 depicts a portion of a multilayer forward network in which two signals are being transmitted:

(i) The working signal (indicated by a solid line), which is passed forward from the input to the output, which is a function of the input and the weight
(ii) The error signal (indicated by a dashed line), which is passed backwards from the output to the input, which is a function of the error, and which is assigned to each neuron during the transfer according to the connection weights

The specific process of the BP neural network [24] is as follows:

(i) Determine the input, output, number of layers, and the number of neurons in the hidden layer of the neural network; there can be more than one hidden layer, but there is no theoretical basis for determining the exact number of layers.
(ii) Setting up the transformation function and the learning function in the neural network, both of which are described in detail.
(iii) The selected sample size, generally obtained according to an empirical formula.
(iv) The initialization of the weights, which can be given randomly but may lead to an increase in learning time, is given in this paper to calculate the initialization of the weights.
(v) Enter samples in sequence.
(vi) Calculate the output of each layer in turn.
(vii) Finding the back-propagation error for each layer.
(viii) Correction of individual weights and thresholds by the weight adjustment formula.
(ix) The output of each layer is calculated by the new weights until the error is less than a predetermined threshold. The following transformation functions in the neuron can be used [25]:

(i) Step function:

\[ f(x) = \begin{cases} 
1, & x \geq 0, \\
0, & x < 0.
\end{cases} \] (1)
(ii) S-type function: usually in [0, 1] or [-1, 1] within the continuous value of the monotonic differentiable function. Commonly used response functions are S-type sigmoid functions.

\[ f(x) = \frac{1}{1 + e^{-\mu x}} \]  

(2)

(iii) Proportional functions:

The proportional function is a linear function, often used between the hidden and output layers, which has a filtering effect while the linear propagation function does not change the nonlinear relationship of the output of the hidden layer. It is expressed as follows:

\[ f(x) = kx. \]  

(3)

(iv) Symbolic functions:

\[ f(x) = \begin{cases} 1, & x \geq 0, \\ -1, & x < 0. \end{cases} \]  

(4)

(v) Saturation function:

\[ f(x) = \begin{cases} 1, & x > \frac{1}{k} \\ kx, & -\frac{1}{k} \leq x < \frac{1}{k} \\ -1, & x < -\frac{1}{k} \end{cases} \]  

(5)

(vi) Hyperbolic functions:

\[ f(x) = \frac{1 - e^{-\mu x}}{1 + e^{-\mu x}}. \]  

(6)

BP is the most widely used network model of any neural network. And among the BP neural networks, the more commonly used is the single hidden layer network, which is also known as a three-layer feedforward network or a three-layer perceptron.

The formula for the output layer in a BP neural network is as follows:

\[ o_k = f(\text{net}_k), \quad k = 1, 2, \ldots, l, \]

\[ \text{net}_k = \sum_{j=0}^m w_{jk} y_j, \quad k = 1, 2, \ldots, l, \]  

where \( f \) is the activation function, \( w \) is the weight, and \( y \) is the corresponding eigenvector.

The implicit layer is calculated as

\[ y_j = f(\text{net}_j), \quad j = 1, 2, \ldots, m, \]

\[ \text{net}_j = \sum_{r=0}^n v_{jr} x_r, \quad j = 1, 2, \ldots, m, \]  

(8)

where \( y_j \) represents the output of the hidden layer, \( f \) is the activation function, and \( v \) represents the weight corresponding to the vector \( x \).

In the above equation, the transfer functions \( f(x) \) are all unipolar sigmoid functions.

\[ f(x) = \frac{1}{1 + e^{-x}}. \]  

(9)

Depending on the application, a bipolar sigmoid function can also be used.

\[ f(x) = \frac{1 - e^{-x}}{1 + e^{-x}}. \]  

(10)

where \( e \) is the logarithmic base and \( x \) is the vector.

Together, the above equations form a mathematical model of a three-layer feedforward network.

### 4. Experiments in Digitisation of Nontraditional Heritage

4.1. Digital Indicators Established. This paper examines and researches the ICHs in the Huizhou region, which refers to the whole of Huangshan City, including Huangshan district, Huizhou district, Tunxi district, She county, Man county, Qimen county, Xuncheng city, and Jixi county. Digitize all intangible cultural heritage items to establish a database, recode, reconstruct, and interpret all traditional intangible cultural heritage items for digital display.

Digitised ICH items from four different regions were randomly pushed out to the general public, an online questionnaire was created to test the classification of ICH items from different regions, and the dissemination of ICH was promoted in the campaign. Data from different users were collected, the results of the questionnaires were analysed, and dissemination measures were improved based on the results.
4.2. Digital Research. The results of the online questionnaire collection, a total of 1,000 online questionnaires, were distributed in this experiment, 856 were returned, and the information of all the data collected was tallied. The results of the four regions’ public favourite nonheritage items are shown in Table 3.

A comparison of the public’s favourite ICH items in these four regions is shown in Figure 5. As can be seen from Figure 5, there is not much difference between the number of popular favourite ICH items and the most impressive items, which shows that the favourite items are more associated with the most impressive items.

The 856 online questionnaires were also categorised into different regions of the ICH, and the data information for each of the five scenarios, including all correct and only one wrong, was tallied as shown in Table 4.

The breakdown of all questionnaires is shown in Figure 6. The data in Table 4 are obtained from an electronic questionnaire withdrawn from the general public, which consists of two parts. The first part is to let users choose their favourite ICH projects, so as to deepen the user’s impression of all ICH projects, indirectly for the purpose of dissemination. The other part is to push different ICH projects to users, after the user understands the background and source of all projects, and finally set up a question for the user to classify the ICH projects browsed; there are a total of four categories here, so as to collect the user’s understanding information data and facilitate further research.

