

Paper 2

Analysis of the Development Status and Optimization Strategy of Modern Smart Logistics Supply Chain

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Abstract

With the continuous integration of digital economy and real economy, the modern logistics industry has entered a new stage of intelligent and integrated development. The smart logistics supply chain, relying on information technology and intelligent equipment, realizes the whole-process intelligent management of goods transportation, warehousing, distribution and information interaction, which effectively improves the operation efficiency of the supply chain and reduces the comprehensive operation cost of enterprises. This paper sorts out the connotation and characteristics of smart logistics supply chain, analyzes the current development status and existing bottlenecks of China's smart logistics supply chain from the aspects of industry scale, technical application and system construction, and summarizes the problems such as insufficient industrial integration, low level of intelligent application, imperfect information sharing mechanism and unbalanced regional development. Combined with the actual development needs of the industry, this paper puts forward corresponding optimization strategies from promoting industrial collaborative integration, strengthening technical innovation and application, improving information sharing system and balancing regional development. The research results can provide reference for promoting the standardized, intelligent and high-quality development of modern smart logistics supply chain.

Keywords

Smart Logistics; Supply Chain; Digital Economy; Industrial Integration; Development

1 Introduction

In the era of digital economy, the development speed of modern logistics industry is constantly accelerating, and the traditional single logistics service mode can no longer meet the integrated and personalized market demand. The supply chain system is developing towards integration, intelligence, greening and high efficiency. As an important part of modern supply chain system, smart logistics takes digital information technology as the core, breaks the isolated operation state of traditional logistics links, and realizes the collaborative operation of warehousing, transportation, distribution, procurement and sales.

In recent years, supported by national policies and market demand, China's smart logistics industry has achieved rapid development. The scale of logistics market continues to expand, the level of intelligent equipment application is continuously improved, and the degree of industry informatization is significantly enhanced. However, in the process of industrial development, there are still many problems to be solved. The integration degree of upstream and downstream industries of the supply chain is not high, the information sharing mechanism is not perfect, the intelligent application level of small and medium-sized logistics enterprises is backward, and the regional development gap is large, which restrict the high-quality development of smart logistics supply chain.

Therefore, it is of practical significance to systematically analyze the current development problems of smart logistics supply chain and explore effective optimization paths for promoting the healthy and sustainable development of modern logistics industry and improving the overall competitiveness of social supply chain.

2 Connotation and Characteristics of Smart Logistics

Supply Chain

2.1 Connotation of Smart Logistics Supply Chain

Smart logistics supply chain is a new type of supply chain operation mode formed by the deep integration of modern information technology and traditional logistics supply chain business. It takes intelligent equipment, digital platform and data analysis technology as the support, takes customer demand as the guidance, realizes the

whole-process visualization, intelligent scheduling and collaborative management of supply chain links such as procurement, warehousing, transportation, distribution and after-sales service, and finally achieves the goals of supply chain cost reduction, efficiency improvement and service quality optimization.

2.2 Core Characteristics

First, digitalization of information. All links of the smart logistics supply chain can realize automatic collection, real-time transmission and intelligent analysis of data, and the operation state of each link can be digitally presented, which is convenient for real-time monitoring and dynamic adjustment.

Second, intelligent operation. Relying on artificial intelligence, big data and Internet of Things technology, the supply chain realizes automatic scheduling of transportation routes, intelligent optimization of inventory, automatic sorting of goods and intelligent prediction of demand, reducing manual intervention.

Third, industrial collaboration. The smart supply chain breaks the boundary of a single enterprise, realizes information sharing and business collaboration among suppliers, manufacturers, logistics enterprises and terminal customers, and forms an integrated industrial operation system.

Fourth, efficient and low-carbon. Intelligent scheduling and precise management effectively reduce resource waste and energy consumption in the logistics operation process, and meet the development requirements of green logistics and low-carbon economy.

