

## Innovation of E-commerce Logistics Service Mode under Big Data

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**Abstract:** In the era of economy and science and technology and its development, e-commerce is gradually becoming a new vitality, and logistics e-commerce has provided convenience and laid the foundation for the development of e-commerce. In order to understand the development of e-commerce in China, this paper studies the operation mode and innovation of e-commerce logistics service under the background of big data.

### 1. Overview of Logistics

With the development of network technology and electronic technology, the order of people engaged in trade has not changed, it is still the three stages before, after and after the transaction, but the means of exchange and contact have changed. E-commerce is introduced into the field of production, exchange and consumption as a tool. One of the important characteristics of this field is the change of information flow, which is manifested as the flow of bill information. Information flow is in a very important position in this period, which runs through the whole process of commodity trading, is the whole process of controlling commodity circulation, records the whole process of business activities, and is an important basis for analyzing logistics, guiding capital flow and making business decisions. Because of the application of electronic tools and network communication technology, the time and space distance between the two parties in the era of electronic commerce is almost zero, which is beneficial to the organic combination of information flow, business flow, capital flow and logistics. For some goods and services that can be transmitted on the network, even the "four-stream" synchronous processing can be realized.

#### 1.1. Meaning of Logistics

Simply put, logistics is the flow of material, the original meaning of "logistics", originated in the West, and widely used during World War II, at that time refers to the army to maintain the logistics support system needed to maintain the war. Later, British and American scholars borrowed the word in the business and industry, generally refers to the plan, organization, command, coordination and control of an enterprise in its raw material management, cargo transportation and storage, distribution and so on.



Figure 1 Logistics

## **1.2. Electronic Commerce Logistics System**

Within the spatiotemporal context of the implementation of a specific process of electronic commerce, an organic whole with a specific function, consisting of an operating system and an information system, consists mainly of the following elements: commodities or materials, packaging of equipment, handling and handling of machinery, transport of tools, storage facilities, personnel and satellite positioning technology, geographic information systems, etc., if thousands of dynamic elements are mutually restricted.

## **2. Development Direction of Logistics Industry**

In the era of electronic commerce, logistics has developed to the intensive stage, and the integrated service of distribution center has brought convenience, not only to provide warehousing and transportation services, but also to carry out distribution, distribution and various value-added circulation processing services, and to provide other services according to the needs of customers. Modern supply chain management is to optimize logistics through the effective operation of supply chain from supplier to consumer. The company pursues the comprehensive effect of the whole system rather than a single one-sided view. Supply chain is a strategic concept and value-added product; its goal is not only to reduce costs, but also to provide value-added services that exceed users' expectations, thus creating and maintaining a competitive advantage. In a sense, supply chain is a fully extended logistics system, which is a value-added service for products and information from raw materials to final consumers. In terms of mode of operation, contractual logistics is used; such distribution centres are different from public distribution centres, which provide long-term services to one or more enterprises (customers) rather than all customers by contracting. Such distribution centers can be operated by public distribution centers or by themselves, but mainly provide services; they can also be owned by manufacturers and entrusted to professional logistics companies. The logistics supply chain system fully adapts to the renewal of the management concept of circulation industry. Because the past goods are through the production, wholesale, warehousing, retail and other links between the multi-layer complex channels, and finally reached the hands of consumers. And the modern circulation industry has been simplified, manufacturing through distribution centers to various retail outlets. The future industrial division of labor is more fine, the division of production and marketing is increasingly specialized, the overall productivity and economic benefits of the circulation industry have been greatly improved, and the circulation industry has become the center of national economic activities.

## **3. Development Trend of Electronic Commerce Logistics Industry**

In the era of e-commerce, due to the expansion of the scope of enterprise sales, the change of enterprise sales mode and commercial sales mode and the final consumer purchase mode, door-to-door service business has become an important business in the rise of logistics industry. That is, can provide a full set of logistics services logistics industry, as well as transportation distribution, storage and storage, packaging, circulation processing and other collection industry. It mainly includes warehousing enterprises, transportation enterprises, loading and unloading and handling enterprises, distribution enterprises and circulation processing enterprises. In the background of big data e-commerce environment, information and multi-function as one of the first-class service has become the goal of logistics enterprises.



