Transforming "Internet Celebrity" Elements into Yingjing Black Sand Product Design: An exploration of traditional handcrafts development

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Abstract
The history of the Yingjing black sand product can trace back to the Spring and Autumn Periods in China. Like many traditional handicrafts, the techniques of this product list as a national intangible cultural heritage. In today’s 5G world, consumers have increasingly high demands for fashion, unique cultural attributes, and product interest. Yingjing black sand products have also faced unprecedented challenges. This paper aims to transform Internet celebrity elements into the Yingjing black sand product design to discuss the development of traditional handicraft products and the design methods and design models of cultural products derived from traditional handicrafts.

Keywords: internet celebrity; Yingjing black sand; product design; cultural product design; traditional handcrafts

1.0 Introduction
Yingjing County, located in the western part of Sichuan Province, China, is renowned for its unique black sand resources, often referred to as "beautiful black stones." These resources have not only shaped the county’s identity but also positioned it as a significant representative of ancient Shu culture. In 2008, the art of Yingjing sand ware was acknowledged as part of China’s second batch of intangible cultural heritage, underscoring its cultural and historical importance. This recognition has sparked considerable academic interest in its heritage and research value. The core of this study lies in exploring the Yingjing region’s distinct characteristics, with a specific focus on its symbolic "black sand." We aim to investigate how this resource can be integrated into product design, leading to the creation of innovative items that resonate with contemporary consumer preferences. The challenge lies in harnessing the traditional essence of black sand while reinterpreting it to align with modern design sensibilities and market demands. Our research endeavours to address the gap in understanding the potential of Yingjing black sand in the global context. It seeks to uncover ways to elevate this traditional craft, ensuring its relevance and appeal in the current market, thereby contributing to the revitalization and sustainable development of traditional handicraft industries. We hypothesise that by effectively leveraging the cultural and aesthetic values of Yingjing black sand, it can be transformed into a globally recognised and cherished element of cultural heritage.

To achieve this, the research will delve into the historical and sociological aspects of Yingjing sand products, analysing their significance and potential for contemporary adaptation. Our methodology, while briefly touched upon here, primarily involves a comprehensive blend of design theory, fieldwork, and practical, creative experimentation. The ultimate goal is to develop a framework...
that not only preserves but also innovatively promotes Yingjing black sand in global cultural products, thus contributing significantly to traditional craft preservation and innovation.

The remarkable black sand resources in Yingjing County, which is part of Sichuan Province’s western region, are known as “beautiful black stones.” These resources not only carve out the county’s distinct identity but also affirm its role as a prominent symbol of ancient Shu culture. The Yingjing sand ware’s artistry, recognised in 2008 as a part of China’s second batch of intangible cultural heritage, emphasises its significant cultural and historical value. This acknowledgement has piqued substantial scholarly interest in its heritage value and research potential. The core objective of this study is to meticulously investigate Yingjing’s unique characteristics, focusing particularly on its iconic “black sand.” This investigation aims to explore the integration of this unique resource into contemporary product design, leading to the creation of novel items that resonate with modern consumer preferences. The challenge lies in balancing the traditional essence of black sand with contemporary design elements to meet current market needs. The study’s primary aim is to comprehensively understand the potential global significance of Yingjing black sand. It seeks to uncover innovative methods to elevate this traditional craft, ensuring its relevance and appeal in today’s market, thus contributing to the sustainable development and revitalization of traditional handicraft industries. We hypothesise that by effectively leveraging the cultural and aesthetic values of Yingjing black sand, it can be transformed into a globally recognised and cherished component of cultural heritage. To achieve these aims, the research will delve into the historical and sociological facets of Yingjing sand products, analysing their cultural significance and potential for modern adaptation. Our methodology, briefly outlined here, incorporates a combination of design theory, extensive fieldwork, and practical, creative experimentation. The ultimate goal is to develop a framework that innovatively promotes and preserves Yingjing black sand in the global market of cultural products, significantly contributing to the preservation and innovation of traditional crafts.

2.0 Literature Review

2.1 Yingjing Black Sand Products

According to many studies in China, Yingjing County began making sand ware more than 2000 years ago, and the ware has formed since then. Yingjing black sand is defined as the period between the Spring and Autumn Periods and the Warring States Period (the Qin and Han Dynasties). Traditional handicrafts such as Yingjing black sand have a long history in the city. The Ancient City Village, located in Liuhe Township, Yingjing County, Ya’an City, Sichuan Province, is the primary production location for Yingjing sand ware, as well as the site of Yandao Ancient City Site, a provincial cultural relic protection unit (Ying. W et al., 2020).

