

Research on digital display design strategy of Jingdezhen ceramic cultural and creative products

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Abstract: With the rapid development of digital technology, the cultural and creative industry has been fully prosperous. Taking digital display as an important means of ceramic cultural and creative products, taking the National Ceramic Culture Inheritance and Innovation Pilot Zone settled in Jingdezhen, the ceramic capital, as an opportunity, the design strategy was explored from three aspects: story-oriented packaging, process visualization and personalized design. Thus, the promotion of Jingdezhen ceramic cultural and creative products has walked out of a road with Jingdezhen characteristics, shaped a unique urban IP, and enhanced the competitiveness of Jingdezhen cultural tourism.

Keywords: Ceramic Cultural and Creative Products; Digital Display; Design Strategy

1. Introduction

Jingdezhen, as the only city in the world to inherit the ceramic industry for thousands of years, has a brilliant ceramic culture and profound cultural heritage. Its ceramics have become a cultural symbol, with important cultural symbolism and influence. In recent years, the cultural and creative industry has emerged suddenly in the tourism market, and has become a new engine to promote the development of tourism economy with its unique charm. With the comprehensive arrival of the "Internet +" era, the cultural and creative industry has shown a development trend from protecting traditional culture to commercialization, art and then digitalization, and cultural and creative products have become an important carrier of cultural inheritance and expression of emotions and ideas. By means of digital display, the innovation of expression forms and communication means of Jingdezhen ceramic cultural and creative products will be realized, new industrial forms will be created, value added and extended of tourism industry value chain will be promoted, and the core competitiveness of urban cultural and tourism development will be enhanced.

2. Overview of Jingdezhen Ceramic Cultural and Creative Products

2.1 The Definition and Characteristics of Jingdezhen Ceramic Cultural and Creative Products

Cultural and creative products refer to high value-added products produced through the development and application of intellectual property rights, which rely on creativity, human intelligence, skills, and talents, and modern technological means to create and enhance cultural resources and cultural goods^[1]. Taking Jingdezhen ceramic cultural and creative products as an example, Jingdezhen has a long history of porcelain making, with exquisite and unparalleled porcelain, renowned worldwide. Jingdezhen ceramic products are not only a craft product, but also a regional representative tourist souvenir. These porcelain pieces are endowed with specific meanings due to their geographical location, conveying and expressing the cultural values, historical memories, aesthetic concepts, and other connotations of Jingdezhen ceramics. They possess uniqueness, artistry, practicality, and market value.

2.2 The Demand and Trend of Jingdezhen Ceramic Cultural and Creative Products

With the explosive rise of Jingdezhen, the market demand and development trend of Jingdezhen ceramic cultural and creative products are undergoing an unprecedented transformation. This transformation is not only reflected in consumer demand for products, but also in the market's understanding and acceptance of Jingdezhen ceramic cultural and creative products.

Firstly, the market demand for Jingdezhen ceramic cultural and creative products is increasing year by year. Jingdezhen ceramic cultural and creative products are increasingly popular in the market due to their unique artistic charm and cultural connotations. At the same time, with the improvement of consumer aesthetic concepts and consumption levels, the use of Jingdezhen ceramic cultural and creative products has become more extensive, shifting from a single practicality to artistic and collectible.

Secondly, the digital transformation of Jingdezhen ceramic cultural and creative products is the trend. With the help of short videos and live streaming e-commerce, Jingdezhen ceramic cultural and creative products have improved production efficiency and provided consumers with more purchasing and usage convenience. At the same time, facing the impact of standardization, fashion, and technological trends, ceramic cultural and creative products have serious homogenization and insufficient innovation. The phenomenon of being profit oriented, subservient to fashion trends, and shoddy production is not uncommon. Ceramic cultural and creative products with cultural connotations exhibit typical "long tail" market characteristics. Due to not being in line with the mainstream and having a relatively small audience size, the market share is often small, making it difficult to identify and explore market demand through traditional shelf e-commerce. Relevant niche markets also often lack supporting services and industrial chains.

Overall, the current market demand and trend for Jingdezhen ceramic cultural and creative products have shown strong vitality and broad development prospects. To meet these needs and grasp these trends, Jingdezhen should adhere to the combination of inheriting traditional culture and innovating digital technology, forming a multifunctional, three-dimensional, and integrated visual media supported by digital technology^[1], fully utilizing digital display methods to fully and effectively tap into market demand, meet the diversified needs of consumers, and promote the sustainable development of Jingdezhen's ceramic cultural and creative industry.

