

A Comparative Analysis on Cross-Border E-commerce Logistics Modes between China and Korea

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Abstract: Since entering into 21st Century, with the policy of "one belt one road" and "China&Korea FTA", the trade between China and South Korea has developed further, and the transaction scale of cross-border e-commerce between the two countries has been increasing year by year. However, there are great differences between the two countries in terms of import and export countries, major products, trade policies, payment methods, customs clearance policies and logistics modes[1]. Cross-border logistics is the last process of the cross-border e-commerce industry chain, which has a very significant impact on the operation of the whole cross-border e-commerce industry chain. This paper will make a comparative analysis of the logistics modes of cross-border e-commerce between China and Korea in order to promote the sustainable development of cross-border e-commerce between China and Korea.

1. Introduction

With the increase of Internet penetration and the expansion of consumer information sharing, cross-border e-commerce has emerged as a new form of trade, fundamentally changing the consumption patterns and habits of consumers in China and Korea, so that consumers in both countries can buy the desired goods without leaving home. In recent years, with the deepening of economic globalization, the demand for foreign goods by Chinese and Korean consumers has also exploded, and cross-border e-commerce has been witnessed with a great development.

With the rapid development of cross-border e-commerce, cross-border logistics, as one of the core process of cross-border e-commerce, has gradually been attached importance. But the development of cross-border logistics has been unable to match the rapid development of cross-border e-commerce. As far as the current situation of cross-border logistics in China is concerned, there are still some problems, such as complicated customs clearance process, long transportation distance, inconsistent policies among countries, high logistics cost and so on. For cross-border export enterprises, choosing the appropriate logistics mode will directly affect the quality of logistics services and logistics costs, and then affect the core competitiveness of enterprises. In the process of import and export cross-border e-commerce trade between China and Korea, there are similarities and differences in logistics modes. This paper will make a comparative analysis of cross-border logistics modes between China and Korea.

2. Current situation of cross-border e-commerce between China and Korea

According to the statistics report of China E-commerce Research Center, the scale of cross-border e-commerce transactions in China has increased from 3.15 trillion RMB in 2013 to 9 trillion RMB in 2018, an increase of 11.6% compared with the same period last year (Figure 1). In 2018, the scale of cross-border e-commerce transactions in China's exports was 7.1 trillion RMB, an increase of 12.7% compared with the same period last year, and the import cross-border e-commerce transactions in the scale is 1.9 trillion RMB, by 26.7% year-on-year growth. Obviously, in the cross-border e-commerce transaction structure of our country, export occupies the dominant

position(Figure2).China's cross-border e-commerce mainly exports clothing, 3C electronic products, household gardening, outdoor goods and other consumer goods, while imports cosmetic care, shoes and clothing, jewelry bags, maternal and infant products, food and some other consumption products. China's cross-border e-commerce export destination countries are mainly distributed in the developed countries represented by the United States and France. Among them, the United States has become China's largest export country with 17.5%, followed by France (13.2%) and Russia (11.3%). With the gradual improvement of network infrastructure in some emerging countries such as Brazil and India, the proportion of cross-border e-commerce exports will continue to strengthen, becoming the next blue sea area of China's cross-border e-commerce exports.

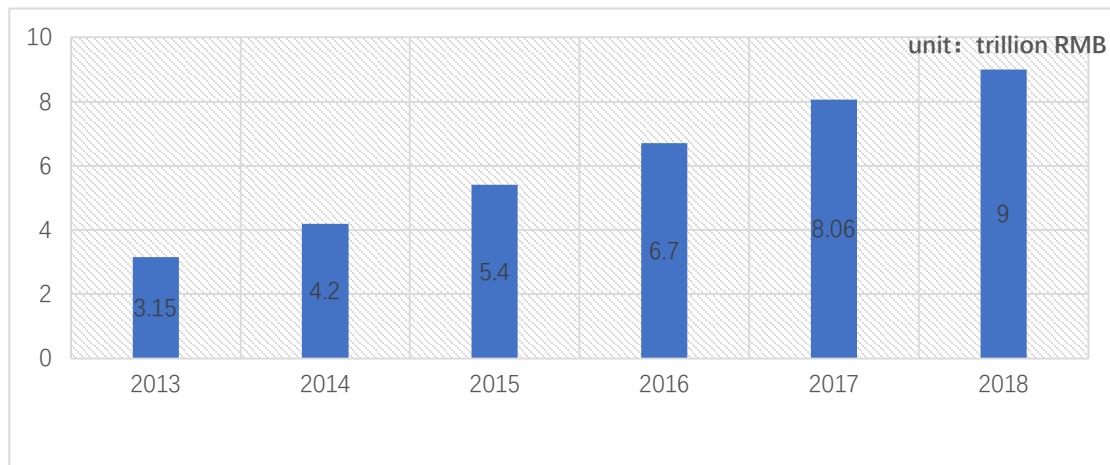


Figure 1 China's cross-border E-commerce transactions in 2013-2018[2].