3 Current Development Status and Bottlenecks

3.1 Development Status

In recent years, China's logistics industry has maintained a stable development trend, and the total social logistics volume continues to grow. With the continuous popularization of digital technology, more and more logistics enterprises begin to carry out intelligent transformation, and the application scope of intelligent warehousing, unmanned distribution, intelligent transportation scheduling and other technologies is gradually expanded. The construction of logistics information platform is accelerated, and the informatization and intelligence level of the industry are continuously improved.

At the same time, the state has continuously issued relevant industrial policies to support the intelligent upgrading and green transformation of the logistics industry, standardize the industry development standards, and create a good policy environment for the development of smart logistics supply chain. The market demand for high-efficiency and high-quality logistics services is increasing, which provides sufficient power for the innovative development of the industry.

3.2 Existing Development Bottlenecks

First, the degree of industrial collaborative integration is low. At present, most supply chain enterprises still operate independently, lack of effective information interaction and business cooperation mechanism, the connection between upstream and downstream links is not close, and the resource allocation efficiency of the whole supply chain is low.

Second, the level of intelligent application is unbalanced. Large logistics enterprises have strong capital and technical strength, with high intelligent operation level. However, a large number of small and medium-sized logistics enterprises have insufficient investment in intelligent equipment and information systems, backward technical application ability, and obvious development gap.

Third, the information sharing mechanism is imperfect. There are a large number of information isolated islands in the supply chain, the data of each enterprise and each link cannot be fully shared, the data utilization rate is low, and it is difficult to form overall supply chain decision-making support.

Fourth, the regional development gap is large. The smart logistics construction in eastern coastal areas is advanced with complete infrastructure, while the logistics digital construction in central and western regions is relatively backward, and the unbalanced regional development restricts the overall coordinated development of the industry.

4 High-quality Development Optimization Strategies

4.1 Promote Industrial Collaborative Integration

Establish a sound industrial collaborative development mechanism, strengthen business cooperation and information interaction among upstream and downstream enterprises in the supply chain, break the independent operation mode of single

enterprise, and realize integrated operation of procurement, production, warehousing, transportation and sales. Encourage leading logistics enterprises to play a leading role, drive small and medium-sized enterprises to carry out intelligent transformation, and form a good industrial ecology of coordinated development.

4.2 Strengthen Technological Innovation and Application

Promotion

Increase investment in logistics digital technology research and development and application, encourage enterprises to introduce and upgrade intelligent logistics equipment, and promote the popularization of Internet of Things, big data and artificial intelligence technology in logistics links. For small and medium-sized enterprises, support policy subsidies and technical guidance should be provided to reduce the cost of intelligent transformation of enterprises and improve the overall intelligent level of the industry.

4.3 Improve the Industry Information Sharing Platform

Build a unified public service platform for smart logistics supply chain, integrate industry data resources, realize cross-enterprise and cross-industry information sharing and data interconnection, eliminate information isolated islands. Make full use of big data technology to mine supply chain data value, provide accurate demand prediction, resource scheduling and risk early warning services for enterprises, and improve the overall operation efficiency of the supply chain.

4.4 Balance Regional Industrial Development

Increase policy support and capital investment in logistics infrastructure construction in central and western regions, accelerate the digital and intelligent transformation of regional logistics parks and warehousing bases, and narrow the regional development gap. Strengthen regional logistics cooperation, realize the complementary advantages of eastern, central and western logistics resources, and promote the coordinated and balanced development of the national smart logistics industry.

5 Conclusion

The intelligent and digital development of logistics supply chain is an inevitable trend

of industrial upgrading under the background of digital economy. At present, China's smart logistics supply chain industry is developing rapidly, but there are still bottlenecks such as low industrial integration, unbalanced intelligent application and imperfect information sharing mechanism. Only by promoting industrial collaborative integration, strengthening technological innovation and application, improving information sharing platform and balancing regional development can we continuously optimize the operation mode of smart logistics supply chain and promote the sustainable and high-quality development of modern logistics industry.

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