

# Applying Manchu Embroidery Identity in Multifunctional Children's Furniture Design: A Case Study in Changchun, Jilin Province, China

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## Abstract

Manchu embroidery, a traditional craft deeply rooted in the cultural heritage of China's Manchu ethnic group, faces the challenge of preservation and relevance in the modern era. This study explores the potential for integrating Manchu embroidery identity into the design of multifunctional children's furniture, focusing on the city of Changchun in Jilin Province. Through a comprehensive methodology involving field investigation, literature review, quantitative surveys, qualitative focus group studies, and a design-driven approach, the research aims to analyze the artistic characteristics and cultural meanings of Manchu embroidery, understand user preferences and market demand for culturally-inspired children's furniture, and propose innovative furniture designs that incorporate Manchu embroidery elements. The study developed three furniture designs: a movable tiger chair, a bookshelf table and chair combination, and a transformable table and chair set, each successfully integrating Manchu embroidery identity while addressing functional and aesthetic requirements. The findings demonstrate the potential for design-driven strategies to safeguard and promote intangible cultural heritage while creating culturally meaningful and commercially viable products.

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This research contributes to cultural heritage preservation and furniture design, offering insights and recommendations for researchers, designers, and cultural practitioners seeking to advance culturally-inspired product design and sustainable heritage management in the modern era.

**Keywords:** Manchu embroidery, multifunctional children's furniture, cultural heritage preservation, design-driven innovation, culturally-inspired product design, intangible cultural heritage

## Introduction

Manchu embroidery, a traditional craft deeply rooted in the culture of the Manchu ethnic group in China, is renowned for its exquisite craftsmanship, vibrant colors, and intricate designs (Gao, 2010, p. 15). This unique art form has been an integral part of Manchu identity for centuries, serving as a decorative element and a means of cultural expression and communication (Li, 2019, p. 42). Manchu embroidery is characterized by its symbolic motifs, such as dragons, phoenixes, and flowers, each carrying specific cultural meanings and reflecting the Manchu people's worldview, beliefs, and aesthetics (Liu, 2017, p. 28).

Embroidery, as a traditional craft, has been practiced in various parts of the world, each with its distinct cultural significance and artistic characteristics. From the intricate threadwork of Indian Zardozi embroidery (Paine, 2018, p. 103) to the vibrant patterns of Mexican Otomi embroidery (Osborne, 2019, p. 76), these traditional crafts serve as a means of cultural expression and identity. However, like Manchu embroidery, many traditional embroidery practices face challenges of preservation and relevance in the modern era due to rapid modernization, globalization, and changing consumer preferences (Liang, 2022, p. 1).

One promising approach to safeguarding and promoting intangible cultural heritage, such as traditional embroidery, is integrating these crafts into contemporary product design (Lin, 2007, p. 45). By incorporating cultural elements into modern products, designers can create culturally meaningful and commercially viable items that resonate with contemporary consumers while contributing to the preservation and transmission of cultural heritage. This approach aligns with the concept of design-driven innovation, which emphasizes the role of design in creating products that address users' functional, emotional, and socio-cultural needs (Verganti, 2009, p. 12).

The integration of cultural elements can offer multiple benefits in the context of children's furniture design. Culturally inspired furniture can foster children's cultural identity, appreciation for traditional crafts, and understanding of their heritage (Khairnurullina & Sharif, 2021, p. 189). Moreover, incorporating multifunctional features and adaptable designs can address the evolving needs of contemporary families, particularly in urban settings where living spaces are often limited (Postell, 2012, p. 34).

This study aims to explore the application of Manchu embroidery identity in designing multifunctional children's furniture in the modern Chinese context, focusing on the city of Changchun in Jilin Province. By investigating this local craft and its potential for integration into contemporary product design, the study seeks to contribute to the broader field of cultural heritage preservation through design-driven innovation. The findings may provide insights and strategies that can be adapted and applied to other traditional embroidery practices worldwide, benefiting a wider group of global readers and practitioners interested in the sustainable development of cultural heritage in the modern era.

## Body

### 1.1 Manchu Embroidery: Cultural Significance and Artistic Characteristics

Manchu embroidery, a traditional handicraft deeply rooted in the culture of the Manchu ethnic group in China, is renowned for its exquisite craftsmanship, vibrant colors, and intricate designs (Gao, 2010, p. 15). This unique art form has been an integral part of Manchu identity for centuries, serving as a decorative element and a means of cultural expression and communication (Li, 2019, p. 42). Manchu embroidery is characterized by its symbolic motifs, such as dragons, phoenixes, and flowers, each carrying specific cultural meanings and reflecting the Manchu people's worldview, beliefs, and aesthetics (Liu, 2017, p. 28).

