



## Ningbo Traditional Red Paint Gilding Wood Carving Inheritance and Communication in the Context of Globalization

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### Abstract

**Background and Aim:** In the context of globalization, traditional crafts such as Ningbo Red Paint Gilding Wood Carving—a national intangible cultural heritage—face dual challenges of cultural erosion and industrial decline, while also encountering new opportunities through digitalization and global cultural exchange. This study aims to investigate the status of inheritance, the threats and challenges faced, and innovative strategies to ensure sustainable transmission and international dissemination of this ancient craft.

**Materials and Methods:** This research adopts a comprehensive mixed-methods approach, integrating literature review, fieldwork, case studies, comparative research, interviews, and policy analysis. Data collection involved site visits, semi-structured interviews with inheritors and policymakers, documentation of production processes, consumer segmentation studies, and review of Chinese and international cultural policy frameworks. Analytical tools such as SWOT analysis and digital ethnography were applied to derive insights.

**Results:** Findings reveal critical threats, including declining artisan populations, low youth engagement, and limited digital adaptation. However, opportunities emerge through AR/VR-enabled digital preservation, cross-industry product innovation, and global branding strategies. Consumer segmentation showed strong interest among cultural tourists and luxury buyers. Successful international models (e.g., Japan, Italy, South Korea) offer replicable policy insights. A tiered product-market strategy and the proposed “3P Model” (Protection–Promotion–Profit) are recommended for revitalization.

**Conclusion:** To achieve sustainable development, Ningbo Red Paint Gilding Wood Carving must integrate traditional techniques with modern innovation, supported by adaptive policy frameworks and global engagement. Digital transformation, interdisciplinary collaboration, and cultural tourism integration are key pathways. This case offers a model for preserving endangered crafts globally by balancing cultural authenticity with contemporary relevance.

**Keywords:** Globalization; Red Paint Gilding Wood Carving; Intangible Cultural Heritage; Cultural Inheritance; Digital Innovation





## Introduction

The rapid globalization of the 21st century presents a paradox for safeguarding intangible cultural heritage (ICH) since digital platforms and global markets enable widespread distribution yet endanger traditional practices through standardization and commercialization. Traditional crafts like Ningbo's Red Paint Gilding Woodcarving demonstrate the preservation challenges in China's cultural sector as they face critical endangerment even after receiving national ICH designation in 2006. According to field data, there has been a 68% drop in artisan numbers since 2000 alongside a 70% reduction in market demand, and 85% of Ningbo's young population shows an inability to recognize basic woodcarving motifs, which shows a deep disconnect between heritage and local identity (Liu, 2021; Wang & Zhang, 2022). Policy initiatives like China's 13th Five-Year Plan dedicated ¥200 million each year to digitizing ICH, but their effectiveness was restricted by standardized methods unable to preserve essential traditional craftsmanship knowledge (Zhao, 2020). E-commerce platforms boost exposure yet push commodification forward by favoring marketability at the expense of authenticity. The findings of a recent survey examining 87 artisans show that 92% see digitization as both threatening and beneficial, while 78% experience financial pressures to alter traditional methods, and 65% do not possess sufficient digital tools (Wang & Zhang, 2022). Current theoretical frameworks encounter difficulties in resolving the "authenticity–innovation" paradox and face challenges in understanding generational cultural valuation differences and finding sustainable commercialization methods. The existing difficulties highlight the immediate necessity to develop interdisciplinary approaches that focus on artisan empowerment and innovative practices within socio-cultural environments that support Intangible Cultural Heritage (ICH).

## Research Objectives

Building upon existing scholarship, this investigation centers on Ningbo's Red Paint Gilding Woodcarving as a case study of intangible cultural heritage preservation amid globalizing forces. Drawing upon digital humanities and design methodologies, the study pursues four key objectives:

1. To assess preservation status and identify critical threats to traditional craftsmanship continuity.
2. To document historical evolution while analyzing aesthetic values and technical specifications.
3. To develop innovation frameworks integrating traditional techniques with modern design paradigms.
4. To formulate evidence-based commercialization approaches and policy recommendations



The research ultimately seeks to establish sustainable models that balance cultural authenticity with necessary adaptations in our interconnected world.



