

Path Analysis of Cross-Border E-Commerce to Help the Development of Lu Embroidery Industry from the Perspective of Digital Wisdom Era

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Abstract: Lu embroidery is a vital component of Qilu culture, rich in cultural heritage and historical significance. the decline of traditional handicrafts and the intensifying market competition have led to a reduction in Lu embroidery's market share, posing challenges for its industrial innovation and development. In the context of globalization and rapid advancements in internet technology, promoting and disseminating excellent traditional culture has become a significant responsibility of our time and an important means to showcase the nation's cultural soft power. Cross-border e-commerce offers new opportunities for traditional industries like Lu embroidery and opens up vast international markets. This article examines the current state of the Lu embroidery industry and its external sales models, explores the advantages of cross-border e-commerce and its role in driving the industry's growth, and proposes a series of strategies to support the industry's transformation, upgrading, and sustainable development.

Key words: Digital Intelligence Era; Lu Embroidery; Cross-Border E-Commerce; Industrial Innovation

1. Overview of Lu Embroidery

Lu embroidery embroidery is a unique form of traditional Chinese embroidery that originated in the Spring and Autumn and Warring States periods. It is the earliest recorded embroidery style in historical documents and is one of China's "Eight Famous Embroideries." In 2021, it was officially listed as part of the fifth batch of national intangible cultural heritage by the State Council of the People's Republic of China. Lu embroidery embroidery is renowned for its exquisite craftsmanship, rich themes, and distinctive style. the embroidery threads used are

typically thick twisted double-strand silk threads, commonly known as "silk threads," hence it is also called "fabric thread embroidery." Its style emphasizes boldness over delicacy, with a blend of roughness and refinement, simplicity and elegance [1]. Lu embroidery embroidery primarily uses dark floral silk, satin, and gauze as the base fabric, and employs thick cocoons silk threads similar to sewing threads. Despite the thickness of the threads, the embroidery work is delicate, with a striking contrast between the thick and thin threads, enhancing each other's beauty [1].

The process of Lu embroidery is highly intricate, typically involving several stages such as design, material selection, and embroidery. Craftsmen select suitable fabrics and silk threads based on the design, followed by an initial base layer of embroidery. Depending on the pattern requirements, they use various stitching techniques (such as flat stitch, seed stitch, and knot stitch) to create the embroidery. One unique technique, "hair thread embroidery," involves combining silk threads with human hair for artificial embroidery. During the embroidery process, extremely fine silk threads are used to embroider delicate details like faces, eyes, and beards, while other areas are embroidered using materials like animal skins. This combination of fine and coarse stitching techniques gives Lu embroidery a distinctive style [2]. As a traditional handicraft, Lu embroidery continues to thrive in modern society. Its exquisite craftsmanship, vibrant colors, and bold stitching techniques reflect the simple folk customs and generous regional character of the people of Qilu, embodying the Confucian culture and expressing their aspirations for a better life [3].

2. Overview of the Development and Sales Mode of Lu Embroidery Industry

2.1 Inheritance Status of Lu Embroidery

As a traditional handicraft embroidery, Lu Xiu is primarily produced in traditional workshops. In recent years, some intangible cultural heritage bearers have established craft companies and workshops, such as Song Ai Hua's 'Lu Xiu Research Institute' and Rong Yu Rui's 'Lu Xiu Studio' [4]. These centers focus on the bearers, with apprentices assisting in design and research. They actively participate in various social and cultural activities, promoting the brand of Lu Xiu and nurturing new bearers. With government support, they organize Lu Xiu learning classes and experience centers to popularize Lu Xiu and its culture. the Lu Xiu Research Center, based at the Shandong Provincial Museum, involves some bearers in product development and documentation. the museum features an embroidery exhibition hall where teaching demonstrations are held regularly. the museum offers free teaching and collaborates with the government to train specific groups, introducing relevant work [5]. Through online teaching and WeChat guidance, the skills are disseminated in universities and communities, addressing the challenge of inheritance to some extent [6].

