

Exploration and Practice of Digital Exhibition Enabling the Development of Intangible Cultural Heritage Industry in Shaoxing

Xinru Zou, Fangbin Qian, Jingyi He, Weitao Xiang, Daixin Han, Liying Qiao, Kexin Zhao
Zhejiang Yuexiu University, Shaoxing, Zhejiang, 312000

Abstract: Digital empowerment is an important means to promote the development of cultural industries. Since entering the stage of the "14th Five-Year Plan" development plan, digital exhibitions have developed rapidly and become increasingly mature. The intangible cultural heritage of Shaoxing City, Zhejiang Province is rich and diverse. Based on the analysis of the current situation of the protection and utilization of intangible cultural heritage in Shaoxing City, this study summarizes the existing problems in the aspects of mass participation, publicity and non-genetic inheritance, and adopts the methods of case analysis and investigation and research to analyze the intangible cultural heritage projects of Shaoxing traditional opera, folk art, fine arts and skills. Put forward specific measures to empower Shaoxing intangible cultural heritage industry, including recording and archiving relevant materials and images of intangible cultural heritage through digital technology, to enhance the protection and inheritance of intangible cultural heritage; It is proposed to make use of digital exhibition to enable the construction of "online + offline", "physical + virtual" intangible cultural heritage exhibition mode.

Keywords: Digital exhibition; Intangible cultural heritage industry; Shaoxing

1. Research Background

In recent years, with the continuous exploration and practice of the protection of intangible cultural heritage (hereinafter referred to as "intangible cultural heritage") in China, the renewal of new information technology has continuously promoted the protection and development of intangible cultural heritage. At present, Shaoxing has a total of 26 national intangible cultural heritage representative projects, 86 provincial intangible cultural heritage representative projects, and 261 municipal representative projects, covering ten categories of intangible cultural heritage. There are traditional dramas represented by Shaoxing Opera and Shaoxing Opera. Shaoxing Lianhualuo, Shaoxing Tanhuang as the representative of the art; The folk customs represented by the Festival the Yu the Great, the Temple fair of King Shun and Water Town's She Opera; Shaoxing rice wine brewing skills, stone bridge construction skills as the representative of the traditional skills. In terms of the protection of representative inheritors of intangible heritage, Shaoxing currently has a total of 21 national representative inheritors, 109 provincial representative inheritors, and 365 municipal representative inheritors. In addition, more than 200 non-genetic heritage sites, non-heritage sites or protection carriers have been declared or identified. It can be seen that Shaoxing's intangible cultural heritage has been associated with urban life, and integrated into people's lives, and become the support of people's better life.

At the same time, with the introduction of new digital technologies such as VR or three-dimensional modeling and simulation technology, the staggered replacement of virtual reality has become a new trend in the development of digital information technology, creating favorable conditions for transforming and enhancing intangible cultural heritage products and promoting the digital influence of intangible cultural heritage. On the one hand, intelligent technologies such as knowledge graph, user images and we-media means are integrated to realize virtual reality of intangible cultural heritage, realize full-reality high-definition display of traditional folk cultural resources, and promote the industrialization of ethnic folklore or performance of intangible cultural heritage, thus enhancing the attractiveness of intangible cultural heritage projects. On the other hand, based on artificial intelligence technology, give full play to the real interaction function of augmented technologies such as VR. Actively guide inheritors of intangible cultural heritage to deeply participate in the digital operation of the intangible cultural heritage ecosystem, and develop the value of non-genetic inheritors with the help of intelligent technologies, especially the dynamic display of their technologies, to give intangible cultural heritage enthusiasts personal experience, which can not only promote the humanistic connotation of intangible cultural heritage, but also realize the true inheritance of intangible cultural heritage skills.

2. Literature Review

2.1 Development Status of Intangible Cultural Heritage (ICH) Cultural Industry

With the development and ascent of the world economy and society, the value of intangible cultural heritage (ICH) has been further explored and expanded. Currently, foreign research on the ICH cultural industry primarily focuses on concept definition, measures for ICH protection and management, and the relevant subjects involved in ICH inheritance and protection.

Regarding ICH protection and management measures, Chothors.M.J (2008) suggests that to protect national intangible cultural heritage, the government should actively guide the involvement of private art groups and effectively mobilize the participation of experts. Concerning ICH inheritance and protection, Williams (1995) proposes a "cooperative decision-making model" involving all stakeholders. Bramell (2004) emphasizes the need to formulate a "local cooperation policy-making procedure" to regulate tourist management plans and provides specific procedures and approaches based on case studies.