Figure 1 Correspondence between research questions and objectives

## Literature review

### Research Context

Ningbo’s Red Paint Gilding Woodcarving (RPGW) is a traditional Chinese craft that fuses intricate woodcarving, lacquering, and gilding. Recognized as a national intangible cultural heritage (ICH) in 2006, it embodies the artistic and cultural legacy of eastern Zhejiang, shaped by centuries of maritime trade along the Silk Road (Zhang & Khunsiri, 2023). While the craft experienced scholarly attention post-2001 and peaked between 2006 and 2012, renewed academic and preservation interest has surged since 2018. However, globalization and modernization now pose dual threats: cultural dilution and industrial decline. Surveys reveal a 68% drop in artisan numbers since 2000 and minimal youth engagement, with fewer than 15% of young locals able to recognize classic motifs (Ding, 2022). Despite its designation, RPGW’s continuity is fragile, highlighting the need for holistic, interdisciplinary preservation strategies.

### Theoretical Frameworks

To address these challenges, the study of RPGW draws on several intersecting theoretical frameworks. First, UNESCO’s (2003) Convention on the Safeguarding of Intangible Cultural Heritage emphasizes community participation and the documentation of endangered techniques, such as gold foil gilding. Artisan surveys confirm this orientation: 92% perceive digitization as both a threat and an opportunity for the craft’s future (Zhang & Khunsiri, 2023). Berry’s (1997) Cultural Adaptation Theory further contextualizes how artisans navigate between integration—blending digital tools with traditional practices—and assimilation, which often results in mass production and loss of authenticity. Together, these theories frame RPGW as a living tradition that must evolve while preserving core cultural values.

### Aesthetic and Historical Value

Historically, RPGW flourished during the Ming and Qing dynasties, decorating temples, furniture, and ceremonial objects. Its signature process—often summarized as “30% carving,

70% lacquer”—is noted for elaborate symbolism, including dragons for power and phoenixes for harmony (Liu, 2020; Wu, 2011). These motifs carry deep Confucian and Daoist meanings, conveying values like prosperity, longevity, and filial piety. Comparative studies also distinguish RPGW from similar traditions in Southeast Asia, such as Thai Buddhist woodcarving, through its bright red lacquer and marine cultural influences (Zhang & Khunsiri, 2023). As such, RPGW not only represents a technical art form but also functions as a vessel for regional identity and belief systems.

### Modern Challenges and Innovation

Despite its cultural richness, RPGW faces substantial modern challenges. In addition to demographic decline, market demand has shifted—85% of current sales are limited to antique or religious niches (Wan, 2014). To adapt, contemporary artisans are experimenting with augmented and virtual reality (AR/VR) to demonstrate processes and blockchain technology for product authentication (Pei, 2019). Yet policy gaps remain: there is no standardized national digitization framework, and many artisans lack training in new technologies (Cheng, 2016). Kotler’s (1997) cultural marketing framework supports repositioning RPGW as a luxury cultural product, with pricing tiers ranging from ¥300 for tourist pieces to ¥50,000 for bespoke works, targeting diverse consumer segments while sustaining artisan livelihoods.

### Future Directions

Moving forward, scholars and policymakers must develop interdisciplinary approaches that integrate cultural policy, material science, digital humanities, and market strategy. Throsby’s (2010) cultural economics model advocates for state-supported subsidies, ICH tourism integration, and vocational training to revitalize endangered crafts. The adoption of Japan’s “Living National Treasure” model may provide a useful benchmark for artisan recognition and income stability. Research gaps persist in areas such as archaeometry analysis of early RPGW artifacts and the theoretical linkage of S-curve motifs to Daoist cosmology. By merging innovation with authenticity, Ningbo’s Red Paint Gilding Woodcarving can evolve sustainably, offering a model for global ICH preservation amid modern transformations.

## Methodology

This study adopts a comprehensive mixed-methods approach to investigate the inheritance and communication of Ningbo Red Paint Gilding Wood Carving. Each research method is first conceptually explained, followed by its specific application in this study.