According to the latest statistics from KOSIS, Korea's total E-commerce import and export transactions in 2018 were 6.5 trillion KRW, an increase of 25.2% over the previous year. Among them, the total import and export transactions were 2.92 trillion RMB and 3.58 trillion RMB, respectively. Korea's exports and imports of cross-border e-commerce transactions to China are 2.9 trillion RMB and 0.5 trillion RMB, respectively. China is Korea's largest export destination country, accounting for 80% of the total. The main export commodities are cosmetics and fashion clothing. The United States is Korea's largest import destination country. The import category is relatively scattered, mainly clothing, food and household goods. As shown in Table 1, since 2018, Korean cross-border e-commerce exports of cosmetics, fashion apparel products and 3C electronic products accounted for 2.7 trillion, 0.5 trillion and 0.1 trillion KWR, respectively. In terms of cross-border e-commerce imports, South Korea increased by 59.5%, 31.7% and 20.6% year-on-year in 2018 in the categories of 3C electronics, fashion clothing and food, respectively.

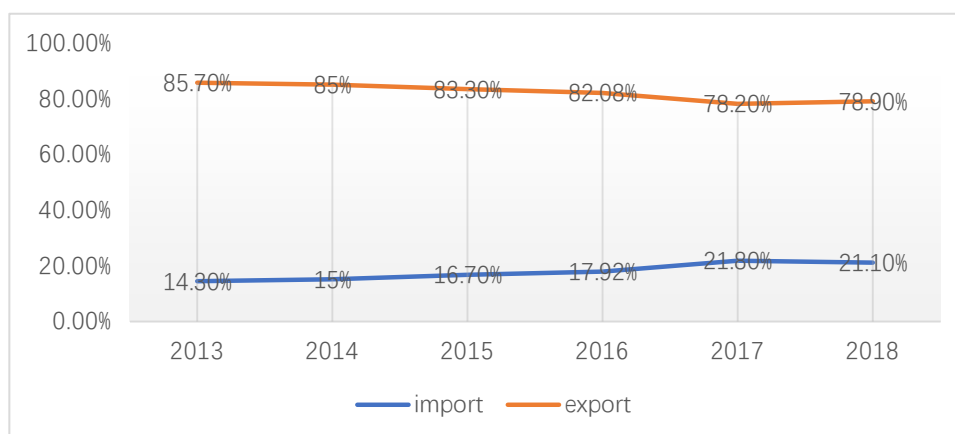


Figure 2 Import & Export structure of China's cross-border E-commerce transactions in 2013-2018.

By comparing Figure 1, Figure 2 and Table 1, it is not difficult to find that the common point in import is that the United States is the largest import destination of both China and Korea, and in the trade between China and Korea, the import volume of Korea in China is much lower than that of China in Korea. In terms of export, China mainly concentrates on the developed countries in Europe and the United States with perfect logistics facilities and mature e-commerce market. Among the export destinations of Korea, China occupies the first place with an absolute advantage of over 80%, far surpassing other export destinations. Another big difference between China and Korea is that China's cross-border e-commerce export occupied more than 80% , while South Korea's export ratio surpasses the import ratio for the first time in 2016.

Table 1 Import & export transactions structure of Korea's cross-border e-commerce[3].

	2016 (100 million won)		2017 (100 million won)		2018 (100 million won)		Year-on-year(%)	
	Export	Import	Export	Import	Export	Import	Export	Import
Total	22934	19,079	29509	22436	35777	29248	21.2	30.4
U.S.A	1547	12225	1813	12869	1661	15372	-8.4	19.5
China	17913	1742	23162	2581	28630	5042	23.6	95.4
Japan	1213	1042	1382	1679	1915	1944	38.6	15.8
Southeast Asia	755	100	1079	126	1655	106	53.4	-16.2
European Union	302	3663	316	4770	356	6076	12.8	27.4
The Middle East	81	6	80	8	80	10	0	18.7
Central and South America	94	5	102	2	117	2	14	8.7
Oceania	192	189	190	278	176	526	-7.2	89.1
Others	836	108	1385	123	1186	171	-14.3	38.7

3. Comparative analysis of import logistics modes between China and Korea

3.1 China's cross-border e-commerce import logistics modes

There are two main modes of import cross-border e-commerce logistics in China, namely direct mail import mode and bonded import mode[4].