The artistic characteristics of Manchu embroidery are defined by several key elements, including using high-quality materials, such as silk threads and satin fabrics, and applying specialized stitching techniques, like the "Manchu stitch" (Gao, 2010, p. 22). The color palette of Manchu embroidery is also distinctive, with a predominance of red, blue, and gold hues, each holding symbolic significance in Manchu culture (Huang, 2011, p. 27). These artistic elements combine to create visually striking and culturally meaningful embroidered pieces that showcase the skill and creativity of Manchu artisans.

### 1.2 Multifunctional Children's Furniture: Design Principles and User Requirements

Multifunctional children's furniture has gained increasing attention in recent years as parents and designers seek to create spaces that are both functional and adaptable to the evolving needs of growing children (Postell, 2012, p. 78). The fundamental design principles for multifunctional children's furniture include versatility, space-saving, safety, and ergonomics (Ching & Binggeli, 2018, p. 321). Furniture pieces that can serve multiple purposes, such as a bed with built-in storage or a desk that

can be adjusted in height, are precious in maximizing the use of limited space in modern homes (Kilmer & Kilmer, 2014, p. 156).

When designing multifunctional children's furniture, it is crucial to consider the user requirements and preferences of both parents and children. Parents prioritize factors such as durability, safety, and ease of maintenance while seeking furniture that can adapt to their children's changing needs over time (Postell, 2012, p. 82). Conversely, children are drawn to furniture that is engaging, comfortable, and reflective of their interests and preferences (Ching & Binggeli, 2018, p. 324). Incorporating play, creativity, and interactivity elements into furniture design can enhance children's engagement and enjoyment of their living spaces (Kirkham & Kidd, 2017, p. 65).

### 1.3 Cultural Heritage Preservation through Design-Driven Innovation

The preservation and promotion of intangible cultural heritage, such as traditional handicrafts like Manchu embroidery, have become increasingly crucial in rapid globalization and modernization (UNESCO, 2003, p. 2). One approach to safeguarding and revitalizing traditional crafts is through design-driven innovation, which involves integrating cultural elements into contemporary product design (Lin, 2007, p. 46). By incorporating traditional craft techniques, motifs, and meanings into modern products, designers can create culturally authentic and commercially viable items that appeal to contemporary consumers (Liang, 2019, p. 3).

Design-driven innovation in the context of cultural heritage preservation offers several benefits. First, it can help to raise awareness and appreciation of traditional crafts among younger generations, fostering a sense of cultural identity and pride (Khairnurullina & Sharif, 2021, p. 192). Second, it can provide new opportunities for the economic empowerment of craftspeople and communities by creating demand for their skills and

products in the modern marketplace (Murray, 2011, p. 7). Finally, it can contribute to the sustainable development of local economies by promoting the use of indigenous materials, techniques, and knowledge systems (UNESCO, 2003, p. 5).

## Research Methodology

### 2.1 Field Investigation and Literature Review

To gain a comprehensive understanding of Manchu embroidery and its potential application in children's furniture design, a field investigation was conducted in Changchun, Jilin Province. The investigation included visits to Manchu embroidery workshops, museums, and cultural heritage sites, where researchers observed the craftsmanship process and interviewed experienced artisans. Additionally, a thorough literature review was carried out to examine existing research on Manchu embroidery's cultural significance, artistic characteristics, and design elements and studies on multifunctional children's furniture design and cultural heritage preservation through design-driven innovation.

### 2.2 Quantitative Surveys and Qualitative Focus Group Studies

A mixed-methods approach, combining quantitative surveys and qualitative focus group studies, was employed to gather data on user preferences and market demand for culturally inspired, multifunctional children's furniture. The target participants were parents with children aged 6-10 in Changchun, Jilin Province.

The quantitative survey, administered online and in-person, aimed to collect data on parents' attitudes, preferences, and willingness to pay for children's furniture incorporating Manchu embroidery elements. The survey questionnaire assessed the importance of various factors in parents' furniture purchasing decisions, such as cultural authenticity, functionality, safety, and aesthetics.

Qualitative focus group studies were conducted separately with parents and children to gain deeper insights into their needs, preferences, and perceptions regarding culturally-inspired furniture. The focus group discussions explored multifunctional furniture's desired features and functions, the appeal of Manchu embroidery elements, and the perceived benefits and challenges of integrating cultural heritage into children's furniture design.

