

Research on Digital Dissemination of Intangible Cultural Heritage: A Digital Publishing Perspective (Postprint)

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Abstract

China possesses a wealth of intangible cultural heritage, ranking first globally in the number of items inscribed on UNESCO's Intangible Cultural Heritage lists. Amidst the pressures of globalization, modernization, and economic integration, China's intangible cultural heritage is confronting significant challenges in preservation and inheritance. However, the advent of the information age and the maturation of digital dissemination technologies, such as digital publishing, have ushered in unprecedented opportunities for the digital transmission of intangible cultural heritage. Digital dissemination transcends the limitations of traditional inheritance methods, satisfying the innovative demands for information-based propagation of intangible cultural heritage through notable communicative advantages. This facilitates the preservation, inheritance, and knowledge transformation of intangible cultural heritage in the digital era, thereby offering a novel paradigm for the contemporary transmission and development of intangible cultural heritage.

Full Text

Research on Digital Dissemination of Intangible Cultural Heritage: From the Perspective of Digital Publishing

Abstract: China possesses a wealth of intangible cultural heritage, ranking first among all nations in the number of items inscribed on UNESCO's Intangible Cultural Heritage Lists. However, under the pressures of globalization, modernization, and economic integration, China's intangible cultural heritage faces significant challenges in preservation and transmission. In the information age, the maturation of digital communication technologies such as digital publishing has created unprecedented opportunities for the digital inheritance of intangible cultural heritage. Digital dissemination transcends the limitations of

traditional transmission methods, meeting the needs for innovative information-based communication of intangible cultural heritage with distinct advantages. This approach facilitates the preservation, transmission, and knowledge transformation of intangible cultural heritage in the digital era, offering a new model for its contemporary development.

Keywords: intangible cultural heritage; digital dissemination; digital publishing

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In the information age, digital technology has attracted global attention and recognition for its significant advantages in protecting and disseminating intangible cultural heritage. The development of modern communication technologies provides convenient conditions and broad space for the promotion and transmission of intangible cultural heritage. In this era, how to use information technology to protect Chinese cultural heritage and inherit the roots of Chinese civilization is a responsibility and mission entrusted to us by the times.

1. Overview of Digital Dissemination of Intangible Cultural Heritage

According to the Convention for the Safeguarding of Intangible Cultural Heritage adopted by UNESCO (United Nations Educational, Scientific and Cultural Organization) in 2003, intangible cultural heritage refers to the practices, representations, expressions, knowledge, and skills—as well as the instruments, objects, artifacts, and cultural spaces associated therewith—that communities, groups, and, in some cases, individuals recognize as part of their cultural heritage [1]. The most significant characteristic of intangible cultural heritage is that it remains inseparable from the distinctive lifestyles of ethnic communities, representing a “living” manifestation of ethnic personality and aesthetic traditions. It exists through people themselves, using sound, image, and skill as means of expression, and continues through oral and physical transmission, making it a people-centered, living cultural heritage that emphasizes human-centered techniques, experiences, and spirit, characterized by dynamic evolution.

Under the impact of modern civilization, the protection and transmission of intangible cultural heritage has attracted widespread attention. On the one hand, preserving intangible cultural heritage is crucial for maintaining and promoting the diversity of human civilization. On the other hand, in the context of economic globalization, most developing countries face the threat of “strong culture” invasion and impact from developed countries, which poses a severe threat to traditional ethnic and folk cultures and even creates a survival crisis. Moreover, within a single country, the traditional cultures of economically underdeveloped regions also face crises of cultural identity under the impact of modern civilization, gradually disappearing due to a lack of successors. Currently, governments worldwide are actively exploring effective means to address

the dilemmas facing intangible cultural heritage, seeking space for its survival in contemporary civilization to enhance its vitality, dynamism, and sustainable development capacity. Against this backdrop, digital dissemination of intangible cultural heritage has emerged.

Digital dissemination is a new form of information communication activity that uses computers as the main platform and multimedia as auxiliary means to meet the demands of modern social development. It combines various data and text, graphics, animation, music, language, images, films, and video information on computers for interactive engagement, representing a new communication pathway that integrates language, text, and audio-visual characteristics. Applying digital dissemination technology to the transmission of intangible cultural heritage, using digital means and modern information technology to materialize and contextualize intangible heritage, innovates traditional transmission methods. This not only enables better preservation and protection of intangible cultural heritage but also facilitates its development, dissemination, and transmission in the information technology environment.