In the exhibition space and inheritance platform aspect, Tang (2016) systematically discusses the significance of ICH exhibitions in preserving and utilizing China's intangible historical and cultural heritage. Examples such as the China Intangible Heritage Expo and International ICH Festival are analyzed to elucidate the relationship among government management, ICH inheritors, and visitors. Regarding the application of ICH digitization, scholar Wang (2009) defines "cultural heritage digitization" as using modern digital means

to transform, reproduce, and restore intangible cultural heritage into shareable and recreatable digital forms. This involves interpreting from new perspectives, preserving in new ways, and utilizing for new needs.

From the above literature review, it is evident that foreign research provides valuable insights into the protection and utilization of China's intangible heritage. However, there is a relative lack of comprehensive research on the systematic integration of ICH, which can be further explored in future studies. In contrast, domestic research in China has moved beyond simple census recording and static preservation, covering a broad range of topics related to the protection and utilization of ICH.

2.2 Research Status of ICH Exhibitions

Foreign research focuses on the development and practice of ICH exhibitions. Rachel Faye Giraudo and Meskell (2011) point out that using ICH as an opportunity to combine with festivals can achieve a win-win situation among the government, cultural heritage, tourists, and local people. In practice, the Japanese Parliament (1996) showcased and disseminated information about intangible cultural heritage through mainstream media, followed by organizing public-form ICH exhibitions. France (2004) began hosting "French ICH Day," using festival celebrations as an opportunity to organize ICH exhibitions.

Domestic research in China proposes the concept of ICH exhibitions, with scholar Chen (2012) defining it in terms of types and nature. Subsequently, Liu and Tang (2016) expanded the definition and proposed attempts at a public platform. Researchers like Xie (2019) studied ICH protection, exhibition models, economic roles, and cultural impacts. The development of ICH exhibitions, as proposed at the 6th China Intangible Cultural Heritage Expo (2020), focuses on a "mainly online, supplemented offline, and a combination of online and offline" approach.

From the relevant research on ICH exhibitions at home and abroad, it is apparent that foreign research emphasizes various types of ICH archive exhibitions in places like museums, libraries, and exhibition halls. In contrast, domestic research in China primarily focuses on specific exhibitions such as the International ICH Festival (Jinan) and China Intangible Heritage Expo (Chengdu). Although China's ICH exhibitions are developing vigorously, they are still in the early stages and require the establishment of a mature cultural exhibition model to fully unleash their cultural and economic potential.

2.3 Research Status of Digital Age Exhibitions

In the development of virtual exhibition equipment and related information technology, Pearlma (2010) and .Gates (2018) thoroughly researched the background and the trend of "Reality + Virtual." They investigated human awareness, acceptance levels, and the practical conditions of virtual reality technology. Regarding the user exhibition experience in the digital age, .Fenich's (2018) research clearly reflects that millennials prefer using digital technology for communication to provide more timely feedback on exhibition activities.

In the study of digital exhibition models, Hang (2019) compared and analyzed three major exhibition projects, namely Taobao Maker Festival, Yunqi Conference, and 2050 Youth Conference, invested in by the Alibaba Group. The focus was on establishing interactive online platforms, building exhibition data command centers, and improving organizational and talent structures for future digital exhibition models. In the application and research of big data technology in digital exhibitions, Wang (2019) analyzed the use and development prospects of big data analysis technology in traditional exhibitions, stating that traditional customer resources no longer have a competitive advantage. In the application of artificial intelligence information technology in digital exhibitions, Xu (2019) systematically analyzed the use of artificial intelligence technology in the exhibition field and discussed the feasibility of mutually beneficial development between the exhibition industry and artificial intelligence technology in the digital age.

Comparing the relevant research on digital age exhibitions at home and abroad, it is evident that the research directions in both domestic and foreign contexts are consistent in terms of development trends. This indicates that the impact of the exhibition industry on the economy in the digital age is in line with economic laws and is an important issue discussed globally.

3. Issues in the Development of Intangible Cultural Heritage (ICH) Cultural Industry in Shaoxing

3.1 Insufficient Emphasis and Lack of Effective Exploration, Organization, and Protection Mechanisms

Shaoxing, known as the "city of intangible cultural heritage without walls," possesses a vast and high-quality reservoir of intangible cultural heritage resources. However, these resources often remain undiscovered, tucked away, or exist merely as symbolic cultural artifacts without integration into cultural and tourism initiatives. They have not been effectively incorporated into the cultural and tourism industry, lacking market visibility and not yet embarking on a path of industrialization. Moreover, the accessibility to intangible cultural heritage is limited for the general public, requiring visits to museums, art galleries, exhibitions, or temple fairs for close encounters. Additionally, the distribution of intangible cultural heritage in Shaoxing is extensive, with scattered raw materials, making exploration and acquisition challenging. The establishment of mechanisms for organization, preservation, and protection requires coordinated efforts and integration through a unified, comprehensive working platform, adding to the complexity of developing Shaoxing's intangible cultural heritage industry.

