

## RESEARCH ARTICLE

## Crafting Cultural Sustainability: Exploring Intangible Cultural Heritage Preservation through Product Design in Henan Nigugu, China

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### ABSTRACT

This study explores the relationships between cultural perceptions, community engagement, design innovation, social cohesion, and the success of Intangible Cultural Heritage (ICH) preservation initiatives through product design in Henan Nigugu, China. The study seeks to comprehensively understand the mechanisms driving ICH preservation efforts and identify strategies to enhance their effectiveness and sustainability. The study employed a qualitative research design, conducting 17 semi-structured interviews with stakeholders involved in ICH preservation and product design in Henan Nigugu. Data were analyzed using a three-step thematic analysis approach. The findings reveal cultural perceptions influence stakeholders' attitudes towards ICH preservation, shaping their willingness to engage in design innovation processes. This study contributes to theoretical understandings of cultural sustainability and heritage preservation by examining the interconnectedness of cultural perceptions, community engagement, design innovation, social cohesion, and the success of ICH preservation initiatives through product design. The findings have practical implications for policymakers, practitioners, and community stakeholders involved in cultural sustainability initiatives, providing insights into practical strategies for preserving and promoting ICH in Henan Nigugu and beyond. The research also contributes to the growing literature on design innovation and cultural sustainability, offering empirical evidence to support theoretical frameworks and conceptual models. However, future research should explore the long-term impact of design innovation on ICH preservation and further investigate strategies to enhance community engagement.

### INTRODUCTION

The cultural heritage includes a civilization's identity, values, customs, and generations' wisdom, creativity,

and perseverance throughout thousands of years. ICH preservation has become a priority. Cultural practices, rituals, and traditions at risk of vanishing

due to industrialization and globalization must be protected and fostered. More civilizations recognize the need to preserve and respect the diverse cultures that underpin humanity (Aslan, 2022). The central Chinese city of Henan Nigugu is known for its rich history and culture. Culinary, performance, artisanal, and festive traditions abound in the region (Pourbahador and Brinkhuijsen, 2023). Indigenous groups' daily rituals and recollections include the cultural activities listed. They foster respect, inclusivity, and continuity (Anderson et al., 2023). Henan Nigugu, like many other sites, confronts several challenges that threaten its ICH transmission and maintenance. Urbanization, economic growth, and social change are challenges (Yu and Xu, 2019). Given these restrictions, design innovation-based ICH preservation techniques must be explored.

Sustainable growth, social cohesion, and cultural diversity need intangible cultural asset preservation (Stapleton et al., 2019). ICH includes a variety of cultural traditions, knowledge, and talents passed down from generation to generation. Traditions establish community identities and foster belonging (Lawangen and Roberts, 2023). However, urbanization, cultural conformity, and globalization threaten ICH conservation (Quintero-Angel et al., 2022). ICH is valuable, hence UNESCO has called for further protection and promotion. The organization has stressed the necessity for innovative, hybrid tactics (Gundogdu and Nalbantoglu, 2023). The preservation of culture and the long-term viability of history depend on the connection between innovation and tradition that product design plays (Benslimane and Biara, 2019). Incorporating intangible cultural history into product design may connect the past and present. This meets modern needs and desires while preserving tradition (Giannetti et al., 2021). Design innovation can revive handicrafts, boost cultural tourism, and boost local economies (Prendeville and Koria, 2022). The design may convey cultural narratives, beliefs, and ambitions, helping viewers grasp intangible cultural assets (Del Moral Perez et al., 2016). ICH may be preserved, promoted, and transmitted through product design. The intersection between product design and cultural heritage in Henan Nigugu presents ICH conservation challenges. Designs highlight the region's distinct culture and

indigenous beliefs. Socioeconomic growth and urbanization have threatened traditional lifestyles and culture (Zeng et al., 2020). Design revitalizes and promotes Henan Nigugu's intangible cultural values. While previous research has explored various aspects of cultural sustainability and heritage preservation, this study aims to address several gaps in the literature (Zhao et al., 2024). Firstly, existing studies often focus on tangible aspects of cultural heritage, such as monuments, artifacts, and architecture, overlooking the significance of intangible cultural practices, rituals, and traditions (Moreno, 2019). Secondly, while there is growing recognition of the importance of product design in cultural sustainability, only some studies have examined its specific role in preserving intangible cultural heritage, particularly within the context of rural communities like Henan Nigugu (Biedermann et al., 2023). Thirdly, there needs to be more comprehensive research integrating perspectives from multiple stakeholders, including designers, artisans, policymakers, and community members, to develop holistic and context-specific strategies for ICH preservation through product design (Gregorio Jr and Kobayashi, 2021). Addressing these gaps is essential for advancing theoretical understandings and practical interventions in the field of cultural sustainability and heritage preservation (Vellesalu et al., 2023).

