

Research on the Digital Personality Customization and Application of Chinese Fashion Clothing under the Background of Fashion Intelligent Manufacturing and Cultural Integration

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Abstract: China's national fashion clothing industry is booming, attracting the younger generation of consumers, especially the post-90s and post-00s. One of the driving forces of this trend is the pursuit of personalization and cultural connotation by the new generation of consumers. They seek the expression of spiritual identity and cultural values of clothing, and digital personalization provides them with opportunities to realize these needs. However, the national fashion clothing industry still faces challenges, such as product design homogenization and lack of digital transformation. In order to solve these problems, this paper proposes an innovative path based on fashion and intelligent manufacturing. First of all, by building a library of Chinese elements and patterns, Chinese cultural symbols are integrated into the national fashion clothing design to realize cultural empowerment and personality characteristics. Secondly, through the digital body database, we can improve the fit and quality of personalized customized clothing and meet the needs of consumers for virtual fitting. Finally, through the four-library virtual digital intelligent customization platform, the design efficiency and resource sharing are improved, and the high-quality development of the industry is promoted. These innovative paths will promote China's national fashion clothing industry towards a digital future, improve product personalization and cultural connotation, meet the needs of a new generation of consumers, and promote industrial upgrading and transformation. By emphasizing the key role of the integration of science and culture in the national fashion clothing industry, it provides an innovative way for industrial upgrading and meeting consumer needs.

Keywords: National Trend; Chinese Elements; Digital Personality Customization; Four-libr Virtual Digital Intelligent Customization Platform.

1. Overview of the Digital Transformation of the National Fashion Clothing Industry

In recent years, China's national fashion clothing industry has emerged and become the focus of global trend culture. Wenzhou plays a key role in this wave. In recent years, "Fourteenth Five" During this period, Wenzhou's clothing industry has shown strong innovation and design motivation, skillfully combining traditional Chinese elements with fashion, and gradually expanding to both ends of design research and development and retail services, forming a unique national fashion clothing industry chain.[1]

Nevertheless, the national fashion clothing industry also faces many challenges. High cost pressure is one of them. The rising price of raw materials and labor costs have gradually climbed, narrowing the profit margin. Competition in the global market has gradually intensified, putting forward higher requirements for national fashion brands. These challenges affect the competitiveness of national fashion clothing brands in the global market.

However, in this series of challenges, digital technology has emerged and become a key force in the upgrading of the national trend industry. Digital technology not only improves production efficiency and reduces costs, but also injects opportunities for innovation and personalized design into Chinese fashion clothing. Digital accurate data analysis meets the needs of emerging consumers and enhances consumer loyalty. In addition, digital technology also promotes the

customized development of Guochao clothing, injects new vitality into the Guochao brand, improves efficiency, reduces costs, and provides opportunities for China Guochao to win more shares in the international market.

Under the background of "Made in China 2025", the textile and clothing industry is experiencing the era of digital intelligence, taking fashion intelligence as an opportunity to organically integrate "design + digitalization", and personalized clothing customization in high-end manufacturing is increasingly emerging, leading the future of national fashion.[2] However, in the face of problems such as product homogenization, insufficient design innovation, and slow digital transformation, through multi-dimensional collaborative innovation design, digital element pattern material library is built to realize personalized customization of high-end clothing, and promote it to industrial production, providing a key path for the upgrading of the national tide industry. Inspired by Chinese elements, the national fashion clothing design shines with unique brilliance, inherits Chinese traditional culture, and enhances national self-confidence and identity. Integrating digital technology and traditional culture, enhancing the cultural connotation and market value of the clothing industry, building a sustainable digital industry development model, and realizing the reshaping of the fashion industry chain and industrial ecology are the core topics of current research.

