

Cross border Integration and Innovation of Intangible Cultural Heritage Elements in Contemporary Cultural and Creative Design

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Abstract: In the dynamic landscape of cultural and creative industries, the fusion and innovation of intangible cultural heritage (ICH) elements within contemporary design have emerged as a focal point. This article delves into the integration of ICH elements into modern cultural and creative design, exploring diverse methodologies for cross-disciplinary integration and pioneering strategies for innovation. By scrutinizing data spanning from 2013 to 2023, we discern a consistent upward trajectory in the utilization of ICH elements in product design, paralleled by a steadfast positive correlation with product sales. Notably surpassing traditional handicrafts, ICH-infused designs exhibit marked advantages in driving sales. This research underscores the pivotal role of ICH elements in contemporary design, not only enhancing cultural offerings but also fostering the preservation and evolution of traditional heritage. Such endeavors infuse fresh vigor into the cultural and creative industries, catalyzing novel avenues for growth and development.

1. Introduction

With the acceleration of globalization, traditional culture is facing severe challenges in modern society[1]. In this context, the emphasis on cultural inheritance and innovation has become increasingly prominent[2]. The protection and inheritance of traditional culture requires finding innovative paths that combine with the needs of modern society while preserving traditional characteristics. In the context of globalization, cross-border cooperation and exchanges between various fields are becoming increasingly frequent. The cultural and creative industry integrates resources from multiple fields such as design, art, and technology, providing a platform and opportunity for the cross-border integration of intangible cultural heritage elements with contemporary design.

In contemporary society, the rise of cultural and creative industries has become an important force driving economic growth and cultural inheritance. At the same time, traditional intangible cultural heritage, as a witness to history and a inheritor of culture, has also shown vigorous vitality in contemporary society. The cross-border integration and innovation of intangible cultural heritage elements and contemporary cultural and creative design has become a hot topic in the current cultural field. This article aims to explore the application of intangible cultural heritage elements in contemporary cultural and creative design, with a particular focus on their integration and innovation with modern cultural creativity.

2. Related Words

In Chen JY et al.'s study, a method was explored to combine the embroidery process of Fujian She ethnic wedding dresses with fashion design courses. By cutting traditional embroidery patterns, the value of She ethnic wedding dress embroidery technology was analyzed, and specific design cases for fashion curriculum reform were proposed. Explored the feasibility of applying the intangible cultural heritage of She ethnic wedding dress embroidery to fashion design teaching, proposed methods such as combining embroidery technology with fashion design, improving fashion design modules, and

innovating pattern technology. Finally, it was emphasized that traditional handicrafts should be combined with fashion in the education and teaching of fashion design to promote the inheritance and innovation of traditional culture[3]. Zhang F et al. studied the transformation of historical and cultural blocks, taking Beijing's historical and cultural blocks as an example. Through the perspective of human geography, they investigated their transformation situation and explored collaborative strategies between the government and various sectors of society. This paper analyzes the methods and paths of urban block reconstruction from the perspectives of cultural space and cultural ecology, emphasizing the importance of cultural memory and cultural ecology in the construction of historical and cultural blocks, as well as the impact of interaction between people and the environment on the reconstruction of urban cultural space[4]. Hsueh SL et al. proposed using the Delphi method and fuzzy logic theory to create a multi-attribute DFuzzy decision model for assisting decision-making evaluation in cultural and creative product design. Emphasis was placed on highlighting the unique characteristics and cultural value of cultural and creative products through multifunctional design, and scientific methods were proposed to achieve objective and quantitative evaluation of product design, providing reference for the optimization of commodity production[5]. Zhang J et al. used qualitative research methods such as field investigation, in-depth interviews, and questionnaire surveys to study the historical and technical characteristics of Duntouqing produced in Heyuan City, Guangdong Province, as well as its innovative methods in contemporary design[6]. The important role of design in the technological and cultural innovation and industrial development of Duntouqing textile was emphasized, and measures such as the design innovation industry chain strategy and the design of Duntouqing brand were proposed to promote the protection, inheritance, and innovation of Duntouqing. Orphanidou Y et al.'s research focuses on the application of cultural heritage in education. Through the adoption of digital technology, this study explores how to promote learners' digital transformation capabilities and enhance their learning and participation in cultural heritage. The study of mixed methods reveals how digital cultural heritage enhances learners' resilience, thereby achieving effective inheritance and protection of cultural heritage. The innovation of this article lies in integrating intangible cultural heritage elements into contemporary cultural and creative design, and using the double diamond model in design thinking as guidance. This model emphasizes the continuous expansion and convergence in the design process, which is very suitable for guiding the cross-border integration and innovation of intangible cultural heritage elements. This model can effectively guide the organic integration and innovation of intangible cultural heritage elements in cultural and creative design, and ensure the systematic and scientific design process. At the same time, it provides new ideas and methods for the cross-border integration and innovation of intangible cultural heritage elements in contemporary cultural and creative design[7].