This study aims to investigate the role of product design in preserving intangible cultural heritage in Henan Nigugu, China. Specifically, the study seeks to explore how design innovation can contribute to the revitalization, promotion, and transmission of local cultural practices, rituals, and traditions. By examining the intersection of cultural perceptions, community engagement, design innovation, and social cohesion, the study aims to generate insights that can inform policy, practice, and future research in the field of cultural sustainability and heritage preservation. This study seeks to answer the following research questions:

- What is the role of product design in preserving intangible cultural heritage in Henan Nigugu, China, and how does it intersect with cultural perceptions, community engagement, design innovation, and social cohesion?

From a practical perspective, this research holds significant implications for policymakers, practitioners, and community stakeholders involved in cultural sustainability initiatives. Henan Nigugu, like many other regions globally, faces challenges in preserving its ICH amidst rapid urbanization, socio-economic transformations, and cultural homogenization. By empirically exploring the relationships between cultural perceptions, community engagement, design innovation, social cohesion, and the success of ICH preservation initiatives, this study offers valuable insights that can inform the development of context-specific strategies and interventions tailored to the unique socio-cultural realities of Henan Nigugu. From a theoretical perspective, this research contributes to advancing knowledge in the fields of cultural sustainability, heritage preservation, and product design. While theoretical discussions abound regarding the importance of preserving intangible cultural heritage and the role of design innovation in cultural sustainability, there needs to be more empirical evidence to support these theoretical frameworks and conceptual models. By empirically testing the relationships between cultural perceptions, community engagement, design innovation, social cohesion, and the success of ICH preservation initiatives, this study seeks to bridge the gap between theory and practice.

## **LITERATURE REVIEW**

Cultural sustainability and heritage preservation literature emphasize the need to preserve and expand a wide range of cultural practices, traditions, and knowledge systems in a globalized society. ICH promotes community, identity, and knowledge transfer between generations, according to academics (Quintero-Angel et al., 2022). Cultural legacy changes with social, economic, and environmental changes, according to scholars (Lucchi, 2022). Academic literature also emphasizes the importance of cultural sustainability in fostering communication, understanding, and respect amongst cultures, which aids societal harmony and peacebuilding. Product design researchers have studied new ways to infuse cultural traits and practices into modern goods, reviving old artistry and preserving cultural heritage.

## **Cultural perceptions**

Preservation of historical records and civilizations demands cultural awareness. Cultural perceptions are the many points of view, concepts, and attitudes that people and groups have regarding their culture. Participation and ideas on ICH preservation and design affect attitudes and links. Cultural perception study illustrates how people view their history. These conversations may make you feel anxious, uncomfortable, or self-important (Farrelly et al., 2019; Jam et al., 2017). Globalization and industrialization may render ICH protection unneeded. Cultural continuity and identity may need it (Abebe and Gatisso, 2023). History, society, education, and external factors shape culture (Leong et al., 2024). Cultural perception study examines the delicate balance between innovation and tradition in cultural heritage conservation. Some reject change, but others combine culture and technology creatively (Ngo, 2019). Culture impacts ICH preservation product design. Cultural pride and identification foster cultural sustainability initiatives (Giannetti et al., 2021). Cultural infringement or authenticity concerns may hinder design collaboration to preserve cultural assets (Cui et al., 2024; Ho, 2019; Widilestariningtyas and Karo, 2016).