2. The Current Situation and Problems of Digital Personalized Customization of National Fashion Clothing based on the Fashion Intelligent Manufacturing Path

1. The need for industrial upgrading and transformation

In the past decade, the national tide industry has grown rapidly, attracting a large number of young national tide enthusiasts., especially "Post-90s" and "Post-00s". It has become the main consumer group of national fashion brands, contributing more than 74% of the market share. The government has also actively issued policies to encourage the national trend industry to be led by cultural creativity and enhance the original ability of cultural content. This injects new vitality into the national tide industry. Some domestic brands, such as Li Ning and Mi Fan, began to perform national fashion at major fashion weeks, attracting young Generation Z. [3] One of the key drivers of this trend is the desire of the new generation of consumers for personalized customization and cultural connotation. They seek not only fashion, but also the spiritual identity of clothing. They are no longer just passive consumers of goods, but want to actively participate and inject personality and cultural value into their clothing. Instead of just being satisfied with high-priced goods to show identity. They pay more attention to consumer culture, so enterprises need to keep up with the pace of consumption upgrading, be guided by personalized needs, provide more opportunities for users to participate, and jointly create digital personalized customized clothing, and provide a new way for industrial upgrading.

2. Meet the diversified needs of consumers

Consumers are increasingly emphasizing personalization and cultural connotation, and Chinese fashion brands must keep up with this trend. What they yearn for is not only a simple costume, but also an expression of spiritual identity and cultural values. Digital personalized customization provides them with the opportunity to realize these needs. Through digital technology, consumers can actively participate in the process of clothing design and choose their favorite patterns, colors and styles to make their clothes more personalized and satisfying. This customization process not only meets the needs of consumers, but also builds a deeper brand loyalty. Consumers no longer just buy clothes, they have established a closer relationship with brands. This relationship is conducive to the long-term development of the brand and promotes consumers to become loyal fans of the brand.

3. Solve the need for homogenization of product design

Although many domestic fashion brand clothing design brands have emerged on the market, with diverse pattern elements and styles, the innovation of clothing patterns is not satisfactory enough. Domestic fashion brands often imitate internationally renowned fashion brands, such as Supreme and Stussy in the United States, and Bape and Comme des Garçons in Japan. etc. This is often very similar in pattern modeling and design style, which leads many enterprises to only use "Take it and use it" Lack of the ability to inherit and apply patterns will lead to the problem of homogenization of products. Not only that, many designers often simply use templates of Chinese elements without delving into the cultural connotation of Chinese elements, which makes it difficult for Chinese fashion clothing enterprises to lose their

most fashionable elements and make it difficult for brands to inventory in the fierce market.

4. The need to popularize digital customization technology

In traditional clothing customization, due to the difference between subjectivity and measurement methods of manual measurement, the layout does not fit, which seriously affects the wearing experience of consumers. The traditional clothing process from sample to ready-to-wear to stock is very time-consuming, which also makes the size, pattern, style and fabric unable to quickly meet the needs of target customers, which leads to inventory backlog and reduces the innovation ability of fashion brands. Therefore, with the increasing demand of consumers for the speed of new product launch and personalized customization, digital customization technology, especially 3D human body measurement technology, has become an important driving force for the fashion industry, promoting the popularization of technology and improving market awareness, so as to build a more competitive fashion brand and promote industrial upgrading and transformation. Type.

5. Achieve personalized and accurate customization

In addition, consumers also expect more personalized and precise customization to meet their requirements for perfect fit, comfort and beauty. Achieve accurate customization, Solve There are a series of problems in the traditional clothing process, such as inappropriate styles, lack of personality in patterns, poor quality of pattern materials, and high collision rate. The problem, Meet the needs of these consumers and adapt to the new normal of order fragmentation and fragmentation. It will help improve competitiveness and meet consumers' needs for personalized clothing.