3.2 Slow Progress in Cultural Industry System Mechanism Reform, Hindering the Cultivation and Operation of the Cultural Market

Shaoxing boasts traditional performing arts represented by Yue Opera and Shao Opera, traditional folk arts represented by Shaoxing Lianhua Luo and Shaoxing Tanhuang, folklore represented by legends like Xi Shi and the Butterfly Lovers, and traditional craftsmanship represented by Shaoxing yellow wine production and stone bridge construction, covering the ten major categories of intangible cultural heritage. However, the essence of the mutual promotion mechanism between cultural industry development and the exploitation of intangible cultural heritage resources lies in re-establishing the connection between these resources and daily life. Achieving this connection relies on the cultivation of the cultural market and the operation of market mechanisms. Presently, the development of the cultural industry system mechanism is imperfect, with small-scale enterprises engaged in cultural industries, limited financial investments, especially in the cultural industry focused on the development and utilization of intangible cultural heritage resources, facing challenges in establishing sufficient

market appeal. This directly hampers the cultivation and operation of the cultural market.

3.3 Homogeneity in Cultural Product Development, Local Characteristics, and Creative Levels Need Improvement

The longstanding inheritance of intangible cultural heritage in Shaoxing has formed unique intangible heritage resources that play a crucial role in promoting Shaoxing's intangible cultural heritage, building the city's brand, and enhancing the creativity and value of Shaoxing's unique intangible cultural and creative products. Scholars have conducted research on various aspects, such as traditional handicraft cultural and creative products, social folk culture cultural and creative products, Shaoxing's characteristic architecture, scenic cultural and creative products, and museum resource cultural and creative products. However, the development of Shaoxing's distinctive intangible heritage products faces challenges such as severe homogenization, insufficient distinctive characteristics, and the need to enhance cultural connotations and cultural added value. The current focus on market orientation has not fully re-positioned and interpreted the cultural and market values of intangible heritage from an innovative perspective.

3.4 Low Empowerment of Digital Technologies for Intangible Heritage Resources, Lack of Systematic Industrial Development Models

The deep integration of culture and technology is a crucial trend in the development of cultural and creative industries. The development, utilization, and industrialization of Shaoxing's intangible cultural heritage resources can only be elevated through the dissemination, transformation, and innovation brought about by modern scientific technologies. With the rise of the Internet and mobile Internet technologies, people's cultural habits have undergone disruptive changes. However, for a considerable period, Shaoxing's intangible cultural heritage resources have lacked effective integration with digital technologies in content development and presentation forms. There has been a failure to reinforce the collaborative capabilities of cultural creativity with production and manufacturing technology, exhibition and communication technology, and consumer terminal technology. As a result, there is a lack of systematic industrial development models in areas such as tourism performance products, cultural tourism products, digital entertainment, and creative experiences, representing a waste of Shaoxing's rich intangible cultural heritage resources and, consequently, substantial negative impacts on the city's influence and competitiveness in cultural industry development.

4. Solutions and development proposals

4.1 Solutions

4.1.1 Strengthen the digital Protection and Inheritance of Intangible Cultural Heritage

Intangible cultural heritage is a valuable asset of Shaoxing. However, due to the reduction of inheritors and the loss of traditional skills, intangible cultural heritage is facing serious problems of protection and inheritance. Through digital technology, intangible cultural heritage culture can be recorded, archived and disseminated, so that more people can understand and learn intangible cultural heritage culture. Through digital technology to establish a digital archive of intangible cultural heritage, collect and organize relevant information and image data of intangible cultural heritage. At the same time, it can also develop an online learning platform for intangible cultural heritage, provide teaching and training of intangible cultural heritage skills, and provide the public with understanding and learning channels of intangible cultural heritage.

4.1.2 Government's Support and Guidance

The development of digital exhibition needs the government's policy support and guidance, and provides a good development environment and policy guarantee for digital exhibition and intangible cultural heritage culture industry. Through the government-led intangible cultural heritage related cultural exhibition industry as an emerging force, while the government's financial investment, it also brings corresponding economic returns. The government builds a platform to provide display and trading carriers for intangible cultural heritage, so that enterprises and intangible cultural heritage inheritors use the platform to inject vitality into the protection of intangible cultural heritage (Liu Xianshi, Tang Yuemin, 2016). Taking the Seventh China Intangible Cultural Heritage Expo as an example, the intangible cultural heritage based on traditional crafts plays a unique role in promoting urban and rural employment and increasing income, promoting the effective connection between poverty alleviation and rural revitalization. Through the government to formulate relevant policies and regulations, encourage and support the development of digital exhibition, provide financial and resource support, strengthen the training and support of intangible cultural heritage cultural industry, constantly cultivate new compound talents, improve the professional quality and innovation ability of employees, is an important foundation for the future development of digital intangible cultural heritage exhibition.