2. Necessity and Feasibility of Digital Dissemination of China's Intangible Cultural Heritage

2.1 The Need to Counter Western Cultural Invasion

With the development of contemporary information transmission technology and under the influence of economic globalization, cultural globalization has become an inevitable trend. Japanese scholar Professor Akira Iriye argues that cultural globalization represents the expansion of the value systems of economically powerful nations among different value systems worldwide, a process of cultural integration on a global scale that essentially homogenizes and integrates the cultures of weaker nations into those of stronger ones [2]. On the one hand, Western countries aim to export Western values to the world by vigorously developing their own cultural and creative industries, aggressively dumping cultural products containing Western value systems into developing nations. On the other hand, leveraging their advantages in capital and technology, Western countries continuously plunder cultural resources from developing nations, particularly intangible cultural heritage scattered among local communities. This poses severe cultural security challenges for developing nations, making the exploration of protection pathways for intangible cultural heritage urgent.

Fundamentally, the global spread and expansion of strong cultures from Western developed nations hides the purpose of cultivating global recognition of their own cultural value systems through the worldwide expansion of their cultural products, thereby achieving hidden objectives of economic expansion and political assimilation [3]. Digital dissemination provides developing nations with effective means to protect intangible cultural heritage and counter cultural invasion from developed countries.

2.2 The Need for “Tangible” Transmission of Intangible Cultural Heritage

The 2003 UNESCO Convention for the Safeguarding of Intangible Cultural Heritage emphasizes that the core of protection work lies in “interpretation, presentation, dissemination, and transmission.” The basic methods for interpreting, presenting, disseminating, and transmitting intangible cultural heritage mainly include traditional physical approaches and emerging digital methods.

Traditional physical methods primarily use museums, intangible cultural heritage landscapes, and ethnic handicrafts as carriers. However, these traditional methods face considerable practical difficulties in current society. For instance, traditional museum-based exhibitions can no longer meet people’s needs for in-depth research and appreciation of traditional culture, and large-scale traditional protection research requires enormous human, material, and financial resources. With the development of contemporary information technology, digital technology has attracted widespread attention for its tremendous advantages in preservation and dissemination. Exploring new pathways for protecting and disseminating intangible cultural heritage in the digital age has become a common focus for governments, academia, and industries worldwide.

2.3 The Need for Sustainable Development of China’s Intangible Cultural Heritage

Currently, the sustainable development of China’s intangible cultural heritage faces practical dilemmas. First, most of China’s intangible cultural heritage is distributed in economically underdeveloped regions where young people generally migrate for work, leaving few willing to engage in traditional crafts. Most existing inheritors are elderly with few successors, which is unfavorable for sustainable development. Second, due to economic backwardness, these regions lack innovative means for protecting intangible cultural heritage, with most important materials stored only in yellowing paper texts and images in archives and museums. This method represents only basic preservation rather than effective development, utilization, and dissemination, let alone realizing the enormous cultural, economic, and social value of intangible cultural heritage. Third, current protection funding relies mainly on central and local government expenditures, but with numerous “intangible cultural heritage” projects in China, relying solely on government funding is not a sustainable approach. How to use innovation to stimulate the cultural vitality of intangible cultural heritage, enabling it to maintain tradition while achieving innovative and sustainable development, is a pressing issue.

In a highly developed modern economy, stimulating the vitality of intangible cultural heritage should align with the pulse of the times and fully utilize the market as a communication environment, using economic vitality to inspire cultural vitality. Intangible cultural heritage possesses tremendous cultural and economic value. Through rational and effective development and utilization, it

can create cultural capital from cultural resources while using that capital to enhance the vitality of traditional culture. This approach represents an important pathway for cultural and economic collaborative innovation and sustainable development, particularly for economically underdeveloped heritage sites. With five thousand years of excellent historical and cultural traditions, Chinese people have an inseparable bond with traditional culture. As China's economic strength continues to grow, people demand higher material living standards. Under these combined forces, cultural products and services containing traditional cultural connotations, characteristics, and spirit are highly favored in the market, creating opportunities for the contemporary development of intangible cultural heritage. Using modern information technology to rationally and effectively develop and utilize intangible cultural heritage and innovate its development model can, on the one hand, promote its widespread dissemination in the digital age to meet its own development needs, and on the other hand, promote coordinated cultural and economic development in heritage sites. By fostering economic prosperity in these areas, we can retain talent to participate in heritage transmission, solve the problem of lacking successors, and form a virtuous cycle of mutual promotion, collaborative innovation, and sustainable development between culture and economy.

