Research on Cross-Border E-Commerce Operation Mode Based on Big Data Technology

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Abstract. Big data technology has high-quality analysis function and continuously strengthens the optimal allocation of market resources for the development quality of cross-border e-commerce. The application of big data technology makes cross-border e-commerce form a more complete logistics distribution system and system. Under the high-quality data management of big data, the business scope of cross-border e-commerce continues to expand, so as to realize the rapid development of the industry.

Keywords: Big data technology · Cross border electronic · Business operation · Data analysis and processing

1 Introduction

Now many cross-border e-commerce use big data technology to achieve enterprise strategic objectives, because big data technology can systematically store, classify, mine, integrate and analyze various information sources of logistics, and turn the processed information into important information of great commercial value [1]. Thus provides a reliable basis for enterprise's strategic decision and product management [2]. Corporate sellers can not only use big data technology to obtain a large number of information resources, but also quickly change their business model and enterprise development model. Big data technology utilizes various analytical technologies to provide cross-border e-commerce enterprises with high-value after-sales services and industrial chains. With the help of big data technology, the export volume of cross-border e-commerce is constantly breaking through nodes and growing [3].

Cross border e-commerce mainly refers to taking the computer Internet as the service platform to provide cross-border e-commerce with various product sales, enterprise operation management, e-payment, cross-border e-commerce, logistics and distribution services [4]. Big data technology is constantly combining advanced technology to improve the quality of cross-border e-commerce development [5] (Fig. 1).
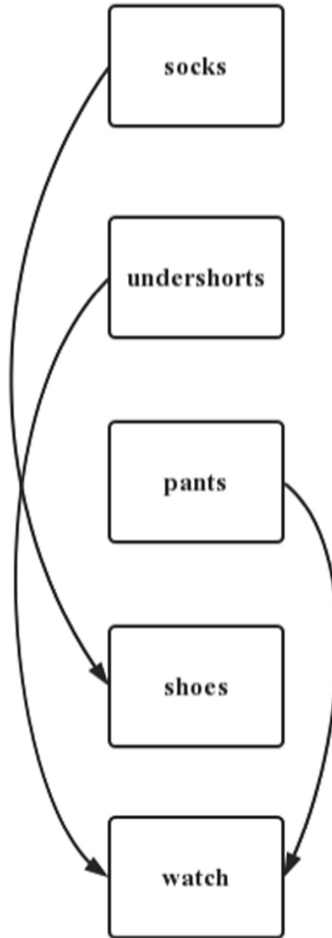
Fig. 1. Data structure

2   Big Data Optimizes Cross-Border E-Commerce Operation System

2.1   Optimize the Cross-Border E-Commerce Platform

In addition to establishing the logistics system of cross-border e-commerce, it also needs to rely on an e-commerce trading platform with strong execution and operation [6]. This e-commerce trading platform is mainly to implement and manage the internal and external operations of cross-border e-commerce and provide an e-commerce trading platform. Moreover, e-commerce trading platform can provide diversified marketing paths and store management for seller enterprises, provide all-round logistics enterprise services, and provide a platform for the personalized development of enterprises [7]. E-commerce trading platform can help enterprises solve transaction disputes between sellers and buyers and ensure the benign operation of e-commerce trading market [8]. As
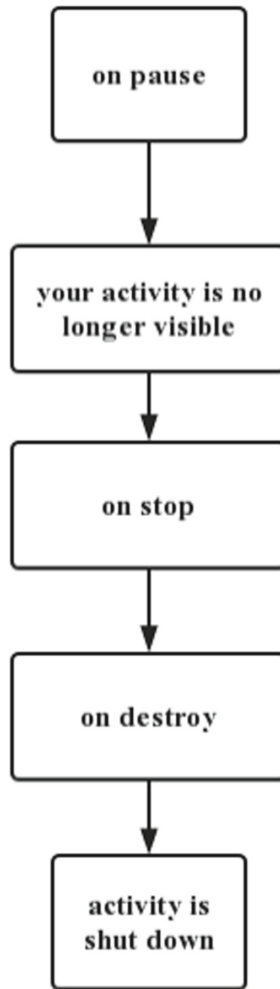
the background guarantee of the whole cross-border e-commerce, e-commerce trading platform maintains the stable development of cross-border e-commerce [9]. If the e-commerce trading platform can not provide high-quality services for e-commerce, the whole cross-border e-commerce order will be out of control, and enterprises will not invest more funds and resources on the e-commerce trading platform, so they will not be able to further carry out marketing and after-sales work [10]. Only by continuously improving the e-commerce trading platform can we promote the benign development of cross-border e-commerce and play an important role in the sustainability of economic transactions [11].

