

How Digital Cultural Products Help Intangible Cultural Heritage Live on Guided by Participatory Culture

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Abstract. Nowadays, digital technology is everywhere in daily life. This has made intangible cultural heritage protection and inheritance a critical issue. This study looks at how to bring intangible cultural heritage back to people's lives. It focuses on how digital cultural products can support its living inheritance. Using the idea of participatory culture as a guide, this study tries to answer one question. How can young people who grew up with digital technology change their roles? They can go from just watching heritage to joining in, sharing it, and even creating new things with it. Existing studies were reviewed and real cases were analyzed. The findings indicate that digital cultural products significantly facilitate public participation in heritage projects. They create immersive experiences and spark people's creativity. Users can reproduce culture while having fun. But technology also has hidden problems. For example, cultural meaning can be lost when things are simplified. Public interest can fade in just a few weeks. Business goals may overshadow the true value of culture. Participatory culture may be the key to solving these problems. Good digital cultural products do not just put heritage on screens. They let users step into heritage and become part of it. When young people feel connected to heritage through experience, and pass it on through creation, heritage truly lives on.

Keywords: intangible cultural heritage, living inheritance, participatory culture, digital cultural products.

1. Introduction

There are some urgent issues facing intangible cultural heritage projects today. Declining numbers of inheritors, audiences and transmission routes are jeopardizing their sustainability. At the same time, digital technology has opened up new opportunities for them to be dynamically transmitted.

Digital natives are the key consumers of culture. They're not simply consumers: they're producers, sharers and commentators on digital platforms. This behaviour meets the demands of passing on living heritage.

This research aims to enhance understanding of the spread of culture in the digital era, and to provide insights for conservation practices. Theoretically, it explores the idea of participatory culture to examine young people's changing role in this process. Pragmatically, it examines existing digital cultural products and explores lessons that can be learned for future design and management.

The study is divided into three parts. First, it considers existing research on digital heritage products. Second, it presents a case study of the Dunhuang Academy's "Digital Scripture Cave". Third, it considers the shift in young people's role, from passive consumers to active cultural participants, in terms of participatory culture.

The research design of this study is a literature review and case study. Theories were developed by reviewing 18 Chinese and English academic articles. The case study examines the operation of these digital cultural products and the relationship between users, showing how they interact and why.

In the end, this study intends to demonstrate the potential of digital tools in sustaining heritage, identify the key steps in the role transformation of young people, and provide suggestions for future development. The "Digital Scripture Cave" project is the prime case study of a new, modern approach to heritage sustainability.

2. Literature review

Many researchers have begun focusing on how digital resources can be used for Intangible Cultural Heritage (ICH). These can be divided into three main categories.

2.1. Technology-driven innovation in heritage

For the first stream, researchers look at how new technologies redefine and reconstruct the way heritage is represented and communicated. For instance, Xue and Li evaluated the cultural dissemination potential in AIGC animation. They considered publishing AI-created works as a new form of cultural representation. Taking this further, Intawong et al. created a platform in the metaverse where distant students can learn the Lanna dance using VR, where the learner, wearing the VR headset, sees a dancer in the virtual world, and practices along in the shared virtual environment [1]. Wang et al. further extended this idea with a controlled study that compared the museum visit with the guide's and the augmented reality (AR) guided visit. In this study, the AR participants, who were where the guide appeared in the museum and who were in the AR environment, remembered the visit better and were more interested in the visit. This result supports the idea that technology has the potential to attract and engage young people.

The best part of these studies is that they bring the "body" back into heritage inheritance. Traditionally, heritage passes down through words and hands-on teaching. But digital tools often leave out the physical part. Metaverse and motion-sensing technologies try to bring it back. Yan studied Dunhuang's "Digital Scripture Cave" and agreed. When people "walk into" the virtual cave and "open" a scroll with a controller, it feels much more real than looking at a picture [2]. Liu and Qi pointed out from a game design angle that heritage digital games should not just adopt local art styles. They should turn craft skills into playable rules [3].

2.2. Market spread and audience development for heritage

Another group of studies is more practical. They focus on how to get more people to see and know about heritage. Zhang used Ru porcelain as an example. She showed how "youth-friendly" strategies can make this thousand-year-old craft popular again. Gao and Zhao talked about brand building. They explained how digital marketing can give heritage a modern image.