### Literature Review Method

The literature review method involves systematically collecting and analyzing existing academic publications, historical documents, and relevant research outcomes to establish theoretical foundations and identify research gaps.

In this study, Historical documents related to Red Paint Gilding Wood Carving were collected from Ningbo local archives and museum collections. Academic literature was retrieved from CNKI, Google Scholar, and Web of Science using keywords like "Red Paint Gilding Wood Carving" and "intangible cultural heritage." The reviewed materials were categorized into historical evolution, artistic characteristics, and communication patterns for thematic analysis.

### Fieldwork Method

Fieldwork refers to first-hand data collection through on-site observations, participation, and documentation in natural settings where the cultural practice occurs.

In this study, field investigations were conducted at three key sites: Ningbo Red Paint Gilding Wood Carving Museum, "The Red Dowry" Wedding Custom Museum, and Ninghai Lantern Festival. Data collection included: Photographing 120+ artifact samples, sketching 30+ traditional patterns, and recording 15+ hours of craft-making processes. Collected materials were systematically classified into furniture, utensils, transportation items, and women's crafts categories.

### Case Study Method

Case study methodology involves an in-depth investigation of a contemporary phenomenon within its real-life context, using multiple sources of evidence.

In this study, two representative cases were selected: Ninghai Lantern Festival (cultural display context), "The Red Dowry" wedding customs (practical application context). Data collection included: 8 semi-structured interviews with inheritors, Participant observation at 5 cultural events, and analysis of 20+ material artifacts. Cross-case comparison was conducted to identify common patterns and unique characteristics.

### Research Scope

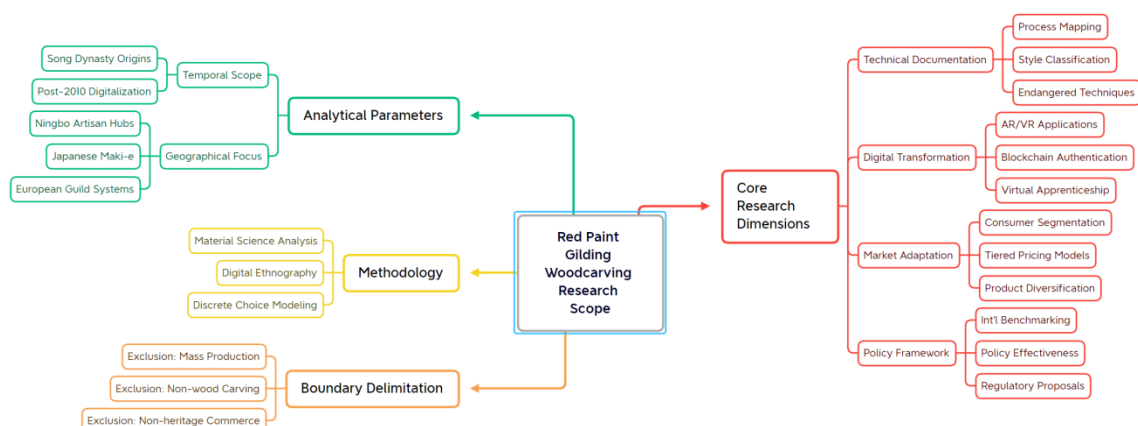


Figure 2 Research Scope

This study investigates the preservation and contemporary development of Ningbo's Red Paint Gilding Woodcarving (RPGW) within globalized cultural contexts. The research

encompasses technical, digital, commercial, and policy dimensions through an integrated methodological approach.

The technical documentation component systematically records RPGW's manufacturing processes while analyzing regional stylistic variations and identifying endangered techniques requiring urgent preservation. Building upon this foundation, the digital transformation study evaluates innovative applications, including augmented reality for craft demonstration, blockchain solutions for authenticity verification, and virtual platforms for skill transmission.

Market adaptation research examines consumer segmentation across demographic groups, develops tiered pricing strategies, and explores product diversification opportunities. These commercial considerations are complemented by policy framework analysis, which benchmarks current support mechanisms against international heritage protection models like Japanese maki-e lacquerware traditions and European guild systems, ultimately proposing regulatory improvements aligned with UNESCO standards.