3. Method

Cross border integration and innovation are important trends in contemporary cultural and creative design, and incorporating intangible cultural heritage elements into them endows cultural and creative works with unique historical heritage and cultural charm. In order to achieve the organic integration of intangible cultural heritage elements in contemporary cultural and creative design, this article draws on the double diamond model in design thinking[8-10]. This model is a classic design process model that emphasizes continuous expansion and convergence in the design process, and is very suitable for guiding the cross-border integration and innovation of intangible cultural heritage elements. This model is divided into four stages, with the dual diamond model shown in Figure 1, each stage having its specific goals and methods, including problem definition, solution development, design innovation, and delivery and evaluation[11].

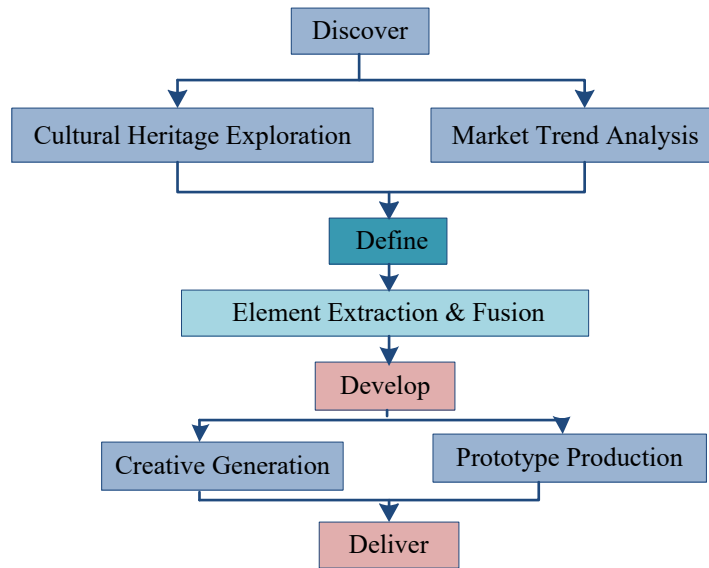


Figure 1 Double Diamond Model

The comprehensive score for element extraction and fusion is:

$$EF = \frac{1}{n} \sum_{i=1}^n (e_i + f_i) \quad (1)$$

Among them, EF represents the comprehensive score of element extraction and fusion, e_i represents the i score of element extraction in item, f_i represents the i score of element fusion in item, and n represents the number of scoring items[12].

The research scores for intangible cultural heritage elements are as follows:

$$CH = \sum_{i=1}^n c_i \quad (2)$$

In this formula, CH represents the cultural research score of intangible cultural heritage elements[13].

The comprehensive score for creative generation is:

$$CG = \frac{1}{n} \sum_{i=1}^n g_i \quad (3)$$

In the above equation, CG represents the comprehensive score generated by creativity[14-15].

4. Results And Discussion

4.1 The proportion of intangible cultural heritage elements used in product design

Over the past decade, amidst the rapid evolution of the cultural and creative industry, there has been a pronounced surge in interest towards the preservation and perpetuation of traditional culture. The heart of this endeavor lies the profound significance of intangible cultural heritage (ICH) elements, which are deeply woven into the fabric of traditional Chinese culture. This article embarks on a comprehensive analysis, spanning the years 2013 to 2023, to elucidate the burgeoning utilization of ICH elements in contemporary cultural and creative product design. By meticulously examining pertinent data, our aim is to validate the escalating trend in the incorporation of ICH elements year by year, thereby corroborating the efficacy of the methodology proposed herein.

Figure 2 illustrates the progression in the proportion of ICH elements integrated into product design. Notably, from 2019 to 2023, this proportion has witnessed a consistent and incremental rise, ascending from 12% to 20%, exemplifying a steadfast and continuous growth trajectory. This compelling trend serves as compelling evidence of the increasing recognition and embrace of ICH elements within contemporary design practices, affirming their pivotal role in shaping the cultural

and creative landscape of today and tomorrow.