The sand ware produced in Yingjing is the only one with the right to call it Yingjing sand ware since it is the birthplace of Yingjing and Yandao. It is the only sand kiln in the world to use the “steamed bun kiln” firing method, which is of great historical significance. As a result of the limited products available at the time, the term “Yingjing casserole” almost became a synonym for Yingjing. Outsiders became familiar with Yingjing through the casserole. The products became known as “Yingjing sand” and “Yingjing black sand” after
1981, when diversified processes were introduced. It is the legacy of ancient traditional culture. Since 2013, it has been undergoing a revival. Aside from the casserole, Ying Kiln Sandware also produces tea mats, flower ware, wind stoves, and other black sandware products, integrating culture, art, nature, and lifestyle. Figure 1 shows the development process of the Yingjing black sand (Yang, G et al., 2004). The production processes of Yingjing black sand products include mud making, moulding, drying, decoration, grinding, polishing, firing, glaze taking, tap-off, and quality testing. The development of Yingjing black sand products is illustrated in Figure 2.

Yingjing black sand products are made from white clay and two charcoal; these products are roasted over 1200 degrees to form unique black sand vessels and crafts. In addition to its high-temperature resistance, corrosion resistance, non-oxidation, non-discoloration, no chemical reaction with acid, alkali, and salt in food, and high-quality preservation, heat preservation, and fresh preservation, the product is also non-toxic to humans. Moreover, it is a natural, green cooking and drinking utensil that will not deform. Therefore, it will last longer, is widely used, and is an ideal natural green utensil.

While Yunjing black sand has a long history and offers many benefits, there will be approximately 50 workshops, 20 online shops, and more than 1000 employees in the county by 2021. In addition, about 100 college students will be employed in the industry in 2021, with an annual output value of about $100 million. However, due to such problems as the reduction of employees, backward production mode, backward technology, lack of design talents, single product form and appearance, weak network publicity, and such, serious industrial regression has severely limited the development of the industry.

2.2 Internet Celebrity Elements

In China's burgeoning Internet celebrity economy, the aesthetic sensibilities of Internet celebrities have emerged as a significant driver of consumer purchasing behaviours. You Xuemin made this observation in 2022, which emphasizes the crucial role that characteristics like attractiveness, credibility, expertise, and overall aesthetic appeal of internet celebrities play in influencing consumer preferences. These factors collectively contribute to the influential power of internet celebrities in the domain of cultural product design in China. This dynamic underscores the intersection of celebrity influence and consumer behaviour, reflecting a unique aspect of contemporary China's digital economy and cultural landscape. Andy Warhol once stated that "in the future, everyone will be famous for 15 minutes," which is interpreted as implying that "everyone can be a celebrity on the Internet for 15 minutes" in today's highly developed social media environment. Internet celebrities are individuals who have gained fame and notoriety using the internet. They may also be social media influencers, personalities, Internet celebrities, or simply influencers (Alexander P. S. et al., 2004). It is also possible for individuals to become Internet celebrities by posting popular content, whether they are the creators of the content or the ones who post the content. This content can be considered a reaction image, a video, a GIF, or even just some words. People may like to share their content online to convey their feelings and emotions (Agnes et al., 2018). Internet celebrity aesthetics, celebrity attractiveness, celebrity credibility, and celebrity expertise could be the main factors in an Internet celebrity's influence, viewed as essential factors that directly impact the effectiveness of influencers as well. Today, internet celebrities are moving the younger generation of viewers through different social media platforms. In today's China, the primary source of people's access to information has changed from traditional media to social platforms and new media. The concept of an Internet celebrity in China no longer refers to a person but can be a scenic spot, event, food, story, or catchphrase. Therefore, the influencer element has the same popularity, iconic, and social attributes as the popular element, and we call that the "Internet celebrity element."

Internet celebrity elements also have social attributes, popularity, and signatures and can be classified into several categories, similar to popular elements. In internet celebrity elements, this refers to a widespread and popular online event over a period of time or some characteristic of the protagonist (person or object) that people recall intensely or wish to emulate. A particular lifestyle can also be a behaviour mode that shows personality, has strong appeal, and is quickly spread, as in the case of a certain Internet celebrity or network event. The elements of internet celebrities come from life, often attracting attention in social life and guiding and changing people's values and behaviours. Therefore, it is challenging to define influential elements. It is important to note that Internet celebrities are characterised by many elements, including their hair, clothes, patterns, colours, slogans, ironic visual elements, ironic movements, ironic behaviour and gestures, music, videos, paintings, and even an idea they present. Additionally, it can be described as a visual representation of a unique lifestyle that many people follow and practice.

