

Research on the Integration Strategy of Cross-border E-commerce and Logistics Industry from the Perspective of Industry Convergence

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ABSTRACT

With the continuous improvement of economic globalization and the penetration rate of e-commerce, the overall cross-border e-commerce industry is developing more rapidly. Based on industrial convergence perspective, this paper studies the integration boundary of cross-border e-commerce and logistics industry, then analyzes the necessity, motivation and influence factors of the integration, and finally puts forward the integration strategy to promote the further development of the current cross-border e-commerce and logistics industry.

Keywords: cross-border e-commerce, logistics industry, industrial convergence, strategy.

1. INTRODUCTION

With the trend of economic globalization and increasing penetration rate of e-commerce, the market demand of global cross-border e-commerce is constantly released. According to the statistics of the General Administration of Customs, as a new form of trade, cross-border e-commerce developed rapidly in 2020, with annual import and export of 1.69 trillion yuan, up 31.1% year on year, becoming an important force in stabilizing foreign trade. Along with the increase of policy support and the advanced science and technology, the cross-border e-commerce to keep fast development of our country, and development speed than cross-border logistics enterprises, due to no synergy, their behavior and strategy development continuously influenced by bounded rationality, cross-border logistics can't effectively meet the demand of cross-border e-commerce development, lead to both sides in a long time is difficult to form a good and stable relationship, it inhibits the overall development of cross-border e-commerce industry.

In this context, industrial integration has become a new trend. Complementary advantages and mutual penetration of the industrial functions of the two sides are conducive to promoting the development of their respective industries, and the integrated operation of the two sides is also conducive to improving the comprehensive competitiveness of China's cross-border

e-commerce. Starting from the perspective of industrial integration, this paper provides new reference for promoting the integrated development of Cross-border e-commerce and logistics industry in China and provides suggestions for promoting the rapid development of Cross-border e-commerce industry in China by studying the theoretical analysis of the integration, the necessity of the integration and the motivation of the integration.

2. DEFINITION AND CHARACTERISTICS OF CROSS-BORDER E-COMMERCE AND LOGISTICS INDUSTRY

2.1. Definition and characteristics of cross-border e-commerce

Cross-border e-commerce can be understood as cross-border retail in a narrow sense. It refers to a cross-border commercial activity in which two transaction subjects in different customs reach a deal through e-commerce platform, and then the buyer makes the payment, and then the seller delivers the goods to the buyer through cross-border logistics, so as to complete the whole transaction. Cross-border e-commerce integrates the new service industry with many traditional industries, allocates different resources globally, and enables enterprises to quickly integrate into the global value chain. Through in-depth cooperation with logistics enterprises, necessary technical and financial support is

provided to support their cross-border business, and explicit and implicit incentives are adopted to improve their efforts. However, due to the information asymmetry and different goals of the two parties, the level of supervision and integration of cross-border e-commerce on the logistics industry will affect the service level of logistics enterprises, resulting in speculation that reduces customer experience and damages the interests of platforms and merchants.

2.2. Definition and characteristics of logistics industry

Logistics industry chain refers to upstream and downstream, peripheral or other industries related to logistics transportation. According to the relevant situation of logistics industry, logistics industry chain mainly includes the following aspects: the transportation vehicles for transporting materials, the information technology to improve the level of logistics informatization, the logistics technology to improve the efficiency of logistics operation, the logistics equipment to maintain the normal operation of logistics center, the logistics storage base to provide goods storage, etc. Cross-border logistics business as part of the logistics chain, the investment of resources and support depends on company's development goals, and the harder on cross-border logistics business and industrial integration, such as information platform. Through link platform, build overseas warehouse logistics system, the reasonable construction of the high automation, etc., these measures will allow it to increase costs, so how to give attention to both efficiency and cost, Making front-end technology and back-end operation seamless is the primary consideration of the integration of the two.

3. INTEGRATION ANALYSIS OF CROSS-BORDER E-COMMERCE AND LOGISTICS INDUSTRY

3.1. Theoretical analysis on the integration of cross-border e-commerce and logistics industry

The discussion of industrial convergence in academic circles originated from the overlapping of industries caused by the emergence of digital technology. Based on digital convergence, Greenstein