## **Design innovation**

ICH must be creatively designed into modern products and artifacts to preserve cultural traditions. To meet current challenges and opportunities, design innovation involves thorough and creative evaluation of prior methods, aesthetics, and approaches (Tanaka and Shimoyama, 2020). Preserving cultural treasures for future generations requires innovative ICH preservation design. Modernity and tradition are intertwined. Scholars and practitioners say design innovation expresses cultural traditions and fulfills evolving consumer tastes and market expectations (Le Thanh et al., 2022). ICH components are used in many product design advancements. Use symbolic patterns and symbols, reuse historical materials, and mix new and old designs (Ekman et al., 2021). Digital technology like CAD, 3D printing, and laser cutting can allow cultural product designers to explore (Yang, 2021). Community members, cultural practitioners, and craftspeople can collaborate to make culturally authentic, context-appropriate products (Makris

et al., 2021). In addition to its aesthetic appeal, design innovation affects society, economics, and ecology. Culturally sustainable and creatively designed products are attractive and maintain traditional skills and craftsmanship (Wang et al., 2020). Design innovation helps local craftspeople and cultural entrepreneurs access markets and make money, promoting sustainable livelihoods and economic empowerment. Consumer interest in ethical consumption, cultural authenticity, and historical knowledge is expanding, making culturally sustainable and creatively designed products desirable (Kloiber et al., 2024). In a linked and interdependent world, design innovation promotes international conversation, mutual understanding, and cultural diversity.

### **Community engagement**

Community engagement is crucial to preserving ICH through product design. This project must involve local communities, craftspeople, cultural experts, and other stakeholders in its conception and execution. Community engagement recognizes that community actions shape cultural heritage (Breen et al., 2021). Engaging community members in information sharing, collaborative planning, and decision-making may make cultural preservation initiatives inclusive, genuine, and relevant (Silva et al., 2023). Empowerment and cultural agency are essential benefits of communal cultural product development. Designers authenticate their knowledge, practical understanding, and life experiences by including artisans and cultural specialists (Esgin et al., 2023). Citizens may actively preserve and share their culture, generating community pride (Tzima et al., 2020). Incorporating community values, behaviors, and opinions boosts product authenticity and cultural relevance. This ensures cultural goods satisfy community standards, enhancing heritage ties.

### **Social cohesion**

ICH product design demands societal coherence. Community spirit is the shared values, traditions, and human interactions that build confidence, togetherness, and inclusion (Breen et al., 2021). Cultural product companies encourage community participation and heritage enjoyment (Gravagnuolo et al., 2024). Making and buying culturally significant things builds community, relationships, and social

networks. Cultural goods companies foster social cohesion by sharing knowledge between generations. Elders, teenagers, and other community members can share knowledge, skills, and narratives by designing and producing practices (Chen et al., 2022). Individuals who study, make, and love their culture conserve legacy and enhance family and communal bonds. Cultural goods represent collective memory and legacy, fostering nostalgia and tradition (Lassandro et al., 2021). Cultural goods companies foster variety, conversation, and cross-group understanding. To promote cultural awareness and respect, cultural goods display indigenous rites and aesthetics (Stapleton et al., 2019). Intercultural communication is encouraged when people from different cultures learn about and appreciate their humanity.

## **METHODOLOGY**

This study chose a qualitative approach to gain in-depth insights into participants' experiences, beliefs, and attitudes toward ICH preservation and product design. Qualitative methods allow for a nuanced understanding of complex phenomena, such as cultural heritage, by exploring the meanings and interpretations individuals ascribe to their experiences. Additionally, qualitative research is well-suited for exploring diverse perspectives and capturing rich, contextual data, essential for studying topics like cultural preservation that are inherently subjective and culturally bound.

### **Participants**

Participants from several areas in China were included in the qualitative study to ensure a wide range of ideas and experiences on ICH conservation and product design. Selected individuals were heavily involved in ICH programs. This group included community leaders, craftspeople, designers, cultural experts, lawmakers, and designers. To contribute to the study topic, participants had to be competent in cultural asset protection or product design (Table 1). Individuals who did not meet inclusion standards or perform poorly in Mandarin Chinese interviews were excluded from the research. Participants were recruited through various channels, including professional networks, cultural organizations, and community groups involved in cultural heritage

initiatives. Initial contact was established through email, phone calls, or in-person meetings, where the purpose and scope of the study were explained to potential participants. Those who expressed interest in participating were provided with detailed information about the study, including its objectives, confidentiality measures, and their rights as participants. Upon obtaining informed consent, semi-structured interviews were scheduled at a time and

location convenient for the participants. In cases where face-to-face interviews were not feasible, virtual interviews via video conferencing platforms were conducted to accommodate participants from different regions of China. Participants were assured of their anonymity and confidentiality throughout the study, and they were encouraged to share their perspectives openly and honestly.