3.1.1 Direct mail import mode

Direct mail import mode refers to the logistics mode in which overseas sellers use international business express or postal system to send goods directly to China after receiving orders, and then transfer them to consumers by domestic express companies. The direct mail import mode can be subdivided into two modes: overseas direct mail and collecting direct mail. The main difference between this two modes is that collecting direct mail has one more Philatelic process, logistics process is shown as Figure 3.

3.1.2 Bonded import mode

Bonded import mode refers to the logistics mode in which large-scale goods are transported to domestic bonded warehouses by cross-border e-commerce enterprises in advance on the basis of large data analysis before customers submit purchase orders[4]. When receiving purchase orders from domestic consumers, domestic logistics companies directly take goods from bonded warehouses and distribute them to customers. As the goods are delivered directly from domestic bonded warehouses, the bonded import mode greatly shortens the logistics transportation time, and this purchasing process also reduces the unit transportation cost of goods. But the main disadvantage of bonded import mode is that the cost of warehousing is very high, and goods may suffer from quality degradation, passive exchange and other risks in the process of warehousing, thus reducing consumer experience. The logistics process of bonded import mode is shown in

Figure 4.

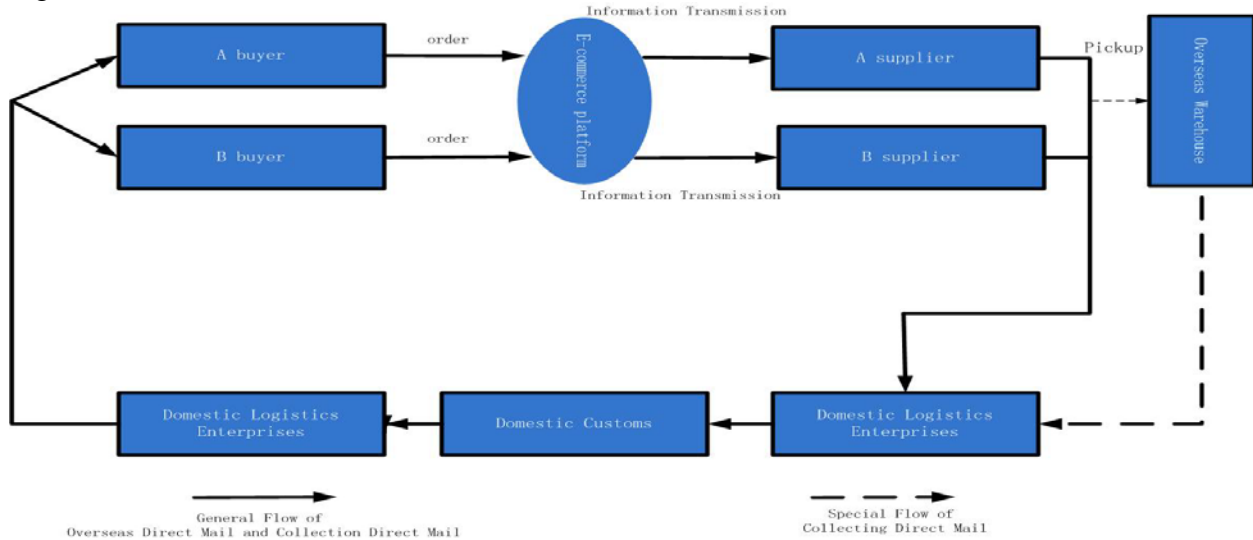


Figure 3 Logistics process of direct mail import mode.

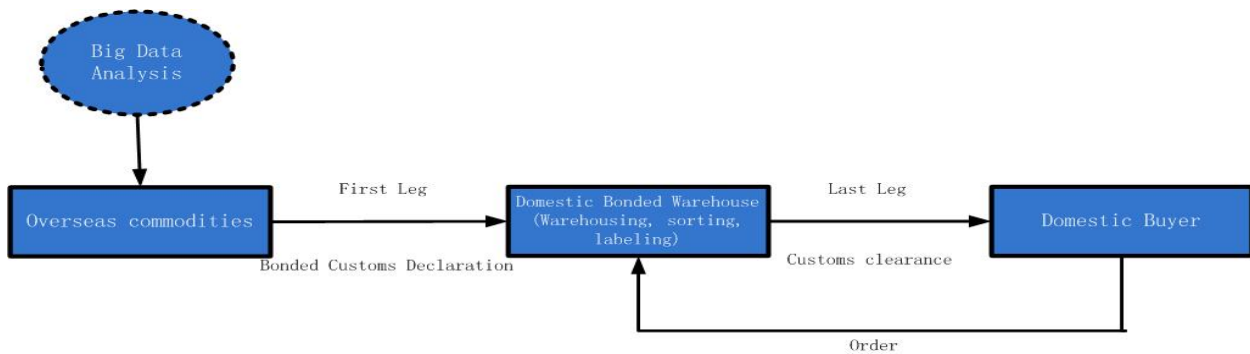


Figure 4 Logistics process of bonded import mode.

