

Research on Revitalizing Enamel Craftsmanship in Cultural and Creative Product Design

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ABSTRACT

To assist the development of cloisonné enamel craftsmanship in aligning with contemporary social trends and aesthetics, thereby fostering further advancement and innovation in the design of cloisonné cultural and creative products. Therefore, this paper employs case analysis and systematic induction to summarise the development and contemporary applications of cloisonné craftsmanship. It examines the current design landscape of cloisonné products in the market, exploring how this craft can be revitalised within cultural and creative product design through medium transformation and new pathway development. Findings indicate that cloisonné craftsmanship can not only integrate into contemporary designs for popular cultural artefacts such as gourds and stones, but also serve as a fundamental technique for home décor, achieving design revitalisation through medium transformation. Furthermore, revitalising the design pathways for cloisonné cultural and creative products can be achieved through personalised customisation services, transforming and revitalising design themes, determining craft complexity based on pricing, and cross-industry collaboration to establish craft IP.

Keywords: *Cloisonné, Design revitalisation, Cultural and creative product design.*

1. INTRODUCTION

The diversification of societal trends and advancements in intelligent technology have gradually marginalised traditional crafts in people's lives. To prevent intangible cultural heritage crafts from fading into obscurity amidst the transformations of the new era, traditional crafts must also find new approaches and forms to reintegrate into people's lives. This paper examines the technical characteristics and production methods of cloisonné enamel craftsmanship as its foundational research. By analysing contemporary applications of cloisonné in cultural and creative design, it reveals that traditional cloisonné—due to costly enamels, intricate processes, and manual production—is predominantly employed on high-value items, resulting in a narrow consumer base. Derived techniques such as resin-based cloisonné enamel, which eliminate firing, have shortened production cycles and simplified manufacturing processes. By analysing the current state of cloisonné's application in design, we identify shortcomings in its market utilisation. Integrating the craft's inherent production techniques and

aesthetic characteristics reveals pathways for its design revitalisation within cultural and creative products. This expands its scope in everyday life, fostering the inheritance, application, and dissemination of cloisonné craftsmanship. It also offers insights for developing new industrial chains and business models for other intangible cultural heritage crafts.

2. CLOISONNÉ ENAMEL CRAFTSMANSHIP

Cloisonné is an art form combining copper and enamel, crafted through multiple firing processes. Produced entirely by hand with intricate procedures, it was reserved for imperial and aristocratic use in ancient China, hence cloisonné vessels embody opulent and resplendent characteristics. The traditional cloisonné process begins with designing the vessel's outline and decorative patterns. The base form is then constructed by welding sections of copper sheet together. Fine copper wires are then shaped into decorative forms through techniques like coiling and pinching, and welded onto the copper base. Enamel glazes are applied according

to the colour scheme of the design, filling the welded wire patterns or the frames of the motifs. During the firing process, enamel glaze must be applied four or five times consecutively until the pattern is filled flush with the cloisonné design. Tools are then used to polish any uneven surfaces. Finally, the polished piece is immersed in a gold-plating bath and subjected to an electric current. Within minutes, the gold solution adheres firmly to the enameled metal surfaces, completing the craft.

The contemporary flat cloisonné enamel painting on wooden base, also known as 'cloisonné resin painting' or 'sand painting', was invented in the early 1970s. Its technique draws upon the cloisonné methods of wire-laying and enamel application, employing the same cloisonné enamels. However, the process omits firing, and instead of copper wire, flat aluminium wire is used. The production principle involves first applying wire inlay and enamel dotting onto a wooden base, followed by spraying adhesive and drying. Finally, a resin coating is applied to the surface before mounting it in a frame. Due to the high cost of cloisonné enamels, since 2005 most cloisonné resin paintings have substituted coloured fine sand for enamel pigments.

3. CURRENT APPLICATIONS OF CLOISONNÉ ENAMELLING TECHNIQUES

Cloisonné enamel craftsmanship finds its most frequent application in jewellery design, with the most influential enamel pieces dating back to the Art Nouveau period. The trainspotter enamel of translucent and crystalline effect is employed in jewellery design, creating dazzling and exceptionally sophisticated results when paired with gemstones, gold, diamonds and other materials. Spain's Masriera is a jewellery brand renowned for its long history and exceptional craftsmanship. Its pieces are celebrated for vibrant colours, Art Nouveau design aesthetics, and translucent enamel finishes. Take the Butterfly Nymph pendant as an example: employing cloisonné and cloisonné enamel techniques alongside sapphires and diamonds, diamonds to create an exquisite butterfly nymph with delicate wings, symbolising transformation and freedom in the natural world. Its appearance is graceful and dynamic, embodying the naturalistic style of Art Nouveau. China's enamel jewellery market exhibits a polarised landscape: high-end pieces merging cloisonné enamel with precious metals, alongside low-cost imitations

mimicking the technique. The "fast-food culture" unleashed by fashion trends has gained popularity, conflicting with the emphasis on quality and exquisite craftsmanship inherent in cloisonné enamel pieces. This demand has spurred the rise of low-temperature enamels and resin drip techniques mimicking cloisonné, sacrificing intricate craftsmanship and high costs for mass production targeting the low-end market.