### 2.3 Design Conceptualization and Development Process

Based on the findings from the field investigation, literature review, surveys, and focus group studies, a design conceptualization and development process was initiated to create innovative children's furniture incorporating Manchu embroidery elements. The process involved the following steps:

1. Ideation and sketching: Designers brainstormed and sketched initial concepts, exploring integrating Manchu embroidery motifs, colors, and patterns into multifunctional furniture designs.

2. Concept refinement: The most promising concepts were selected and refined, considering functionality, ergonomics, safety, and cultural authenticity.

3. 3D modeling and prototyping: The refined concepts were translated into 3D digital models using computer-aided design (C4D) software. Physical prototypes were then created to evaluate the designs' feasibility, functionality, and aesthetics.

4. Design iteration: Based on feedback from the prototyping phase, the designs were refined and optimized to address any identified issues or improvements.

### 2.4 Expert Consultations and User Feedback Sessions

Expert consultations and user feedback sessions were conducted to validate and enhance the furniture designs. Experts in Manchu embroidery, children's furniture design, and child development were invited to provide feedback on the designs' cultural authenticity, technical feasibility, and developmental appropriateness. Their insights guided further refinements and ensured the designs' alignment with best practices in their respective fields.

User feedback sessions involved presenting the refined furniture designs to a sample of parents and children in Changchun, Jilin Province. Participants were asked to provide their opinions, preferences, and suggestions for improvement regarding the designs' functionality, aesthetics, and cultural appeal. This feedback was collected through questionnaires, interviews, and observation of users interacting with the furniture prototypes.

## Results and Analysis

### 3.1 Key Findings from Field Investigation and Literature Review

#### 3.1.1 Artistic Characteristics and Cultural Meanings of Manchu Embroidery

The field investigation and literature review revealed that Manchu embroidery possesses distinct artistic characteristics and cultural meanings. The embroidery is characterized by its vibrant colors, intricate patterns, and symbolic motifs, such as dragons, phoenixes, and peonies (Gao, 2010; Li, 2019). Each color and motif carries specific cultural significance, reflecting Manchu beliefs, values, and aesthetics (Liu, 2017). For example, red symbolizes good fortune and happiness, while dragons represent power and authority (Bao, 2008). The embroidery techniques, such as the unique "Manchu stitch," showcase the exquisite craftsmanship and attention to detail of Manchu artisans (Chen, 2016).



### 3.1.2 Relating Manchu Embroidery to Global Embroidery Practices

While Manchu embroidery has unique artistic characteristics and cultural meanings, it shares commonalities with other traditional embroidery practices worldwide. For instance, symbolic motifs and vibrant color palettes are a recurring theme in many embroidery traditions, such as Indian Zardozi embroidery (Paine, 2018, p. 105) and Mexican Otomi embroidery (Osborne, 2019, p. 79). These shared elements point to the universal human impulse to express cultural identity and aesthetics through needlework.

Moreover, the challenges faced by Manchu embroidery in terms of preservation and relevance are not unique to this particular craft. Many traditional embroidery practices worldwide are grappling with similar issues, as rapid modernization and changing consumer preferences threaten the continuity of these age-old traditions (Liang, 2022, p. 2). By examining the strategies employed by other embroidery communities to safeguard and promote their crafts, such as integrating traditional motifs into contemporary fashion design (Lin, 2007, p. 48), valuable insights can be gained for the sustainable development of Manchu embroidery in the modern era.

The study's focus on applying Manchu embroidery identity to multifunctional children's furniture design also bears relevance to the broader field of culturally-inspired product design. As demonstrated by successful cases of integrating traditional embroidery elements into modern products, such as the incorporation of Palestinian cross-stitch patterns into contemporary furniture design (Alami, 2020, p. 165), there is significant potential for traditional crafts to find new expressions and markets through design-driven innovation. By exploring the possibilities of integrating Manchu embroidery into children's furniture, this study contributes to the growing knowledge on culturally inspired product

design, offering insights that may be adapted and applied to other traditional embroidery practices worldwide.

### 3.1.3 Key Design Elements for Integration into Children's Furniture

Based on the analysis of Manchu embroidery's artistic characteristics and cultural meanings, several key design elements were identified for integration into children's furniture. These elements include:

1. Color palette: Incorporating vibrant colors, such as red, blue, and gold, to reflect the traditional color schemes of Manchu embroidery (Huang, 2011).

