



Research on the Current Situation and Development Strategies of Digital Protection and Inheritance of Mianzhu New Year Painting

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Abstract. As one of China's Four Great New Year Paintings and a national intangible cultural heritage, Mianzhu New Year Paintings are famous for woodblock colour overprinting combined with hand-painted filling, and are known as one of the "Three Treasures of Sichuan". Faced with practical challenges such as ageing audiences, shrinking markets, and skill discontinuity, digitalisation has become the key to breaking the deadlock. On the premise of retaining all original document citations, this paper systematically traces the progress of digital protection for Mianzhu New Year Paintings. It proposes three strategies: integrated preservation of "AI + 6DoF + Blockchain", dual-drive of digital collectables and IP authorisation, and collaborative innovation among government, industry, universities, research institutions, and users, to provide a paradigm for the sustainable development of intangible cultural heritage.

Keywords: Mianzhu Woodcut, Cultural Heritage, Evolution and Protection, Innovation.

1 Introduction

Mianzhu New Year Paintings are one of China's Four Great New Year Paintings, located in Deyang City, Sichuan Province[1]. At present, due to the relatively single artistic expression form, a small audience scope, and the lack of popularity of Mianzhu New Year Paintings, their inheritance and dissemination are facing difficulties [1]. Therefore, digitalisation has become the key to breaking the deadlock: under the national cultural digitalisation strategy, using short videos, NFTs, and other means to make traditional New Year paintings "trendy" not only preserves craftsmanship but also opens up new consumption, adding momentum to the local economy[2]. For example, the successful issuance of digital collectables of Mianzhu New Year Paintings has not

only attracted the attention of young collectors but also generated considerable economic benefits [1].

2 Research Background

2.1 Pain Points of Rural Revitalisation

Rural revitalisation is stuck in "six difficulties": scattered funds among departments are difficult to coordinate, fragmented industries are difficult to make profits, suspended science and technology are difficult to land, sleeping culture is difficult to attract fans, scattered brands are difficult to gain popularity, and unbalanced governance is difficult to form synergy[3]. By 2025, an effective mechanism for the cultural industry to promote rural revitalisation is expected to be largely in place [4]. Several key cultural industry projects that significantly drive rural revitalisation will be implemented in succession, attracting and cultivating more enterprises, institutions, and various talents to participate. In this process, it is planned to build a series of cultural industry towns and villages with distinct characteristics and prominent advantages, and to launch several rural revitalisation cultural industry models that can produce extensive demonstration effects at home and abroad, replicable and promotable.

2.2 Policy Orientation

Up to now, the primary, secondary and tertiary industries in rural areas have achieved in-depth organic integration, excellent traditional local culture has radiated new vitality, rural cultural formats have become richer and diverse, and humanistic and natural resources have been more effectively protected and rationally utilised.[4]In the future, the comprehensive driving effect of the cultural industry will be further highlighted, its contribution to rural economic and social development will continue to grow, and it will provide stronger support for rural cultural revitalisation. Modern scientific and technological means should be used to improve professional recording standards, enhance the basic system for the inheritance and preservation of experience facilities, and provide software and hardware support for the protection, preservation, and dissemination of intangible cultural heritage. We will strengthen the integration and sharing of intangible cultural heritage resources nationwide, further promote public access to intangible cultural heritage materials, and increase the social use of archives and recorded achievements.[5] Thus, we will promote the widespread dissemination of intangible cultural heritage through digital technology and creative design [5].

3 Research Objectives

Mianzhu New Year Pictures emerged in the late Ming dynasty and matured during the Qianlong and Jiaqing reigns of the Qing dynasty. Over time, they became familiar across Southwest and Northwest China and even reached audiences in India, Myanmar, and Thailand[6]. These works go beyond decorative imagery, reflecting local social

values, everyday life, and cultural practices. They document historical customs and provide insight into the aesthetic tastes and aspirations of local communities[7]. As China's economy expanded and international exchanges increased, traditional folk arts drew attention both at home and abroad. For international audiences, they offer an accessible entry point into Chinese culture, while within China, they are recognised for their continuing relevance. Mianzhu New Year Pictures illustrate how folk traditions can preserve cultural memory and inspire contemporary artistic and cultural engagement[8].