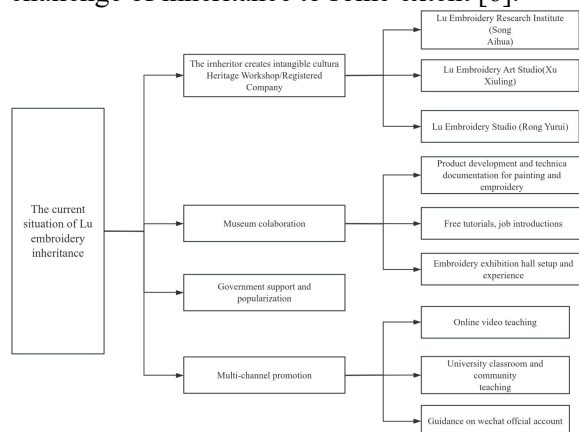


Figure 1. The Current Situation of the Inheritance of Lu Embroidery (Source: Self-Drawn by the Author)

2.2 Current Sales Mode of Lu Embroidery

Luzhou embroidery primarily relies on custom orders and sales through physical stores, making it challenging to penetrate the domestic market. In today's fast-paced society, the intricate techniques of Luzhou embroidery, the lengthy training period for new artisans, the scarcity of young successors, and the significant aging population make it difficult to keep up with modern trends and market demands. There are three main production methods for Luzhou embroidery: hand embroidery, machine

embroidery, and computer embroidery. However, the most common traditional hand embroidery still faces issues such as a long production cycle and low output. Machine embroidery requires a second manual stitch, known as hand-pushed embroidery, and computer embroidery is used for detailed work, but it cannot replace traditional hand embroidery [7-8], which has hindered its market penetration.

When searching for terms like 'embroidery' and 'embroidery items' on domestic shopping platforms such as Taobao, Pinduoduo, and 1688, most of the results are Su embroidery products, while Lu embroidery items are less common. Similarly, searches on Alibaba International, TikTok's overseas version, and other international shopping websites mostly yield material-made bags, whereas Su embroidery offers a wider variety of items and designs. On TikTok's overseas version, Su embroidery promotional videos have garnered 122.5k (125,000) likes, compared to only 5,000 for Lu embroidery. Additionally, the most popular item sold on TikTok's overseas version is an anime hoodie with an embroidery label, which is a machine-made product and not traditional Chinese embroidery. This suggests that foreign customers have limited knowledge about the variety of embroidery. The preliminary survey revealed that Lu embroidery has low recognition in China, mainly concentrated in Shandong Province, while Suzhou embroidery enjoys the highest recognition (Figures 2 and 3).

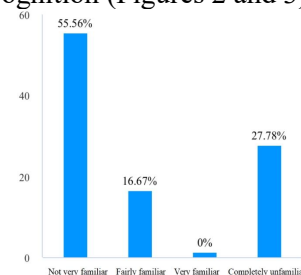


Figure 2. Degree of Understanding of Lu Embroidery

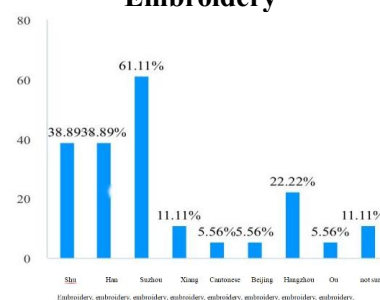


Figure 3. Other Embroidery Types Known Besides Lu Embroidery

3. Development Status of Cross-Border E-Commerce Industry

E-commerce, a new form of trade in the modern economy, enables online shopping, transactions, and electronic payments through browsers or servers, facilitating various business, financial, and related activities [9]. It has transformed human lifestyles and work methods [10]. the cross-border e-commerce market is continuously expanding, becoming a key force in China's foreign trade. Meanwhile, China's regulatory policies for cross-border e-commerce are continuously improving, promoting the facilitation of cross-border investment and financing, and encouraging banks to provide financing support for cross-border e-commerce, thus offering new opportunities and directions for the development of China's foreign trade [11]. According to data from the General Administration of Customs of China, in 2023, the total import and export value of cross-border e-commerce in China reached 2.38 trillion yuan, marking a 15.6% increase year-on-year. In the first ten months of 2024, textile exports amounted to 829.52 billion yuan, up 5.8%. In 2019, the export value of Suzhou embroidery crafts was nearly 190.32 million US dollars [7]. In the first three quarters of 2024, the total import and export value of cross-border e-commerce reached 1.88 trillion yuan, with an 11.5% year-on-year increase, and the export value was 1.48 trillion yuan. Currently, there are over 120, 000 cross-border e-commerce merchants, more than 1, 000 industrial parks, and a sales network covering over 220 countries and regions [12].