3. The Importance of Digital Display

3.1 Definition of Digital Display

Digital display refers to the use of digital technologies, such as the Internet, mobile communications, virtual reality (VR), augmented reality (AR), 3D modeling, etc., to present and disseminate cultural and creative products. It has the characteristics of interactivity, convenience, immersion, and replicability. Viewers can interact with digital display content anytime and anywhere through various interactive means, such as touch screens, sensory devices, etc., without being limited by time and space, to experience cultural and creative products. In addition, digital content can be easily replicated and shared, expanding the influence and audience range of cultural and creative products

3.2 The Advantages of Digital Display

In modern marketing, digital display plays an important role in enhancing product attractiveness, enhancing brand image, and expanding market influence. Through digital display, enterprises can better convey brand image and product information, improve brand awareness and reputation. Digital display can be achieved through various means, such as websites, social media, email, mobile applications, etc. Through digital display, enterprises can better interact with customers and provide a better customer experience. Meanwhile, digital displays can also help businesses attract potential customers, promote sales and conversion.

For Jingdezhen ceramic cultural and creative products, digital display can make the products more vivid and vivid, allowing consumers to better understand the characteristics and advantages of the products, thereby enhancing the attractiveness of the products. Digital display can enhance the brand image of the product, make the brand more modern and technological, and attract more consumers. It can expand the market influence of Jingdezhen ceramic cultural and creative products, and enable more people to appreciate and understand Jingdezhen ceramic culture, thereby promoting the development of the Jingdezhen ceramic industry.

3.3 The Challenge of Digital Display

In the process of implementing digital display, Jingdezhen ceramic cultural and creative products will inevitably encounter some challenges and problems.

Firstly, there are technical challenges. The color and texture of ceramics are rich and diverse, requiring high-precision image acquisition equipment and technology to ensure the authenticity and texture of digital images. Meanwhile, in order to showcase ceramic products more vividly, it is necessary to apply 3D modeling and virtual reality technology, which requires high technical support and equipment investment.

Secondly, due to the uniqueness and artistry of ceramic cultural and creative products, their digital display is easily threatened by infringement. It is necessary to establish a sound copyright protection mechanism to protect the intellectual property rights of ceramic cultural and creative products. It is necessary to register and regulate the copyright of digital display content to ensure legal use and prevent infringement.

In addition, in the process of digital display, it is also necessary to pay attention to user experience issues. Digital display not only presents the appearance of the product, but also conveys the cultural connotation and value of the product. It is necessary to design an interactive interface that meets user needs, providing rich, vivid, and three-dimensional display forms of ceramic cultural and creative products to enhance user experience and satisfaction.

Finally, digital display is a new marketing approach that requires the development of effective marketing strategies to enhance product visibility and market share. We need to leverage the advantages of digital display to carry out a combination of online and offline marketing activities, attract target customer groups, and promote product sales.

These issues and challenges are a necessary path for Jingdezhen ceramic cultural and creative products to move towards digitalization and intelligence. We need to adapt to the development of the digital era, overcome challenges, and make digital display an important means of ceramic cultural and creative products. We should seize the development opportunity of the National Ceramic Culture Inheritance and Innovation Pilot Zone settling in Jingdezhen, the ceramic capital, and realize the transformation and upgrading of the Jingdezhen ceramic cultural and creative industry.

4. Research on Design Strategies

As the millennium ceramic capital, Jingdezhen has abundant ceramic cultural and creative resources. Based on the existing basic resources, it is necessary to fully utilize digital display technology^[2], starting from three aspects: storytelling packaging, process visualization, and personalized design, in order to promote the new development of Jingdezhen's ceramic cultural and creative industry.

4.1 Storytelling Packaging

The essence of storytelling packaging is the design of cultural and creative products from the perspective of cultural inheritance. It requires in-depth analysis of the cultural factors contained in cultural artifacts, emphasizing the enhancement of the experiential value of cultural and creative products, and maximizing the display of the technological and cultural added value of cultural and creative products, so as to unify the national and regional characteristics, artistic and cultural characteristics, and contemporary and economic characteristics of cultural and creative products^[3]. By utilizing digital display methods and storytelling, the cultural connotation and emotional value of ceramic cultural and creative products can be increased, making them more attractive and infectious.