The cloisonné craft is passed down by artisan hands, with products exclusively handcrafted from precious materials. Consequently, cloisonné cultural and creative products command high prices and remain scarce in the market, typically sold at the workshops where they are made. Domestic cloisonné cultural and creative products predominantly feature traditional Chinese auspicious motifs such as cloud patterns, dragons, and phoenixes. However, with the recent popularity of New Chinese style, traditional artisans are innovating the craft's techniques, designs, and product offerings. Li Haiming, an intangible cultural heritage artisan at Lanzhou Creative Cultural Industrial Park, has been creating enamel artworks at his self-founded enamel art gallery. He integrates techniques and colour palettes from art forms like Chinese painting and lacquer painting into enamel murals, producing numerous enamel crafts with traditional Chinese aesthetics. For example, the cloisonné enamel decorative painting titled the Dunhuang Caisson Series serves as a quintessential example of the fusion between traditional motifs and the cloisonné enamel technique. The caisson pattern featuring "three hares sharing three ears" is reinterpreted through this craft. Not only is the cloisonné technique revitalized and integrated into daily life in the form of decorative art, but it also simultaneously disseminates the essence of Dunhuang culture.

In the marketplace, owing to factors such as the cost and production methods associated with traditional cloisonné techniques, the majority of cultural and creative products related to this craft are crafted using resin casting and fine coloured sand. In recent years, resin-based cloisonné material kits and decorative cloisonné paintings have gained significant popularity among consumers. Concurrently, video content showcasing the repurposing of old glass bottles, lamps, and windows using cloisonné techniques has gained traction on social media platforms. The DIY and upcycling approach has attracted a large audience to experiment with the non-firing resin cloisonné craft. Thus, the non-fired form of

cloisonné technique does, to some extent, preserve, disseminate, and promote the craft. However, the colour depth and level of refinement achieved in its products fall short of the effects attainable through traditional cloisonné methods.

4. ACTIVATION OF DESIGN CARRIER FOR CLOISONNÉ IN CULTURAL AND CREATIVE INDUSTRIES

As a traditional craft, the cloisonné enamel technique embodies the wisdom and aesthetic sensibilities of ancient artisans, endowing it with significant artistic value. To prevent it from fading from public memory in contemporary society, it requires ongoing and revitalization. Therefore, strategies for its revitalization and transformation should be considered from the perspectives of its production methods and visual presentation. Starting with the design of culturally creative products related to this craft, rather than limiting oneself to clichéd items such as refrigerator magnets, bookmarks, or canvas bags, innovative thinking can be applied. By focusing on the unique technical characteristics and textural elements of the cloisonné enamel process, products such as scholarly artifacts or scholarly collectibles and home decorations can be developed. This approach would promote the contemporary evolution of the cloisonné enamel craft.

4.1 Revitalising Cultural Artefacts: Enriching Expressive Forms

At present, China has entered a new stage of development, with the people's growing demand for a better life. Personalized, diverse, and high-quality consumption is rapidly expanding, and spiritual and cultural consumption—represented by collectible art and antiques—has become a significant aspect of people's daily spending [1]. Antique appraisal shows and live-streaming have garnered increasing attention, with collectors expanding from middle-aged and elderly individuals to younger generations. As the number of collectors grows, items like corn and gourds have broadened the range of collectibles, making this market increasingly vibrant. Today, cloisonné craftsmanship is also making its mark in the realm of cultural artifacts. By integrating this traditional decorative technique with the form, material, and other characteristics of cultural artifacts, cloisonné not only enhances their aesthetic appeal but also elevates their economic, cultural, and aesthetic value. Much like the combination of

gold and jade, where the two materials mutually complement and elevate each other, cloisonné creates a harmonious union that enriches the cultural artifacts it adorns.

