

The Historical Evolution of China Logistics Industry and the Modernization Process Driven by E-business

Tiannan Li

Graduate School of Management and Information Sciences, Josai International University, Gumyo, Togane-shi, Japan

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Abstract: The entry of foreign logistics giants has brought new ideas and technologies, and the rise of logistics enterprises has demonstrated the vitality and potential of the industry. This paper analyzes the impetus of the vigorous development of e-business to the process of logistics modernization, and the close interaction between China logistics industry and e-business. The article begins with an overview of the research background, emphasizing the far-reaching impact of the rise of e-business on the logistics industry, and urging it to move towards modernization and efficiency. Then, it explains the innovative strategy and technical application of e-business logistics, and the supporting role of the five modes of transportation in China in the development of e-business logistics, showing the deep integration of e-business and logistics. The article further reveals the close relationship of interdependence and co-evolution between e-business and logistics industry, and emphasizes the importance of the two sides to cope with market challenges and jointly promote industry progress. The summary part refines the core findings of the research, and puts forward forward forward forward-looking suggestions and prospects for the future development trend of e-business and logistics industry.

1. Introduction

In the tide of globalization, the logistics industry has become an indispensable force to promote economic progress by virtue of its unique position as the blood of commodity circulation. Especially in China, a country with a rapid economic rise, the development and changes of the logistics industry are closely linked with the country's economic system reform, market opening and scientific and technological progress [1]. China's logistics industry has undergone a great transformation from planning to market and from tradition to modernization. In this process, the rise of e-business has undoubtedly injected new vitality into it and promoted it to accelerate its modernization [2]. To fully understand the present situation and future of China's logistics industry, we must first review its history. Before the reform and opening up, China logistics was still in the stage of material allocation under the planned economy system, and its operation was limited by instructions and plans, lacking market orientation and efficiency awareness. However, with the spring breeze of reform and opening up and the surge of market economy, the logistics industry in China began to break away from the shackles of the system and ushered in a new era of vigorous development. The entry of foreign logistics giants has brought new ideas and technologies, and the

rise of logistics enterprises has highlighted the vitality and potential of the industry, and large-scale logistics infrastructure construction has laid a solid foundation for the rapid development of the industry [3].

In the new century, especially after China's entry into the WTO, China's logistics industry has further integrated into the global economic system and achieved closer connection with the global logistics network [4]. But what really changes the logistics industry is the rapid development of e-business. E-business has broken the time and space restrictions through the Internet platform, realized the real-time sharing of commodity information and efficient transaction, and brought huge market demand and broad development space for the logistics industry [5]. In this context, the logistics industry began to apply advanced technologies such as information technology, automation technology and artificial intelligence on a large scale to promote its own intelligent, automated and efficient upgrade. E-business logistics enterprises meet the growing personalized and diversified needs of consumers by constantly innovating service models and business models, leading the new trend of the logistics industry [6]. This paper aims at reviewing the historical evolution of China logistics industry, analyzing the far-reaching influence of e-business on it, and how the logistics industry can realize self-innovation and modernization transformation under this influence. We hope that this study will not only reveal the development law and historical context of the logistics industry, but also provide valuable historical reference and practical guidance for the future logistics development. In the future research, we will continue to pay attention to the new technologies, new modes and new formats of the logistics industry, with a view to contributing more research results and practical experience to the modernization process of the logistics industry in China.

2. The historical evolution of China's logistics industry

The historical evolution of China's logistics industry is closely related to domestic economic development, policy adjustment and globalization. From the initial source of logistics goods, its evolution clearly reflects the transformation and upgrading of China's economic structure [7]. Logistics goods mainly come from five aspects: agriculture, forestry, animal husbandry and fishery products, industrial products, imported goods, renewable resources goods and items of units and residents. These five changes not only reveal the development trend of logistics industry, but also reflect the overall trend of China economy.

In the early days of reform and opening up, China's logistics industry was dominated by agricultural products and industrial products. With the implementation of the rural household contract responsibility system and the acceleration of urban industrialization, a large number of agricultural products and industrial products began to enter the market circulation field, which promoted the initial development of the logistics industry [8]. The logistics activities in this period were mainly concentrated in traditional transportation, warehousing, loading and unloading, and lacked modern logistics management and technical means. With the deepening of reform and opening up, China's economy has gradually integrated into the global economic system. Imported goods have become one of the important sources of the logistics industry. Especially after China's entry into the World Trade Organization (WTO), the rapid growth of China's import trade has promoted the vigorous development of the logistics industry. At the same time, the production and consumption of domestic industrial products also showed a rapid growth trend, which further promoted the development of the logistics industry.