The design innovation of cultural and creative products first lies in innovative thinking. Faced with the increasingly competitive cultural and creative market, only innovative thinking can inject new vitality into the design of cultural and creative products. From the perspective of cultural inheritance, cultural and creative product design itself is also a form of culture, while creating new cultures^[4]. It can be said that culture is the soul of cultural and creative product design, which is the most important characteristic that distinguishes cultural and creative products from general products. Excellent cultural and creative product design is the concentration of national and regional culture, highlighting the important position of culture as the invisible language of cultural and creative product design. We should conduct in-depth research on China's excellent culture and use the unique excellent culture of the Chinese nation as a valuable source for modern cultural and creative product design. Designers can accurately interpret relevant culture by consulting materials, researching literature, and conducting field investigations, and then inject new cultural elements into the product through design.

We should deeply explore regional culture and try to avoid problems such as severe homogenization

of cultural and creative products, insufficient design momentum of cultural and creative products, and insufficient market share. We should adhere to the principle of differentiated design and the principle of coordinated development between regional culture and the cultural and creative industry. Mythical stories, traditional crafts, landmark buildings, and auspicious patterns should be used as design materials for cultural and creative products. At the same time, cultural and creative product designs can also be subdivided into different categories. For example, mythological legends such as "Wind and Fire Immortal Master", "God Blessing Ceramics", and "Taiping Kiln" are presented on digital display platforms through music, games, anime, short videos, and other forms. On one hand, we need to establish the cultural brand of Jingdezhen city; On the other hand, it is necessary to accurately position consumer groups to further open up the consumer market. Therefore, in order to explore regional culture, it is necessary to conduct in-depth research on the reasons for the formation of regional culture, aesthetic characteristics, etc., fully respect the particularity of regional culture, continuously seek design inspiration from regional culture, make cultural and creative product design an effective carrier of regional cultural inheritance, and promote the development of characteristic tourism economy.

4.2 Process Visualization

The design of cultural and creative products of Jingdezhen ceramics should timely use information technology to improve the scientific and technological content of cultural and creative product design, adopt new technologies such as augmented reality (AR), virtual reality (VR), 3D printing, etc., and should also be timely integrated with Internet technology, so as to diversify the forms of product design and cultural publicity, strengthen the connection between cultural and creative products and the public, and improve the market competitiveness of Jingdezhen ceramic cultural and creative products.

Firstly, the application of augmented reality (AR) technology in the design of Jingdezhen ceramic cultural and creative products. Virtual information can be integrated with the real world to provide users with an interactive environment that combines virtual and real information. In the process of designing ceramic cultural and creative products, designers can use AR technology to present the designed ceramic works in the form of three-dimensional models to users, allowing users to intuitively feel the details of the shape, pattern, and color of the ceramic works in a real environment. In addition, the process of producing ceramic cultural and creative products can be presented in a visual and vivid way, which not only increases user engagement but also helps to better understand and disseminate ceramic culture.

Secondly, the role of virtual reality (VR) technology in showcasing Jingdezhen ceramic cultural and creative products cannot be ignored. VR technology can simulate a comprehensive and immersive virtual environment, making users feel as if they are in a real ceramic exhibition site. Through VR technology, users can freely view ceramic cultural and creative works from various angles, and even achieve tactile feedback, allowing users to feel the texture and temperature of ceramic cultural and creative works in a virtual environment. This new display method will greatly enhance the user experience and expand the influence of Jingdezhen ceramic culture.

Furthermore, the application of 3D printing technology in the design and production of Jingdezhen ceramic cultural and creative products provides strong support for the innovative development of the ceramic industry. 3D printing technology, also known as additive manufacturing technology, directly converts digital models into physical objects by stacking materials layer by layer. In the design of ceramic cultural and creative products, designers can use 3D printing technology to quickly create physical models of ceramic works, thereby verifying the rationality and feasibility of the design. In the process of ceramic production, 3D printing technology can also achieve personalized customization, improve production efficiency, and reduce costs.

By applying technologies such as AR, VR, and 3D printing, we aim to empower Jingdezhen ceramic cultural and creative products, enabling the renewal, inheritance, and promotion of Jingdezhen ceramic culture, providing new possibilities for the inheritance and innovation of Jingdezhen ceramic culture.

4.3 Personalized Design

Due to differences in age, gender, knowledge and cultural level, social experience, and other factors, there are also differences in aesthetic concepts and consumption habits among the population. In order to better meet the unique aesthetic needs and individual expression of consumers, the design of cultural and creative products should provide personalized and customized design services according to the needs of different groups of people.