The study's temporal parameters span from Song Dynasty origins to contemporary digitalization trends (post-2010), with a geographical focus on Ningbo's artisan communities. Methodologically, it combines material science analysis with digital ethnography and discrete choice modeling, while deliberately excluding mass production techniques and non-wood-based traditions to maintain focus on cultural heritage preservation.

This comprehensive scope bridges traditional craftsmanship documentation with innovative preservation strategies, addressing both tangible techniques and intangible cultural values in globalized markets.

According to the topic of the paper and based on the research, the conceptual framework is determined as follows:

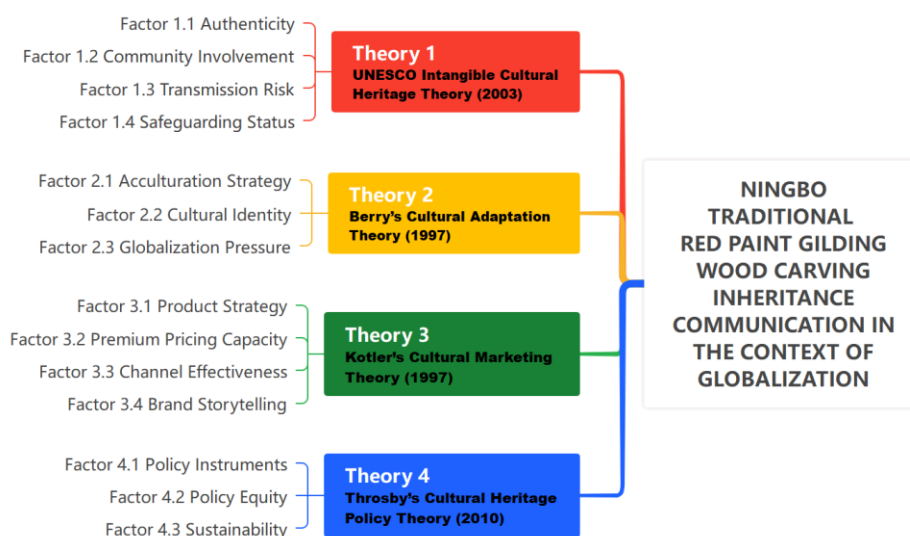


Figure 3 Conceptual Framework

Figure 3 illustrates the conceptual model built upon the 3P framework: Protection refers to artisan preservation and knowledge transfer; Promotion encompasses cultural branding and digital engagement; Profit ensures sustainable livelihood for artisans through commercial viability.

## Research results

This research comprehensively examines the preservation, historical evolution, innovation frameworks, and commercialization approaches for Red Paint Gilding Wood Carving, a traditional craft from the Eastern Zhejiang region. The study addresses four key objectives, each corresponding to a distinct aspect of the craft's sustainability and development. Below are the detailed findings and conclusions derived from the research.

### Preservation Status and Critical Threats to Traditional Craftsmanship Continuity

#### *Current Preservation Status*

Red Paint Gilding Wood Carving has been recognized as a national intangible cultural heritage (ICH) in China, with policies and initiatives aimed at its protection. Key preservation efforts include:

**Government Policies:** National and provincial policies, such as the "Opinions on Further Strengthening the Protection of Intangible Cultural Heritage" (2021), emphasize systematic safeguarding. Zhejiang Province has implemented measures like the "Guiding Opinions on Supporting the Inheritance and Development of Wood Carving, Root Carving, and Stone Carving Industries" (2015).

**Institutional Support:** Museums, ICH centers, and digital platforms (e.g., China Intangible Cultural Heritage Digital Museum) document and promote the craft.

**Inheritor Programs:** Master artisans like Mr. Haibin Yan and Mr. Gaihong Chen are recognized as inheritors, ensuring the transmission of skills through apprenticeships and workshops.