The diversity of cultural artifacts in terms of type, material, and form offers possibilities for the multifaceted application and design of cloisonné enamel craftsmanship. Transforming the medium of cloisonné enamel can broaden perspectives for innovative design. Modern cloisonné enamel is also gradually entering everyday life, with the rise of cultural and creative products and trendy collectibles adding new opportunities and possibilities for enamel's development. Take the fusion of curious stones collecting and cloisonné craftsmanship as an example, specific stones are selected, and patterns are designed based on the stone's aura, quality, and texture. The gold-edged and multi-colored characteristics of cloisonné are then utilized to harmonize the designed patterns with the stone. The final product delivers a novel experience to cultural artifact enthusiasts. The integration of scholar's objects, such as scholar's rocks and gourds, with cloisonné enamel exemplifies the fusion of intangible cultural heritage with contemporary trends in scholarly collectibles. This combination not only highlights the inherent value of the artifacts themselves but also reflects the decorative and cultural significance of the cloisonné enamel technique. Furthermore, this method of integration with such objects endows the cloisonné craft with renewed decorative functions.

4.2 Integration of Modern Concepts into Home Decoration Crafts

Lifestyles and philosophies evolve with the times, manifesting distinct characteristics. In ancient eras, cloisonné enamel craftsmanship served as a decorative art form for creating jewelry, ornaments, and household vessels for imperial families and nobility. Modern society, however, has long transcended feudal dynasties, necessitating a transformation in both the purpose and clientele of cloisonné enamel. Therefore, for cloisonné to be preserved and promoted in the contemporary social environment, the first step must be to align with modern lifestyles and philosophies, building upon this foundation for innovative design and application. Environmental concepts like green living and low-carbon lifestyles permeate modern thought, while waste utilization and recycling are integral to the production and manufacturing of

numerous products. Environmental consciousness is ubiquitous in modern life. Utilizing cloisonné as a form of upcycling can breathe new life into discarded items by imparting functional characteristics. For instance, cleaning and repurposing old glass bottles, glass panels, or wooden boards to present designs through cloisonné; or refurbishing old cabinets and decorating them with cloisonné to give them a fresh look. Furthermore, from 2023 to 2024, social media platforms like TikTok and Rednote saw a surge in popularity of themed videos showcasing enameled metalwork for upcycling old items, attracting significant user attention. This trend precisely demonstrates that enameled metalwork as an upcycling method represents a viable path for both dissemination and development.

Innovating the design of the cloisonné enamel craft by adapting it as a technique for contemporary daily use, and transforming the design of cloisonné cultural and creative products through the application of new materials and processes, makes this traditional craft more “approachable” and more “integrated into everyday life”. Modern individuals increasingly prioritize quality of life, where home ambiance and interior decor serve as expressions of this value. Incorporating cloisonné as a form of home decor can elevate the aesthetic appeal of numerous household items. For instance, enameled house number plates feature natural motifs like tropical plants and kittens on wooden plaques, enriching visual appeal and adding warmth to homes. Modern consumers enrich product aesthetics through enamel craftsmanship—a pursuit of refinement and beauty akin to the Song Dynasty tradition of floral arrangements. Therefore, the design of enamel craft cultural and creative products can focus on meeting consumers' desire for elegant and exquisite home decor. By integrating the craft's distinctive features into modern home furnishings, it can serve either as a subtle accent or as the primary decorative technique for wooden furniture.

5. REVITALIZING THE DESIGN PATHWAYS FOR CLOISONNÉ CRAFT CULTURAL AND CREATIVE PRODUCTS

5.1 Personalized Services as The Driving Force, Transforming The Sales Format of Cultural and Creative Products

Personalized services adopt a consumer-centric approach, adhering to a people-oriented principle. By employing consumer participation methods, they conduct holistic analyses of service systems to identify innovative design points, crafting an optimal service experience journey for consumers[2]. Developing traditional craft cultural and creative products through personalized service not only transforms the limitations of non-mass production but also helps meet modern consumers' diverse spiritual, material, aesthetic, and conceptual needs. Due to the complexity of the cloisonné production process and its handmade nature, cloisonné cultural and creative products cannot be mass-produced. By adopting a personalized service approach, cloisonné workshops or artisans can offer customization services centered on consumers. This involves focusing on diverse consumer needs and customizing cloisonné cultural and creative products according to specific requirements—a proactive form of customized sales. For example, cloisonné artisans may target pet owners, designing and crafting cloisonné home decor paintings or brooches featuring their pets as the central theme.

From a practical perspective, service design transforms intangible services into tangible interactions through service touchpoints, creating a personalized, unified, and coherent experience journey for consumers[2]. Businesses establish hands-on workshops, offering consumers the experience of creating their own cloisonné cultural and creative products. This empowers consumers by placing them in control of the creative process, deepening their engagement with the craft. Through sensory immersion and behavioral resonance, it enhances their understanding of cloisonné and fosters cultural identification with the art form. This “empathic immersion” enhances consumer recall points, facilitating more effective transmission of cloisonné among contemporary audiences.