and Khanna (1997) define industrial convergence as "the shrinkage or disappearance of industrial boundaries in order to adapt to industrial growth". Uechi^[1] (2001) defines industrial convergence as "reducing barriers between industries through technological innovation and deregulation, and strengthening competition and cooperation between enterprises in industries". Ma^[2] (2002) believes that industrial integration, as an important way and means of traditional industrial innovation, is conducive to the transformation and upgrading of industrial structure, so as to improve the industrial competitiveness of a country. Industrial convergence results from the cross penetration of different industries, which leads to the time ambiguity or disappearance of industrial boundaries, which are specifically subdivided into operational boundaries, technological boundaries, market boundaries and business boundaries. With the deepening and development of digital technology revolution and economic globalization, driven by external factors such as management innovation, technological innovation and market consumption demand, many behaviors of enterprises may lead to the blurring or even disappearance of industrial boundaries, and eventually lead to the birth of new integrated industries. Ren^[3] (2016) analyzed the common development of cross-border e-commerce and logistics industry from the perspective of industrial transformation and came up with effective measures for the integrated development of the two. Cao et al.^[4] (2017) studied the development status of cross-border e-commerce and logistics industry from the perspective of industrial chain, pointed out the necessity of their coordinated development and the constraints of their coordinated development, and put forward relevant strategies.

With the innovation and development of technological and management, the technical and economic activities of cross-border e-commerce and logistics industry are gradually extending to each other's industrial scope, such as Alibaba's Taobao e-commerce and Cainiao Logistics, Jingdong mall and Jingdong Logistics, SF Logistics' exploration of e-commerce, etc. Independent cross-border e-commerce and logistics industries with different customer groups face the same end consumers together and provide them with logistics, translation, transaction and customs clearance services (Figure 1).

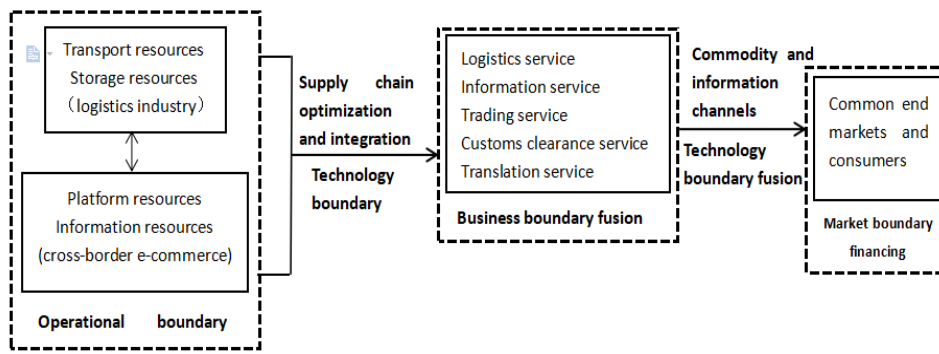


Figure 1 Border integration of cross-border e-commerce and logistics industry.

3.2. Analysis on the necessity of integration of cross-border e-commerce and logistics industry

There are three main ways of industrial integration: the penetration and integration of high and new technologies, the extension and integration between industries, the reorganization and integration within industries. This paper refers to the industrial integration of the second way, that is, through the complementarity and extension of industries to achieve the integration of industries. This kind of integration gives the original industry new additional functions and stronger competitiveness to form a new industrial system of integration.

3.2.1. Internal factors

The internal driving force of the integrated development of cross-border e-commerce and logistics industry is the correlation between the two industries and the pursuit of maximum benefit. In a conventional sense, cross-border e-commerce and logistics industry belong to two completely different industry types, but their boundaries are very fuzzy. From the perspective of business, some enterprises in cross-border e-commerce include logistics system in their business scope, and they cooperate with each other to realize the rapid transfer of products oriented by consumer flow. From the perspective of correlation, cross-border e-commerce and the logistics industry themselves are highly correlated. Without the industrial link of logistics, cross-border e-commerce business cannot be carried out. According to the economic assumption, people are rational, to maximize their own interests, and the same goes for companies. In the operation process of cross-border e-commerce and logistics industry, maximizing profits must be the ultimate goal. The informatization and intelligentization of the logistics industry meet the needs of cross-border e-commerce for high timeliness, while cross-border e-commerce infuses the modernization concept into the logistics industry and forces the transformation and upgrading of the logistics industry.

3.2.2. Realistic factors

The demand and supply of cross-border e-commerce are mismatched and unknown. There is a mismatch between the predicted export volume of domestic cross-border e-commerce and the demand in countries of demand, resulting in uncontrollable supply strength of the cross-border logistics chain, which makes it difficult to efficiently deliver the goods of the buyer to the seller. The poor timeliness of cross-border e-commerce logistics leads to the distortion of market information and the inability to accurately capture the rapidly changing domestic and overseas market demand, which is the bottleneck restricting the development of cross-border e-commerce industry. And the fusion of two is the realistic choice of industry development, industry complementary functions and extension, is conducive to accurately capture the cross-border logistics industry electricity demand, can through the establishment of the relationship between industries and businesses to expand competition and service range, in order to realize the "demand" and "effective supply" match, and accurate control for unknown factors.