2. Symbolic motifs: Adapting and stylizing symbolic motifs, such as dragons, phoenixes, and peonies, to create culturally meaningful and visually appealing furniture designs (Liu, 2017).

3. Patterns and textures: Translating intricate embroidery patterns and textures into furniture elements, such as carved or laser-cut panels, to mimic the richness and depth of Manchu embroidery (Chen, 2016).

## 3.2 User Preferences and Market Demand Analysis

### 3.2.1 Survey Results: Parents' Attitudes and Willingness to Pay

The quantitative survey results showed that parents are intensely interested in culturally-inspired children's furniture, with 78% expressing a positive attitude towards furniture incorporating Manchu embroidery elements. Furthermore, 65% of parents were willing to pay a premium for such furniture, recognizing its cultural value and uniqueness. The survey also revealed that parents prioritize functionality (92%), safety (89%), and durability (85%) when purchasing children's furniture, followed by aesthetic appeal (76%) and cultural authenticity (68%).

### 3.2.2 Focus Group Insights: Children's Preferences and Needs

The qualitative focus group studies provided valuable insights into children's preferences and needs regarding multifunctional furniture. Children expressed a strong desire for engaging, interactive furniture that reflects their interests and imagination. They were drawn to furniture with playful designs, bright colors, and tactile elements. On the other hand, parents emphasized the importance of furniture that can adapt to their children's changing needs, support their development, and maximize space utilization in their homes.

### 3.3 Innovative Furniture Designs Incorporating Manchu Embroidery

#### 3.3.1 Movable Tiger Chair



**Figure 1** Movable Tiger Chair

The Activity Tiger Chair is an innovative design that incorporates elements of Manchu embroidery while meeting children's need for engagement and interaction. The front of the chair features a chic tiger design inspired by Manchu embroidery. The chair has lockable wheels, allowing children to move around safely and freely. The seat and backrest

are upholstered in a vibrant red and gold fabric reminiscent of the traditional Manchu color scheme.

### 3.3.2 Bookshelf Table and Chair Combination



**Figure 2** Bookshelf Table and Chair Combination

The bookshelf table and chair set is a multi-functional furniture set that incorporates Manchu embroidery patterns and motifs while maximizing the use of space. The bookshelf features a Manchu embroidered tiger pattern that creates a visually striking and culturally rich design. The height of the table and chairs can be adjusted to ensure ergonomic comfort for children of all ages. This furniture set is made of high-quality, environmentally friendly materials and addresses parents' concerns about durability and safety.

### 3.3.3 Transformable Table and Chair Set



**Figure 3** Transformable Table and Chair Set

The Transformable Table and Chair Set is a versatile, space-saving furniture design incorporating Manchu embroidery elements. The table has a reversible tabletop with a tiger pattern inspired by Manchu embroidery on one side and a chalkboard for kids to get creative on the other. The chairs can be folded and stored inside the table when not in use to maximize the use of space. The table and chair sets are made of durable, child-safe materials and decorated with Manchu embroidery colors.

### 3.4 Expert Feedback and User Satisfaction Evaluation

#### 3.4.1 Cultural Authenticity and Technical Feasibility Assessment

Expert consultations with Manchu embroidery artisans, children's furniture designers, and child development specialists provided valuable feedback on the furniture designs' cultural authenticity and technical feasibility. The experts commended the designs for successfully integrating Manchu embroidery elements, such as color schemes, motifs, and patterns. They also suggested improving the designs' cultural authenticity, using traditional materials and techniques where appropriate. The experts

assessed the technical feasibility of the designs, confirming their suitability for mass production and compliance with safety standards.

#### 3.4.2 User Satisfaction Survey Results

A user satisfaction survey was conducted among parents and children participating in the user feedback sessions. The survey results indicated high satisfaction levels with the furniture designs, with 85% of parents and 92% of children expressing positive opinions. Parents appreciated the designs' cultural significance, functionality, and space-saving features, while children were drawn to the designs' playful and interactive elements. The survey also gathered valuable suggestions for further improving the designs, such as incorporating additional storage options and enhancing the tactile qualities of the furniture.

### Discussion

The findings of this study demonstrate the significant potential for integrating Manchu embroidery identity into multifunctional children's furniture design, addressing the challenge of preserving and promoting intangible cultural heritage in the modern era. The successful incorporation of Manchu embroidery elements into the designed furniture pieces showcases this traditional craft's aesthetic and cultural value and highlights its relevance to contemporary product design (Liang, 2022, p. 3).

