Research on the application of fashion design concept based on Internet + Big data

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Abstract. In the innovation and development of modern science and technology, clothing enterprises can use the network platform and big data technology to create a new development model, put forward the scientific concept of clothing design, in order to integrate the use of enterprise resources around the whole process of product production. Based on the understanding of the development trend of Internet + big data and the development status of traditional clothing enterprises, this paper deeply discusses the collaboration between clothing design and manufacturing with Internet + big data as the core, and defines the new concept of clothing design by combining practical cases, in order to provide effective basis for the innovation and development of clothing enterprises in the new era.

Keywords: Internet Plus; Big data; Clothing design; Full life cycle management; Transformation and upgrading.

1. Introduction

Under the development trend of economic globalization, the application of Internet technology platform is becoming more and more widespread. Faced with such problems as profit decline and store closure, traditional clothing enterprises urgently need to use Internet + big data for transformation and upgrading. According to the practical survey and research, although the Internet + big data technology platform has grasped a lot of development opportunities, the current clothing enterprises are still faced with many problems, such as how to design targeted clothing; How to meet the individual needs of the public; How to improve the rapid response of enterprises; How to achieve flexible production and cooperative work goals. In the face of increasingly fierce competition in the market environment, the production cycle of the garment industry is getting shorter and shorter, which requires the garment enterprises to have a rapid response mechanism and keep innovating with the innovation and development of information technology. Among them, collaborative technology is applied as the core content in the new product development mode to provide technical support for the design, manufacturing, sales and other links of the product.[1-3]

In the transformation and upgrading of traditional clothing enterprises, the most critical technical means is informatization, including management informatization, manufacturing informatization and design informatization. From the perspective of overall development, information technology means can centrally manage and control talents, materials, equipment and other resources of an enterprise, and solve problems such as untimely update, data asymmetry and information island through collaborative cooperation and on-demand deployment. In the guidance on actively promoting the "Internet Plus" industry, The State Council proposes to integrate the Internet with the manufacturing industry, improve the intelligent and networked level of the manufacturing industry, strengthen the cooperation and innovation of the industrial chain, and promote the collaborative manufacturing mode with the Internet as the core. In essence, collaborative manufacturing means that enterprises make full use of network technology and information technology to realize product design, research, manufacturing, management, etc., in the supply chain. It is a manufacturing operation mode in which all links cooperate closely, and occupies an important position in the innovation and development of modern manufacturing technology in the 21st century. A

comparative analysis of the traditional clothing CAD system and the clothing CAD collaborative design system shows that, as shown in Table 1, the latter can use modern science and technology to build a distributed system structure and orderly complete basic tasks such as structure design, process design and style design. The overall system design has strong network function and can cooperate with design teams in different regions to complete product innovation. Therefore, it is the core content of the new era clothing enterprise research.[4-6]

Table 1 Traditional clothing CAD system and clothing CAD collaborative design system

System project	runtime environment	system structure	Interaction or collaboration	major feature	Design data
Clothing stand-alone cad system	single machine	isolated system	no	Stand-alone, independent, unsynchronized and difficult to coordinate.	Inconsistent data, information island
Clothing coordination design system	grid	distributed system	Yes	Remote, multi-point, synchronous and cooperative	Data unification and dynamic update

Based on the understanding of the development trend of Internet + big data and the opportunities and challenges facing the reform and development of clothing enterprises in the new era, this paper mainly studies the application direction of clothing design concept based on Internet + big data, so as to improve the comprehensive level of Chinese clothing design and provide quality products and services for social residents.

2. Method

2.1 Platform Architecture

Nowadays, the homogeneity of the Chinese clothing market is becoming more and more obvious, and the market consumers are more inclined to differentiated and personalized clothing products. Therefore, the clothing enterprises should get rid of the traditional single development mode and gradually change to the small and beautiful design concept. This paper studies the technical theory based on Internet + big data and the development thinking of sharing economy, and designs the overall platform architecture as shown in Figure 1 below:[7-9]

Figure 1 Platform architecture diagram

2.2 Design the trading platform

After defining the overall operation framework, it is necessary to create an online fashion design trading platform, change the subordination relationship between traditional designers and clothing enterprises, and integrate management and use of technical resources in the clothing industry. The relationship between enterprises and designers is shown in Figure 2 below:
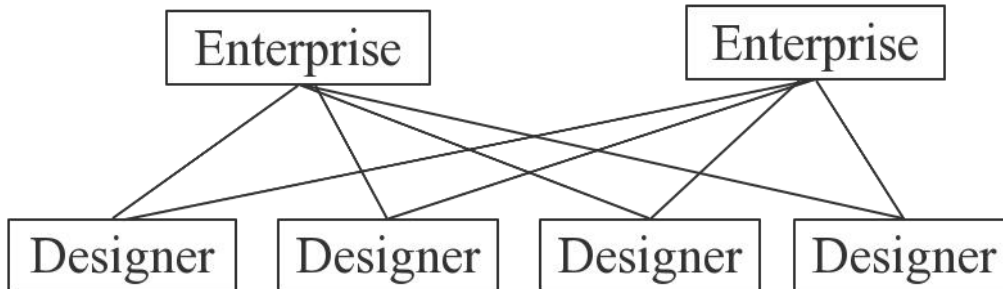