3. The Innovation Path of Digital Personalized Customization of Chinese Fashion Brand Clothing under the Background of Fashion and Intelligent Manufacturing

1. "Design + Digital" Lead and establish a fashion brand Chinese element pattern material library

Chinese fashion clothing and digital personalized customization have emerged in the fashion industry, and the construction of a Chinese element pattern material library including different pattern categories and original design elements has become a key factor driving this trend, providing important support for digital personalized design. In order to solve the difficulties faced by enterprises in the design and development of clothing patterns, we worked closely with the fashion brand design planning department of the cooperative company and jointly created a special national fashion pattern database. The database brings together rich materials such as plants, landscapes, characters, architecture, cartoons, geometric elements, figurative, abstract, etc., integrates traditional patterns and original Chinese fashion pattern series, and builds a billfish Chinese element database, which successfully solves the lack of originality and innovation in the field of national fashion clothing design. The problem of weak force and low pattern design efficiency. In addition, the construction of the pattern database also realizes the sharing and dissemination of resources and solves the problem of inheritance, protection, activation and application of Chinese elements. At the same time, it also helps to reduce the waste of resources and reduce the environmental burden to deal with global environmental problems. Most importantly, the

application of this pattern database not only improves the design efficiency, but also gives clothing cultural elements. We have skillfully integrated Chinese cultural symbols into the design of Chinese fashion clothing, promoting cultural empowerment. This injects cultural connotation and personality characteristics into the national fashion clothing, makes it more in line with the fashion trend, provides consumers with more fashion choices, and promotes the development of the whole industry.

2. "Digital + Internet" Drive and build a digital body database

First, ensure the accuracy and detail of the data. In recent years, some fashion brands have successfully applied 3D scanning technology to capture the physical characteristics of each consumer in high resolution, including curves, bumps, and small details. Taking Fister as an example, they successfully used this technology to collect data in just 5 seconds through automatic 3D tailoring equipment, simulate a 360-degree rotatable 3D human body model, accurately calculate the size of each part of the human body, form the basic data of fashion brand clothing customization, and improve the digital style library. This technology also supports VR virtual fitting, improves the quality and fit of personalized clothing, and also ensures customer satisfaction. The second is to improve the immersive experience of virtual try-on. Consumers' sense of participation is crucial to the fashion industry. The latest research shows that the immersion of the virtual fitting experience makes consumers more likely to establish emotional connections with specific brands, thus increasing their willingness to buy. This discovery emphasizes how virtual fitting can enhance brand loyalty by creating a deeper sense of consumer engagement. The third is to enhance the personalization of design and manufacturing. Qiao Hua is a well-known fashion brand clothing manufacturer, which has successfully integrated digital body database technology. Their personalized customized clothing scheme not only provides a better fit, but also increases their customer satisfaction by 20%. Through the digital body type database, they can make clothes more accurately according to consumers' physical characteristics, ensuring quality and fit. This case emphasizes how the digital body database can improve the competitiveness of fashion brands and provides practical customer feedback. Fourth, optimize market trend analysis. Changes in the fashion market are inevitable, but through the digital body database, brands can better understand the needs of consumers. For example, enterprises use this technology to analyze digital body data and find that the demand for specific sizes has increased sharply in the past year. This information enables them to adjust manufacturing processes more flexibly to meet market trends, improve production efficiency, and reduce resource waste. These modifications further improve the specificity and fluency of the paragraphs while maintaining the logical structure of the paper. This will enhance the readability and persuasiveness of your paper.

3. "Science and technology + culture" Empower and optimize the four-library virtual digital intelligent customization platform

