

Innovation of Shared Value Models in the Fast Fashion Industry Based on Big Data

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Abstract: With the rapid development of the global economy, consumer demand is becoming increasingly personalized and diversified. The fast fashion industry, as a vital part of the fashion world, is also facing new opportunities and challenges. The rapid development of big data technology, when applied to the fast fashion industry, can transform traditional business models, promote the innovation of shared value models, and enhance the core competitiveness of the fast fashion industry. This paper first analyzes how big data reshapes the shared value model of the fast fashion industry, gradually improving market responsiveness and optimizing supply chain management, thereby bringing new growth momentum to the industry's development. It then proposes specific application strategies based on actual development conditions and predicts future development trends, providing valuable reference for the transformation and upgrading of the fast fashion industry in the big data era.

Keywords: Big Data, Fast Fashion Industry, Shared Value Model.

1. Introduction

In today's rapidly changing era, the fast fashion industry, known for its quick response to the market and ability to keep up with trends, occupies a significant position in the global fashion industry. However, due to the diversification of consumer demand and the increasingly intense market competition, new challenges have emerged for the development of the fast fashion industry. To effectively address these challenges, the fast fashion industry must explore new growth points and innovation paths that align with current realities. The rise and widespread application of big data technology have brought new opportunities for the fast fashion industry's development. By deeply mining and analyzing various data, companies can accurately grasp market dynamics and consumer demands, optimize supply chain management models, and design products that meet consumer aesthetics, ultimately offering a fresh shopping experience. Therefore, exploring the innovation of shared value models in the fast fashion industry based on big data is of great significance for promoting the sustainable and healthy development of the industry.

2. The Importance of Innovating Shared Value Models in the Fast Fashion Industry Based on Big Data

2.1. Enhancing Market Responsiveness

Compared to other industries, the fast fashion industry is dynamic. With the assistance of big data technology, this industry can quickly respond to market changes, thereby meeting the needs of the times. With the rapid development of information technology, companies can collect data on consumer shopping behavior, preferences, and feedback through multiple channels [1-3]. Advanced analytics can deeply explore the potential value of these data, capturing subtle changes in consumption trends and providing companies with precise market forecasting capabilities. Internal managers and relevant staff can also keenly observe which styles, colors, or materials will lead trends and

promptly optimize product design and production plans to ensure that products keep pace with the market and meet consumers' personalized needs. Therefore, this big data-based rapid response mechanism can help companies gain a competitive edge in a fiercely competitive industry, attracting and retaining customers [4].

2.2. Optimizing Supply Chain Management

In the fast-paced operation of the fast fashion industry, supply chain management is a crucial link among many influencing factors. The reasonable application of big data technology can provide powerful support for optimizing this complex system. Due to the rapid changes in social demand and the diversification of consumer preferences, it is difficult to achieve precision and efficiency by completely following traditional supply chain management models. However, big data makes supply chain transparency possible by collecting and analyzing real-time data at various nodes in the supply chain, such as inventory levels, logistics dynamics, and production progress (see Table 1). The operational status of each link can be clearly seen by relevant personnel, allowing them to promptly identify and resolve any problems, minimizing losses. More importantly, the predictive analysis capability of big data can help companies anticipate fluctuations in raw material markets and subtle changes in consumer demand, using this information to formulate scientific procurement and production plans, avoid resource waste, reduce operating costs, and ensure the efficient operation of the supply chain and the continuous profitability of the enterprise.

Table 1. Application of Big Data in Supply Chain Management

Optimization aspect	Big Data Applications	Specific effects
Inventory management	Real-time inventory monitoring	Through the Internet of things and big data technology, the inventory status is tracked in real time to avoid excessive inventory or out-of-stock situations and reduce inventory costs.
Logistics distribution	Path Optimization and Prediction	Analyze historical logistics data, optimize distribution routes, and reduce transportation time and cost. Forecast logistics demand and allocate resources in advance.
Production plan	Demand forecasting and production scheduling	Analyze market demand trends based on big data and flexibly adjust production plans; Optimize production scheduling and improve production efficiency.
Supplier management	Supplier performance evaluation	Collect supplier delivery time, quality, price and other data to conduct performance evaluation and optimize supplier selection.
Risk management	Predicting and Coping	Anticipate possible risk factors in the supply chain (e.g., natural disasters, raw material shortages, etc.) and plan countermeasures in advance.