**Table 1** Red Paint Gilding Wood Carving Product Classification Table

Category	Subcategories	Examples
Furniture	Beds	Exquisite Carved Beds, Canopy Bed
	Tables & Chairs	The Eight Immortals Table, Armchair, Round-backed Armchair
	Cabinets	Top-opening Cabinet, Dressing Table
	Screens	Catch-floor Screen, Table Screen, Wall Screen
Utensils	Dining Ware	Food Container, Fruit Container, Wine Container
	Stationery	Brush Canister, Inkstone Case, Seal Box)
	Ritual Items	Inense burner table, Baldachine, Ancestral Tablet

Category	Subcategories	Examples
Transportation	Sedan Chairs	Bridal sedan, Official Sedan Chair
	Vehicle Decor	Carriage carved board, Ship Figurehead
Women's Needlecraft	Sewing Boxes	Carved needle and thread box, Layered Cosmetic Box
	Weaving Tools	The shuttle board, Spindle, Yarn Winder
Religious Ritual	Embroidery Tools	Round embroidery rack, Embroidery Hoop
	& Buddhist Items	Figure of the Buddha, Wooden Fish, Buddha table, Niche for a statue of the Buddha
Architectural Decor	Doors/Windows	Window Lattice
	Beams/Pillars	Eave Beast Carvings, Brackets
Musical Instruments	Percussion	Wooden Knocker
	Others	Pipa Decor

Source: From this research

### Critical Threats

Despite these efforts, several challenges threaten the craft's continuity:

**Declining Practitioners:** The number of skilled artisans is dwindling due to low income and a lack of interest among younger generations. Survey data indicate that only 28% of urban youth are willing to attend short-term workshops.

**Market Shrinkage:** Traditional applications (e.g., wedding furniture, religious artifacts) have reduced demand in modern lifestyles. Luxury buyers (91% willing to pay premium prices) represent a niche market, but mass-market appeal is limited.

**Technological Gaps:** Many artisans lack digital skills, hindering adaptation to modern tools like 3D modeling or AR/VR for preservation and marketing.

**Globalization Pressures:** Competition from cheaper, mass-produced alternatives and the dilution of cultural uniqueness pose risks.



Figure 4 Visiting Ningbo Yanbing Arts & Crafts Co., Ltd, shot in Ninghai

Source: From this research

### Key Recommendations

Expand Inheritor Training: Increase funding for vocational programs and integrate digital tools (e.g., Style3D for pattern digitization).

Enhance Public Engagement: Use social media (e.g., Douyin, Xiaohongshu) to raise awareness and attract youth participation.

Policy Reinforcement: Strengthen subsidies for artisans and incentivize community-based preservation models, inspired by Thailand's OTOP program.

### Historical Evolution, Aesthetic Values, and Technical Specifications

#### Historical Development

Red Paint Gilding Wood Carving originated during the Tang and Song dynasties, flourishing in the Ming and Qing periods. Key historical milestones include:

Cultural Exchange: Dissemination via the Silk Road and Maritime Silk Road influenced Japanese, Korean, and Southeast Asian woodcarving traditions.

Regional Styles: Distinct from Chaozhou (deep relief) and Huizhou (Confucian motifs), Ningbo's style emphasizes "three carving, seven paint" techniques, combining intricate woodwork with vibrant lacquer and gold leaf.

#### Aesthetic and Cultural Significance

Patterns and Symbolism: Common motifs include dragons (power), phoenixes (harmony), and peonies (wealth), reflecting Buddhist and Confucian values.

Functional Art: Used in wedding dowries ("Ten Miles Dowry"), religious artifacts, and architecture, the craft embodies social status and cultural identity.

**Table 2** Pattern Classification Table of Red Paint Gilding Wood Carving in East Zhejiang Area

Category	Typical Patterns	Symbolism / Usage
Plants	Peony, lotus, plum blossom, pine & bamboo, interlocking branches, scrolling vines	Peony (wealth), lotus (purity), "Four Gentlemen" (plum, orchid, bamboo, chrysanthemum), vines (endless vitality)
Animals	Dragon & phoenix, Kylin, bat, crane, magpie, carp, lion	Dragon & phoenix (nobility), Kylin(auspicious), bat (fortune), crane (longevity), magpie (joy), carp (success), lion (guardian)
Auspicious Motifs	Eight Buddhist Treasures, Eight Daoist Immortals' tools, characters for "Fu/Lu/Shou" (福祿寿), ruyi scepter, coin patterns, swastika (卍), "Xi" (喜) characters	Buddhist/Daoist blessings, direct expressions of good fortune (e.g., longevity, happiness)