Jiang, Q. et al. studied putting heritage elements into mobile games. They found the key is not to tell players "this is heritage". It is to let them use the heritage in the game. When players have to

learn a traditional skill to finish a task, they naturally feel more connected to the culture [4]. Zhou and Ma studied Fangqi, a traditional Chinese board game. They reminded us that even less digital projects depend on human interaction and community identity to survive [5]. Wu studied digital cultural products for Changzhou heritage. She also said interaction design needs to balance cultural meaning and user experience [6].

These studies remind us that people cannot inherit what they never see. Spread is the first step of inheritance. But spread is not the goal. If we only superficially attach heritage elements to popular products, the hype will fade quickly.

2.3. Integration, reflection and paths of heritage and cultural industries

A third group of studies takes a broader view. They ask if heritage can become a business. They also warn that business might destroy heritage. Ding came up with the influential idea of "productive protection". It means keeping heritage alive by making things with it. Hu was more balanced. She listed all the problems that can happen when heritage becomes an industry. She told people not to forget culture for profit.

Recent studies have become more specific. Chi looked at a cultural company to see how industry helps spread heritage [7]. Feng and Shi focused on Yili. They studied how tourism and cultural products can work together [8]. Chen studied Xiaoshan lace. She pointed out a real problem. When fine crafts become cultural products, people often have to choose between detail and mass production [9]. Han and Liang both studied heritage digital collections. They agreed that the scarcity of digital collections conflicts with the shared nature of heritage [10,11]. Li also talked about this conflict between culture and business when studying heritage and digital economy [12].

Lin et al. designed digital media for Minnan nursery rhymes. Shi talked about developing heritage cultural products. Both tried to turn viewers into light participants [13,14]. Qin and Liu said people should "keep the essence while making new things". This raises a clear question: which parts of heritage can be changed, and which must stay the same [15]? Wang studied "Wuchang Eighteen Martial Arts". She said people should be more careful when heritage includes physical skills and community traditions [16]. Wu studied Xiangxi Miao embroidery. She asked an important question: how to keep people's sense of belonging to heritage when they spread it online [17]?

All these studies show that digital cultural products are not just a technical problem. They involve a balance between culture and business.

Looking at all three groups, few studies use participatory culture to talk about how young people change their roles. Digital cultural products are more than just tools to spread heritage. They are systems that let people take part. This study tries to answer what happens when young people stop just watching heritage and start doing it.

3. Case study

For those who have yet to experience this project, picture the following: open a phone or computer and step straight into Cave 17 of the Mogao Grottoes. This chamber houses over ten thousand cultural relics. The imagery renders every crack in the murals visible, and the lighting shifts in response to one's movement within the space. A controller allows the viewer to pick up a scroll, unroll it, and examine the script, or to stand before the statue of Master Hongbian and listen to the history of the cave.

What makes this remarkable is not the technology, but the sensation of genuine presence despite remaining seated at home—the very "sense of presence" Yan discusses [2]. This experience bears no

resemblance to viewing a documentary. In a documentary, the viewer remains an outside observer. Inside this virtual cave, the viewer becomes a participant.

The "Digital Scripture Cave" does more than offer a passive view. It invites action. While exploring, a visitor can gather cultural fragments scattered throughout the space, each one unlocking details about the scrolls and murals. In the virtual environment, a visitor can try hand-copying a scripture or attempt to restore a faded mural. These modest interactions shift perception. The thought arises: "I am not merely passing through. I am part of this."

Even better, when users share screenshots and achievements on social media, they become spreaders and even creators of heritage. Someone might post on WeChat Moments: "I copied a scroll in the Digital Scripture Cave today. I felt like I was talking to a monk from a thousand years ago." Such sharing sounds romantic, but it reflects the core of participatory culture. Users are not just containers for information. They make meaning themselves.

This case shows that digital cultural products help heritage in steps. First, they lower barriers so people can join. Then, they build good experiences so people stay. Finally, they spark creativity, so people pass heritage on.

4. Findings and discussion

Easier access strips away the sense that intangible cultural heritage is off-limits. Traditional apprenticeship often demands years of commitment. Learning embroidery once meant living with a master for an extended period. Mastering opera required months of drilling fundamentals before a single note was sung on stage. Such a path fosters depth, yet it proves impractical for young adults with packed schedules and limited time.