The first step is to build an online platform, such as a website or application, for consumers to browse samples, design templates, and customization options for ceramic cultural and creative products. The platform should have a user-friendly interface, allowing consumers to easily choose and customize based on their own aesthetic and taste. The platform should make full use of the advantages of digital display and utilize VR and AR technology to provide consumers with a virtual display space for ceramic cultural and creative products, allowing them to personally experience the appearance, texture, and usage scenarios of the products, in order to have a more detailed understanding of the products.

At the same time, in order to achieve unique ceramic cultural and creative products, we can develop an online personalized design tool that allows consumers to upload design patterns, choose colors and materials, etc. It is also necessary to pay attention to protecting the intellectual property rights of cultural and creative products to prevent their infringement and abuse. In addition, the platform can provide a series of design templates for consumers to choose and modify. According to the customized needs of consumers, digital technology is used to guide the production process, ensuring that every ceramic cultural and creative product meets the requirements of consumers. In the production process, production efficiency and product quality can be improved through data analysis, automation equipment, and other means.

Actively collect user feedback in the future to understand consumer satisfaction and suggestions for ceramic cultural and creative products. Based on user feedback, continuously optimize product design and production processes to improve product quality and user experience. This method of using digital technology for personalized design of ceramic cultural and creative works provides an important way for young people to feel and experience ceramic culture, satisfying their pursuit of cultural and artistic appreciation as well as emotional value, and increasing their willingness to pay.

4.4 Case Study

In promoting the digitalization process, the Jingdezhen China Ceramic Museum has achieved remarkable results. On the one hand, the museum vigorously promotes the digital collection, management, and utilization of its collections. Through the use of advanced technologies such as big data, cloud computing, and artificial intelligence, the collections are "smart", laying a solid foundation for the construction of digital museums and smart museums, and achieving online and offline open sharing of cultural relics resources. On the other hand, by enhancing digital exhibitions, the audience's experience can be elevated to a new level. During the May Day holiday in 2024, the China Ceramic Museum launched the first large-scale digital cultural relic exhibition in Jiangxi Province through light and shadow technology, as well as the latest digital presentation methods such as AR and AI (Figure 1): *Light and Shadow Carrying the Path*, *Porcelain on China - A Digital World Through the Prosperous Qing Dynasty Porcelain* and *Encountering the Qianlong Ceramic Immersion Digital Light and Shadow Exhibition*, vividly showcasing Jingdezhen's exquisite porcelain making techniques and profound historical and cultural heritage, achieving the complementarity, mutual promotion, and mutual benefit of cutting-edge digital technology and ceramic culture inheritance and innovation.

In the spring of the same year, a video called "The Earth Startles Tao" caused a sensation on social networks. This is the "Spring Porcelain Awards" planned and created by Alibaba Mama with the support of the Jingdezhen Municipal Government (Figure 2). It presents the creativity of Jingdezhen, a millennium old porcelain city, in the form of art. The planning team fully utilizes the historical, natural, and cultural resources of Jingdezhen ceramic culture, combined with traditional craftsmanship and modern art design, to set up ten giant digital ceramic art installations that coexist with the landmark of Jingdezhen. The huge size incorporates traditional craftsmanship elements, and is perfectly integrated with the local spring landscape through AR technology. In addition, a series of activities have been launched, using ten digital porcelain art points on the earth as clues to create a "Digital Exploration Map". Through this map, different landmark buildings can be explored: Taoxi River, Bingding Chaoyao, Sanbao International Ceramic Village, Porcelain Palace, etc. At the same time, each digital porcelain art piece has been cast into an online digital collection, with an AR presentation effect. And by collaborating with local artists, we have all fired and restored ten pieces of porcelain, creating a limited collection of ceramic artifacts around it.

Both the digital exhibition at the China Ceramic Museum and the "Spring Porcelain Appreciation" are aimed at protecting and inheriting ceramic culture through the use of digital display technology, and developing and innovating on this basis.



Figure 1: Encounter Qianlong Ceramic Immersive Digital Light and Shadow Exhibition



Figure 2: "Spring Porcelain Awards" Digital Porcelain Art

5. Conclusions

In the era of informatization, the development prospects of cultural and creative industries are broad. As a world-renowned millennium porcelain capital, Jingdezhen should fully utilize digital technology and make digital display an important means of promoting Jingdezhen's ceramic cultural and creative products. By implementing strategies such as storytelling packaging, process visualization, and personalized design, we can effectively enhance the market influence of Jingdezhen ceramic cultural and creative products, and open up new paths for brand building and market promotion of Jingdezhen ceramic cultural and creative products.

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