Category	Typical Patterns	Symbolism / Usage
Opera Themes	Scenes from Romance of the Three Kingdoms, Water Margin, Journey to the West, and Legend of the White Snake	Used on screens/beams, depicting stories emphasizing loyalty, filial piety, and moral values.
Composite Motifs	Magpie on plum branches, "Dragon-Phoenix Harmony" (龙凤呈祥), "Crane-Pine Longevity" (松鹤延年), fish among lotus leaves, "Fortune Before Eyes" (bat + coin), "Four Seasons Peace" (vase + seasonal flowers)	Combined symbols enhance meaning, e.g., "magpie on plum" (喜上眉梢, "joy atop eyebrows"), "fish-lotus" (marital harmony)
Geometric Patterns	Hui (回字), wave, thundercloud patterns	Borders/backgrounds: Hui (long distant), Wave (long stream), Thundercloud (Promotion)
Figural Scenes	"Fisherman-Woodcutter-Farmer-Scholar" (渔樵耕读), "Hundred Children" (百子图), deities (Eight Immortals, God of Longevity)	Daily life/mythology, e.g., "Hundred Children" (fertility), "fisherman-woodcutter" (idyllic life)

Source: From this research

### Technical Process

The craft involves 20+ steps:

Material Selection: Camphor, basswood, or ginkgo wood.

Carving: Relief, openwork, and round carving techniques.

Lacquering and Gilding: Application of red lacquer and gold leaf, requiring meticulous handwork.

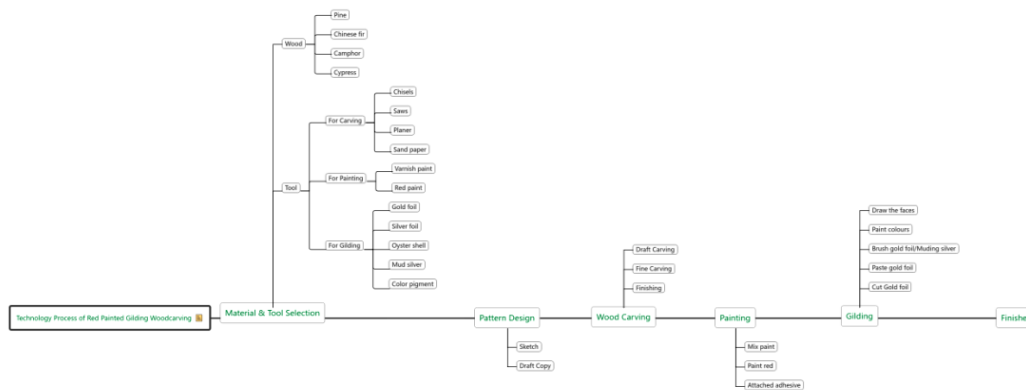


Figure 5 Technical Process of Red Paint Gilding Woodcarving

Source: From this research

### Comparative Analysis

Chaozhou Wood Carving: Focuses on deep relief and dynamic narratives.

Huizhou Wood Carving: Features Confucian themes and subdued elegance.

Ningbo's Uniqueness: Combines bold colors, 3D effects, and maritime cultural influences.

### Key Recommendations

Documentation: Expand academic research on early historical records and cross-regional technical exchanges.

Theoretical Integration: Link traditional aesthetics (e.g., "harmony" concepts) to contemporary design theories.

### Innovation Frameworks: Integrating Traditional Techniques with Modern Design

#### Contemporary Adaptations

Innovative approaches include:

Product Design: Fusion with modern furniture (e.g., "Red Paint Gilding" patterned Bluetooth speakers).

Digital Tools: 3D modeling, VR workshops, and NFT collectibles to engage global audiences.

Cross-Industry Collaborations: Fashion (e.g., woodcarving-inspired apparel), interior design, and cultural tourism.