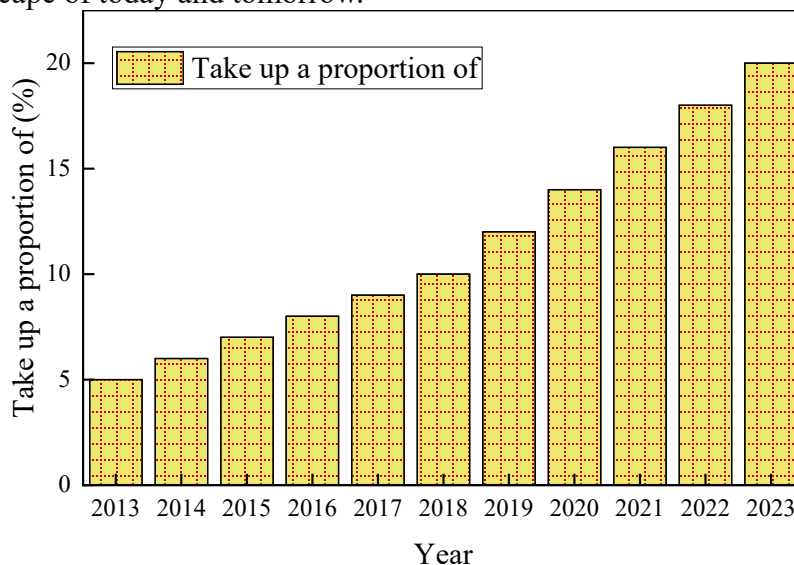


Figure 2 The proportion of intangible cultural heritage elements used in product design

4.2 The impact of intangible cultural heritage elements on product sales

This article collected relevant data from 2013 to 2023 and analyzed the use of intangible cultural heritage elements in product design. Table 1 shows the impact of intangible cultural heritage elements on product sales. The sales of intangible cultural heritage elements increased from 10 million RMB in 2013 to 40 million RMB in 2023, showing a stable growth trend, indicating that the use of intangible cultural heritage elements in product design has a significant positive impact on sales. In all years, the sales of intangible cultural heritage products have exceeded those of traditional handicraft products, indicating that the use of intangible cultural heritage elements in product design can bring higher economic benefits. In addition, the growth rate of sales of intangible cultural heritage products is relatively stable, with significant growth every year without significant fluctuations. The impact of intangible cultural heritage elements on product sales is sustained and reliable.

Table 1 Impact of Intangible Cultural Heritage Elements on Product Sales

Year	Sales revenue of intangible cultural heritage element products (million RMB)	Sales revenue of traditional handicraft products (million RMB)
2013	10	8
2014	12	9
2015	14	10
2016	16	11
2017	18	12
2018	20	13
2019	24	14
2020	28	15
2021	32	16
2022	36	17
2023	40	18

5. Conclusion

Over the span of a decade, spanning from 2013 to 2023, our meticulous data analysis has uncovered a compelling narrative: the infusion of intangible cultural heritage (ICH) elements into product design wielded a discernible, positive influence on sales performance. Impressively, the sales

revenue generated by ICH-laden products surged from 10 million RMB in 2013 to an impressive 40 million RMB by 2023, underscoring a consistent upward trajectory reflective of the profound impact of ICH in contemporary cultural and creative design landscapes. Remarkably, throughout this period, sales figures for ICH products consistently outstripped those of traditional handicrafts, signaling the potent economic advantages and intrinsic value offered by integrating ICH elements into product design within the cultural and creative industries.

What's particularly notable is the steady and robust growth exhibited by sales of ICH products, characterized by significant annual increments devoid of substantial fluctuations. This sustained growth trajectory underscores the enduring and dependable impact of ICH elements on product sales. Furthermore, our analysis revealed a steady rise in the proportion of ICH elements integrated into product design, escalating from 12% in 2019 to a notable 20% by 2023. This steady ascent attests to the increasing recognition and appreciation of ICH elements' potency in enhancing product appeal and marketability.

In essence, our study substantiates the viability and efficacy of integrating and innovating with ICH elements within contemporary cultural and creative design practices, corroborating their tangible benefits on product sales. As the cultural and creative industries continue to evolve, the enduring relevance of ICH elements is assured, offering a wellspring of inspiration and momentum for the preservation and propagation of traditional culture.

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