

Research on the Skill Inheritance and Innovative Development of Intangible Cultural Heritage "Chaozhou Embroidery" in Garment Products: from the Perspective of Historical Culture and Technological Innovation

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Abstract

Chaozhou embroidery, a nationally recognized intangible cultural heritage, boasts a long history and distinctive artistic features. However, with the rapid development of modern industrial civilization, the inheritance and development of Chaozhou embroidery in garment products face significant challenges. Using methods such as literature review, field investigation, and expert interviews, this study explores strategies for the inheritance and innovative development of Chaozhou embroidery in clothing products from the perspectives of historical culture and technological innovation. The research reveals that Chaozhou embroidery has undergone several development stages, including Tang and Song folk embroidery, flourishing during the Ming and Qing dynasties, and industrialized production in modern times, forming its unique characteristics of neat stitching, harmonious colors, and exquisite patterns. Nevertheless, the impact of modern industrial civilization has led to issues such as a lack of inheritors, outdated production methods, and insufficient innovation. To promote the inheritance and innovative development of Chaozhou embroidery, it is essential to enhance the training of inheritors, improve production techniques, develop cultural and creative products, and expand markets. By deeply exploring the craftsmanship and cultural essence of Chaozhou embroidery, integrating modern fashion design concepts, and leveraging digital and intelligent technologies, traditional Chaozhou embroidery techniques can be revitalized in contemporary contexts, ensuring sustainable development.

Keywords: Chaozhou Embroidery, Garment Products, Skill Inheritance, Innovative Development, Historical and Cultural Perspective

1. Introduction

Chaozhou embroidery, originating from Chaozhou City in Guangdong Province, China, is a traditional craft that combines meticulous techniques with profound cultural significance. As a gem of Chinese embroidery art, Chaozhou embroidery is renowned for its exquisite patterns, vibrant colors, and unique stitching methods. It embodies the historical and cultural memory of the Chaoshan region while serving as an artistic expression of people's aspirations for a beautiful life. This study delves into the historical origins, stylistic schools, and intricate craftsmanship of Chaozhou embroidery, highlighting its unique charm as an intangible cultural heritage. By integrating modern design concepts, the research explores innovative applications of Chaozhou embroidery in garment design, aiming to establish a theoretical framework for its modernization. This study not only provides a solid theoretical and practical foundation for the preservation and inheritance of Chaozhou embroidery but also offers valuable insights and references for the innovative development of other traditional crafts.

Research Objective

The study aims to comprehensively explore and articulate the historical and cultural connotations, artistic characteristics, and traditional techniques of Chaozhou embroidery, while investigating its innovative applications in modern garment design. It seeks to construct a theoretical system for the inheritance and innovation of Chaozhou embroidery, offering scientific evidence and practical guidance for its dynamic preservation and modernization. Simultaneously, the research provides a replicable model and experience for the protection and innovation of other intangible cultural heritage forms.

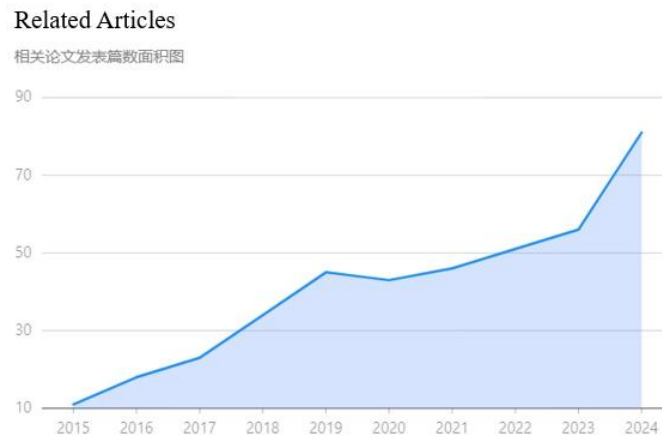
2. Literature Review

1. Research on Intangible Cultural Heritage

In China, studies on the dynamic preservation of intangible cultural heritage (ICH) increasingly focus on digitization. With the rapid advancement of information technology, the digital preservation, dissemination, and utilization of ICH have become focal points for academia and industry. According to Tan Guoxin (2022), the interactive, convenient, and immersive features of digital media provide diverse options for expressing cultural information, enhancing the diversity of presentation methods and the attractiveness of disseminated content. Internationally, the research on the digital preservation of ICH has also shown significant progress. Wang Yaoxi (2009) noted that since the 1990s, with the widespread application of information technology, projects such as American Memory and Memory of the World were launched. During this period, "digitization" became a buzzword in the cultural heritage sector. Before the concept of ICH was formally established, terms like "folklore" were commonly used internationally. Given the wide variety of ICH, scholars often focus on single-item studies. Research on digitization spans multiple disciplines, making literature searches challenging. This study carefully selected keywords for combination searches across multiple databases, followed by manual screening and secondary retrieval,