**Table 1: Demographic profile of respondents**

Participant ID	Gender	Age	Occupation
P001	Female	45	Artisan
P002	Male	35	Designer
P003	Female	60	Cultural Practitioner
P004	Male	50	Community Leader
P005	Female	40	Policymaker
P006	Male	28	Artisan
P007	Female	55	Designer
P008	Male	42	Cultural Practitioner
P009	Female	48	Artisan
P010	Male	38	Policymaker
P011	Female	50	Artisan
P012	Male	45	Designer
P013	Female	55	Community Leader
P014	Male	30	Cultural Practitioner
P015	Female	40	Artisan
P016	Male	55	Policymaker
P017	Female	35	Designer

**Data collection**

Data was acquired through semi-structured interviews. Each of the seventeen interviews lasted 45–60 minutes. Participants were interviewed in Mandarin Chinese, their native language, to facilitate open and meaningful interaction. The interviews sought participants' views on ICH conservation and product development. The questions explored participants' engagement in cultural heritage protection, their views on product design in this

context, their challenges, and their suggestions for improvement. Interviews continued until subject saturation, suggesting no new topics or insights (Table 2). Multiple repetitions of systematic interview data analysis achieved saturation. Each interview's data was compared to previous interviews to find similar themes and patterns. The absence of new information or perspectives from further interviews indicated topic saturation and the end of data gathering.

**Table 2: Interview guidelines**

Variable	Interview Questions
Cultural Perceptions	<ol style="list-style-type: none"> <li>1. How do you perceive the importance of ICH preservation in your community?</li> <li>2. What are your beliefs and attitudes towards integrating ICH elements into product design?</li> <li>3. Can you share personal experiences or stories about preserving cultural heritage?</li> </ol>
Design Innovation	<ol style="list-style-type: none"> <li>1. In your opinion, what innovative strategies or techniques can be used to integrate ICH elements into product design?</li> <li>2. How do you think design innovation can impact the visibility and marketability of culturally sustainable products?</li> </ol>

**Cont.....**

Variable	Interview Questions
Community Engagement	3. Can you provide examples of successful design innovations in cultural product industries?
	1. How are local communities involved in the design and production of culturally sustainable products in your area?
	2. What role do you think community engagement plays in the success of ICH preservation initiatives?
Social Cohesion	3. What challenges or barriers do you face in engaging local communities in cultural heritage projects?
	1. How do cultural products contribute to social cohesion and community identity in your region?
	2. Can you discuss any instances where cultural products have fostered a sense of belonging or pride within the community?
	3. What role do you think cultural heritage plays in promoting social harmony and unity among diverse groups?

**Data analysis**

The data collected from the interviews were analyzed using a three-step thematic analysis approach. First, the audio recordings of the interviews were transcribed verbatim, and the transcripts were imported into qualitative analysis software for data management. Next, two independent researchers familiarized themselves with the data by reading and re-reading the transcripts to identify patterns, themes, and recurring ideas. Initial codes were generated to capture key concepts and ideas relevant to the research questions. Through an iterative coding and thematic grouping process, overarching themes and sub-themes emerged from the data. Themes were reviewed, refined, and named to ensure coherence and representativeness. Finally, the themes were organized into a coherent narrative supported by illustrative quotations from the participants to enhance the credibility and validity of the findings.

**FINDINGS**

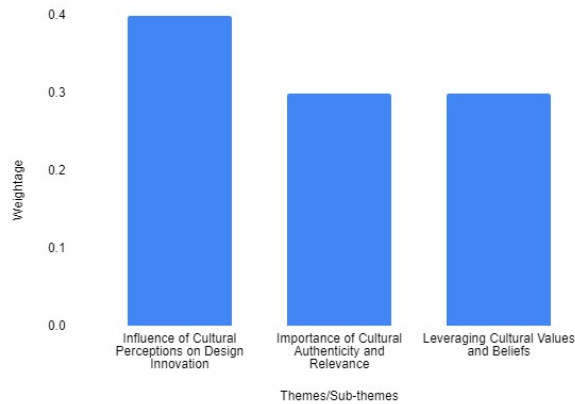
A qualitative study found that product design projects to preserve ICH require cultural perspectives, community interaction, design creativity, and social harmony. Cultural sustainability's various aspects affect cultural heritage conservation and promotion initiatives' design, execution, and results. This section explores the complex relationship between design innovation and preservation, social cohesion, and community participation in design processes. Clarifying key topics in this research helps us grasp cultural sustainability's complicated dynamics. We

learn how to maintain and promote intangible cultural riches across civilizations.

