Original Research Article

# Research on living inheritance and innovative dissemination paths of intangible cultural heritage under the background of digital empowerment

**Mengyan Deng**
*Anhui International Studies University, Hefei, Anhui, 231201, China*

***Abstract:*** In an era of rapid digital change, ICH must address the impact of modernization and the urgent need to preserve vast amounts of cultural material. Static preservation methods fail to reflect the dynamic and evolving nature of heritage skills, oral traditions, and performances. This paper delves into the transformational possibilities presented by digital empowerment it reshapes the connections between heritage, inheritors, and the public. ICH protection through the application of AI, VR, big data, mobile internet tech, moves from physical archive to digital reproduction + immersive promotion. This study explores the theoretical logic for digital empowerment and believes that digitalization is not just a technical tool but rather a brand new kind of ecosystem for culture; it changes how legacy, inheritances, and people get connected. It analyzes some certain ways like building digital gene banks and making immersive cultural space and cross media IP incubation. Research concludes that even if digital technology greatly improves the accessibility and interactivity of ICH, its core i.e "human" element is not lost, thus integrating technological development with true cultural responsibility is necessary for the ongoing development of human culture's various legacies.

***Keywords:*** intangible cultural heritage; digital empowerment; living inheritance; innovative communication; virtual reality; cultural sustainability

## 1. Introduction

Intangible Cultural Heritage (ICH) is the convergence of human brains and the persistence of historical memory, and it contains oral traditions, performance, social activities, rituals, and traditional craftsmanship[1]. But at the same time, with the rapid process of globalization and urbanization, the ecological environment in which ICH exists is also experiencing drastic changes. Lots of old skills are about to die out because their keepers are getting old and there aren't any people to continue teaching them. Also, when they just put these cultural things in a museum, it doesn't really show how alive and process-y they are. The digital economy takes shape, digital technologies seize widespread infiltration, now comes a fresh turnaround for safeguarding and passing down ICH, Digital empowerment refers to the use of digital technologies to reshape how cultural existence, transmission, and enjoyment are managed, thus spurring the inner strength of heritage. ICH is different from material cultural heritage, which emphasizes living in flow and changing and hinges on the qualities of "people" and "skills", unlike material cultural heritage. So how to use digital methods to break the barriers of time and space, so as to make ancient culture perceptible, learnable, and usable in modern times, it has become a problem in academia and practice. The goal of this paper is to examine the mechanisms of digital empowerment in ICH protection systematically, and to find a way to change passive ICH preservation into active inheritance via new dissemination ways, so that traditional culture can live in the database and revive to enrich our contemporaneous life.

## 2. Theoretical logic: The shift from static preservation to living inheritance

The difference between "living inheritance" and the "fossilized preservation" is fundamental: it means that the "intangible cultural heritage" cannot be separated from the day-to-day lives of people, and it has to keep pace with social development in order to survive. In the pre-digital period, ICH was mainly recorded with text, pictures, and basic video which would lead to the loss of tacit knowledge - the subtle actions, artistic intuition, and experiences that come naturally to craft and performance[2]. As for digital empowerment, it is about moving away from the low-fidelity recording, into high dimensional data reconstruction. Using tech like motion capturing, 3d scanning, and specral analysis makes it possible to put the untouchable parts of heritage into numbers and pictures, making a "digital double" of the cultural shape. And this is not just to archive a past that is

being released from physical constraints in order for these to be recombined and recontextualized. And it can also change the inheritor and audience relation of digital empowerment. In the traditional model, the passing of skills is strict and linear and limited to certain geographical lineages. But the digital logic creates a rhizomatic network so the cultural information moves sideways and the invites can be from anywhere. Therefore, living inheritance under digital power is a never-ending process of "re-creation", it keeps the authenticity of the heritage, not by freezing the past but by continuously firing its cultural codes through contemporary technological interfaces, so that heritage will always be robust and relevant in a constantly changing society.

## 3. Construction of digital gene banks and high-fidelity recording

The essence of Digital Empowerment comes from the comprehensive, systematic, and complete recording of intangible cultural heritage, which is to create a "Digital Gene Bank." It moves beyond surface-level documentation toward the deep extraction of cultural data. For example, take traditional Kungfu or folk dances for example, as for the complexity presented from the force generation pathway till space structure of each gesture movement, two dimensional video forms tend to let us catch hold of. Using optical motion capture tech and biomechanic analysis to record the inheritor's kinematics data to the millimeter and create a 3D db with the "muscle memory" of the art form. Similarly, for traditional craftsmanship such as ceramic making, weaving, etc. Digital modeling can record the exact texture of raw materials, the temperature curve of kilns, and the geometric logic of patterns. A huge pile of information, this is a structured library that can be retrieved and studied. This library serves not as a tomb for information, but as a generative source pool. Researchers can use Artificial Intelligence and Big Data analysis on such an archive in order to discover some sort of patterns within stylistic evolution, as well as helping them to learn about all the lost skills. And these standardized metadata in these gene banks make it possible for them to be used all over the world, which enables international comparative research.