ensuring comprehensive literature coverage. Ultimately, 91 foreign-language articles were identified and analyzed to reveal the state of international research on ICH digitization. From 2002 onwards, research output in this field has shown consistent growth, with a notable surge in recent years - 81 articles published in 2024 alone - indicating increasing scholarly interest.

Figure 1: Trend Chart of Papers on Digital Preservation of ICH



Source: Researcher

The scope of research entities in this field, from countries to authors, provides a comprehensive overview. A total of 91 papers originate from 23 countries across five continents, with significant contributions from Asia and Europe. France, South Korea, and Japan were early contributors, while China, Italy, and India have shown marked activity in recent years. Particularly, in the past five years, China and Italy have made significant contributions, publishing 16 and 12 papers respectively. At the author level, most contributors published only one paper, indicating the broad and decentralized nature of the research base. However, several prolific authors from universities and research institutions stand out. For instance, Vincenzo Lombardo and Antonio Pizzo from the University of Turin in Italy, Soon Cheol Park from Yonsei University in South Korea, and Keiji Yano from Ritsumeikan University in Japan have achieved significant outcomes in ontology-based ICH protection, metadata structure, and virtual reality applications.

Table 1: Distribution of Countries Publishing ICH Digital Preservation Studies

Country	Number of Papers	Percentage	Country	Number of Papers	Percentage
China	16	17.58%	UK	5	5.50%
Italy	11	13.19%	USA	5	5.50%
India	8	8.80%	Japan	5	5.50%
Australia	7	7.78%	Greece	5	5.50%
France	6	6.60%	Canada	5	5.50%
South Korea	6	6.60%			

Source: Researcher

2. Research on Chaozhou Embroidery Techniques

As one of China's four major embroidery traditions, Chaozhou embroidery boasts a long history and distinct artistic characteristics. Scholars have extensively studied its historical development, cultural implications, and technical features. Research traces Chaozhou embroidery's origins back to the Tang and Song dynasties, where it was a local folk craft in Chaozhou. By the Ming and Qing dynasties, the craft reached its peak, with specialized workshops producing exquisite embroidery for the imperial court and wealthy families.

The cultural significance of Chaozhou embroidery remains a focal point of academic interest. Li Jinhui (2020) emphasized the influence of local customs, religious beliefs, and aesthetic preferences on its patterns, colors, and designs. Frequently featuring auspicious symbols, natural landscapes, and folk themes, the embroidery reflects the rich cultural heritage of the Chaozhou region. Technically, Chaozhou embroidery is lauded for its fine stitching, smooth lines, and vivid shading, showcasing exceptional artistry and craftsmanship (Wang, 2019). However, the rapid modernization and industrialization of Chinese society pose significant risks to this traditional craft, including its decline and potential loss. Yang (2021) identified challenges such as an aging workforce, the lack of younger successors, and competition from machine-embroidered products. To address these issues, scholars advocate for documenting traditional techniques, establishing training programs for new generations of embroiderers, and exploring innovative applications of Chaozhou embroidery in contemporary fashion and design (Zhu, 2022).