2.3 Elements for Cultural Product Design

In recent years, the cultural and creative industries have experienced rapid growth, and "culture" plays a critical role in design (Xuemim et al., 2023). Cultural product design aims to directly transform abstract culture into an "exquisite industry" with high value. Taking cultural characteristics as the core, it converts cultural characteristics and originality into new products with rich cultural connotations that can create economic value through creative design. In the 1990s, western countries proposed the "cultural and creative industry" concept. However, as globalisation developed, the cultural and creative industries evolved into emerging industries in the 21st century. Today, the Chinese artistic and creative sector has emerged as an emerging industry. Furthermore, with the rapid development of network technology and online shopping, internet celebrities have gradually become mainstream; internet celebrity products such as "blind boxes" and "internet celebrity cultural products" have become phenomenal bestsellers. Consequently, Internet celebrity elements, which are increasingly influential in today's Chinese and even global cultural product markets, are constantly stimulating the market and enhancing the development of cultural product design to gain greater market acceptance.

The Chinese culture and history are unique. Developing cultural products with Chinese characteristics can boost the competitiveness of cultural industries. Cultural products are more valuable than single-purpose products as they have a culture-rich connotation. Chinese traditional elements have a richer cultural connotation, in contrast to Western systems, which are entirely different. As people's way of life has gradually changed since the start of the Industrial Revolution, industrial mass production has gradually replaced traditional
handicrafts. Culture is a spiritual product whose cultural connotations determine their value, but their birth is usually determined by the carrier they are born from (Wu Yixin 2018). A creative vision can translate into innovative products, and recognisable symbols facilitate recognition. However, cultural products are currently designed overly formally, and there is insufficient variety and depth of content. Cultural heritage is only considered after the product has been designed. Functions are not highlighted in the design. Plenty of innovative ideas are copied, and it appears that designers need to be protected in terms of their legitimate rights and interests (Shunmei Lin et al., 2020). Consumers choose products for various reasons, including "practical functions, cultural significance, aesthetic significance, and emotional implications." A product's emotional attributes are an invaluable motivating factor in encouraging them to purchase a particular product, as they could "invoke effective resonances." Cultural meanings might be one of those. Distinct characteristics are associated with each country's flourishing cultural background, which is always regarded as a valuable source of innovation and creative inspiration (Wan, Y et al., 2013). All of these cultural-based elements can be incorporated into cultural product design.

Integrating the elements of Internet celebrity into the design of Yingjing black sand products will likely lead to more successful product development. By leveraging the massive communication power of the internet, it can also increase the understanding of Yingjing black sand by gaining more people's attention, thereby providing a boost to the development of the market and the whole traditional handicraft industry in general. Considering the global network culture of today and the infinite expansion of network effects, designers should consider using the Internet celebrity effect to empower their products. The review of existing literature on Yingjing black sand products and the integration of internet celebrity elements have unearthed several pertinent issues and ideas for the current research. Firstly, there's a clear indication of the evolving role of traditional handicrafts in modern society, especially in how they adapt to contemporary cultural and market trends. The literature suggests a growing interest in combining traditional craftsmanship with modern aesthetics, primarily driven by changing consumer preferences and the rise of digital culture.

Additionally, studies highlight the importance of preserving traditional crafts' cultural integrity and heritage value while innovating. This points towards exploring design approaches that respect and highlight the unique characteristics of Yingjing black sand yet appeal to the modern consumer's sensibilities. The impact of Internet celebrity culture on consumer behaviour, particularly in the Chinese market, emerges as a significant area of interest, suggesting a need to investigate how these influences can be effectively harnessed in product design without overshadowing the traditional elements. Furthermore, the literature underscores the need for sustainable practices in modernising handicrafts, emphasising environmental considerations and long-term viability in product development. These issues and ideas provide a rich foundation for the current research to explore the intersection of traditional craftsmanship and contemporary design trends.