3.3. Analysis on the driving forces of the integration of cross-border e-commerce and logistics industry

The interrelation between industries and the pursuit of maximization of interests are the internal driving force for the integrated development of industries. From the perspective of industry convergence and the current integration practice of cross-border e-commerce and logistics industry, this paper analyzes the various factors that promote the integration of the two industries. The changes in competition and cooperation modes promote the diffusion of cross-border e-commerce to the logistics industry and the innovation of integrated services, thus promoting the development of the two industries in the same direction^[5].

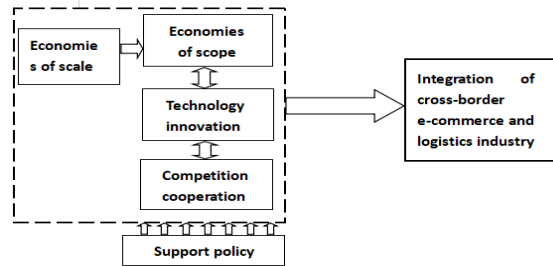


Figure 2 Analysis on the driving forces of the integration of cross-border e-commerce and logistics industry.

3.3.1. The pressure of competition and cooperation is the external power for the industrial integration of the two

In the ever-changing competitive environment, enterprises constantly seek development and expansion, constantly realize technological innovation, and constantly explore how to better meet the needs of consumers in order to better maximize profits and maintain long-term competitive advantages. When technology develops into diversified means to meet demands, enterprises seek long-term competitive advantages in competition so as to have the possibility of cooperation in competition, and produce some innovations in cooperation so as to achieve a certain degree of integration. The integrated development of cross-border e-commerce and logistics industry can break through the fragmentation of industries, strengthen the competition and cooperation between industries, thus reducing the entry barriers between industries, reducing transaction costs, improving the production efficiency and competitiveness of enterprises within the industry, and finally forming sustainable competitive advantages.

3.3.2. Technological innovation is the material basis of industrial integration

Technological innovation refers to the development of alternative or related technologies, products or means, which are integrated into other industries through infiltration and diffusion to change the technical route of the original industrial products or services, thus changing the production cost function of the original industry, so as to provide new impetus for industrial integration. Technological innovation between cross-border e-commerce and logistics industry, such as building an information sharing platform to realize information exchange between the two parties, has changed the demand characteristics of the market, brought new market demand to the original industry, and thus provided market space for the industrial integration of the two. Major technological innovation forms a common technological foundation between different industries, and makes the boundary between different industries tend to be blurred, and finally promotes the phenomenon of industrial convergence.

3.3.3. Scope economy is the basic power of their industrial integration

Scope economy refers to the phenomenon of increasing economic benefits caused by the expansion of product or service categories provided by enterprises, which reflects the relationship between the number of product or service categories and economic benefits. Assuming that the cost of operation and service provision of cross-border e-commerce A and cross-border logistics B in the logistics industry is $C(A)$ and $C(B)$, and when the two are integrated, the total cost is $C(A,B)$, then the scope economy brought by integrated development can be expressed as $C(A,B) < C(A) + C(B)$. Companies in different industries for the pursuit of economies of scope to be diversified, multiple products, through the technology integration innovation change the cost structure, reduce the production cost, Differentiated products and services can be formed through business integration to guide customers' consumption habits and content to realize market integration and ultimately promote industrial integration.

3.3.4. Support policy is the institutional guarantee of industrial integration

Support policy is to reduce adverse or unnecessary restrictive factors to industrial development, rationalize regulation, and add necessary incentive regulation, such as regulations to promote fair competition and favorable policies to strengthen cooperation and contact, so as to distribute resources in a high-quality way. International experience shows that the adjustment of government regulation policy plays an important role in the expansion of service industry, which directly determines the market access opportunities, market structure and competition degree. Since there are barriers to entry between different industries, and barriers to entry are the costs borne by new enterprises more than the old ones, the government's economic regulation is the main reason for the formation of barriers to entry of different industries, so the relaxation of regulation will lead to the business of other related industries to join in the competition of the industry, thus gradually moving towards industrial integration.