Figure 2. Relationship structure diagram between enterprise and designer

Based on the analysis of the figure above, we can see that the demand side should propose specific product design requirements, and the designer will design and think after undertaking the task, and upload the design plan after the completion of the design. The demand side will select suitable products and pay fees, and complete the whole transaction after mutual evaluation. In the whole operation process, we need to pay attention to the following details: First, the demand side explains its requirements in detail, such as clear design direction, deadline, clothing style, etc.; Secondly, the value range of the design should be accurately positioned by both sides, which can not only ensure that the design scheme proposed by the designer meets the requirements of the demand side, but also reduce the screening quantity of the demand side. Finally, in order to protect the designer's personal rights and interests, a reward and punishment mechanism should be set up to avoid the demand side to terminate the transaction after obtaining the design scheme.[10-12]

2.3 Design the crowdfunding platform

This brand design can change the design and transaction mode of traditional clothing enterprises and truly realize the development goal of focusing on consumption design. According to the analysis of the relationship structure diagram between designers and consumers as shown in Figure 3 below, designers will publish the design scheme, while consumers will propose improvement

suggestions and crowdfund. If the crowdfunding mechanism is successful, it can be produced and delivered to users. If the crowdfunding fails, the crowdfunding fee will be returned.
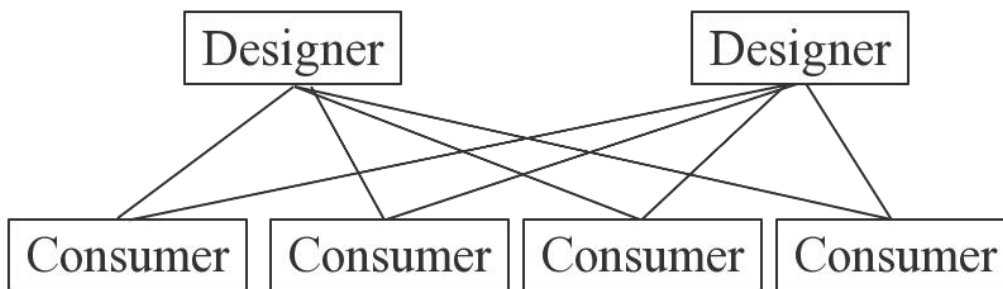

Figure 3. Relationship structure diagram between designer and consumer

2.4 Collaborative manufacturing

The design department and production department of clothing enterprises are often distributed in different fields, and there are problems such as poor communication in the process of production and manufacturing. Therefore, in order to ensure that the clothing design concept can fully penetrate into the development of enterprises, the basic concept of collaborative manufacturing is put forward in the development of Internet + big data technology. The Internet of Things, the Internet and other advanced technologies are used to integrate the workshop equipment resources together, build a resource sharing and service platform, and truly realize the development goal of efficient sharing of processing and manufacturing resources. Among them, MES system is a production information management system for workshop execution level of manufacturing enterprises. The specific structure is shown in Figure 4 below. The whole system can control the whole process of production in real time, and mobile terminals, robots, processing parts, etc., can form a virtual intelligent interconnection whole through industrial cloud networking. MES, as an important means for enterprises to realize workshop planning coordination and implementation monitoring, mainly uses the on-site production process of clothing workshop for organization and management. Firstly, it can guide the production plan in real time, secondly, it can effectively monitor the production process, and finally, it can trace the information in the production.[13-14]
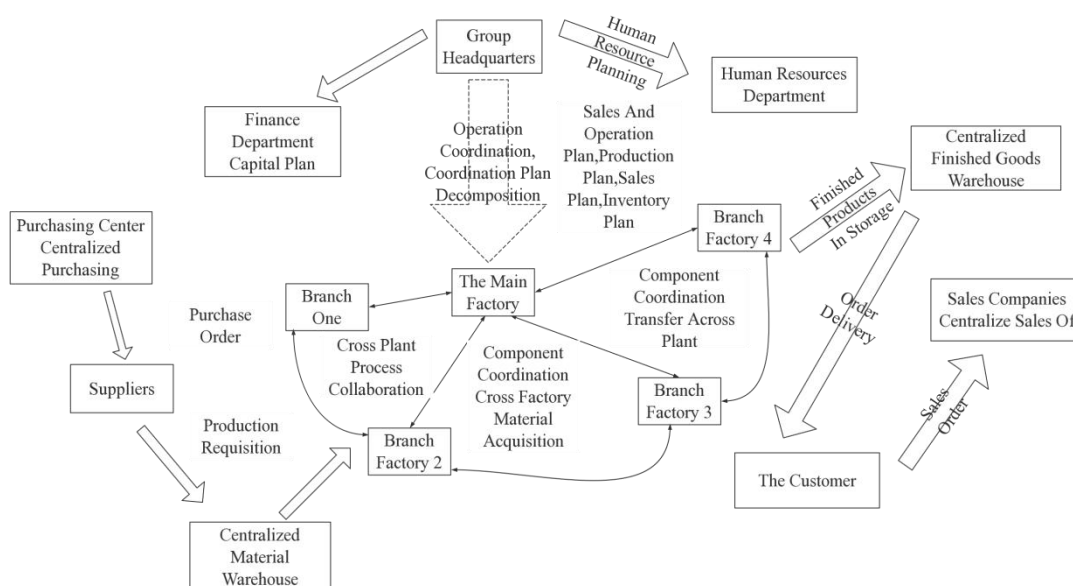