4 Overview of Mianzhu New Year Pictures

Mianzhu New Year Pictures are one of China's four major New Year picture traditions, notable for their vivid colours and distinctive symbolism. The project aims to explore their cultural depth, support their continued existence, and safeguard their heritage. The artworks reflect local history and customs, offering a window into the everyday life and imaginative world of their creators. After the region's post-earthquake reconstruction, cultural tourism in Mianzhu gained momentum[9]. The paintings became sought-after souvenirs, encouraging workshops to expand production and sustain traditional techniques[10]. At the same time, the growing interest in handcrafted, region-specific products increased their appeal to collectors and visitors alike. Beyond commerce, these artworks hold educational value. They help convey local history, encourage engagement with cultural traditions across generations, and nurture public appreciation of visual culture. To broaden understanding, the project includes exhibitions, talks, and interactive sessions where participants can experience the production process and explore the symbolic content of the paintings[11]. Online platforms and social media are also employed to make the artworks more visible and accessible.

5 Scenario-Based Application and Industrial Ecology

5.1 Product Introduction and Subject

The core model for this product is a new "school-enterprise cooperation + social generalisation" model, with VR as the transmission medium. Mainly for colleges and universities, the model of "Mianzhu printmaking + art training" breaks down channel barriers between products and college art courses and cultural communication courses, providing a new training model and technology for colleges and universities to train students. The second is to provide an open exploration of the "Mianzhu Printmaking World" model, based on VR technology, for social literature and art enthusiasts [12]. Use game thinking to create a new virtual world that integrates education, fun, and academics, and to realise a new communication method and profit model for traditional intangible cultural heritage.[13]. Mianzhu Printmaking Cloud Experience Hall. The museum will bring students into the immersive experience of Mianzhu printmaking through the creation of panoramic scenes, enabling them to more intuitively and deeply experience its development process and further enhance their experience.

5.2 Policy Environment

In recent years, the Mianzhu Municipal Party Committee and Municipal Government have thoroughly implemented the spirit of General Secretary Xi Jinping's instructions on the protection of intangible cultural heritage, incorporated the protection of Mianzhu New Year paintings into the economic and social development plan, and built a characteristic development path of agriculture, culture and tourism through the model of "policy guarantee + industrial support + 'intangible cultural heritage +' integration" [14]. In terms of institutional protection, the country's first local regulations on New Year paintings were promulgated in 2020 to promote copyright registration, patent declarations, and trademark registration for works, and to establish a legal protection system [15]. In terms of infrastructure construction and brand communication, we have built carriers such as New Year painting villages and held national exhibitions, achieving outstanding sales and communication results during the 2025 New Year Painting Festival. In terms of industrial development, the New Year's painting village has integrated "production, supply and marketing", with an output value of 40 million yuan in 2024 [16], and its products are exported to many countries. In the field of cultural and tourism integration, Mianzhu has received considerable tourists and tourism income, and the New Year Painting Village has become a 4A-level scenic spot and spawned characteristic formats; In terms of technology empowerment and innovation, we will use technologies such as the metaverse to develop new forms such as digital collections, expand market boundaries in line with industrial development trends, and promote Mianzhu New Year paintings to achieve a win-win situation of cultural value and economic benefits in inheritance and innovation.

5.3 Economic Environment

As one of the four major Chinese New Year painting styles, Mianzhu New Year paintings have a rich heritage and distinctive characteristics. In 2024, its industrial output value will exceed 4,000 million yuan, with more than 40 related enterprises and more than 1,500 people, directly or indirectly, engaged in the creation of New Year paintings. Its products will be exported to more than 50 countries and regions, becoming an important business card for the external dissemination of traditional Chinese culture[17]. From 2022 to 2024, Mianzhu City will receive a total of 27.4013 million tourists, with a total tourism income of 27.062 billion yuan, and the output value of the New Year painting industry will be stable at 30 million yuan/year. Moreover, in 2022, it will also be awarded many honours, such as "Tianfu Famous Tourism County". In the boom of metaverse development, Chengdu issued a relevant action plan in January 2023, proposing that the scale of metaverse-related industries will reach 150 billion yuan by 2025 to build an industrial chain, master core technologies, and promote industrial upgrading.