2.3. Promoting Product Innovation and Design

In the fast fashion industry, product innovation and design are the core driving forces for companies to continue leading trends and maintaining competitiveness. The widespread application of big data can greatly accelerate the process of product innovation and design. In the past, innovative products were overly reliant on designers' vision and limited market research, making it impossible to fully capture the real needs of consumers and market changes. However, with the empowerment of big data, companies can obtain massive amounts of data on consumer behavior, preferences, and purchase history through multiple channels. By deeply analyzing relevant data, companies can uncover hidden market trends and changes in consumer preferences, providing a solid data foundation for product innovation and design. For example, big data analysis has shown that consumer interest in sustainable fashion is increasing [5-6]. In response, Uniqlo quickly launched a clothing line made from eco-friendly materials, not only meeting market demand but also enhancing brand image and product value. Such product innovation and design strategies have enabled Uniqlo to maintain a leading position in the fast fashion industry.

2.4. Enriching Consumer Experience

As digital transformation continues to deepen, consumers' shopping experiences will also change due to big data technology. With the explosive growth of data, many companies are beginning to realize the potential mechanism of data resources. To accurately understand consumer needs and provide personalized services, companies should use big data technology to analyze consumer shopping behavior and preferences and develop personalized shopping guides. Through big data analysis, companies can understand consumers' interests, shopping habits, and potential needs, offering personalized promotional information and products,

improving the relevance and efficiency of shopping, and enhancing consumers' shopping pleasure and satisfaction. Additionally, big data can assist companies in optimizing the interface design, search algorithms, and payment processes of online shopping platforms, ensuring that users can complete their shopping in the most convenient and comfortable way. From visually pleasing aesthetics to seamless operation, every detail strives for perfection, providing consumers with an unprecedented shopping experience and helping companies gain valuable market share in a fiercely competitive industry [7-8].

3. Strategies for Innovating Shared Value Models in the Fast Fashion Industry Based on Big Data

3.1. Digital Upgrading of the Supply Chain

In the increasingly competitive environment of the fast fashion industry, digital upgrading of the supply chain has gradually become a core strategy for companies to achieve shared value and innovation-driven growth. With the rapid development of big data technology, companies can collect and analyze data from various stages of the supply chain with unprecedented precision and speed, gaining insights into market trends and accurately predicting consumer demand. The introduction of the Internet also allows for the interconnection and interaction of goods, equipment, and production processes within the supply chain, enabling tracking, monitoring, and increasing the transparency and responsiveness of the supply chain. Additionally, blockchain technology, with its decentralized and tamper-proof characteristics, provides strong guarantees for the authenticity and security of supply chain information, promoting trust and cooperation among upstream and downstream companies in the supply chain. For example, since 2014, SHEIN has independently built a digital supply chain system, forming a flexible supply chain and rapid response production model tailored to demand. This model ensures that SHEIN can quickly respond to market changes and meet consumer demands for new styles, prices, and brands. This upgrade has not only enhanced SHEIN's competitiveness but also advanced the digital transformation process of the entire fast fashion industry.

3.2. Personalized Customization and Services

Today's consumers place more emphasis on uniqueness and personalization, exposing the shortcomings of traditional mass production models, which fail to meet the diversified needs of the market. However, the widespread application of big data technology can help companies understand each consumer's unique preferences and needs. For example, by collecting and analyzing multidimensional data, such as consumers' shopping history, browsing behavior, and social media interactions, companies can build detailed consumer profiles, providing a solid data foundation for personalized customization and services. Utilizing cutting-edge technologies such as virtual reality (VR) and augmented reality (AR), consumers can enjoy an online shopping experience akin to visiting a physical store, with personalized services like virtual fitting and makeup trials. These personalized experiences significantly enhance the shopping fun and convenience. Thus, data-driven personalized product recommendations and precision marketing strategies can precisely target consumers' needs, improving shopping

satisfaction and loyalty, and injecting new vitality into the fast fashion industry.

3.3. Innovative Business Models

Innovative business models are key to helping companies break through bottlenecks and achieve sustainable development. With the widespread application of big data technology, this process can provide strong driving forces for company growth (see Figure 1). As consumer behavior becomes more diverse and complex, traditional business models fail to meet the market's diversified demands. Big data technology, with its powerful capabilities in data collection,

processing, and analysis, can deeply explore consumer preferences, uncover new market opportunities, and identify profit growth points. Through insights gained from big data, companies can build efficient marketing strategies, achieve personalized recommendations, and customize services, thereby increasing consumer satisfaction. Moreover, establishing data-sharing and cooperation mechanisms can promote collaboration among upstream and downstream companies in the industry chain, jointly exploring shared value business models, optimizing resource allocation, and driving the entire fashion industry toward intelligent and sustainable development.