3.0 Methodology

This research employs a mixed-methods approach, integrating qualitative and quantitative methodologies, to comprehensively explore incorporating internet celebrity elements into the design of Yingjing black sand products. A key focus is on young consumers aged between 20 and 35, who are increasingly engaged with traditional culture and highly receptive to internet influences. This age group represents a significant market segment for the future consumption of Yingjing black sand products. Quantitative data were gathered through surveys to capture varied consumer preferences and perceptions, particularly regarding the intersection of traditional crafts and modern design elements. This approach enables a systematic analysis of market trends and consumer attitudes, forming a robust empirical foundation for the study. In parallel, qualitative data were collected via interviews, direct observations, and case studies. This methodology aspect delves into the intricate relationships between cultural heritage, aesthetic appreciation, and the influence of internet celebrity culture. Interviews with artisans, designers, and potential consumers provide rich, in-depth insights into personal experiences, expectations, and the perceived value of integrating modern design elements into traditional products. The study draws upon existing literature from academic journals, books, and reputable online sources, along with documentation from local government agencies and
media reports. This comprehensive literature review supports the primary research findings, providing a broader context and historical perspective on Yingjing black sand and its cultural significance. The ultimate aim is to develop and evaluate a design model incorporating internet celebrity elements into Yingjing black sand products, focusing on the black sand pot as a case study. This model will be critically assessed for its feasibility and potential impact on these products’ future marketability and cultural relevance. The entire research process, from data collection to model development and evaluation, is illustrated in the accompanying figure, offering a visual representation of the methodological framework underpinning this study. Through this mixed-methods approach, the research achieves a balanced exploration, capturing the measurable trends in consumer behaviour and the nuanced perspectives on cultural and design aspects inherent in Yingjing black sand products.

4.0 Findings and Discussion

4.1 Analysis of Data Collection from Qualitative Research

As a result of this data collection, the following data have been collected (Figure 4): This research has 120 participants, with 116 valid questionnaires and four invalid questionnaires. Most participants live in the south, mainly in Sichuan and Chongqing, while a few live in the north. Approximately 95% of people are unaware of Yingjing Black Sand, and females are more bionic than males. According to the survey, the largest age group is 19–24 years old, 80% of whom are familiar with natural gas use, and 70% of whom have experienced or are concerned about being burned. More than 78% of respondents use more than one pot, and 77% are generally satisfied with the quality of existing soup pots on the market. Approximately 60% of people will purchase products derived from intangible cultural heritage, and 95% are willing to accept innovation in traditional intangible cultural heritage. 100% of respondents knew about Internet celebrities, and 64% would choose to purchase products that incorporate elements of Internet celebrities and traditional culture.

4.2 Design model of Yingjing black sand product of internet celebrity elements

In this study, the design model of the Yingjing black sand product of internet celebrity elements consists of three main parts: The first part takes elements from internet celebrities’ characteristics. This part includes two steps:

1) Analysis of the characteristics of target internet celebrity. This step is to analyse the critical attributes of internet celebrities and extract these characteristics into words.
2) Analysis of the composition of characteristic images. Analyse the elements of those distinct words from the internet celebrity and extract their features into images.

The second part extracts the shape and semantics of internet celebrity elements. This part will investigate shape semantics. Shape the semantics of the products and directly represent the products’ cultural value and functions. This part includes three steps:

1) Extracting shape semantics from the words of internet celebrity elements.
2) Transforming them into design information and design elements.
3) Finally, I designed a Yingjing black sand product based on internet celebrity elements.

The third part is the design process. This research conducts four steps as follows:

1) Translate the design elements into 2D images.
2) Analysing the shape and structure of sketches.
3) Scheme Optimisation.
4) Design a product.

The following design model of the Yingjing black sand product, which is based on internet celebrity elements, will help to understand the relevant design process previously proposed in this paper, as shown in Figure 5:
4.3 Experimental of Transforming “Internet Celebrity” Elements into Yingjing Black Sand Product Design

This study examines how to transform internet celebrity elements into Yingjing black sand product design. According to the design model process and the collected data from the qualitative research above, we conducted an experimental design practice to evaluate the feasibility of the design model. The design practice process of the design model took approximately 90 class hours within 44 days, and 21 Department of Industrial Design students participated, divided into seven groups. All the students (figure 6) and teachers are from the (SCCM) Chengdu Academy of Fine Arts, Chengdu City, Sichuan Province, China.

As a result of the design practice illustrated in Figure 5, seven works were received. Through the screening of their teachers and researchers, as shown in Figure 7, six design schemes of this design practice were successful, and one quit (because of COVID-19). The representation design work for this experimental design practice was from group 7, which includes three members. The internet celebrity elements of their design were extracted from the new Chinese internet celebrity animal “lesser panda.” As illustrated in Figure
8, the external design “lesser panda pot” revealed the internet celebrity elements from the shape semantics of a lesser panda. When the customers see or use it, it will remind them of the internet stories about the lesser panda and the Weibo topic of the year.

Fig. 8: “Lesser panda pot”.