4. STRATEGIES TO PROMOTE THE INTEGRATED DEVELOPMENT OF CROSS-BORDER E-COMMERCE AND LOGISTICS INDUSTRY

4.1. Improve relevant policies and strengthen institutional guarantee

In recent years, China has carried out a nationwide layout, set up 105 Comprehensive pilot zones for Cross-border e-commerce in five batches, and added pilot cities for cross-border e-commerce. The innovation of customs supervision mode of "1210", "9710" and "9810" has been successively piloted, injecting new vitality into the development of cross-border e-commerce. However, relevant policies related to cross-border e-commerce and logistics industry still lack, such as the control of information sharing scope and tax setting that do not meet the needs of the situation. As cross-border electricity business enterprise and the logistics industry itself exists a conflict of interest, and between the two sides trust mechanism is not sound, the work flow between incompatible contradiction, etc., these problems will require countries to enact related policies, such as incentives, loan preferential policy, preferential tax policies, so as to promote cross-border electricity integration and logistics industry.

4.2. Integrate innovative business to enhance material foundation

Integrate express delivery, freight and postal services involved in the logistics industry with cross-border e-commerce to reduce existing intermediate links, shorten transport time, reduce transport costs and avoid customs seizures, so as to improve consumer experience. Therefore, it is necessary to integrate and innovate cross-border e-commerce business, deepen the integrated development of cross-border e-commerce and logistics industry chain, so as to maintain the consistency of logistics information, improve the efficiency of customs clearance, and shorten the logistics transportation time. Therefore, through business integration and innovation, comprehensive information fusion and sharing can be realized, so that cross-border e-commerce and logistics industry chain can develop together on the basis of mutual benefit and win-win, and finally achieve the goal of high efficiency and low cost of cross-border logistics supply chain, and maximize the interests of both sides.

4.3. Establish a mutual trust mechanism for mutual benefit and win-win results

Due to the integration between the logistics industry and cross-border e-commerce in business and market boundaries, there will often be some interest friction between the two sides. Therefore, the conflict of interest

is the main cause of mutual distrust. Therefore, mutual trust mechanism must be established on the basis of reasonable distribution of benefits. In order to carry out reasonable distribution of interests, first, we must choose mutually beneficial cooperation programs and distribution programs. Second, choose the appropriate form of capital flow. In the case of disputes over profit distribution and cooperation schemes, relevant industry associations can intervene to mediate until both parties are satisfied.

4.4. Optimize cross-border platforms to provide favorable development environment

We will effectively improve the integration quality of cross-border e-commerce and logistics industry chain. If you want to give full play to the cross-border electricity with the unique advantages of logistics industry chain, it is necessary to bring customers the integration development advantage, it is necessary to take advantage of the platform, will be the major subject of cross-border trade agglomeration, including financial institutions, government agencies, cross-border electricity and so on, to build a benign development of the global cross-border electrical business ecosystem, around the cross-border trade business expansion joint action, in this way, the quality of integrated development of cross-border e-commerce and logistics industry chain will be improved, and a favorable environment for the integration of cross-border e-commerce and logistics industry will be created for the public.

4.5. Improve the service system based on user orientation

The purpose of integration is to meet the needs of future social development and create more social value, so as to obtain economic benefits and maximize the interests of both parties and promote the better development of cross-border e-commerce and logistics industry. In order to achieve this goal, integrated development must be market-oriented, the market plays a decisive role in the allocation of resources, industrial integration only to adapt to market demand can be recognized by the market, the final integration success. In short, the integration of cross-border e-commerce and logistics industry is complex and involves a wide range of issues. Only by adhering to the market-oriented, gradually improving the service system of cross-border e-commerce and logistics industry chain, and following the development laws of market economy, can the integrated development of cross-border e-commerce and logistics industry chain be realized.

AUTHORS' CONTRIBUTIONS

Based on industry convergence, this paper provides a new perspective for the coordinated development of cross-border e-commerce and logistics industry. Through in-depth research on the necessity, motivation and influencing factors of integration, this paper provides strategic suggestions for the integrated development of the two, so as to promote the more benign development of Cross-border e-commerce ecology in China.

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REFERENCES

- [1] Uechi, Industrial convergence of information and communication industry[J]. Chinese Industrial Economy, 2001(02):24-27.
- [2] Ma Jian, Review of industrial convergence theory[J]. Economic Trends, 2002(05):78-81.
- [3] Ren Ling, Integrated development of logistics industry chain and cross-border e-commerce from the perspective of industrial transformation[J]. Business Economics Research, 2016(20):87-89.
- [4] Cao Yunchun, Wang Manman. Research on the coordinated development of cross-border e-commerce and logistics industry from the perspective of industry chain[J]. Prices Monthly, 2017(02):66-70.
- [5] Yang Ming. Research on the integrated development of Cross-border e-commerce and cross-border logistics industry in Northeast China[D]. Yanbian university, 2020.