**Cultural perceptions influence design innovation**

Culture helps product design innovate for ICH, according to survey respondents. P002 said, "Our cultural beliefs and values have a significant influence on our design methodologies." All parts must express our history's spirit, not only beauty. Participant P011 said design innovation should reflect culture. Honoring our culture while modernizing is the goal. Cultural perceptions impact the creative process and design innovation projects that preserve cultural heritage. Experts say that design innovation should be culturally authentic and relevant. P007 prioritized authenticity, arguing that new design should follow our cultural past rather than imitating components for aesthetics. P014 said, "Innovative design should mirror the values and ambitions of our communities." Design brilliance, cultural honesty, and pertinence were highlighted to foster meaningful encounters with intangible cultural riches. Previous studies have connected cultural perceptions to design innovation in cultural sustainability projects, validating the current findings. Design innovation requires cultural awareness and authenticity, according to Zhao (2023). Designers must engage with local cultures. Designers must recognize their work's cultural relevance, according to Alhosani (2022). Cultural perceptions influence design outcomes. Cultural beliefs strongly influence ICH protection design innovation, as this study's citations show. The study concluded that cultural attitudes significantly impact intangible cultural asset preservation product design.

Panelists believed cultural authenticity and relevance drove design innovation (Figure 1). They also advised designers to engage with local culture and beliefs actively. These findings support past studies indicating cultural perceptions influence cultural sustainability project design and outcomes.

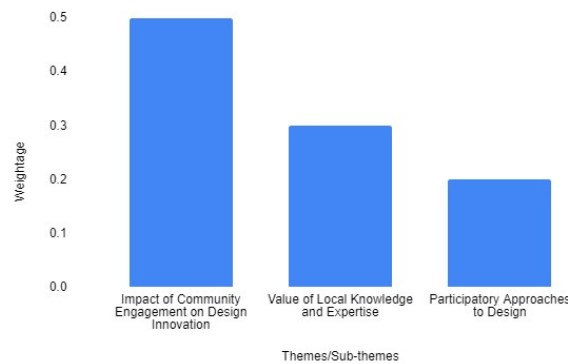


**Figure 1: Cultural perceptions influence design innovation**

**Community engagement influences design innovation**

Research participants stressed community engagement in design innovation for ICH preservation through product design. Participant P009 stressed the importance of community engagement, saying their design approach is guided by community feedback. Analyzing our target audience's experiences, behaviors, and needs helps us create products that resonate. Participant P013 agreed that design innovation should involve all key community partners. We may create items that reflect our cultural heritage

and beliefs together. The responses underlined the need for community participation in design innovation to preserve cultural treasures. Participants indicated that community-based design innovation requires local knowledge. Community resources may contribute expertise and information that improves design, said participant P005. Engaging them ensures cultural diversity and contributions. P016 emphasized community co-creation and decision-making. They advocated bottom-up, participatory innovation. These ideas emphasized community participation, local knowledge, and expertise in cultural sustainability program design innovation. Previous research has demonstrated that community interaction may spark cultural sustainability project ideas. Bryan-Kinns et al. (2022) underlined community engagement in product design innovation, creativity, and community values and skills in shaping design processes. To maintain cultural products that are unique and current, Redante et al. (2019) suggested collaborative design, community co-creation, and decision-making. The sources above support the study's conclusion that community design innovation is essential to protect ICH. The study showed that community engagement in product design initiatives to preserve ICH enhances design creativity. Community engagement in design and results was emphasized, and participation, local knowledge, and abilities fostered innovation (see Figure 2). According to prior studies, community engagement enhances design creativity in cultural sustainability initiatives.



**Figure 2: Community engagement influences design innovation**

### Design innovation influences the success of ICH preservation

According to respondents, design innovation is crucial for assessing intangible cultural asset protection initiatives. Participant P004 stressed the necessity of imaginative design in modernizing historic crafts for modern audiences and markets. P010 said, "The introduction of innovative design improves the prominence and market appeal of cultural products, positioning them as valuable resources for the preservation of culture and the advancement of the economy." The replies show that product design innovation is essential to protecting ICH. Panelists said design innovation also raises cultural knowledge and appreciation among varied audiences. Participant P008 underlined the importance of creative design in conveying cultural heritage. Design innovation can capture our cultural history's richness, she said. This fosters intercultural understanding. P015 emphasized design innovation in customer