The study's approach to cultural heritage preservation through design-driven innovation aligns with global efforts to safeguard and revitalize traditional embroidery practices. By creating culturally meaningful and commercially viable products that resonate with modern consumers, designers can contribute to the continuity and appreciation of these age-old crafts (Lin, 2007, p. 50). The positive feedback from experts and users regarding the designed furniture pieces underscores the

universal appeal of culturally inspired products and their potential to foster cross-cultural understanding and appreciation.

However, integrating cultural heritage into product design is not without challenges. Designers must navigate issues of cultural appropriation, authenticity, and ethical collaboration with cultural bearers and communities (Kärrholm, 2020, p. 41). The present study addressed these concerns by actively engaging Manchu embroidery artisans and cultural experts throughout the design process, ensuring that the furniture designs respectfully and accurately represent Manchu cultural identity.

The study's findings also contribute to the broader discourse on sustainable heritage management in the face of globalization and modernization. By demonstrating the potential for traditional crafts to find new expressions and markets through design-driven innovation, the study offers valuable insights and strategies for the sustainable development of intangible cultural heritage worldwide (Cominelli & Greffe, 2012, p. 245). The successful integration of Manchu embroidery into children's furniture design is a model for other traditional embroidery communities seeking to safeguard and promote their crafts in the modern era.

In conclusion, this study highlights the decisive role that design-driven innovation can play in preserving and promoting intangible cultural heritage, such as Manchu embroidery, in contemporary product design. The findings offer valuable insights and practical strategies for designers, cultural practitioners, and policymakers seeking to foster the sustainable development of traditional crafts and cultural industries while promoting cross-cultural understanding and appreciation.

## Conclusion

This study explored the application of Manchu embroidery identity in the design of multifunctional children's furniture, focusing on the modern Chinese context of Changchun, Jilin Province. The study yielded significant findings and innovative design outcomes through a comprehensive methodology involving field investigation, literature review, quantitative surveys, qualitative focus group studies, and a design-driven approach.

The field investigation and literature review provided valuable insights into the artistic characteristics and cultural meanings of Manchu embroidery, highlighting its potential for integration into contemporary product design. The user preferences and market demand analysis revealed parents' intense interest and willingness to pay for culturally-inspired furniture while shedding light on children's preferences for engaging, interactive, and adaptable furniture designs.

The study developed three innovative furniture designs: the Movable Tiger Chair, the Bookshelf Table and Chair Combination, and the Transformable Table and Chair Set. These designs successfully incorporated Manchu embroidery elements while addressing children and their families' functional, ergonomic, and aesthetic requirements. Expert consultations and user satisfaction evaluations confirmed the designs' cultural authenticity, technical feasibility, and market appeal.

The findings contribute to the growing knowledge of cultural heritage preservation through design-driven innovation, offering practical strategies and insights for designers, cultural practitioners, and policymakers. The successful integration of Manchu embroidery identity into children's furniture design demonstrates the potential for traditional crafts to be revitalized and promoted through contemporary product design, creating culturally relevant and commercially viable products.



Moreover, the study highlights the importance of adopting a participatory and user-centered approach to designing culturally-inspired products, actively engaging cultural bearers, communities, and end-users throughout the design process. By fostering ethical collaboration and respect for cultural heritage, designers can create products that celebrate cultural diversity, promote intercultural understanding, and contribute to craftspeople and their communities' social and economic well-being.

The study also relates the findings to the broader field of embroidery practiced in various parts of the world, drawing parallels between the challenges of Manchu embroidery and other traditional embroidery practices regarding preservation and relevance in the modern era. By examining the strategies employed by other embroidery communities to safeguard and promote their crafts, valuable insights were gained for the sustainable development of Manchu embroidery and other traditional crafts worldwide.

In conclusion, this study serves as a valuable case study for applying Manchu embroidery identity to multifunctional children's furniture design. It demonstrates the decisive role of design-driven innovation in preserving and promoting intangible cultural heritage in the modern era. The findings offer insights and strategies that can be adapted and applied to other traditional embroidery practices and cultural industries, contributing to their sustainable development and global appreciation.

## **Recommendation**

Based on the findings and insights gained from this study, the following recommendations are proposed for designers, cultural practitioners, policymakers, and future researchers interested in preserving

and promoting intangible cultural heritage through design-driven innovation:

1. Foster collaboration between designers and cultural bearers: Designers should actively seek collaboration with cultural bearers, such as Manchu embroidery artisans, to ensure the accurate representation and respectful integration of cultural elements into their designs. This collaboration should involve sharing knowledge, skills, and resources, as well as the fair recognition and compensation of cultural bearers for their contributions.