Digital cultural products break this barrier. Game-like design breaks complex skills into simple steps. Interactive experiences let users "play" an inheritor in minutes. Jiang, Q. et al. proved this. When heritage is part of game rules, not just decoration, players feel like they are actually doing it. They feel more connected to the culture [4]. This sense of participation matters more than knowledge. A person can know everything about Peking Opera but never sing a line. A player who imitates opera singing in a game has taken the first step.

Immersive experiences build emotional connections. This works much better than just telling people facts. Rational knowledge is cold. Emotional connection is warm. For heritage, which needs deep feeling, just teaching facts does not work. This helps explain why heritage education is widespread in schools, yet relatively few individuals develop a deep emotional attachment to it.

Immersive technology opens a different door. Yan's work demonstrates clearly that virtual reality experiences foster a robust sense of presence. That feeling, in turn, deepens concern for cultural heritage [2]. Stepping into a cave and examining the murals within a virtual space stirs a reaction words struggle to capture. The emotional imprint outlasts any advertisement. Someone might forget the exact construction date of the cave. The hush inside, however, stays with them.

The most important step is going from feeling connected to creating something. Connection is not the end. Young people do not want to just watch. They want to take part and leave their mark. Jiang, Y. et al. studied serious games about heritage. They found that letting users make their own choices makes them keep playing [18].

An interesting comparison can be made. In traditional inheritance, knowledge flows one way. Inheritors teach, apprentices learn, and audiences watch. With digital cultural products, inheritance becomes a network. Young people can make their own heritage works in games. They can share their ideas online. They can talk to other fans in virtual spaces. They go from "consumers" of culture to "producers".

This change in identity is what living inheritance really means. Heritage is no longer something locked in a museum. It is alive, changing, and being reinterpreted all the time.

However, these developments are not without limitations, and it is necessary to recognize the potential issues associated with digital cultural products. Digitalization often simplifies things, and simplification means loss. To spread online, complex cultural practices tend to be condensed into simple visual symbols. While this makes heritage easier to share, it can strip away its depth—much like turning a long poem into a slogan. The basic meaning survives, but the beauty is gone.

A related difficulty is that digital content rarely lasts. A successful IP collaboration or marketing event can go viral within days, yet a few weeks later it has largely been forgotten. Short-term spikes in attention cannot replace the long-term commitment that heritage requires.

Excessive commercialization is equally troubling. When business logic comes before cultural value, heritage risks becoming just another product, drained of its true meaning. How many people, looking at the patterns on a souvenir mug, still recall what those motifs originally signified? These challenges point to the need to move beyond a pursuit of technological novelty and commercial gain, and instead to return to the essence of culture in seeking an appropriate balance.

5. Conclusion

Digital cultural products are changing who passes down intangible cultural heritage. In the past, inheritance was centered on a few masters. They taught, and everyone else learned. Now, more and more young people are helping spread and recreate heritage online. They do not learn by being taught. They learn by taking part. This change from one center to many nodes makes living inheritance truly possible.

Participatory culture is the key to understanding this change. It works in three simple steps. First, use technology to lower barriers so young people can join. Second, build immersive experiences so they care. Third, let them create things so they pass heritage on. The key is not to put heritage on screens. It is to let users step into heritage and become part of it.

This study has two main meanings. In theory, it brings participatory culture and young people's identity change into heritage research. It gives a new way to understand cultural inheritance in the digital age. In practice, it shows how digital cultural products work by studying the "Digital Scripture Cave". This can help people design better projects in the future.

This is just the beginning. There is still much to study. For example, how can it be determined whether a digital cultural product is genuinely transmitting culture or merely commodifying it? Do different types of heritage work better with different digital tools? How can short-term engagement be transformed into sustained, long-term commitment to heritage preservation?

In the end, digital cultural products and heritage come together to give old traditions new life. They let unique, local, human qualities of culture exist in the digital age. When young people experience ancient skills in virtual space, make their own heritage works, and share their feelings online, heritage truly lives on. It does not just live in museums and textbooks. It lives in the experiences, creations and shares of every generation. This is the greatest gift the digital age gives to cultural heritage. Old cultures live on because people take part in them.