relationships. They underlined that creative design can connect customers to our culture and strengthen relationships. We found that design innovation promotes ICH preservation, corroborating previous studies. The innovative design increases cultural commodities' commercial worth and appeal, assuring their long-term viability and preservation, according to Sanchez et al. (2023). Design innovation may enhance cultural heritage projects' reach by attracting new markets and audiences, according to Zeng et al. (2023). These citations complement the current analysis by emphasizing design innovation in ICH preservation efforts. According to a study, design innovation affects ICH preservation through product design. Participants said that innovative design revitalizes traditional crafts, increases cultural product marketability and exposure, and promotes cultural understanding and appreciation (see Figure 3). Research shows design innovation promotes cultural sustainability projects.

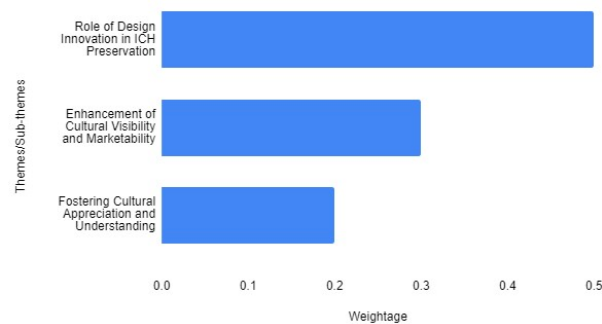


Figure 3: Design innovation influences the success of ICH preservation

### Social cohesion moderates the relationship between design innovation and the success of ICH preservation

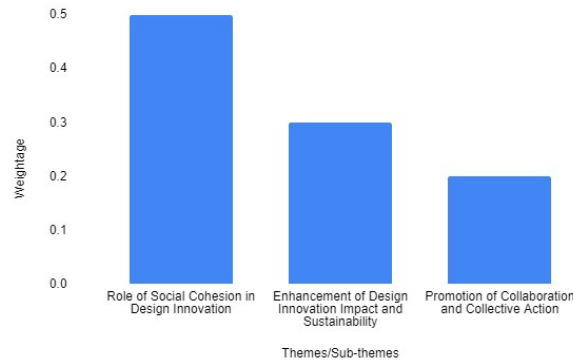
Participants underlined the need for social cohesion in design innovation-ICH preservation management. Design innovation requires community cohesion, according to P003. They emphasized that social cohesion promotes design innovation via cooperation and cultural shared goals. Participant P012 stated that strong social relationships promote confidence and collaboration, making new design concepts simpler to implement. Responses underlined the need for social cohesiveness in design innovation for

cultural asset protection. Participants stressed the importance of social connection in design innovation effectiveness and sustainability. Participant P006 says community engagement spreads design innovation. She said social cohesion motivates us to engage in new design solutions that serve the community, fostering responsibility and pride in our cultural heritage. Participant P017 underlined inclusive design's role in societal cohesion. They claimed creative design should be accessible and inclusive to all community members to build shared identity and belonging. Previous study shows that social connectedness increases cultural sustainability.



In cultural preservation, social networks and linkages promote creativity, change, cooperation, and information sharing, according to Breen et al. (2021). Che et al. (2022) say community cohesion fosters collaboration and socioeconomic resilience. Community cooperation also sustains cultural heritage initiatives. The sources above support the current study's claim that social cohesion limits design

innovation and ICH protection. Social cohesion affects design creativity and product design attempts to conserve ICH, according to studies. Social cohesion fosters cooperation, confidence, and group effort, which improves design innovation efficacy and durability, participants said (see Figure 4). These findings confirm previous research showing social connectedness increases cultural sustainability.



**Figure 4: Social cohesion as a moderator**

## DISCUSSION

The relationship between design innovation, social cohesiveness, and ICH preservation is examined in this study and related literature. Integration explains component interactions. Qualitative research will highlight cultural sustainability programs' complex dynamics and suggest novel ways to preserve and enhance cultural assets. This study reveals how cultural perceptions affect design innovation for cultural preservation. Participants valued cultural practices and underlined cultural heritage in product creation. The findings corroborate a recent study on cultural authenticity and relevance in design innovation (Fernandes et al., 2023). Design inspiration comes from cultural stories, traditions, and symbols. Modern participants underlined the necessity of design innovation in recreating historic concepts and techniques, renewing traditional craftsmanship, and conserving it for future generations. This confirms design innovation and cultural heritage preservation studies. Classical elements complement modern design (Akhtar et al., 2024). The findings also demonstrate that design innovation must engage the community. Participants said neighborhood community input is important to