After entering the 21st century, China's economy began to enter a transition period, from high-speed growth to high-quality development. In this context, renewable resources commodities and articles of units and residents have gradually become new growth points in the logistics industry. With the improvement of environmental awareness and the development of circular

economy, the status of renewable resources commodities in the logistics system has gradually improved. At the same time, with the rise of e-business and the improvement of residents' consumption level, the share of units and residents' goods in the logistics market has also increased year by year. Figure 1 shows the changes of total social logistics since the 20th century.

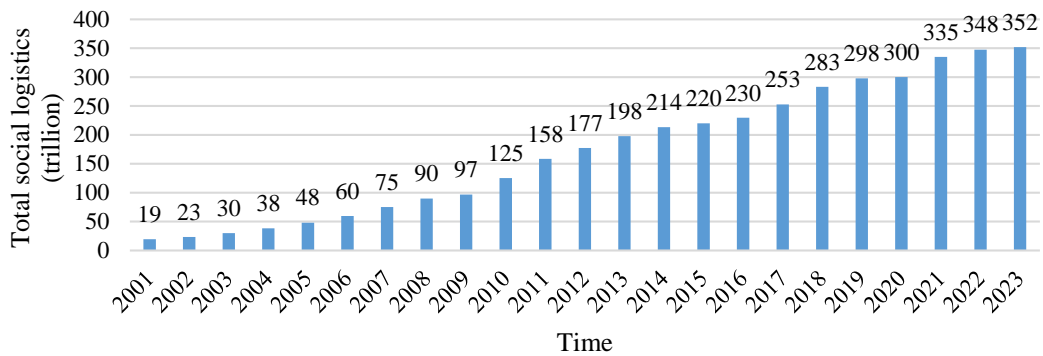


Figure 1: Changes of total social logistics since the 21st century

The rapid development of e-business has a far-reaching impact on the logistics industry. E-business has realized the rapid dissemination of commodity information and the efficient achievement of transactions through the Internet platform, which has brought massive orders and broad market space to the logistics industry [9]. At the same time, e-business puts forward higher requirements for logistics services, which promotes the technological innovation and service upgrade of logistics industry in informatization, intelligence and automation. Looking back at the historical evolution of the logistics industry in China, we can see that the development of the logistics industry is closely related to the domestic economic development, and it has undergone a transformation from primary to advanced, and from traditional to modern. In the future, with the high-quality development of China's economy and the deepening of globalization, the logistics industry will usher in a broader development space.

3. E-business-driven logistics modernization process

The rise of e-business not only reshapes consumers' shopping habits, but also has a far-reaching impact on the logistics industry in China. With the surge of online shopping demand, the logistics industry has to adapt to this change quickly and meet the new market demand through innovation and technology application. In this process, China's constantly improving transportation network has provided a solid foundation for the modernization of e-business logistics.

3.1. New requirements of e-business for logistics industry

The rapid development of e-business has brought about a substantial increase in orders, especially small, high-frequency and time-sensitive orders. The traditional logistics model can no longer meet this rapidly changing demand, so the logistics industry must seek new solutions. This requires the logistics industry not only to have a wide distribution network, but also to have efficient distribution capabilities and advanced information management systems.

3.2. Development and support of China's transportation network

In order to meet the needs of e-business logistics, China continues to increase investment in transportation networks, optimize and improve various transportation methods. As shown in Table

1, the length of the five transportation modes in China is constantly increasing, providing strong infrastructure support for e-business logistics.

Table 1: Line lengths of five transportation modes in China (unit: 10000 kilometers)

Time	Total	Railway	Highway	Inland river	Civil aviation	Pipeline
1978	123.5	5.2	89.0	13.6	14.9	0.8
1980	125.4	5.3	88.8	10.9	19.5	0.9
1985	139.6	5.5	94.2	10.9	27.7	1.2
1990	171.8	5.8	102.8	10.9	50.7	1.6
1995	247.6	6.2	115.7	11.1	112.9	1.7
2000	311.8	6.9	140.3	11.9	150.3	2.5
2005	416.7	7.5	192.5	12.3	199.9	4.4
2006	428.7	7.7	192.5	12.3	211.4	4.8
2007	456.1	7.8	196.2	12.3	234.3	5.4

As can be seen from Table 1, the line lengths of various modes of transportation in China are increasing steadily, which provides a strong support for the rapid development of e-business logistics. Highway transportation occupies a dominant position in e-business logistics because of its flexibility and convenience; Railway transportation plays an important role in e-business logistics with its advantages of large volume and long distance transportation; Waterway transportation occupies a place in transnational e-business and international logistics; Air transportation has become the preferred mode of transportation for high-end e-business products because of its fast speed and strong timeliness. Although pipeline transportation is rarely used in e-business logistics, it still has an irreplaceable position in specific fields.