3. Means of Digital Dissemination—Taking Digital Publishing as an Example

3.1 Emergence and Development of Digital Publishing Forms

The application of digital technology to publishing operations holds significant value for the development of publishing dissemination. The emergence of digital publishing products, in particular, marks the birth of true digital publishing forms. The development of digital publishing forms has evolved in tandem with digital technology, progressing through stages including electronic publishing, internet publishing, and mobile publishing.

Electronic publishing refers to a publishing form where information such as graphics, text, sound, and images is edited and processed in digital code and stored on magnetic, optical, or electronic media, to be read using computers or similar devices. Electronic publishing emerged from the birth of computer typesetting systems and the application of desktop publishing technology. Compared with traditional paper-based publications, electronic publications exhibit characteristics of digitization, multimedia integration, interactivity, and hypertextuality. Internet publishing, also known as online publishing, refers to the act of legally qualified publishing institutions using the internet as a carrier and distribution channel to publish and sell digital publications. Internet publishing features legal entities, digital products, networked distribution, and electronic transactions. Mobile publishing refers to the dissemination behavior where mobile publishing service providers use text, images, audio, video, and other forms to create digital publications from original works or those of others through

selection and editing, making them available for users to read, use, or download via wireless networks, wired internet, or embedded mobile carriers using mobile phones or similar terminals. Mobile publishing offers convenience, interactivity, multimedia capabilities, high capacity, personalization, and accurate audience targeting.

3.2 Analysis of Digital Publishing Dissemination Characteristics

Characteristics of Digital Publishing Dissemination Subjects. In traditional publishing dissemination models, authors, publishers, and media merchants—individuals or institutions—serve as the main dissemination subjects, exercising certain control over content, media, and effects. In the digital environment, the organizational structure of dissemination subjects is undergoing revolutionary changes, as traditional audiences now have a voice and have ushered in the era of self-publishing.

Characteristics of Digital Publishing Dissemination Media. Unlike traditional media such as newspapers, radio, and television, networks and new media have dramatically changed digital publishing tools. E-readers represented by e-books, smart mobile networks, and the popularization of smartphones have made handheld terminal reading, online reading, and mobile reading the three major new reading methods of the digital publishing era. Digital reading tools such as e-readers and smartphones have become indispensable typical reading tools in the digital age due to their portability, real-time capabilities, and large capacity.

Characteristics of Digital Publishing Dissemination Content. Digital publishing content in the digital age exhibits multimedia characteristics, simplification, and fragmentation. On the one hand, traditional paper-based publications mainly rely on static text and images as communication symbols, whereas digital technology enables tremendous breakthroughs in the forms of content and idea expression. Digital dissemination includes not only static text and images but also dynamic audio, video, animation, and other multimedia forms, as well as real-time interactive participation from readers. On the other hand, to accommodate people's fragmented leisure time in modern "fast-paced" life, digital publishing content has adopted characteristics of being "fast, new, and shallow." In the era of "shallow reading," to meet audiences' needs for quick, interest-based reading during fragmented time, digital publishing content has become simplified and fragmented to satisfy the need for "simple intake of large amounts of information." Unlike traditional "refined, specialized, and in-depth" content, digital publishing's demand for "fast, new, and shallow" content has made forms such as micro-fiction, micro-films, micro-animation, and mobile newspapers particularly popular.

3.3 Digital Publishing Dissemination Models for Intangible Cultural Heritage

Digital publishing transmission involves using digital technology to comprehensively and authentically record intangible cultural heritage and achieve digital dissemination through multi-form digital resource storage [4]. Digital publishing transmission of intangible cultural heritage can be conducted through channels such as cultural and creative industries, school-based “intangible cultural heritage” education, and “intangible cultural heritage” resource databases to achieve development, education, promotion, and research purposes.