collaborative design. Designers may also study the cultural importance of traditional activities and design products that replicate nearby values with the aid of engaging with community participants. Community satisfaction and ownership improve cultural goods' authenticity and relevance via collaborative design (Quintero-Angel et al., 2022). Research reveals that culturally sustainable product sales require design innovation. Creative design solutions might also increase ICH preservation with the aid of achieving new audiences and markets, say participants. Cultural themes in product design allow artists to inform specific stories that match purchasers' authenticity and cultural connection dreams. This supports preceding findings that design innovation increases cultural artifacts' marketability and sustainability (Cui et al., 2024).

Innovative cultural background programs require community engagement, the studies confirmed. Participants underlined adding neighborhood populations' viewpoints, revel in, and skills to boost layout originality. Community engagement allows designers to hold close the cultural and social fee of conventional methods, inspiring creativity, and innovation. Including network members in the layout may additionally help architects apprehend

nearby cultures. This knowledge helps architects express community values and identity. Share expertise to promote network possession and layout pride (Comunian and England, 2019). Results show stakeholder collaboration in design innovation. People emphasized co-creation and co-design, which entail designer-community discussions. Designers may harness community creativity and experience to solve local problems through collaborative seminars, consultations, and participatory design workshops. Design innovation requires community interaction. Community input helps designers build products that reflect values and aims. Stakeholder-driven design innovation boosts product authenticity, cultural relevance, social responsibility, and accountability. Involving communities in design may create trust and assure ICH preservation's long-term viability. Community input helps designers build products that represent values. Collaboration in architectural innovation preserves ICH and boosts community pride. Essential stakeholders must collaborate to overcome authority, cultural awareness, and opinion difficulties. Community involvement expands design creativity.

By reinterpreting ideas, techniques, and materials, design innovation revives old crafts and culture. Designers may use innovative design to retain clients and preserve culture. This adaptive design innovation technique adapts to social, economic, and environmental changes to preserve cultural traditions (Silva et al., 2023). Innovative design is needed to promote culturally sustainable product sales, according to the research. Innovative design solutions may attract new markets and audiences, boosting ICH protection initiatives' reach and influence, all participants agreed. Designs that fulfill purchasers' authenticity, cultural connection, and visual appeal can increase cultural heritage activities' long-term profitability and sustainability. This complements prior studies that design innovation makes cultural objects more appealing and desired, extending their lifespan (Wiesmeth, 2021). People gain cultural knowledge and comprehension via design creativity. Innovative design was believed necessary to express cultural heritage's richness and diversity. This encourages empathy, curiosity, and cultural diversity.

Presenting fascinating stories and producing powerful emotions may help designers promote cultural preservation. ICH preservation education and support in design innovation promote cultural sustainability (Liu et al., 2022). Incorporating cultural elements into design processes, increasing product exposure and market attractiveness, and promoting cultural awareness can help designers preserve ICH. Cultural sustainability program design innovation needs context-specific techniques and stakeholder collaboration to succeed.

Collaboration among ICH stakeholders is driven by social cohesion. People claim strong social networks and links improve community communication, collaboration, and information sharing. Social cohesion promotes camaraderie and belonging, facilitating design creative collaboration. With community ownership and empowerment, collaborative design innovation increases ICH preservation project efficacy and viability, according to Fan et al. (2023). Design creativity is enhanced by social cohesion, according to research. All delegates agreed that strong social connections and collaboration enable communities to effectively allocate resources, advocate for change, and find new social, economic, and environmental solutions. Social relationships and shared knowledge can increase cultural sustainability initiatives for intangible cultural assets. As previously shown, social cohesion improves local conservation and development (Breen et al., 2021). Social cohesiveness affects community design innovation adoption. Open communication, feedback, and community trust and rapport were stressed. Designers may improve product relevance and appeal by including community people in decision-making to represent local values, interests, and aims. Innovative design cooperation makes cultural commodities reflect community culture and practices, fostering pride and ownership (Gravagnuolo et al., 2024). Sociability promotes design innovation via community trust, involvement, and accountability. To allow broad community participation in design innovation activities, key stakeholders must communicate and collaborate to manage authority, cultural awareness, and differing opinions.