Yue embroidery, or Guangdong embroidery, is a style of embroidery folk art of the Chaoshan and Pearl River Delta region. It encompasses Guangzhou embroidery and Chaozhou embroidery. It is one of the well-known "four great embroideries of China", the other three being Sichuan embroidery, Suzhou embroidery and Xiang embroidery. Distinguished by its balanced compositions, vibrant colors, and strong decorative qualities, Guangzhou Embroidery is particularly noted for its fullness in composition and vivid imagery. In the 19th century, British scholars praised Guangzhou Embroidery, and it earned accolades at the Panama–Pacific International Exposition. By the Qing Dynasty, Broad embroidery had gained international renown, with works serving as royal tributes and treasures housed in the Forbidden City. Chaozhou embroidery, meanwhile, owes its unique needlework techniques to masters like Lin Zhi, who documented them in dedicated works. Publications such as *The Complete Collection of Traditional Broad Embroidery Techniques* systematically catalog Guangdong embroidery methods, furthering its preservation. Academic studies have examined the cultural, artistic, and design applications of Guangdong embroidery. For instance, Zeng Dilai analyzed the artistry of Chaozhou embroidery, Wu Xushan elaborated on its cultural significance, and Zhang Lin investigated its integration into fashion design. Recent studies by Chen Junting (2023) and Zhang Yanyan (2023) respectively examined the design characteristics and cultural reflections of Guangdong embroidery. These works have deepened the study of Guangdong embroidery, providing valuable insights for its preservation and innovation.


2.1 Innovative Development of Chaozhou Embroidery in Fashion Design

In recent years, the innovative development of Chaozhou embroidery in fashion has garnered increasing interest. Researchers are exploring strategies to revitalize this traditional craft and adapt it to contemporary fashion trends and consumer preferences. One approach integrates Chaozhou embroidery into modern clothing design. Liu (2019) highlighted examples where designers incorporated embroidery elements into dresses, jackets, and accessories. By combining traditional techniques with modern silhouettes and materials, these designers created unique and appealing products that captured both domestic and international markets. Moreover, with the nation advocating for cultural confidence, society has placed growing emphasis on cultural heritage protection and transmission. Emerging technologies such as big data, AI, VR, AR, and 3D virtual fitting have profoundly influenced the preservation of cultural relics, particularly in textile and apparel artifacts. Sun Yueru (2024) analyzed digital exhibition practices in nine representative textile and apparel museums, proposing new possibilities for their digital transformation and offering perspectives on their future development. In the context of the digital economy, Zhu Yanan (2023) explored trends in the digitalization of clothing production, including 3D design, integrated supply chains, and platform-based sales. Proposed pathways include fabric digitization, digital fashion modeling, 3D static and dynamic presentations of collections, and innovative 3D apparel displays. Another strategy focuses on developing cultural and creative products based on Chaozhou embroidery. Huang (2020) discussed the potential of incorporating embroidery motifs into home textiles, stationery, and gifts. These products not only enhance the artistic value of Chaozhou embroidery but also create new revenue streams for workshops and artisans. Digital technologies, such as computer-aided design (CAD) and 3D printing, further expand the possibilities for Chaozhou embroidery's innovative development (Chen, 2021). These applications bridge traditional artistry with modern techniques, opening new avenues for preserving and reimagining this heritage in contemporary contexts.

Despite various efforts and initiatives, the innovative development of Chaozhou embroidery apparel products still faces challenges. These include the need to improve design education and training, establish quality control and certification systems, and protect intellectual property rights (Li, 2021). Moreover, achieving a balance between innovation and preserving traditional techniques and aesthetics remains a delicate issue. It requires careful consideration and collaboration among stakeholders, including embroiderers, designers, researchers, and policymakers.

Table 2: Innovative Applications of Chaozhou Embroidery in Apparel Products

Image	Category	Key Embroidery Techniques	Target Market
 <p>Casual Dress Source: https://fzjxcg.wtu.edu.cn/log/index.html</p>	Casual Dress	Combination of flat stitch, satin stitch, and nail stitch	Exported to European and American markets
 <p>Cheongsam with Chaozhou Embroidery LAURENCE XU Fall/Winter Haute Couture Source: https://fzjxcg.wtu.edu.cn/log/index.html</p>	Cheongsam Gown	Black silk base, gold threads, raised embroidered patterns, padding with paper and cotton for shaping	High-end bespoke apparel
 <p>Chaozhou Embroidery Combined with Middle Eastern Embroidery Source: https://fzjxcg.wtu.edu.cn/log/index.html</p>	Casual Dress	Flat stitch, bead embroidery	Exported to Middle Eastern markets