References

- [1] Intawong, K., Worragin, P., Khanchai, S. and Puritat, K. (2025) Transformative Metaverse Pedagogy for Intangible Heritage: A Gamified Platform for Learning Lanna Dance in Immersive Cultural Education. *Education Sciences*, 15(6), 736.

- [2] Yan, B. (2025) Research on Digital Experience Game Design for Intangible Cultural Heritage Communication: Starting from the "Digital Scripture Cave" of Dunhuang Academy. *Highlights in Art and Design*, 11(1), 8-14.
- [3] Liu, J. and Qi, B. (2024) Analysis of Digital Game Design Strategies for Intangible Cultural Heritage. *Art and Design*, 7(5).
- [4] Jiang, Q., Qian, J. and Zang, Y. (2026) Integrating Intangible Cultural Heritage Elements into Mobile Games: An Exploration of Player Cultural Identity. *Information Technology & People*, 39(1), 482-500.
- [5] Zhou, S. and Ma, X. (2024) A Study on the Gameplay and Cultural Survival Space of Fangqi, a Chinese Folk Chess Art from the Perspective of Intangible Cultural Heritage. *Art and Design Review*, 12(4), 330-339.
- [6] Wu, J. (2024) Research on Interaction Design Strategies for Digital Cultural Creations of Changzhou's Intangible Cultural Heritage. *Frontiers in Art Research*, 6(8).
- [7] Chi, X. (2022) Inheritance and Communication of Intangible Cultural Heritage by Cultural and Creative Industries: A Case Study of Beijing Wenyun Zhongcui Culture Development Co., Ltd. *Comparative Study of Cultural Innovation*, 6(36), 60-63.
- [8] Feng, X.R. and Shi, M. (2025) Research on the Collaborative Development Path of Yili Intangible Cultural Heritage and Cultural and Creative Industries Under the Background of Cultural Tourism Integration. *Tourism Overview*, (9), 31-33.
- [9] Chen, P.P. (2024) Research on the Path of Integrating Intangible Cultural Heritage into Modern Cultural and Creative Industries: Taking Xiaoshan Lace as an Example. *New West*, (9), 157-159.
- [10] Han, Y. (2023) Research on the Design Path of Digital Collection Cultural and Creative Products of Intangible Cultural Heritage. *Footwear Technology and Design*, 3(4), 81-83.
- [11] Liang, Y.X. (2023) Research on the Design Strategy of Digital Collection Cultural and Creative Products of Intangible Cultural Heritage. *Shanghai Packaging*, (2), 180-182.
- [12] Li, S.H. (2022) Research on the Integrated Development of Cultural Industry and Intangible Cultural Heritage Under the Background of Digital Economy. *China National Expo*, (5), 102-104.
- [13] Lin, S.M., Bao, H.L. and Tang, S.Q. (2022) Design and Development of Cultural and Creative Products from the Perspective of Digital Media: Taking Intangible Cultural Heritage Minnan Nursery Rhymes as an Example. *Screen Printing Industry*, (Z4), 49-53.
- [14] Shi, Y.Y. (2024) Research on the Development of Intangible Cultural Heritage Cultural and Creative Products Based on Digital Media Art. *Shanghai Packaging*, (7), 124-126.
- [15] Qin, Y. and Liu, N. (2023) "Living Inheritance, Upholding Integrity and Innovation": Promoting the R&D of Intangible Cultural Heritage Derivatives Through Cultural and Creative Industries. *Proceedings of the 20th Shenyang Academic Annual Conference on Science*, 425-430.
- [16] Wang, J.Y. (2023) Thoughts on the Integrated Development of National Intangible Cultural Heritage "Wuchang Eighteen Martial Arts" and Cultural and Creative Industries. *Contemporary Sports Technology*, 13(14), 110-113.
- [17] Wu, X.X. (2022) Research on Intangible Cultural Heritage Communication from the Perspective of Digital Creative Industry: Taking Xiangxi Miao Embroidery as an Example. *Textile Report*, 41(11), 120-122.
- [18] Jiang, Y., Zhan, Q. and Pashkevych, K. (2025) Exploring the Key Factors Influencing the Continuance Use of Serious Games of Intangible Cultural Heritage (ICH). *International Journal of Human-Computer Interaction*, 41(19), 12291-12304.