## **CONCLUSION**

The complicated process of safeguarding ICH through product design is explained in this research. The complicated dating between design innovation, network engagement, way of life, and social concord is mentioned. Participant reports confirmed that these trends strongly affect cultural sustainability tasks. Cultural perceptions have an impact on cultural preservation. These views encourage designs. Designers can depict neighborhood values, customs, and ideals using cultural and historical past. Community engagement promotes move-cultural cooperation, innovation, and collaboration. Designers may additionally get neighborhood understanding, revel in, and assets by incorporating community members. This increases creativity and cultural value. ICH protection agencies should create culturally sustainable artifacts to increase appeal, marketplace cost, and exposure. By integrating new layout elements into cultural gadgets, designers might also inform attractive tales that fulfill purchasers' authenticity and cultural connection desires. Additionally, societal team spirit substantially affects layout innovation efficacy and relevance. Social concord solves difficulties and launches cultural history maintenance and promoting activities. Encourage community involvement, self-belief, and obligation. This collaborative design method gives groups possession and satisfaction in cultural items that represent their values and aims. Complete cultural sustainability is emphasized in the report.

### **Implications**

Cultural sustainability practitioners may also gain from reading how cultural views, community participation, creative layout, and social unity affect ICH product layout. The studies examine the complicated relationships between socio-cultural influences and cultural historical past safety. It additionally advises policymakers, practitioners, and network stakeholders on cultural historical past advertising and protection. Cultural perceptions, network engagement, design innovation, and social brotherly love influence ICH renovation projects, enhancing our information on cultural sustainability principles. The essay emphasizes the want to include socio-cultural elements in the layout rather than just financial or technological ones. This study indicates

the complex link between those characteristics and cultural sustainability. It highlights innovation, individuality, and tradition. The study develops design innovation and cultural preservation perspectives. This study shows how design innovation may revitalize traditions, increasing cultural anthropology, design, and heritage studies. Cultural features in design may maintain and improve culture. The design may convey and preserve intangible cultural values, enhancing socio-cultural discourses of design innovation. Cultural sustainability practitioners may additionally benefit from analyzing how cultural views, community participation, innovative layout, and social harmony affect ICH product layout. The research examines the complicated relationships between socio-cultural influences and cultural heritage safety. It also advises policymakers, practitioners, and community stakeholders on cultural historical past advertising and safety. Cultural perceptions, community engagement, layout innovation, and social brotherly love influence ICH renovation projects, improving our understanding of cultural sustainability ideas. The essay emphasizes the want of consisting of socio-cultural factors in layout in place of just monetary or technological ones. This study suggests the complicated link between those traits and cultural sustainability. It highlights innovation, individuality, and tradition. The study also generates design innovation and cultural preservation theories.

### **Limitations and future directions**

This work has major flaws despite its importance. The study's qualitative methodology may restrict its usefulness. While qualitative research can expose participants' viewpoints and experiences, it may not apply to all cultures or groups. Triangulation and mixed methods may improve accuracy and usefulness in future research. Only China was studied, making it hard to apply to other cultures. Comparative research might explore design innovation and cultural perspectives in different contexts and geographies. This may help comprehend culture-maintenance issues. The research used semi-structured interviews, which may be biased and limited due to self-reporting. Social desirability bias and subjective interpretations of cultural attitudes and design methods may affect participant opinions. Future

research should employ participant observation or focus group conversations to overcome these limitations and confirm interpretations. A 17-person sample may also restrict the study's depth and breadth. Larger sample numbers may give more diverse cultural perceptions and design innovation perspectives for ICH preservation. This research also suffers from researcher bias in data gathering and processing. The study is reflexive and transparent, yet researchers' backgrounds, experiences, and opinions may influence data interpretation. To boost rigor and trustworthiness, future research may include intercoder reliability checks, peer debriefing, or member validation. The study's concentration on architectural innovation in ICH preservation may overlook technology, legislative frameworks, and funding, which impact cultural sustainability. The intricate interactions between institutions, stakeholders, and external variables impacting cultural sustainability initiatives may be studied using a systems approach. This analysis suggests several research ideas. Research may study how augmented and virtual reality boost design inventiveness and cultural perspectives. Interactive and immersive cultural property engagement may improve ICH conservation efforts using these technologies. Further study might explore how knowledge sharing and cross-cultural collaboration enhance culturally sustainable design innovation. Researchers can improve cultural diversity and inclusion in design by studying cooperation between designers, communities, and organizations from diverse cultures.

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