2. Adopt a participatory and user-centered design approach: Designers should engage end-users, including parents and children, throughout the design process to better understand their needs, preferences, and aspirations. This participatory approach can help ensure that culturally inspired products are not only authentic and meaningful but also functional and appealing to their intended users.

3. Invest in cultural heritage education and awareness: Policymakers and cultural institutions should invest in education and awareness programs promoting intangible cultural heritage value and significance, such as Manchu embroidery. These programs can help foster a sense of cultural pride and identity among younger generations while creating a supportive environment for developing culturally-inspired products and services.

By implementing these recommendations, designers, cultural practitioners, policymakers, and researchers can contribute to the sustainable preservation and promotion of intangible cultural heritage, such as Manchu embroidery, through design-driven innovation. This approach not only celebrates the richness and diversity of our cultural traditions but also fosters the social and economic well-being of the

communities that sustain them, ensuring that these traditions can continue to thrive and enrich our lives for future generations.

## Reference

- Alami, D. (2020). **Embroidering identities: A century of Palestinian clothing**. Chicago: Oriental Institute Museum Publications.
- Bao, J. (2008). **Embroidery art of the Qing imperial court**. Beijing: Forbidden City Press.
- Chen, L. (2016). **Folklore patterns in traditional Chinese embroidery**. Hangzhou: Zhejiang University Press.
- Ching, F. D., & Binggeli, C. (2018). **Interior design illustrated (4th ed.)**. Hoboken, NJ: John Wiley & Sons.
- Cominelli, F., & Greffe, X. (2012). **Intangible cultural heritage: Safeguarding for creativity**. *City, Culture and Society*, 3(4), 245-250. <https://doi.org/10.1016/j.ccs.2012.10.003>
- Gao, X. (2010). **Embroidery techniques and applications in Manchu costumes**. Beijing: China Textile & Apparel Press.
- Huang, W. (2011). Color aesthetic features of Manchu embroidery. **Nanjing Arts Institute Journal**, pp. 2, 25–31.
- Kärrholm, J. (2020). Interstitial practices: The cultural techniques of heritage management. **International Journal of Heritage Studies**, 26(1), 41–57. <https://doi.org/10.1080/13527258.2019.1570538>
- Khairnurullina, L., & Sharif, M. (2021). Aesthetic education of children using traditional arts and crafts. **Journal of History Culture and**

**Art Research**, 10(1), 189-199.

<https://doi.org/10.7596/taksad.v10i1.2853>

Kilmer, R., & Kilmer, W. O. (2014). **Designing interiors (2nd ed.)**.

Hoboken, NJ: John Wiley & Sons.

Kirkham, P., & Kidd, E. (2017). **Designing spaces for early childhood**

**development: Sparking learning & creativity**. London:

Routledge.

Li, H. (2019). Artistic characteristics and cultural connotations of Manchu

embroidery. **Jilin University Journal Social Sciences Edition**,

pp. 4, 42–50.

Liang, G. (2019). Innovative design of cultural creative products based on

traditional patterns. **E3S Web of Conferences**, p. 136, 05030.

<https://doi.org/10.1051/e3sconf/201913605030>

Liang, G. (2022). Innovative design of cultural creative products based on

traditional patterns. **E3S Web of Conferences**, p. 136, 05030.

<https://doi.org/10.1051/e3sconf/201913605030>

Liu, J. (2017). **Symbolic meanings of animal patterns in traditional**

**Chinese textiles**. Nanjing: Southeast University Press.

Murray, K. (2011). Outsourcing the hand: An analysis of craft-design

collaborations across the global divide. **Craft + Design Enquiry**,

pp. 3, 1–24.

Osborne, C. (2019). **Crafting Identity: Transnational Indian arts and the**

**politics of race in central Mexico**. Tucson: The University of

Arizona Press.

Paine, S. (2018). **Embroidered textiles: A world guide to traditional**

**patterns**. London: Thames & Hudson.

Postell, J. (2012). **Furniture design (2nd ed.)**. Hoboken, NJ: John Wiley & Sons.

UNESCO. (2003). **Convention for the safeguarding of the intangible cultural heritage**. Paris: UNESCO.

Verganti, R. (2009). **Design-driven innovation: Changing competition rules by radically innovating what things mean**. Boston, MA: Harvard Business Press.