

Digital Economy Promotes High-Quality Transformation and Upgrading of China's Leather Industry

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Abstract: With the acceleration of globalization and the rapid development of information technology, the traditional leather industry has become an important role in the digital economy. This study explores the concept of digital economy and its impact on the leather industry's upgrading to high-quality development and green transformation. By leveraging technologies such as big data, the Internet of Things, artificial intelligence, and blockchain, traditional leather companies can optimize production processes and enhance market intelligence. The emergence of the digital economy has not only reshaped sales strategies, but also facilitated cross-border trade and market expansion for leather companies. In addition, this article also emphasizes the important role of digital economy-related technologies in promoting the green transformation of enterprises such as waste recycling and efficient water treatment. This study provides a theoretical basis and practical guidance for leather manufacturers to carry out digital transformation and achieve sustainable growth in the context of the digital economy.

Keywords: Digital Economy; Leather Manufacturing; Green Transformation; Industrial Upgrading.

1. Introduction

With the acceleration of globalization and the rapid development of information technology, the digital economy has become an important engine for the development of various industries, including the traditional leather industry [1,2]. Although the traditional leather manufacturing industry has begun to take shape, there are still some weak links in information collection, data analysis and market guidance. With the rise of the digital economy, the overall coordination of raw leather production areas and the optimization of production data information can improve the operating capacity of the entire leather industry and promote the industry to move towards high-quality development [3].

30 national industry associations, including the China Environmental Protection Industry Association, the China Environmental Culture Promotion Association, and the China Leather Association, jointly launched a development initiative to "serve the dual-carbon development strategy, promote green and low-carbon development, jointly build an ecological civilization, and build a beautiful China." With the intensification of problems such as energy resource scarcity and environmental pollution, the leather industry needs to better adapt to the low-carbon and green development trend, actively respond to national advocacy, and seek a sustainable development path. At the same time, it also highlights the positive role of the digital economy in promoting the green transformation of the leather industry [4].

In the current context of economic globalization, the digital economy provides a new development path for the leather industry and releases development momentum. Faced with the pressure of energy conservation, consumption reduction and emission reduction, the demand for green development, and the goal of expanding the market abroad, traditional leather companies must also actively move towards innovation and green transformation, find and explore development strategies that meet current development needs,

so as to promote the high-quality transformation and upgrading of my country's leather industry

2. Concept of Digital Economy

As a relatively broad collective concept, digital economy covers new technologies and means to use data for analysis and to guide resources to play their role, optimize production links, and promote production and revenue generation. At the technical level, it includes emerging technologies such as big data, cloud computing, the Internet of Things, blockchain, artificial intelligence, and 5G communications. At the application level, it covers derivative products such as e-commerce and intelligent manufacturing. It is worth noting that the digital economy is not the same as the virtual economy, but is built on information technology and generates economic benefits through the analysis and use of data [5,6].

For the traditional leather industry, the emergence of the digital economy has changed its traditional sales situation and provided new paths and opportunities for domestic trade and import and export sales. The biggest difference of the digital economy is that it breaks the territorial restrictions and breaks through the barriers of traditional trade. With the support of information technology such as the Internet, leather companies can understand the market conditions of raw leathers across the country and even internationally in real time, and adjust production links according to market conditions ; at the same time, they can also explore new demands in the international market and provide corresponding services or products to international customers, thereby establishing long-term cooperative relationships and enhancing the company's revenue-generating capabilities. The arrival of the digital economy has realized data traceability in all industry links, making transactions more transparent, thereby creating a better operating environment for enterprises.

On the technical level, the application of big data

technology can help leather companies better understand market demand and trends, optimize product structure and supply chain management, improve production efficiency and product quality, realize centralized management and rapid sharing of enterprise information, improve decision-making efficiency and reduce costs. The integration of Internet of Things technology can make the production process more intelligent and automated, and realize comprehensive monitoring and management of the production process. The application of blockchain technology can ensure the transparency and credibility of raw material procurement and product traceability, and provide consumers with a safer and more reliable product experience. The introduction of artificial intelligence and 5G communication technology will also bring more opportunities and challenges to the leather industry. The application of artificial intelligence in product design, marketing, customer service and other aspects will make enterprises more intelligent, personalized and precise. The popularization of 5G communication technology will accelerate the speed and stability of data transmission, and provide enterprises with a more convenient and efficient working environment. The application of these new technologies can not only enhance the competitiveness of enterprises, but also help promote the transformation and upgrading of the entire industry.