5.4 Social Environment

On January 1, 2020, the Deyang Mianzhu New Year Picture Protection Ordinance came into effect, becoming the first local regulation in China specifically devoted to safeguarding New Year picture traditions[18]. The ordinance provides a more structured legal basis for protecting and transmitting Mianzhu New Year pictures. It reflects Deyang's attempt to build a more systematic approach to the preservation of intangible cultural heritage. In recent years, local authorities have also strengthened copyright registration and trademark protection for related works, ensuring that creators' rights are properly recognised and protected[19]. These efforts together provide a more stable legal environment for the long-term development of the industry. Mianzhu has continued to organise cultural events, for instance, the "Mianzhu New Year Picture Festival," which introduced the art form to the public in a more engaging and accessible way [20]. Exhibitions, marketplace events, and hands-on workshops held during the festival allow residents and visitors to encounter the craft directly, broadening its visibility and strengthening cultural participation. Technological innovation has also created new opportunities. In light of the development of 5G, artificial intelligence, blockchain, and metaverse-related technologies, Mianzhu has begun exploring digital forms of presentation and dissemination. Through online platforms and digital products, traditional techniques are finding new modes of expression that extend beyond physical limitations and offer additional avenues for public engagement[21].

5.5 Meso-level Industry Analysis

As national efforts to promote cultural confidence and strengthen protection of intangible cultural heritage continue, Mianzhu New Year pictures—rooted in the cultural landscape of the Bashu region—are experiencing renewed momentum. Their long-standing craft traditions have enabled them to pursue a model in which production and preservation reinforce one another. A cooperative framework involving government bodies, enterprises, and academic institutions has gradually taken shape: government agencies provide policy guidance and resources, enterprises focus on market applications and branding, and universities provide research support and creative input. Together, these forces help the tradition adapt to contemporary aesthetic expectations without losing its core identity. To meet growing expectations for product diversification, artisans have experimented with new materials and formats. Elements from Mianzhu New Year pictures have been incorporated into Shu embroidery, woodcarving, and ceramic works; hand-painted calendars and postcards extend traditional imagery into everyday use; and woodcarved or ceramic New Year pictures offer new textures and forms. These developments not only broaden the craft's practical relevance but also shift it from seasonal decoration to everyday objects, allowing traditional motifs to fit into a wider lifestyle aesthetic. Rapid advances in digital technology are also reshaping how traditional culture reaches the public. Immersive digital environments—often discussed under the umbrella of the "metaverse"—are particularly appealing to younger users. Surveys indicate that only a small proportion of respondents express reluctance toward such forms of digital interaction, suggesting strong potential for building large

user communities. With high internet penetration and rapidly developing digital infrastructure and the use of modular constructions in modern engineering project [22, 23], these new interaction models may expand rapidly through network effects, offering new venues for presenting and sharing traditional culture, including Mianzhu New Year pictures[24].

6 Conclusion

This study examines the preservation and transmission of Mianzhu New Year pictures in the digital era and outlines strategies for their sustainable development. Digital initiatives—such as the release of digital collectables, virtual exhibitions, and the use of immersive experience technologies—have broadened the audience base while creating new economic opportunities. However, several challenges remain, including limited application of advanced technologies, insufficient market mechanisms, and gaps in copyright protection. To address these issues, this paper recommends the further adoption of emerging tools, such as AI-based image restoration and 6DoF immersive technologies, to enhance digital preservation and display. It also suggests exploring diversified market pathways, including digital collectables, IP licensing, and cross-sector collaboration, to integrate cultural and economic value better. Establishing long-term cooperation among government bodies, universities, enterprises, and intangible cultural heritage bearers will be essential for building a sustainable system. Digital innovation does more than modernise the presentation of Mianzhu New Year pictures—it also serves as a reference model for the digital development of other intangible cultural heritage items. With ongoing technological progress and supportive policies, Mianzhu New Year pictures are well-positioned to achieve further breakthroughs in both cultural transmission and market expansion.

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