The inspiration for the “lesser panda pot” design comes from an endangered animal on the internet: the lesser panda. It is a very cute one. The internet has given it great attention. There was much discussion regarding the internal video of its tail. On the Internet, it has many fans. Based on the data analysed above, this product is designed specifically for young women and comes with a slow cooker. To transform the lesser panda's elements into a product design with Yingjing black sand, the design is based on the “design model of the Yingjing black sand product of internet celebrity elements.” To increase the friction and improve the user’s comfort, the handle part is ergonomically designed and increases the log's length to increase the friction. It is also cambered and chamfered to create a more compact design. It is a small, delicate, and portable product. A bionic design approach is used to extract and abstract lines, mainly streamline lines, as part of the modelling process. This final product enhances intimacy and interest. To increase the product's safety, the entire product is shaped like a round with no edges or corners. This product is made with traditional Yingjing black sand. By combining Internet celebrity elements with Chinese traditional culture, we encourage users to become aware of the Yingjing black sand and help protect and preserve our intangible cultural heritage. Combining multiple materials and colours, the texture of wood and the texture of black sand enhance the product’s lightness. By producing these products, the market will be provided with further innovative design inspirations, and traditional handicraft industries like Yingjing black sand will be able to develop.

5.0 Conclusion and Recommendations

In this study, internet celebrity elements have been incorporated into the design of Yingjing black sand products to explore how traditional handicrafts and intangible cultural resources can gain new vitality through design. According to the study of Internet celebrity elements and Yingjing black sand, it is possible to use Internet celebrity elements to design Yingjing black sand products to improve their popularity and value. The focus of our research is on how to "innovate" traditional handicrafts and intangible culture and to "transform" and "add value" through design so that our conventional handicraft products can have unique cultural competitiveness in the global marketplace. Based on experimental results, this paper discusses the application of internet celebrity elements to the design model for Yingjing black sand products. In the future, internet celebrity elements may play a significant role in inheriting and developing traditional cultures and handicrafts. Moreover, it is hoped that the findings of this study will not only contribute to the development of our own culture and heritage but will also serve as references for the development of traditions in other countries. Hopefully, this study will provide more references for researchers, operators, and designers interested in cultural product design and better explore the feasibility of cultural product design models in the future. While this study offers valuable insights into integrating internet celebrity elements into Yingjing black sand product design, it is essential to acknowledge certain limitations. Firstly, the scope of the research is geographically limited to Yingjing County and its traditional black sand products, which may not fully represent the broader spectrum of traditional handicrafts across diverse cultures. Therefore, the findings might need more applicability in different cultural or geographical contexts. Secondly, the study heavily relies on qualitative methods, including interviews, surveys, and case studies. While these provide in-depth insights, they may lack quantitative data’s generalizability. The sample size, particularly the demographic concentration of respondents, may not adequately represent the broader consumer base, potentially biasing the results towards specific consumer preferences and perceptions. Additionally, incorporating internet celebrity elements into product design is a relatively new and rapidly evolving field. The fast-paced nature of internet trends and the fluidity of online celebrity influence can result in quickly changing consumer preferences, posing a challenge to the long-term applicability of the study’s findings. Lastly, the research primarily focuses on the aesthetic and cultural aspects of product design, with less emphasis on the economic, logistical, and practical aspects of manufacturing and marketing the redesigned products. These factors are critical for the successful commercialization and widespread adoption of the redesigned Yingjing black sand products. These limitations suggest the need for further research, including studies with broader geographical coverage, larger and more diverse sample sizes, and an expanded focus that encompasses the economic and practical aspects of product design and marketing in the context of traditional handicrafts. Future research from this study should consider a multifaceted approach, expanding to different geographical and cultural contexts, to assess the global applicability of integrating internet celebrity elements into traditional handicrafts. A combination of quantitative methods and more prominent, more diverse sample sizes could enhance the generalizability of findings. Longitudinal studies could examine the sustainability and long-term market trends of such integrations. Further, exploring the economic, technological, and environmental aspects of modernising traditional crafts would provide a more holistic understanding of their commercial and ecological viability. Additionally, a deeper analysis of consumer behaviour, especially among
younger demographics, would offer invaluable insights into how modern elements in traditional products are perceived and accepted in the market. These research directions could contribute to the innovative preservation and revitalization of traditional handicrafts in a contemporary context.

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Paper Contribution to Related Field of Study
This paper contributes to the research on traditional handcraft development and how to use "Internet celebrity" elements to develop it, which is still significantly improved.

References