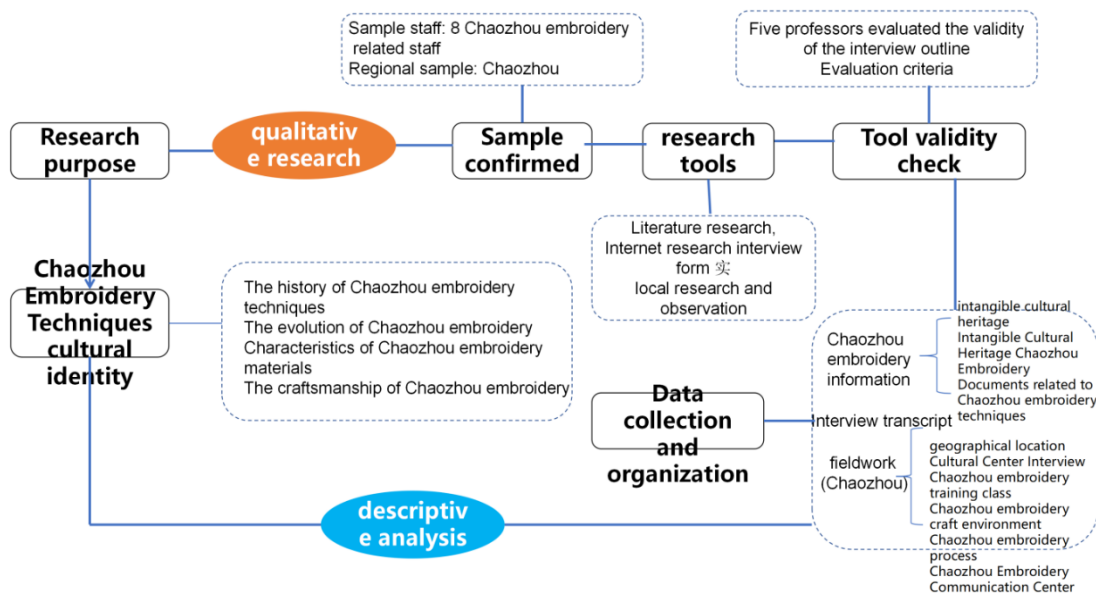
 <p>Creative Gown with Chaozhou Embroidery LAURENCE XU Fall/Winter Haute Couture Source: https://fzjxcg.wtu.edu.cn/log/index.html</p>	<p>Creative Gown</p>	<p>Raised, floor-length designs</p>	<p>High fashion, exported to Southeast Asian markets</p>
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Source: Author

3. Methodology

1. Qualitative research methods

Figure 2: Diagram of Qualitative Research



Source: Author

This study focuses on the historical background and current development of Chaozhou embroidery, employing qualitative research methods such as literature analysis, field investigation, and in-depth interviews. The research area primarily includes the Xiangqiao District of Chaozhou City, Guangdong Province. Key informants include two Chaozhou

embroidery practitioners with no less than 30 years of experience and five experts familiar with the history and characteristics of Chaozhou embroidery. In-depth interviews were conducted, and the interview outline was evaluated for validity by five professors.

2. Literature analysis

Literature analysis is crucial for studying the inheritance and innovation of Chaozhou embroidery. By integrating academic works, historical records, and other resources, it comprehensively reveals the origins, evolution, and cultural significance of Chaozhou embroidery. Through systematically collecting, organizing, and interpreting various documents, researchers can trace its development from a folk craft in the Tang and Song Dynasties to its prosperity during the Ming and Qing Dynasties, and the challenges faced in modern times. Analyzing historical documents such as local chronicles provides insights into technological innovations, artistic styles, and changes in social functions. It also explores the cultural connotations and symbolism behind patterns and color schemes, highlighting Chaozhou's cultural values, beliefs, and aesthetics. Furthermore, literature analysis helps identify research gaps, construct theoretical frameworks, critically evaluate existing studies, and propose new research questions, thereby advancing knowledge in the field.

3. Field Investigation and Data Collection

Field investigation is a key method for obtaining first-hand information on the inheritance and innovation of Chaozhou embroidery. This involves directly observing embroiderers and workshops, visiting production sites, and recording and analyzing the entire production process, from material selection to the application of techniques. Field studies facilitate engagement with stakeholders such as craftsmen and apprentices, uncovering their perspectives on challenges, opportunities, and methods for preserving and innovating the craft. Visual materials like photos and videos are also collected to enrich the representation of the art, techniques, and cultural context of Chaozhou embroidery. Additionally, such investigations help identify local resources and networks, map the cultural and creative ecosystem, and explore potential collaboration, innovation, and entrepreneurship opportunities within the embroidery industry, providing a basis for its promotion and development.