First, transmission through cultural and creative industries. Cultural and creative industries, emerging under the background of economic globalization and centered on creativity, emphasize the development and marketing of intellectual property through technical, creative, and industrialized approaches by individuals or teams based on certain cultural factors. Establishing links between intangible cultural heritage and enterprises/markets through cultural and creative industries can promote value development. By fostering economic activities under the premise of protecting intangible cultural heritage and reinvesting in its protection, a virtuous cycle can be formed. Cultural and creative industries mainly include radio, film, television, animation, audio-visual media, visual arts, performing arts, and crafts. Actively developing creative industries with strong cultural characteristics by organically combining elements of intangible cultural heritage with digital media technology through creative groups in design, sculpture, environmental art, and other fields represents one creative pathway for promoting intangible cultural heritage in the digital age. This can be achieved by collecting and organizing intangible cultural heritage materials, thoroughly analyzing and excavating their contemporary value, and developing digital cultural products with Chinese characteristics and national spirit, including digital film and television, digital animation, digital crafts, and digital games. Through digital publishing and using playback platforms such as optical discs, mobile reading terminals, and computer networks, a digital transmission development industry for intangible cultural heritage can be established.

Second, transmission through school-based “intangible cultural heritage” education. Students are the successors of the nation’s cultural undertakings and the main force for future intangible cultural heritage transmission. China’s intangible cultural heritage reflects national characteristics and style, evolved from Chinese civilization, featuring distinctive national traits, long history, and profound depth. However, some contemporary youth lack deep understanding of the advancement and superiority of their national culture, with some even lacking cultural identity. This makes “intangible cultural heritage” education imperative. Introducing “intangible cultural heritage” cultural products into classrooms through cultural publishing represents an effective means of implementing school-based education.

Third, transmission through “intangible cultural heritage” resource

databases. Using multimedia virtual reality technology to establish multimedia data resource databases including text, images, sound, video, and animation can comprehensively display intangible cultural heritage. Intangible cultural heritage refers to various traditional cultural manifestations existing in non-physical forms that are closely related to people's lives and passed down through generations. Its greatest characteristic is its "intangible" nature—relying on people as carriers, using sound, image, skill, experience, and spirit as primary means of expression, and serving as people-centered living cultural heritage. These features make it highly necessary and feasible to record and preserve intangible cultural heritage using digital means. With the development of contemporary information technology, hardware, software, and technical conditions for recording and storing intangible cultural heritage resources have become increasingly mature, allowing us to draw on big data storage technologies and achievements to store large volumes of intangible cultural heritage digital content, laying a solid foundation for constructing "intangible cultural heritage" resource databases.

In constructing resource databases, emphasis should be placed on retrieval functions, presentation functions, interactive functions, and personalized functions to create a "user experience"-based "intangible cultural heritage" resource database. For retrieval functions, optimizing keyword search, classified retrieval, and cross-database retrieval should be prioritized. For presentation functions, based on text and images, comprehensive use of 3D and virtual reality technologies should display traditional skills and experiences with rich graphics, audio, video, and virtual simulation effects. For interactive functions, resource information system design should highlight interactivity to facilitate public participation in intangible cultural heritage transmission. For personalized functions, different access permissions can be set according to audience identity (researchers, managers, project inheritors, general public, etc.) to provide targeted information and services. Additionally, cooperation can be enhanced to improve the uneven distribution and construction of "intangible cultural heritage" resources in China. Under the principle of "government leadership and social participation," the Chinese government can guide intangible cultural heritage centers, cultural management departments, libraries, archives, research institutions, and universities to collaborate widely and synergistically, further promoting the promotion and research of intangible cultural heritage.

4. Benefits of Digital Dissemination for Intangible Cultural Heritage

4.1 Benefits for Preservation

Traditional preservation methods for intangible cultural heritage have disadvantages such as being closed and fragmented, mainly stored through the memories of ethnic groups, communities, or even individuals. This storage approach has significant limitations. On the one hand, it may cause distortion during transmission due to individual inheritors' cognitive understanding and memory

limitations. On the other hand, under the influence of economic and cultural globalization, particularly under the impact of strong Western cultures, some contemporary youth lack awareness and sense of mission to protect ethnic folk cultures, potentially causing cultural discontinuity due to a lack of successors. Contemporary digital technology provides conditions and possibilities for preserving intangible cultural heritage in the most faithful form.