Cross-border e-commerce, through B2B and B2C platforms, facilitates direct connections between domestic and international businesses, reduces transaction times and costs [9], opens up diversified sales channels for companies, overcomes the spatial limitations of physical operations, promotes the growth of small enterprises, and drives the 'stable growth+Internet' model of the domestic economy [13].

4. Research on Development Strategy of Lu Embroidery in Cross-Border E-Commerce

4.1 Inheritance and Development of Traditional Crafts

To preserve and promote Lu embroidery, it is

essential to continue nurturing new inheritors. Trade company employees should be invited to provide explanations, helping both the inheritors and learners understand the real foreign trade environment. Specialized courses should be established to enhance professional knowledge, improve the aesthetic literacy of Lu embroidery artisans, and encourage young learners to boldly innovate in their practice. Tailored Lu embroidery products should be introduced to cater to the cultural preferences and customs of different customer groups. For instance, for consumers who value and enjoy traditional Chinese culture, as well as fashion-conscious young people, Lu embroidery artworks with a rich historical background or modern-themed decorations can be offered, attracting more consumers and public attention [13].

4.2 Industrial Upgrading of Lu Embroidery

Most Lu embroidery enterprises are small handicraft workshops. These should be consolidated into larger companies to enhance the development of creative and service-oriented talents. Each workshop within the company should develop its unique characteristics while preserving traditional skills, thereby driving product innovation. Lu embroidery experience stores should be opened in major cities to support online sales with offline experiences. Business operators need to enhance their legal awareness and management skills, improve systems and after-sales services, promote product upgrades, and attract international buyers by participating in domestic and international craft fairs [14]. Meanwhile, the government should increase protection efforts, standardize policies and plans for the industry, improve relevant laws and regulations, and actively promote the importance of Lu embroidery as intangible cultural heritage to urban culture, supporting the development of traditional Lu embroidery handicrafts [15], thus strengthening the protection of traditional Lu embroidery intangible cultural heritage.

4.3 Development of Cross-Border E-Commerce Platforms

Create specialized articles and videos on Lu embroidery, upload them to online platforms (such as Facebook, Instagram, TikTok) and the product detail pages of cross-border e-commerce, showcasing its charm through high-definition images, videos, and VR technology [16].

Continuously update and release information about new works, using storytelling marketing to enhance consumers' emotional connection and purchasing desire for Lu embroidery, and attract the attention of potential customers both domestically and internationally [14]. Leverage the live streaming features of overseas versions of e-commerce platforms like TikTok to boost consumer confidence in purchases, thereby enhancing brand awareness and loyalty. Additionally, open specialty stores or flagship stores on foreign trade platforms such as Alibaba International, participate in promotional activities, increase exposure and influence, and draw on the auction experience from domestic platforms like TikTok and Taobao [14] to improve the exposure and conversion rate of Lu embroidery products.

5. Conclusion

By understanding the historical background of Lu embroidery and the current environment and challenges it faces, it is clear that the advantages of cross-border e-commerce have brought unprecedented opportunities and necessity for the upgrade of Lu embroidery products and the development of enterprises. Cross-border e-commerce has broken geographical barriers and expanded international markets. Through diversified promotion and effective use of platforms, Lu embroidery can enhance its reputation, broaden sales channels, gather market feedback, and support product innovation. In the future, it is essential to strengthen cooperation with cross-border e-commerce platforms, optimize product structure and pricing, introduce new products that align with international trends, and maintain cultural charm and craftsmanship value. Additionally, improving service quality, promoting Lu embroidery culture, and allowing this traditional handicraft to thrive globally will serve as a bridge for cultural exchange between China and the world.

Acknowledgements

Category B Project Funded by Wuhan Textile University (k25004)
Wuhan Textile University Graduate Teaching and Research Project (202402014)

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