5.2 Introduction of Modern Concepts: Revitalizing Design Styles and Themes

Throughout history, social environments and intellectual trends of different eras have shaped aesthetic concepts and lifestyles. Take bronze ware design as an example: during the mid-Western Zhou Dynasty, patterns became simplified and forms gradually standardized to reflect rulers' emphasis on ritual governance. By contrast, in the Spring and Autumn and Warring States periods—marked by the decline of the old order—bronze smelting techniques matured, transforming bronze vessels into everyday utilitarian objects. Their decorative motifs thus evolved to be more accessible and rooted in daily life. Consequently, cultural and creative products featuring cloisonné enamel craftsmanship must also evolve their design styles and decorative themes to align with contemporary aesthetic preferences as era-specific styles and lifestyles shift. Traditional cloisonné enamel products predominantly feature conventional motifs like natural landscapes, animals, and flowers. Innovative designs for related cultural and creative products can integrate contemporary art, cultural symbols, and abstract concepts. For instance, cultural and creative designs can incorporate modern urban landscapes, technological elements, or even anime characters, resulting in more diverse artistic expressions and products. The infusion of contemporary concepts allows cloisonné craftsmanship to transcend its role as traditional ornamentation, evolving into practical products imbued with everyday vitality, cultural significance, and innovative meaning.

5.3 Flexible Application of Different Price Tiering Models in Craft Production

The advancement of modern production techniques has led to the evolution of cloisonné enamel craftsmanship from traditional hand-made methods into multiple distinct production processes. As a case in point, resin-based cloisonné leverages the affordability and quick-drying properties of resin, eliminating the firing step required in traditional cloisonné techniques. Machines can laser-cut grooves into metal substrates before filling them with enamel, eliminating the wire-laying step. Imitation enamel and pure hand-wired enamel techniques are applied to products across different price points, reducing production costs for enamel cultural and creative products. In the low-price market, it can reduce costs by simplifying design and production processes, replacing expensive

enamel glazes and metals with affordable, effective alternatives. Mid-range cloisonné products typically feature enhanced design complexity, craftsmanship, material quality, and production processes to differentiate themselves from lower-priced items. High-end cloisonné products pursue ultimate refinement and uniqueness in design, materials, and craftsmanship. They push traditional cloisonné techniques to their pinnacle and may incorporate materials like jade and gemstones for integrated design. Additionally, premium cloisonné cultural and creative products offer personalized customization services to meet high-end consumers' demand for bespoke artworks. Production volumes for this tier are strictly controlled to ensure scarcity and value.

5.4 Cross-industry Collaboration as a Supplementary Approach to Designing and Developing Cultural IP

The recent surge in cross-industry collaborations and co-branding has generated substantial traffic for numerous brands and cultural entities. This trend has enabled cultural sectors to shape their IP identities, thereby fostering the sustainable development of traditional culture and generating economic benefits. The integration of intangible cultural heritage crafts has also expanded corporate supply chains and the scope of craft services. For instance, the collaboration between Pop Mart and wood carving artisans to create limited-edition collectibles has driven business growth in the wood carving industry, providing a new platform for promoting wood carving. This partnership achieves a win-win scenario by showcasing intangible cultural heritage techniques while aligning with Pop Mart's brand identity. Thus, through cross-industry collaborations, cloisonné craftsmanship can leverage partners' brands, influence, and cultural resources to evolve into IPs with unique cultural value. Designing a series of cultural and creative products then achieves a synergistic effect where the whole is greater than the sum of its parts. Collaborations between cloisonné cultural products and renowned fashion brands, museums, or animated works not only blend traditional craftsmanship with contemporary elements but also create novel cultural symbols, elevating the brand value and cultural depth of cloisonné artistry. The design of cloisonné IP extends beyond the craft itself, encompassing product packaging, art exhibitions, limited-edition merchandise, and more. This approach builds a brand image with cross-cultural and cross-industry

value, leveraging modern cultural and commercial strategies to forge a powerful cultural IP.

6. CONCLUSION

This paper analyzes the current application of cloisonné craftsmanship in cultural and creative products, revealing that cloisonné-based cultural creations hold immense economic and cultural value in the market. Consequently, it explores approaches to revitalize cloisonné craftsmanship in cultural design, transforming its design carriers and pathways. By integrating cloisonné with collectibles and home furnishings, we redefine its creative carriers, enhancing the practical utility of cloisonné-inspired cultural products. Models such as customization services, strategic pricing, and cross-industry collaborations activate and expand design approaches for cloisonné cultural creations, thereby advancing the craft's dissemination and development in contemporary society.

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