First, digital dissemination offers accuracy and integrability. Accuracy is a crucial feature of digital recording. Effective transmission of intangible cultural heritage must be based on accurate preservation. Digital technology provides comprehensive and authentic records of intangible cultural heritage skills and experiences through documentary recording in text, images, sound, video, and animation, meeting the accuracy requirements for preservation. Second, integrability is another important digital characteristic. Due to the enormous storage capacity of digital storage devices, large amounts of text, images, sound, and video data can be stored on microchips and organically integrated, facilitating the preservation of cultural heritage resources.

Additionally, digital dissemination offers reproducibility and permanence. Digital data reproducibility brings advantages of low cost, high efficiency, and authentic representation to preservation and dissemination, ensuring consistency with original materials. Reproducibility also facilitates permanent preservation of “intangible cultural heritage” resources. Backup copies prevent information loss due to the disappearance of individual image materials, making permanent preservation possible.

4.2 Benefits for Transmission

Applying digital dissemination technology to intangible cultural heritage protection has revolutionized transmission methods, shifting from traditional closed, singular, and inefficient group communication to open, diverse, and efficient mass communication.

First, digital dissemination provides authenticity and intuitiveness. Using digital media technologies such as text, images, sound, video, and animation, digital dissemination stores intangible cultural heritage-related information in digital form within databases, thereby recording it authentically, intuitively, systematically, and comprehensively. This authenticity and intuitiveness prevent distortion and excessive abstraction during transmission, making the original ecology, artistic features, technical characteristics, expression techniques, vocal styles, and movements more accurate, comprehensive, concrete, and vivid.

Second, digital dissemination offers immediacy and interactivity. Immediacy and interactivity are important features of digital media and the most intuitive feelings they bring to people. Digital dissemination utilizes the immediacy, interactivity, boundlessness, and aggregation of information transmission to promote cross-regional exchange and widespread dissemination of intangible cultural heritage.

4.3 Benefits for Knowledge Conversion

Knowledge conversion refers to the interaction and transformation between explicit knowledge and tacit knowledge. Japanese knowledge management expert Ikujiro Nonaka proposed that knowledge conversion occurs through four processes: “Socialization (from tacit knowledge to tacit knowledge),” “Externalization (from tacit knowledge to explicit knowledge),” “Combination (from explicit knowledge to explicit knowledge),” and “Internalization (from explicit knowledge to tacit knowledge),” collectively known as SECI (as shown in Figure 1 [Figure 1: see original paper]).

Intangible cultural heritage contains both explicit knowledge that “can be clearly expressed” and tacit knowledge that “cannot be explicitly stated through language, text, charts, or symbols.” These two types of knowledge are distinct yet interconnected and can be transformed into each other. The characteristics of intangible cultural heritage—such as non-renewability, fragility, living nature, and transmissibility—increase the difficulty of mutual conversion between explicit and tacit knowledge. Digital technologies such as network technology, imaging technology, virtual technology, and database technology can help address this challenge.

For instance, in the socialization process of intangible cultural heritage knowledge, traditional transmission occurs mainly through observation, imitation, and personal practice, with master-apprentice teaching being a typical form of sharing tacit knowledge between individuals. Establishing virtual knowledge communities using digital technology creates conditions for transforming intangible cultural heritage from tacit to explicit knowledge on a broader scale. Externalization of intangible cultural heritage knowledge aims to convert its tacit knowledge into forms more easily understood by audiences, traditionally through analogy, metaphor, and hypothesis. Current developments in knowledge mining systems and expert intelligent systems under digital technology provide means for externalizing tacit knowledge. Combination of intangible cultural heritage knowledge is a process of knowledge diffusion, traditionally integrating fragmented explicit knowledge and expressing it in professional language to form knowledge systems. Current digital document management, content management, and data warehousing are effective tools for systematizing explicit knowledge. Internalization of intangible cultural heritage knowledge is the conversion from explicit to tacit knowledge, where explicit knowledge is transformed into tacit knowledge among inheritors. In other words, as knowledge spreads among inheritors, they can apply this new knowledge to actual protection and transmission work and create new tacit knowledge. Traditional internalization methods include group work and on-the-job training. Digital collaborative tools such as electronic communities and e-learning systems provide effective means for internalizing intangible cultural heritage knowledge. The application of digital technology promotes knowledge conversion of intangible cultural heritage, enabling two-way communication between disseminators and recipients, which benefits its protection and transmission in the digital age.