## 4. Immersive experience: Virtual reality and contextual reconstruction

One of the biggest barriers to spreading Intangible Cultural Heritage is "contextual detachment", which means that it's hard for people in today's time to really understand what makes certain cultural heritages special if they're removed from where they came from historically and socially. Digital empowerment, which includes VR, AR, and MR, is like a powerful fix for this problem because it can remake those missing parts and take you somewhere where you feel fully there, not just part of it. In contrast to passive viewing in a museum, immersive technology puts the viewer at the heart of a cultural story. For example, with VR headsets, the users can visit a virtual re-creation of a handicraft workshop several hundred years ago[3]. They can watch and observe a masterpiece being made from the first person perspective, or feel as if they're grabbing onto the tools virtually and crafting. This kind of sensory interaction fills the gap between the public and unknown cultural practices. Also add digital projection mapping and hologram technology can change physical exhibition spaces into active performance venues; the unique aspects of culture like the sound of traditional musical instruments or shadow puppet visual characteristics are made more prominent and interact. This "embodied cognition" is very effective for the young, turning the learning of ICH into something interesting, rather than a boring lecture. Restore the ritualistic and environment of ICH, digital immersion rebuilds the emotional link between the heritage and the observer, turning a cold history item into a warm and intangible memory.

## 5. Innovative dissemination channels in the era of social media

The spread of Intangible Cultural Heritage has historically suffered from geographic isolation and few channels for communication, but the emergence of the mobile internet and recommendation algorithms have virtually thrown open those old barriers, creating a world of splintered personal messaging. Short video platforms like TikTok,YouTube Shorts have become the new ‘Stage' for ICH, complex skills are condensed in to 15s clips which grab the fragment attention span of modern day. This format means that there needs to be a narrative shift for heritage, which shifts away from those grand, academic narratives and focuses more on micro-narratives that concern things like the aesthetics, the curiosity and the human stories. And the algorithm distribution is so even that niche culture's got just its exact perfect target audience. Vertical enthusiast communities that will interact with, comment on, and share content for a living. And KOLs among inheritors, who announce their daily training or crafting procedures and become humanized, erasing any sense of distance. It both spreads culture and enables many inheritors whose livelihoods rely on selling goods directly to customers through the "live streaming + e-commerce" model. However, this kind of innovative dissemination has its own risk, there is a certain degree

of balance between catering to the internet trend and preserving cultural dignity. The key is to change the deep cultural implication of ICH to "digital language" which is easy but respect, use the virility nature of social media to spread culture widely but don't fall into vulgarization or entertainment.

## 6. Cross-border integration and IP development strategies

To truly be sustainable, it is necessary that Intangible Cultural Heritage produce and generate its own economic self-sustained business, and digital empowerment is achieved via cross border integration and Intellectual Property (IP)(English) Traditional selling physical handicrafts have a low added value and limited markets; whereas digital IP focuses on using the ICH's symbolism, stories, and aesthetics and putting it into high-value modern industries like gaming, animation, and digital art. for example, incorporating traditional architectural style, clothing, folk music and other cultural elements into popular video games, so that hundreds of millions of players around the world can meet with these elements in a virtual space, and achieve cultural export in a soft way. And this "gamification" makes it a fun and participatory experience for inheritance. As well as, the rise of digital collectibles(NFTs) bring new ownership model for digital cultural assets, unique digital culture IP based on ICH can be traded and collected, which create new income channel for keeper and creative industry. Cross-industry synergies also apply to digital tourism as location-based services, and AR navigation lead them to explore ICH sites. The virtual and the real economy get a blend through this. I CH transitions from a protected piece to a living cultural brand through the creation of a thorough IP ecosystem.

## 7. Conclusion

In summary,digital technology incorporated with Intangible Cultural Heritage is by no means an update on preservation approaches which goes deeper, it reconstructs cultural transmiting environemnt entirely From building high-accuracy digital gene banks to crafting immersive virtual environments, from algorithms circulating on social media to the international breeding of cultural IP, digital empowerment has opened many sides of pathways through which ICH can be lived on. Resolve the fundamental conflict of fragility of ancient times and omnipresence of modern society, so that legacy can break free from its own physical shackles, and live eternally in the digital dimension. But we can only take these technological dividends if we are wary of the alienation from technology. IC He is about humanistic spirit and emotional temperature, algorithms and codes can simulate it but can never simulate it. Therefore, the way forward for ICH protection must be a human-oriented path, using technology as the vehicle and amplifier, rather than the dominator. Only when digital technology's precision is seamlessly paired with the warmth of traditional craftsmanship can intangible cultural heritage keep its original soul but get a new, modern body, so that human cultural diversity can end up thriving sustainably in the digital civilization.

## About the author

Mengyan Deng ( 2000.11-), female, Han ethnicity, native of Hefei, Anhui Province, holds a Master's degree. She is currently a full-time teacher at the School of Literature, Art, and Media Communication, Anhui International Studies University. Her research interests mainly include cultural communication, protection and innovation of intangible cultural heritage, and cross-cultural communication.

## References

[1] Min, Y. J. (2025). Research on the digital communication path of intangible cultural heritage in Liyang under the background of "intangible cultural heritage +" — Taking Jiangtang horse lantern dance as an example. Journal of Comparative Study of Cultural Innovation, 9(09), 57-61.

[2] Li, Y. Z., Zhou, X. (2022). Application of virtual reality technology in the protection and inheritance of intangible cultural heritage. The Science Education Article Collects, 16, 132-134.

[3] Ding, F. (2023). Research on the inheritance of intangible cultural heritage from the perspective of digital narrative [Master's thesis]. Zhengzhou University of Aeronautics.