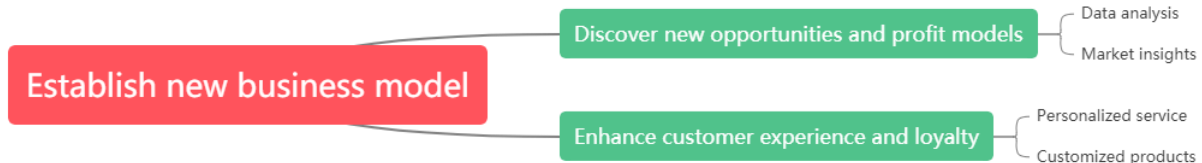


Figure 1. Innovative Business Models

4. Development Trends of the Fast Fashion Industry Driven by Big Data

4.1. Precision Market Positioning

The rise of big data technology has brought revolutionary changes to market positioning in the fast fashion industry. Traditional methods of analyzing market demand were too limited and time-consuming, making it difficult to accurately grasp consumers' real needs. However, the widespread use of big data allows companies to easily access consumer data, including purchasing behavior, social media interactions, and online search records. By deeply mining and analyzing this data, fast fashion companies can clearly depict the profiles of different consumer groups, understand their consumption habits, preferences, and potential needs. Based on these precise market insights, companies can formulate targeted marketing strategies, such as customized promotions and precision advertising, ensuring that these messages reach potential consumer groups. Additionally, companies should take a dynamic approach, continuously adjusting product designs in line with market demand to ensure that their products meet consumer expectations, stand out in a competitive market, and achieve higher sales conversion rates.

4.2. Omnichannel Integration

In today's world, where consumer shopping habits are increasingly diversified, omnichannel integration has gradually become an inevitable trend in the fast fashion industry's development. Due to changes in consumer habits, a single shopping experience can no longer meet consumer needs, as their expectations are influenced by factors such as practice and location. To provide convenient shopping services, companies should accelerate the pace of omnichannel integration. By fully tracking and analyzing consumer behavior and preferences across different channels using big data technology, companies can gain insights into shopping habits and changing needs, helping them optimize user experiences across various channels and promote deep integration between online and offline channels. Utilizing big data to achieve seamless data connectivity, consumers can enjoy a continuous and consistent shopping experience when switching between channels [9-10]. For example, forever 21's

online platform recommends relevant products based on customers' browsing history and purchase records; meanwhile, offline stores adjust product displays and promotional activities based on customers' shopping habits and preferences, enhancing the shopping experience and boosting sales and market share.

4.3. Intelligent Production

As big data technology continues to proliferate, it provides convenience for companies in collecting, analyzing, and processing data, covering various aspects such as raw material supply, production progress, quality control, market demand, and consumer preferences. Against this backdrop, intelligent production has emerged, deeply integrating with cutting-edge technologies like artificial intelligence (AI) and the Internet of Things (IoT), transforming traditional production lines into highly flexible and intelligent manufacturing systems [11-12]. Leveraging the advantages of intelligent algorithms to optimize production processes, companies can accurately predict production needs, automatically adjust production plans, reduce resource waste, and improve production efficiency. Additionally, intelligent production empowers companies with strong capabilities for personalized production, allowing them to adjust production plans based on consumer needs and achieve "one-person, one-version" customized production. For example, Muji has integrated intelligent technology across various stages, including design, production, and sales, to achieve more efficient and precise management and operations. In terms of production and sales digitization, Muji has designed a system capable of accurately and rapidly controlling the production and sales of products. This system predicts the most appropriate initial production volume for each product and determines whether additional production is needed based on sales performance. This approach, which eliminates the "black box" of production data, makes sales forecasts more scientific, thereby driving capacity planning and reducing the problem of inventory overstock [13].

5. Conclusion

In summary, in today's era of globalization and digitalization, the fast fashion industry has reached a new turning point in its development. With the continuous

maturity and widespread application of big data technology and the diversification of consumer consumption patterns, the fast fashion industry must continually innovate its shared value models to meet the rapidly evolving demands of the market. From intelligent supply chain management to precisely meeting consumer needs, big data technology can create a highly efficient, consumer-centric fast fashion ecosystem. In the future, as technology advances and consumer demands evolve, exploring the intersection between the fast fashion industry and big data technology and discovering new business models and market opportunities will be key to driving innovation and co-creating a sustainable fashion future.

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