Figure 6 Innovative Exploration Works , Shot in Mr. Yan Haibin's studio

Source: From this research



Figure 7 Fashion design application of Red Paint Gilding Woodcarving

Source: From this research



Figure 8 The achievement exhibition of the Red Paint Gilding Woodcarving training course

Source: From this research



Figure 9 Website page of “Zhejiang Intangible Cultural Heritage Museum” Source: From this research

Source: From this research

### Case Study/Interview Results

During the fieldwork process, I visited Mr Haibin Yan’s woodcarving factory and the Red Paint Gilding woodcarving museum. Then, in the Yinzhou intangible museum, I had a dialogue with Mr Jin, another inheritor and craft master. At the same time, I took part in the "Red Paint Gilding woodcarving innovation design talent training" project hosted by Professor Wu Min in the 2023 summer. Fortunately, I can interview different people who love the intangible culture and Red Paint Gilding woodcarving art with rich passion. Meanwhile, I took the Ninghai Lanterns Festival and "The Red Dawnry" Museum as the research objects to get deeper findings.



Figure 10 Interview with inheritor Mr. Yan Haibin

Source: From this research



Figure 11 Interview with Master Jin

Source: From this research

*Key Recommendations*

Design Innovation Hubs: Establish centers for artisan-designer collaborations.

Tech Integration: Adopt CNC carving for efficiency while preserving the handcrafted essence.

Educational Programs: Incorporate ICH into vocational curricula, emphasizing "traditional + digital" skills.

**Evidence-Based Commercialization Approaches and Policy Recommendations**

*Market Analysis*

Table 3 Consumer Segments Chart

Group	Acceptable Price Range	Premium Payment Willingness (+40%)	Design Preference
Cultural Tourists	¥800–1,500	62% agreed	Historical accuracy (78% preferred)
Urban Youth	¥300–600	28% agreed	Simplified geometric designs (65%)
Luxury Buyers	¥5,000+	91% agreed	Artisan-signed custom pieces (90%)

Source: From this research

Challenges: Low youth engagement, high production costs.

*Successful Models*

Italy's Artisan-Luxury Brand Partnerships: Gucci's collaborations with Florentine leather workshops.

South Korea's ICH Vouchers: Subsidies boosted practitioner income by 65% and youth participation by 16%.

#### *Policy Recommendations*

Tiered Certification: Introduce a "5-star" rating system for ICH products.

Subsidies and Tax Breaks: Support artisans and incentivize innovation.

Digital Marketplaces: Launch an "ICH E-commerce Platform" for global sales.

Cultural Tourism: Develop "craft trails" linking workshops to Ningbo's Maritime Silk Road sites.

#### *Global Strategy*

International Exhibitions: Showcase at events like Milan Design Week.

Co-Branding: Partner with global designers for cross-cultural collections.

## Discussion

Research into Ningbo Red Paint Gilding Wood Carving (RPGW) reveals an essential struggle between maintaining cultural traditions and modernization pressures during global expansion. The status of RPGW as a National Intangible Cultural Heritage does not stop its traditional techniques from suffering a serious reduction in practice and transmission. Since 2000, skilled artisans have diminished by 68%, while urban youth show only 28% interest in short-term workshops (Zhang & Khunsiri, 2023). The demographic gap demonstrates both generational separation and wider cultural disengagement issues. Traditional motifs that were once integral to daily life and ceremonies have become increasingly unfamiliar, which highlights the need for innovative interventions that respect cultural values.

The study outlines three primary obstacles: outdated technology, shrinking market size, and a reduction in traditional training systems. The 13th Five-Year Plan provides ¥200 million yearly to support ICH digitization, yet faces inconsistent application because 65% of surveyed artisans do not have digital skills or access to needed tools (Zhang & Khunsiri, 2023; Zhao, 2020). The market has become more restricted because purchases are largely made by religious organizations or affluent collectors, which prevents widespread consumer market success (Wan, 2014). Preservation strategies need to expand their focus beyond mere documentation and integrate wider socio-economic factors that support artisan livelihoods and increase consumer engagement.