4. Data Analysis

Data collected through surveys is statistically analyzed using software such as PSPP and Excel. This process uncovers patterns and trends within the data, offering valuable insights.

4. Results

Figure 3: Cultural Creative Design Integrating Modern AI Technology with Traditional Chaozhou Embroidery



Source: Author

Figure 4: Innovative Design Combining Traditional Techniques with Modern Technology



Source: Author

1. Promoting and Innovating Chaozhou Embroidery

Historical and Cultural Heritage:

Chaozhou embroidery, with a legacy spanning millennia, is a treasure of Chinese embroidery art, embodying the unique charm of Lingnan culture. Its exquisite techniques, intricate patterns, and profound cultural significance highlight its exceptional artistic value and historical importance. A systematic study of its origins, development, distinctive techniques, and cultural connotations is crucial for preserving this heritage.

Strengthening the Protection and Activation of Intangible Cultural Heritage:

Chaozhou boasts numerous intangible cultural heritage projects related to embroidery, including both national and provincial treasures. Efforts should be intensified to protect these projects by promoting living inheritance and innovative development. This approach will not only rejuvenate Chaozhou embroidery in modern life but also enhance its cultural and economic value.

Strategic Planning for the Modern Application of Embroidery Resources:

A scientific approach to planning and utilizing Chaozhou embroidery as a unique cultural resource is essential. Iconic items like the "Chaozhou Embroidered Dragon and Phoenix Gown" and "Chaozhou Opera Costumes" can serve as focal points. By organizing exhibitions and cultural exchange activities, the international recognition of Chaozhou embroidery can be expanded, reinforcing its status as a regional cultural emblem.

2. Designing Embroidery-Enhanced Fashion

Capitalizing on the unique allure and rich cultural depth of Chaozhou embroidery, a series of distinctive garments should be carefully designed. These pieces should skillfully incorporate the refined techniques and classic motifs of Chaozhou embroidery into modern fashion designs. Such creations will not only showcase the aesthetic value of the craft but also allow wearers to experience the profound heritage of Chaozhou culture through contemporary style.

3. Innovative Fusion in Cultural Creative Apparel

Combining traditional Chaozhou embroidery techniques with modern fashion elements can lead to the creation of cultural creative apparel that retains traditional essence while embracing contemporary trends. Through innovative fashion design, the dissemination and revitalization of Chaozhou embroidery can be advanced. This will foster greater public appreciation and recognition of Chaozhou embroidery as an intangible cultural heritage embodied in its clothing products.

5. Conclusion

This study explores the inheritance and innovative development of Chaozhou embroidery in clothing products. By delving into the historical and cultural connotations of Chaozhou embroidery, strengthening the protection and transmission of intangible heritage techniques, promoting innovation in clothing design, developing diversified and fashionable product lines, enhancing market promotion and brand building, and conducting educational outreach activities, this research suggests effective ways to ensure the vibrant and sustainable development of Chaozhou embroidery as a traditional craft.

During the investigation, the challenges faced by current Chaozhou embroidery product development were identified. These challenges primarily manifest in the monotony of user experience, weak cultural dissemination, and a lack of cultural immersion. To address these issues, this study proposes incorporating the essence of Chaozhou embroidery elements into

modern digital technology and product innovation design, opening new pathways. Through a comprehensive analysis of Chaozhou embroidery's historical evolution, artistic style, regional characteristics, and folk customs, iconic embroidery patterns and cultural symbols were distilled, with efforts made to skillfully integrate these into user-experience-driven product concepts.

In the creative practice of Chaozhou embroidery-themed products, the focus was on blending traditional embroidery art with modern design concepts. The design process fully considered the diversity of user needs and the deeper cultural experience demands, striving to maintain practical functionality while imparting higher aesthetic value and cultural significance. Through the evaluation of the design outcomes, we found that incorporating cultural identifiers of Chaozhou embroidery into product design not only significantly enhanced the market competitiveness of the products but also deepened users' understanding and emotional connection with Chaozhou culture. This design model provides strong support for the protection and transmission of Chaozhou embroidery as an intangible cultural heritage, while also injecting fresh energy into the development of local cultural industries.

In summary, this study offers valuable insights and references for the cultural inheritance and product innovation design of Chaozhou embroidery. Looking ahead, we will continue to deepen research into intangible cultural heritage, explore more diversified product development strategies, and contribute to the cultural revitalization and economic development of Chaozhou and beyond.

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