3. Industry Upgrading under the Digital Economy

3.1. Production Configuration Optimization

The development of the digital economy is crucial to optimizing the resource allocation of leather enterprises. Some leather enterprises still rely on manual experience for production, and their digitalization and intelligence levels are low, which results in the inability to effectively apply production data to the next link, thus wasting the data. Optimizing resource allocation can help leather enterprises reduce resource consumption and improve production efficiency, and is a key way for enterprises to achieve high-quality development. With the help of intelligent cutting equipment, some leather enterprises use intelligent cutting technology to minimize leather waste with the assistance of leather raw material weighing and scanning entry systems, thereby saving costs. The entire cutting process from human warehouse, material inspection, scanning to cutting is digitally controlled, ensuring full digital management, making leather management information-based and visual, and facilitating the coordinated management of the next process. In addition, through data analysis of domestic and foreign leather production, imports and exports, sales revenue and profits, enterprises can formulate better future sales plans. The development of the digital economy helps traditional industries improve efficiency and significantly improves the operating efficiency of leather enterprises [7].

3.2. Reduce Vicious Competition

In the fiercely competitive leather market, companies not only compete with each other on price, but also need to deal with the squeeze of alternative material prices. The use of the digital economy can achieve price transparency, reduce the time of price comparison, use data technology to manage enterprises in a hierarchical manner, effectively avoid conflicts between enterprises, and provide a broader development space [8]. The digital economy coordinates the

production materials of leather enterprises, ensures price transparency, accelerates the connection between production and sales, and makes resource allocation more reasonable. For example, leather shoe and bag production bases in Guangzhou and other places use digital platforms to share resources, improve overall order-taking capabilities, take orders more effectively, accelerate the integration of online and offline resources, enhance local industrial agglomeration, and optimize market resource allocation efficiency. The digital economy can also reduce consumers' market search and bargaining costs, improve information communication efficiency, significantly reduce corporate publicity and operating costs, promote production efficiency, and avoid resource mismatch and waste.

3.3. Responding to Emergencies

The digital economy plays an important role in controlling the operation and cash flow of small and medium-sized enterprises. The use of data analysis tools can enhance the flexible response capabilities of enterprises in unexpected crises. Timely adjustment of production lines and inventory management, and establishment of digital management methods can prevent enterprises from falling into stressful situations, failing to adjust the supply chain in time and causing irreparable losses. Therefore, enterprises should actively build digital management models and establish data platforms alone or in cooperation, which is in line with the development trend of the digital economy era and conducive to the long-term and stable development of enterprises.

4. Green Transformation under the Digital Economy

At present, the leather industry is in a critical period of technological transformation and upgrading. Subject to strict environmental protection policies, enterprises need to continuously improve efficiency to meet market challenges. The digital economy can help leather enterprises move towards green development and help them meet environmental protection standards. Through supervision, testing, collection and analysis of data, it can monitor the pollution emissions of enterprises in real time and promote enterprises to improve their environmental management level [9].

The key to the green transformation of the leather industry lies in the comprehensive utilization of waste and wastewater. The waste recycling module covers the entire production process, from raw leather materials to semi-finished and finished products, and then to the final recycling of scraps. The wastewater generated in leather production is of various types and has complex components, which poses a potential threat to the environment, and the pollutants in the wastewater are difficult to effectively treat. The use of Internet of Things and big data technologies can help companies monitor and analyze the waste and wastewater treatment process. The use of Internet of Things technology to realize the intelligent management of wastewater treatment equipment, by monitoring and controlling the operating status of the equipment, problems can be discovered in time and measures can be taken to improve wastewater treatment efficiency and save energy costs. The use of big data technology can better understand the generation and discharge of waste and wastewater through real-time monitoring and data collection, provide support for the formulation of more scientific

treatment plans, help companies optimize production processes, reduce waste generation, and improve resource utilization efficiency.

At the same time, artificial intelligence technology can be applied to intelligent control and prediction in the wastewater treatment process. By establishing models and algorithms for wastewater treatment, intelligent monitoring and control of the treatment process can be achieved, improving treatment efficiency and reducing treatment costs. The high speed and low latency characteristics of 5G communication technology can realize remote monitoring and control of waste and wastewater treatment systems. Whether it is real-time monitoring of equipment operating status or remote adjustment of treatment parameters, it can be achieved through the 5G communication network, improving the flexibility and response speed of the treatment system

5. Conclusion

Against the backdrop of the booming digital economy, the leather industry is facing an important opportunity for transformation and upgrading. The digital economy has brought new development paths and opportunities to the traditional leather industry. Through efforts to optimize production configuration, reduce vicious competition, and respond to emergencies, the industry can be driven towards high-quality development. At the same time, the application of the digital economy will also help promote the green transformation of the leather industry, and achieve environmental protection goals such as wastewater treatment and resource recycling through data analysis, intelligent control and other means. In summary, this article mainly discusses the transformation of the leather manufacturing industry under the digital economy, including the concept of the digital economy, the industrial upgrading of the leather industry under the digital economy and the green transformation model. These contents provide a theoretical basis and practical guidance for leather manufacturing enterprises to implement transformation and upgrading.

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