Figure 4. Structure diagram of collaborative manufacturing

3. Result analysis

From the perspective of practical application, in accordance with the cooperative manufacturing structure of garment enterprises described above, a perfect quality evaluation system needs to be built in order to complete product development and design in an orderly manner. The specific content involves the following points: On the one hand, consumer demand analysis. With the rapid development of social economy, consumers have higher and higher requirements for clothing products and services, and the influencing factors of consumers will also change. In the context of Internet + big data, factors affecting consumer satisfaction include personnel service, product price, design quality, sales method, etc. In addition, there are also experience, participation, Internet, etc. The key to the success of product development and design is to fully consider the consumer group in the process of clothing design and manufacturing, and to truly understand the consumer desire of the customer group. On the other hand, product characteristics. Product characteristics are also design requirements, which require enterprises to analyze the whole process of garment design and manufacturing in detail, clarify the relationship between customer needs and design requirements, and then adjust the operation mode of garment enterprises under the background of big data and the Internet on the basis of studying consumer needs and starting with the constituent elements of garment products and services. According to the accumulated experience of practical investigation, the digital and intelligent development of garment enterprises has the characteristics of long cycle, complex operation, high risk and large investment. Therefore, in the process of construction and research, it is necessary to comprehensively consider the development status of the enterprise itself, pay attention to the perspective of system engineering and scientific management, and select mature software and application schemes related to garment design. Bravely cope with the change needs of the new era of development, and successfully run the system project in the risk control and system planning. In the process of the transformation of the clothing market environment, a buyer's market has gradually formed. Under the influence of factors such as personalized demand and short fashion cycle, the development of traditional clothing enterprises is faced with many problems. The Internet + big data is used to build a manufacturing collaborative model, which gradually replaces the design concept of traditional clothing enterprises and enables consumers to actively participate in manufacturing, research, transportation and sales. It can accelerate the transformation and upgrading of the traditional garment industry.

Especially under the development trend of economic globalization, our country's economic level and quality of life are increasing, and people's requirements for clothing products continue to improve, prompting the personalized development trend of clothing design. At this time, clothing enterprises can take advantage of the convenience of network information transmission to integrate more excellent original design clothing into the market environment and meet the basic needs of different consumer groups.

Internet economy is the sum of economic activities generated based on the Internet, and it is a brand new economic phenomenon generated in the era of information network. In this context, the economic behaviors of financial institutions, government functions and other subjects will depend on the information network. They will not only collect a large amount of economic information from the network platform, but also use the network prediction and analysis to complete various transactions. In the fast-paced social environment, people put forward higher requirements for the speed of clothing updating, and the traditional clothing design concept keeps updating with the development rhythm of The Times. Design products in the traditional sense must be completed by their own original, designers should give their own unique and reasonable opinions according to the established classic existence, and modern fashion design concept, in addition to the requirements of traditional clothing design regulations, but also meet the development law of the modern market. In other words, the original design of modern clothing does not only focus on the designer's own pursuit of beauty, but also judge whether the product is in line with the public's understanding of beauty, whether it can be accepted by the public, and whether they are willing to invest in encouraging the original development. From the perspective of the long-term development of the

clothing manufacturing industry, the original clothing design has the following advantages: On the one hand, the vast territory of our country, cultural diversity, the clothing design has diversified characteristics; On the other hand, China has profound cultural deposits, so designers can take traditional culture as design inspiration, organically combine popular elements and folk culture, and create more popular clothing works. However, the organic combination of traditional culture and modern life still needs a lot of research work, which is also the core issue of the future research of the garment industry.

Conclusion

To sum up, in the innovation and development of Internet + big data technology, in the face of increasingly fierce competition in the market environment, fashion enterprises or individuals should use social platforms to master more fashion design elements, raise people's attention to modern fashion design, increase the training of professional and technical talents, and invite some internationally renowned designers for training and teaching. This can not only create a clothing design and manufacturing system in line with the development of The Times, but also improve the professional level of our clothing design talents. At the same time, combined with the direction of technological innovation in the new era, we should continue to study the clothing design system and manufacturing system with the Internet + big data as the core. Only in this way can we provide more quality products and services for social residents.

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