2.2   Improve the Cross-Border E-Commerce Credit System

Due to the industry particularity of cross-border e-commerce, transfer transactions are carried out with enterprises in various countries. Some enterprises have relatively high credibility due to the large number of cooperation. However, some enterprises only cooperate for the first time and cannot systematically evaluate and understand the reputation of enterprises [12]. They can only grasp it through government certification and enterprise report [13]. However, when the goods of both enterprises are handed over, the other enterprise reneges and refuses to pay for the goods. This dishonest behavior makes enterprises cause huge economic losses in cross-border e-commerce operations. In order to obtain the price difference between middlemen, some unscrupulous enterprises sold their products to each other, which seriously damaged the economic benefits of enterprises and the rights and interests of consumers [14]. This behavior not only improves the operating cost of the enterprise, but also reduces the development quality of the enterprise [15]. In serious cases, it will lead to the poor operation of the enterprise's funds, leading to bankruptcy and loss of the enterprise's reputation. Therefore, it is necessary to gradually improve the credit evaluation system, help the enterprise better engage in business activities and reduce the enterprise's business risk (Fig. 2).

2.3   Cross Border E-Commerce Logistics Model

The modes of cross-border e-commerce logistics are mainly divided into several important types. The first is the international logistics model. The advantage of this model is that it can form a global industrial chain, improve the strategic position of enterprises, and expand the scope of logistics transportation [16]. Postal parcels are mainly aimed at domestic enterprises and carry out logistics transportation in China. The advantage of postal parcels is that they cover a wide range of cities and towns across the country. When choosing the logistics mode, enterprises need to choose according to their own situation [17]. At the same time, they also need to make an overall analysis of the logistics route, logistics status and logistics time in combination with data technology, and deal with the scattered and fragmented logistics information in a unified way, so as to create an efficient and fast logistics distribution system for enterprise users. The logistics distribution system also involves a series of logistics services related to enterprise logistics, such as product delivery, packaging, distribution information and after-sales service, so as to accurately transport logistics for users. In recent years, warehousing delivery has become the mainstream logistics development mode [18]. The customer

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Fig. 2. Big data e-commerce structure

pays the deposit first. During the payment of the balance, the enterprise seller can send the goods to the warehouse nearest to the customer for diversion and packaging, so as to reduce the distribution time and improve the customer's experience quality. The global logistics distribution system established by using big data technology can not only quickly complete the transportation and distribution of products, but also promote the rapid and stable development of the logistics industry, so as to lay a solid foundation for logistics guarantee (Fig. 3).

2.4   Low Efficiency of Distribution and Logistics

The main reasons for the low efficiency of logistics distribution are two reasons. The first is the long distribution route of goods. Due to geographical constraints, it often needs to
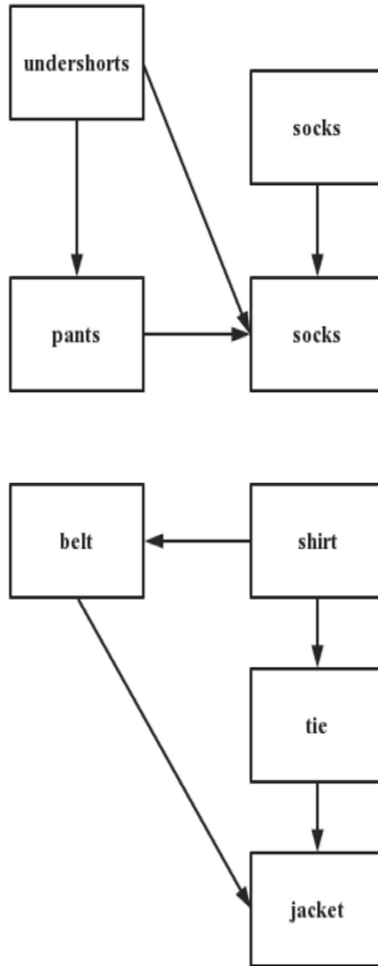
Fig. 3. Big data topology principles

go through multiple diversion points to reach the destination. In this process, the logistics time is long, the efficiency is low, and it is easy to cause a bad shopping experience for users. Secondly, the problems of packaging and inspection in the distribution process make the logistics efficiency low, because it takes a certain time to pack the products, and some goods are damaged or the protective film is broken due to express delivery problems. Express delivery points should also check the goods to avoid transporting prohibited goods, which will take a lot of time. Some cross-border logistics not only take a long time, but also cost a lot. For example, it takes about half a month to ship from China to the UK and send it to the UK by international express. It is not guaranteed that in case of prominent events, including bad weather, holidays and consumption day activities will be postponed. Moreover, because the distribution route is long, there is a risk of loss in the middle, which will not only cause losses to users, but also make

the undertaker compensate the corresponding expenses. Moreover, after some goods are transported, users are not satisfied and need to return and exchange goods. The long logistics cycle greatly affects the distribution efficiency.

3   Conclusion

Big data technology realizes the accurate positioning of cross-border e-commerce, can obtain valuable business information for enterprises among massive data information, and further improve the development quality of cross-border e-commerce. While big data technology provides good services for cross-border e-commerce, it should also continuously carry out personalized service customization according to the development needs of cross-border e-commerce to strengthen user experience.

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