5. Conclusion

In the information age, digital technology has attracted global attention and recognition for its significant advantages in protecting and disseminating intangible cultural heritage. China possesses rich intangible cultural heritage, ranking first in the world in UNESCO's "Intangible Cultural Heritage" listings. However, under the pressures of globalization, modernization, and economic integration, China's intangible cultural heritage faces major challenges in preservation and transmission. How to use digital technology to protect Chinese cultural heritage and inherit the roots of Chinese civilization is a responsibility and mission entrusted to us by the times. Digital dissemination of intangible cultural heritage in China is both necessary and feasible. Through digital publishing dissemination models including cultural and creative industries, school-based "intangible cultural heritage" education, and resource database construction, we can effectively promote the preservation, transmission, and knowledge conversion of intangible cultural heritage in the digital age, holding important theoretical significance and practical application value.

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The following section appears to be a separate article or editorial piece from page 83 of the same journal issue:

Digital Publishing and the Integration of Multimedia Technology

In Liang Qichao's *Young China*, he quoted a Western proverb: "There are three-year-old elders and hundred-year-old children." This can be interpreted to mean that today's publishers should not strive to be "three-year-old elders" but should instead embrace being "hundred-year-old children"—maintaining more enterprising spirit, less stagnation, and using a positive, open, and inclusive mindset to create more publishing excellence.

High-Quality Editorial Teams

As new forms of digital publishing content become more diversified and considerably expandable, editors need more open and divergent thinking and richer professional knowledge. Particularly in academic publishing, numerous interdisciplinary fields have formed through mutual penetration and borrowing among disciplines. Academic research is developing toward diversification, and while academic works explore disciplinary depth, they must also observe frontier theories of related disciplines with broader vision to determine whether they can produce new "chemical reactions" when associated with the primary discipline.

For publishing work, authors often focus on excavating knowledge depth and emphasize argumentation, while editors must pay more attention to the connections between the knowledge mentioned in the argumentation process and other disciplines, working to enhance the breadth of works. Moreover, editorial work must emphasize the presentation form of content, requiring editors to skillfully

use or have considerable understanding of new technical means to meet the requirements of new digital publishing work.

In the past, editorial work had low correlation with internet and multimedia technology, as if these technologies had little relevance to book publishing, even creating a sense that “different professions are like different mountains.” In fact, we can easily see that some bottlenecks that were difficult for the publishing industry to break through in the past can be resolved through these new technologies, and they can present content more intuitively, vividly, and three-dimensionally. For example, in an academic work on a new technology, inserting a QR code at the end of relevant paragraphs allows users to watch a short video by scanning it. A few minutes of video and narration can help users understand the mentioned knowledge intuitively and accurately—a process presumably much more efficient than contemplation alone. Writing scripts for these short videos and applying media technology requires editors to accurately grasp work content and use new technical means to achieve this, which will become increasingly common in future editorial work. Furthermore, when these materials accumulate, how to manage and skillfully apply them will also become a focus of editorial work.

Conclusion

Liang Qichao wrote in *Young China*: “The old often think about the past, while the young often think about the future. Only thinking about the past produces nostalgia; only thinking about the future produces hope. Nostalgia leads to conservatism; hope leads to progress. Conservatism leads to stagnation; progress leads to daily renewal. Only thinking about the past means everything has already happened, so one only knows to follow precedents; only thinking about the future means everything is yet to happen, so one dares to break conventions.” For publishing professionals, in the new market environment, standing from a higher perspective with broad vision, open mindset, pragmatic approach, and professional competence to face the impact of surging tides means losing only shackles while gaining more publishing excellence and richer product forms.

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Note: Figure translations are in progress. See original paper for figures.

Source: ChinaXiv — Machine translation. Verify with original.