As can be seen in Figure 6, the digitisation of ICH items is more impressive to the general public, as the number of misclassified items is inversely proportional to the size of misclassified items, indicating that the digital dissemination of ICH plays an important role in the expansion of traditional ICH and contributes to its revival.

The next step was to use BP neural networks to predict the classification results of the questionnaire data and test the prediction results under different parameters. Six hundred traditional ICH data based on recording, reconstruction, and interpretation were selected as the training set, and the remaining questionnaire data were used as the test set for prediction. To ensure the accuracy of the results, all experiments were repeated five times, and the classification accuracy data under different iterations are shown in Table 5.

A visual comparison of the classification accuracy data for different numbers of iterations is shown in Figure 7. From Figure 7, it can be seen that different numbers of iterations have a greater impact on the prediction results, with the best classification results being achieved when the number of iterations is 5.

After the network was trained, we tested it with 20 test samples, and the results and error analysis are shown in Tables 6 and 7.

A visual comparison of the test results and error data for the test set is shown in Figure 8.

As can be seen in Figure 8, the actual discrepancies between the sample values and the test values are not very different; the trends are roughly the same for both, and the errors always remain within a certain range. The errors of the 20 sets of samples were next analysed, and the results of the comparison are shown in Figure 9.

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**Table 3: Data on the public’s favourite ICH projects in the region.**

| Category    | Favourite items | The most impressive project |
|-------------|-----------------|-----------------------------|
| National    | 325             | 256                         |
| Provincial  | 260             | 301                         |
| Municipal   | 150             | 128                         |
| County      | 121             | 171                         |

**Table 4: Classification of ICHs from 856 questionnaires.**

| Category         | Value |
|------------------|-------|
| All correct      | 288   |
| Divide the wrong one | 216 |
| Divide the wrong two | 198 |
| Divide the wrong three | 103 |
| All errors       | 51    |
Table 5: Classification accuracy data with different number of iterations.

| Number of iterations | Experiment 1 | Experiment 2 | Experiment 3 | Experiment 4 | Experiment 5 | Average value |
|----------------------|--------------|--------------|--------------|--------------|--------------|---------------|
| 3                    | 0.86         | 0.84         | 0.88         | 0.86         | 0.86         | 0.86          |
| 4                    | 0.90         | 0.88         | 0.92         | 0.93         | 0.91         | 0.91          |
| 5                    | 0.92         | 0.94         | 0.93         | 0.93         | 0.94         | 0.93          |
| 6                    | 0.91         | 0.89         | 0.90         | 0.88         | 0.91         | 0.90          |
| 7                    | 0.87         | 0.89         | 0.90         | 0.86         | 0.90         | 0.89          |

Figure 7: Visual comparison of classification accuracy data for different iterations.

Table 6: 1–10 test results and error analysis data.

| Serial number | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
|---------------|----|----|----|----|----|----|----|----|----|----|
| Sample values | 0.44 | 0.35 | 0.28 | 0.54 | 0.34 | 0.38 | 0.39 | 0.41 | 0.64 | 0.60 |
| Test value    | 0.48 | 0.38 | 0.29 | 0.55 | 0.38 | 0.36 | 0.42 | 0.38 | 0.69 | 0.65 |
| Error         | 0.04 | 0.03 | 0.01 | 0.01 | 0.04 | 0.02 | 0.03 | 0.03 | 0.05 | 0.05 |

Table 7: 11–20 test results and error analysis data.

| Serial number | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---------------|----|----|----|----|----|----|----|----|----|----|
| Sample values | 0.61 | 0.63 | 0.64 | 0.79 | 0.73 | 0.87 | 0.89 | 0.93 | 0.98 | 0.92 |
| Test value    | 0.64 | 0.66 | 0.70 | 0.83 | 0.77 | 0.90 | 0.95 | 0.97 | 0.95 | 0.94 |
| Error         | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.03 | 0.04 | 0.04 | 0.03 | 0.02 |
As can be seen in Figure 9, the closer to the centre the smaller the error, and vice versa, the larger the error. As a whole, it can be seen that the error between all samples and the number of tests is not very different, indicating the accuracy of the digital description of all the nonheritage in the Huizhou region, which is conducive to the widespread dissemination of traditional nonheritage.

5. Conclusion

This paper studies the impact of digital technology on the dissemination of intangible cultural heritage based on the current situation of Huizhou’s intangible cultural heritage through on-the-spot research. The paper uses digital information technology to recode, reconstruct, and interpret ICH items, present them digitally, and establish an online questionnaire survey to collect data on the public’s liking of digitised ICH items and the comparison of different ICH items by category. Predictive analysis of the ICH test sample was carried out under the BP neural network, and the error between the sample data and the test data was controlled within a reasonable range, making the digital ICH items more acceptable to the public and, at the same time, raising people’s attention to the ICH items during the data collection process, further promoting the dissemination of ICH, and enabling the innovative development of the traditional ICH dissemination channels. The conclusions of this paper are mainly derived from the collected digital information data, and the dissemination of ICH projects is still facing a huge test for a wider range of personnel needs.
Next, we will gather more public information so that the ICH project can be more widely disseminated.

**Data Availability**

The datasets used during the current study are available from the author on reasonable request.

**Conflicts of Interest**

The author declares no conflicts of interest.

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