4.1.3 Strengthen the Market Promotion and Publicity of Digital Exhibition

As a new exhibition mode, digital exhibition needs to attract more visitors and partners through effective marketing and publicity. The intangible cultural heritage culture industry can attract users' attention and participation by establishing a special digital exhibition platform and social media account to publish exhibition information and interactive content. At the same time, it cooperates with tourism institutions, cultural institutions and commercial institutions to jointly promote digital exhibition and Shaoxing intangible cultural heritage cultural industry, and create the brand image and market influence of intangible cultural heritage culture.

4.1.4 Improve the Development and Application of Digital Technology

The core of digital exhibition is the application of digital technology. Shaoxing intangible cultural industry should first strengthen the research and innovation of digital technology from the technical point of view, so as to improve the quality and experience of digital exhibition. For example, virtual reality (VR) and augmented reality (AR) technologies can be developed to enable visitors to experience the charm of intangible cultural heritage. At the same time, it can also develop intelligent navigation systems and interactive display devices to provide a richer and more personalized visit experience. The digital scene construction of Shaoxing intangible cultural heritage involves the scenes between virtual and reality, online and offline, large screen and small screen, as well as the scenes of intangible cultural heritage digital protection and inheritance, creation and transformation, dissemination and experience. The digital scene system of intangible cultural heritage is comprehensively constructed from the

aspects of technology, content and subject, so as to break through the boundary of the original time and space of intangible cultural heritage and realize the two-way running of intangible cultural heritage and science and technology.

4.2 Development Suggestions

Tan Zhiguo (2011) shows that the basic characteristics of intangible cultural heritage determine that its protection should not be static solidification protection, but should be living protection. In recent years, the convention and exhibition industry has developed rapidly in various regions. In 2010, Shanghai successfully hosted the World Expo. It has become a common means to spread and display intangible cultural heritage through exhibitions.

The success of digital exhibition requires multi-party cooperation and resource integration, including intangible cultural institutions, digital technology enterprises, cultural and creative enterprises, etc. However, at present, the cooperation and resource integration between digital exhibition and intangible cultural heritage culture industry are not close and deep enough. On the one hand, intangible cultural heritage institutions still have limited understanding and application of digital technology, and cannot give full play to the potential of digital exhibitions. On the other hand, digital technology enterprises have limited understanding and awareness of intangible cultural heritage culture, and cannot provide customized solutions for intangible cultural heritage culture industry. Therefore, it is necessary to strengthen the cooperation and exchange between digital exhibition and intangible cultural heritage culture industry, and jointly explore the application and development of digital exhibition in the development of intangible cultural heritage culture industry.

At this stage, customers prefer to use digital technology to communicate, in order to achieve a more timely reflection and feedback on the status of exhibition activities. This also shows that millennials, who have developed together with the digital age, are more willing to pay for better services and feelings. The management and service of intangible cultural heritage digital resources can effectively promote the collection, ordering, effective development and sharing of resources, and help to explore the cultural and social values behind intangible cultural heritage, so as to better realize the dissemination and penetration of intangible cultural heritage to the public (Zhai Shanshan, Cha Siyu, Guo Zhiyi, 2023). The change of exhibition customer demand is also driving and encouraging the exhibition industry to use new information technology to continuously improve its business and better realize the needs and feelings of customers, so as to promote the development of Shaoxing 's intangible cultural heritage cultural industry, realize the inheritance and innovation of intangible cultural heritage culture, and inject new vitality and impetus into the development of Shaoxing 's cultural industry.

5. Conclusion

In the digital era, intangible cultural heritage provides cultural connotation and content guarantee for non-legacy conventions and exhibitions, digital exhibition of intangible cultural heritage provides a digital display and sharing platform for the safeguarding and dissemination of intangible cultural heritage, the digital exhibition of intangible cultural heritage not only promotes the development of the digital exhibition of intangible cultural heritage, but also enables its protection and dissemination in a more practical way.

However, the digital scene construction of NHL involves both virtual and real, online and offline, scenes between large and small screens and scenes of digital preservation and inheritance of non-heritage, creation and transformation scenarios, dissemination and experience scenarios, and how to comprehensively build a non-heritage cultural industry system empowered by digital exhibition from the aspects of technology, content, and subjects, breaking through the boundaries of the time and space of origin of non-heritage, realizing the two-way running between non-heritage and technology, to be further examined.

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