Figure 2 Logistics industry

#### 4. The Relationship between E-Commerce and Logistics

As a new product in the information and network background of the twentieth century, e-commerce has attracted wide attention because of its unique characteristics, but the scope of e-commerce is still lacking a standard understanding, still like the traditional business process, the types of communication of any transaction in e-commerce are generally divided into the following types: information flow, business flow, capital flow and logistics. In the past, the understanding of e-commerce process is limited to the information flow, business flow and capital flow of electronic, and the type of electronic logistics is almost ignored. Most people think that for most goods and services, logistics can still pass through traditional distribution channels. And with the further promotion and application of e-commerce, the important role of logistics to e-commerce activities is becoming more and more obvious. In e-commerce, some electronic publications, such as software, e-books and so on, can send electronic publications to buyers electronically through the network, but the vast majority of physical goods still have to complete the logistics process from suppliers to buyers by means of transmission. In our country, many online stores because can not better solve logistics problems, have to tell buyers delivery destination must be within a certain range, beyond the scope of buyers can not buy, then in this situation e-commerce cross-regional also lost the advantage that should have. Therefore, logistics plays an important role in e-commerce activities, and modern logistics is an indispensable part of e-commerce activities.

##### 4.1. Logistics Guarantees for E-Commerce

Logistics is an important link and basic guarantee to realize electronic commerce. Logistics provides the most effective guarantee for production. Whether it is traditional trade mode or electronic commerce mode, production is the basis of commodity circulation, and the smooth progress of production needs the support of various logistics activities. The whole production process starts from the purchase of raw materials, it requires the corresponding supply logistics activities to make the purchased materials in place, otherwise, the production will be difficult to continue [1]; between the various processes of production, the logistics process of raw materials and semi-finished products, that is, the so-called production logistics, is also needed to achieve the liquidity of production; part of surplus materials, recyclable materials need the so-called recycling logistics; waste disposal needs waste logistics. Obviously, the whole production process is actually the serialization of logistics activities. By reducing the cost, optimizing the inventory structure, reducing the capital occupation and shortening the production cycle, the modern logistics is rationalized and modernized to ensure the high efficiency of modern production. Conversely, the lack of modern logistics, even if e-commerce has how convenient form of trade, production is still difficult to proceed smoothly.



Figure 3 Big data era

#### 4.2. Innovation of Logistics Service Mode in Electronic Commerce

The ownership of goods in commercial circulation activities, from the time of signing the purchase and sale contract, that is, from the supplier to the buyer, the commodity entity, will not move accordingly. Except for futures trading for physical delivery, in the traditional trading process, similar commercial flows are also accompanied by corresponding logistics activities, that is, according to the buyer's needs, the commodity entity is sent to the buyer by the seller in an appropriate way and way. But in e-commerce, consumers complete the delivery process of commodity ownership, that is, the transaction process, by clicking on online shopping. However, e-commerce activities are not over, but goods and services are really transferred to consumers, and business activities are over. In fact, in the whole transaction process of e-commerce, logistics appears as the successor of business flow and service provider, without modern logistics, no matter how light business activities will still be at a loss. The importance of the existence of logistics can be seen. Logistics is the fundamental guarantee to realize the concept of customer-centered, and the emergence of e-commerce will greatly facilitate the final consumers [2]. They no longer need to run to crowded shopping streets, one by one to pick out the goods they need, but just sit at home and pick and buy goods on the Internet shopping process. But if the goods they buy are delayed, and the goods they buy are not their own, the demand for online shopping will be reduced. Therefore, appropriate innovation, adopt a better service model to solve the problems existing in e-commerce logistics services, logistics is the ultimate guarantee to realize the concept of customer-centered, lack of innovative logistics technology, e-commerce to consumers to bring the convenience of shopping equal to zero, consumers will inevitably turn to what they think is safer traditional shopping methods, then the necessity of online shopping is almost zero.

#### 5. Conclusion

To sum up, logistics is an important part of e-commerce. The reform and innovation of logistics service mode is also necessary. In order to further promote and develop e-commerce, we must abandon the concept of "heavy information flow, business flow, capital flow electronic, but ignore the electronic logistics ", vigorously develop modern logistics and dare to innovate, find a better service mode, in order to create a better e-commerce material system.

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