Chinese fashion clothing and digital personality customization are rapidly emerging as key trends in the fashion industry. In this wave, including pattern library, fabric library, style library and layout library Including Virtual numbers Customization The intelligent platform plays a core role. First of all, the four-libr digital intelligent customization

platform has been optimized to build the enterprise's digital asset library and provide key support for product development. The pattern library contains a variety of patterns, covering a variety of choices from plants to animals, from cartoons to landscapes for designers to use flexibly. The layout library contains a variety of basic clothing models and special body shape data, which supports easy adjustment of the size of various parts of the human body and greatly improves the efficiency of plate making. The fabric library integrates fabric information of different types, attributes and processes to better meet the fabric needs in the design. The style library provides a variety of clothing styles, including tops, bottoms and various accessories, which consumers can freely match according to their individual needs. This platform not only improves design efficiency, but also achieves significant breakthroughs in digital customization. Through the virtual sample display technology, consumers can experience virtual try-on and matching online and enjoy a personalized shopping experience. This full-link digital customization meets the needs of consumers and improves the level of personalized customization of products. The four-warehouse platform also promotes the sharing and dissemination of resources, and effectively addresses the inheritance and application of Chinese elements. In addition, reducing the waste of resources can help deal with global environmental problems. In addition, the Siku platform interacts with consumers and adopts a consumer-centered online and offline linkage promotion strategy, emphasizing the C2M business model. Through this model, it can better meet the needs of consumers. At the same time, digital technology has brought opportunities for rejuvenation and low-carbon environmental protection to the national fashion clothing industry, enhancing the added value of products and increasing brand influence.

In a word, the integration of science and technology and culture is a key factor for the four-libr virtual digital intelligent customization platform to promote the digitalization of the national fashion clothing industry. This platform not only improves the design efficiency, but also enriches the cultural connotation of the product. Through the combination of digital technology and cultural creativity, the national fashion clothing industry can be innovated, and the products have more connotation and value. The integration of science and technology and culture promotes the high-quality development of the national fashion clothing industry and meets the needs of a new generation of consumers.

4. Conclusion

In the digital transformation of the national fashion clothing industry, the integration of fashion intelligence and culture presents great potential and prospects. By building innovative paths such as Chinese element pattern material library, digital body database and four-libr virtual digital intelligent customization platform, the national fashion clothing industry can achieve a higher level of personalized customization, improve the cultural connotation of products, meet the needs of the young generation of consumers, and promote the upgrading and transformation of the industry. This digital era has injected new vitality into the national fashion clothing industry, so that consumers are no longer just passive clothing buyers, but also collaborators who actively participate in the design and customization process. Digital technology not only improves design efficiency and quality, but also enhances the emotional connection between brands and consumers, thus promoting brand loyalty and sustainable

development. [4] The innovative path of fashion intelligent manufacturing and cultural integration has paved the way for the digital future of the national fashion clothing industry. This trend has enabled Chinese elements to be better integrated into the design of Chinese fashion clothing, inherited and carried forward Chinese traditional culture, and improved national self-confidence and identity. By combining science and technology with culture, the national fashion clothing industry not only meets the needs of consumers for personalization and cultural connotations, but also provides a strong impetus for the upgrading and innovation of the industry. Therefore, the integration of fashion and culture is an inevitable choice for the digital upgrading of the national fashion clothing industry. It not only improves the personalization and cultural connotation of the product, but also makes the national fashion clothing more internationally competitive. Through the organic combination of science and technology and culture, we will witness the vigorous development of the national fashion clothing industry in the digital era, provide more personalized choices for the younger generation of consumers, and promote the high-quality development of the industry.

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References

- [1] High-quality development of Wenzhou manufacturing industry"Fourteenth Five"Planning https://www.wenzhou.gov.cn/art/2021/12/20/art_1217831_59116831.html.
- [2] Industrial Internet: Plug in digitalization for the textile and clothing industry"Wing" <https://cn.chinadaily.com.cn/a/202208/26/WS6308af76a3101c3ee7ae5d91.htm>.
- [3] Zhang Haiyan,Lu Chaonan. Research on the Cultural Identity of Generation Z National Fashion Brand Consumption [J]. Cultural Industry Research, 2022,(1):62-64.
- [4] Luo Minchun. Exploring the influence mechanism of e-commerce live broadcast on brand intimacy[J]. Young reporter, 2023, (12):113-115.