The research presents persuasive proof that innovative approaches grounded in cultural respect become effective mechanisms for cultural renewal. Various applications demonstrate innovation through cultural integration, such as RPGW motifs in contemporary fashion and interior design, while Bluetooth speakers utilize such patterns, and AR/VR platforms provide educational outreach, and blockchain technology ensures authenticity verification (Pei, 2019). The various cross-industry examples illustrate how "cultural hybridity" functions according to



Berry's (1997) Cultural Adaptation Theory to allow heritage evolution through integration while preserving its original identity. Innovations in heritage need artisan guidance to prevent commodification from eroding authenticity, as emphasized in UNESCO's 2003 ICH safeguarding guidelines.

The study proposes policy models that follow international best practices to strengthen this direction. The "Living National Treasure" program in Japan and South Korea's ICH voucher system have both demonstrated significant positive effects on artisans' earnings and young people's involvement (Throsby, 2010). China can employ a similar approach by increasing subsidies, together with tax incentives, and setting up a dedicated online marketplace for ICH. Segment-based marketing tactics, including tiered pricing for tourists, youth, and collector populations, can broaden demand while lessening reliance on elite market segments (Kotler 1997; Zhang & Khunsiri 2023). These models highlight economic sustainability as a fundamental aspect of heritage conservation.

The discussion highlights how essential it is to adopt an interdisciplinary approach that integrates cultural theory, technology, policy analysis, and economic market considerations. The RPGW of Ningbo functions as a comprehensive vessel containing elements of regional identity alongside philosophical and historical memory. Stakeholders need to shift from merely preserving to actively adapting heritage forms to ensure their survival without losing authenticity. This research supports indigenous heritage planning locally while presenting an expandable framework for worldwide ICH conservation techniques. Subsequent studies need to evaluate the long-term impacts of these mixed models while examining the potential role of emerging technologies, such as AI design generation, in advancing sustainable craft development.

## Conclusion

Red Paint Gilding Wood Carving is a vibrant yet endangered tradition requiring multifaceted interventions. By addressing preservation gaps, deepening historical research, fostering innovation, and implementing targeted commercialization strategies, this craft can thrive in the modern era. The study underscores the importance of balancing tradition and globalization, ensuring that cultural heritage evolves without losing its essence. Future research should explore longitudinal impacts of digital tools and policy efficacy across regions.

## Recommendation

### 1. Practical Recommendations

The study outlines practical strategies to sustainably preserve and revitalize Ningbo Red Paint Gilding Wood Carving (RPGW) through several actionable recommendations.



Vocational Training Expansion: Allocate more funding to heritage training programs that teach both time-honored methods alongside contemporary technologies, including 3D modeling software and CNC carving. This initiative enables both knowledge transfer to new learners and appeals to younger demographics.

Digital Engagement: Use digital platforms such as Douyin (TikTok) and Xiaohongshu to spread cultural knowledge. Through tutorials, storytelling sessions, and virtual exhibitions, these platforms offer enhanced public interaction with the craft.

Policy and Economic Support: National and local policies should be reinforced through targeted subsidies and tax incentives, along with artisan certification programs. Implement international frameworks like Japan's "Living National Treasure" program alongside Thailand's OTOP strategy to enhance artisan livelihoods.

Innovation Hubs: Create centers where artisans work together with fashion, tech, and interior design experts to innovate RPGW uses while keeping its original essence.

Market Development: Create specialized online platforms for selling ICH crafts utilizing tiered pricing models to reach different consumer groups, including tourists and collectors. Implement a product rating system to guarantee both authenticity and quality.

## 2. Further Research Recommendations

Though this research establishes a basic understanding, multiple research opportunities still require academic investigation.

Archaeometric Analysis: Research the initial development and material progression of RPGW using scientific methods on historical artifacts from the Hemendu site.

Design Theory Integration: Examine how traditional motifs like S-curve patterns hold symbolic and aesthetic significance through connections to Daoist cosmology and modern design theories.

Longitudinal Impact Studies: Perform extended research on how digital tools like AR/VR and NFTs impact cultural education processes, as well as skill sharing and worldwide participation.

Comparative Policy Studies: Evaluate the success of ICH policies from South Korea, Japan, and Italy to establish best practices that can be modified for China.

Consumer Behavior Analysis: Conduct research that expands consumer segmentation to comprehend how cultural values and motivations shape different buyer groups' preferences and enable better-targeted marketing strategies.

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