3.3. Innovation and technical application of e-business logistics

Based on the continuous improvement of China's transportation network, e-business logistics can develop rapidly and innovate constantly. Logistics enterprises have improved the efficiency and accuracy of logistics operation by introducing advanced technologies and equipment, such as automatic sorting system, unmanned warehouse, unmanned aerial vehicle and unmanned vehicle distribution. At the same time, through the application of big data analysis, cloud computing and other technologies, the real-time monitoring and optimization of logistics process are realized, and the intelligent level of logistics services is improved.

In addition, e-business logistics enterprises also pay attention to close cooperation with e-business platforms to realize information sharing and collaborative work. By building an intelligent logistics system together, the intelligence and automation of order processing, inventory management, distribution planning and other links are realized, and the service quality of e-business logistics is further improved.

3.4. Future development trend of e-business logistics

With the continuous development of e-business and the constant change of consumer demand, e-business logistics will face new challenges and opportunities. On the one hand, logistics enterprises need to continue to increase investment in technological innovation and improve the level of intelligence and automation of logistics services; On the other hand, logistics enterprises need to pay attention to the development of green logistics, and reduce the impact of logistics activities on the environment by adopting measures such as environmental protection packaging and

energy saving.

4. Interactive relationship between e-business and logistics industry

There is a close interaction between e-business and logistics industry. The rise of e-business has promoted the development of logistics industry, and the progress of logistics industry has provided strong support for the expansion of e-business. This relationship of mutual promotion and common development is particularly prominent in the China market.

4.1. Changes and characteristics of e-business demand for logistics

The rapid development of e-business has brought a large number of small, high-frequency and time-sensitive orders, which poses new challenges to the logistics industry. In order to meet the needs of e-business, logistics enterprises must establish a more flexible and efficient distribution network to improve the timeliness and accuracy of distribution. At the same time, the order volume of e-business fluctuates greatly, which requires logistics enterprises to have strong warehousing and sorting capabilities to cope with the pressure of order peak period. Different e-business platforms and different commodity categories have different requirements for logistics services, which requires logistics enterprises to provide customized solutions to meet the diversified needs of e-business.

4.2. How does the logistics industry adapt to the rapid development of e-business

In order to adapt to the rapid development of e-business, the logistics industry has taken a series of measures. First of all, logistics enterprises have increased their investment in infrastructure, established a nationwide distribution network and improved their distribution capacity. Secondly, by introducing advanced technology and equipment, logistics enterprises have improved the automation and intelligence level of logistics operations, reduced labor costs and improved efficiency. In the process of adapting to the development of e-business, the logistics industry continues to innovate its service model. For example, the "warehousing and distribution integration" service was launched to integrate warehousing and distribution links to provide more convenient and efficient services for e-business.

4.3. Mutual promotion and symbiosis between e-business and logistics industry

There is a relationship of mutual promotion, symbiosis and common prosperity between e-business and logistics industry. On the one hand, the rise of e-business has brought huge market demand and development space for the logistics industry; On the other hand, the progress of the logistics industry has provided strong support for the expansion of e-business. This relationship is particularly obvious during the e-business promotion period. For example, during the shopping carnivals such as "Double Eleven" and "618", e-business platforms and logistics enterprises work closely together to meet the challenges of the peak order period. In the field of transnational e-business, the interaction between e-business and logistics industry is closer. The development of transnational e-business is inseparable from the support of international logistics, and the improvement of international logistics has also promoted the prosperity of transnational e-business. Through in-depth cooperation, the two sides jointly promoted the rapid development of the transnational e-business market.

5. Conclusions

With the vigorous development of e-business in China, the logistics industry has undergone profound changes from tradition to modernization. The rise of e-business not only reshapes consumers' shopping habits, but also puts forward higher, faster and more accurate requirements for logistics services. The interaction between e-business and logistics industry is increasingly strengthened, forming a good trend of mutual promotion and common development. E-business provides a broad market space and development opportunities for the logistics industry, and the modernization process of the logistics industry provides a solid support for the sustained growth of e-business. Especially in order processing, warehousing management, distribution efficiency and terminal delivery, the innovation of logistics industry effectively meets the needs of e-business development.

The development of e-business logistics still faces many challenges, such as cost control, service quality improvement, green logistics implementation and intelligent transformation. In the future, e-business and logistics industries need to further deepen cooperation and jointly explore intelligent, green and global development paths to cope with changing consumer demand.

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