3.2 Korea's cross-border e-commerce import logistics modes

Korea's import cross-border e-commerce, also known as direct overseas purchase, is a process of obtaining overseas goods through logistics after purchasing on cross-border e-commerce platform. There are three main logistics modes: purchasing agent mode, distribution agent mode and direct distribution mode[5].

3.2.1 Purchasing agent mode

Purchasing agent mode is a logistics service mode in which overseas suppliers buy goods directly or overseas purchasing agents buy goods for domestic consumers on the overseas e-commerce platform. When Korean consumers have obstacles in language, procedure, policy and law, overseas local purchasing agents can use their own advantages to buy goods on behalf of consumers, translate and explain the attributes and specifications of goods in Korean, and provide the purchasing environment just like purchasing in their own countries. However, the disadvantage of this logistics mode is that it takes a long time to distribute goods, and it is difficult to return and exchange goods according to the situation of the purchasing agent enterprises. Figure 5 shows the process of the purchasing agent mode.

3.2.2 Distribution agent mode

Distribution agent mode is a kind of logistics mode which only entrusts foreign logistics and transportation services after consumers place orders. After ordering by consumers, overseas suppliers will directly deliver the goods to the distribution agency. After receiving the goods, the distribution agent will report the international logistics bill to the domestic consumers in the form of mail, and distribute the goods after receiving the logistics and distribution expenses paid by the

consumers. This logistics mode can help local consumers to easily buy goods that could not be directly distributed overseas to the local market. However, there are also great differences in costs due to the different taxes of overseas suppliers and distribution agencies. Figure 6 shows the operation flow of the distribution agent mode.

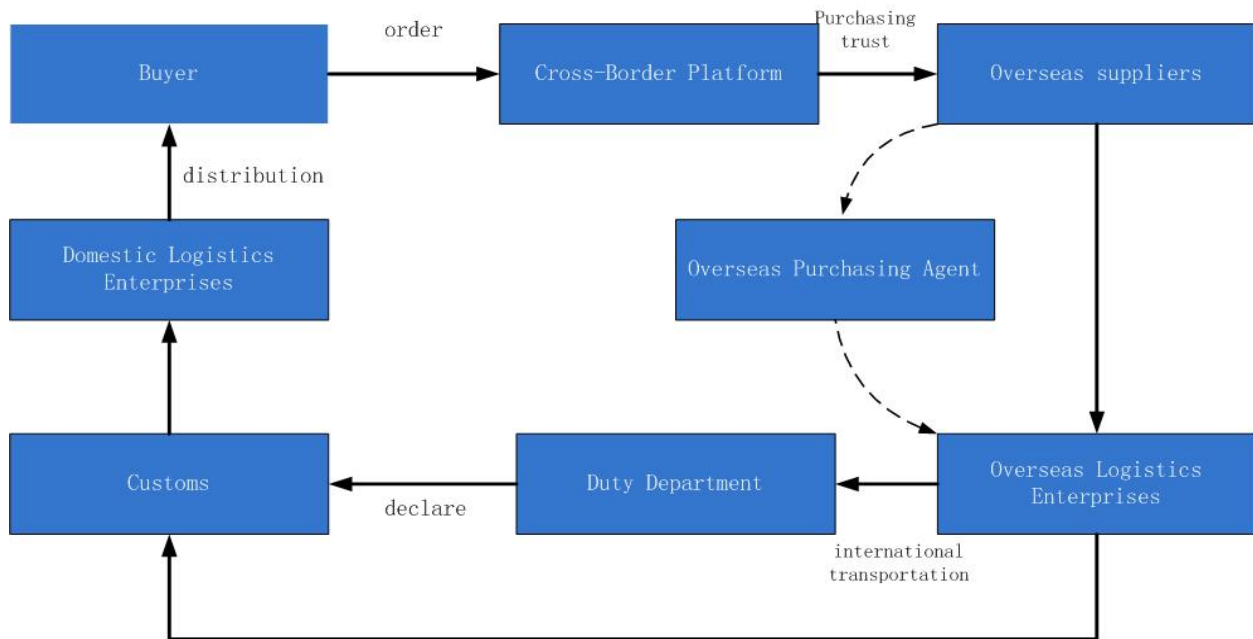


Figure 5 Process of purchasing agent mode.

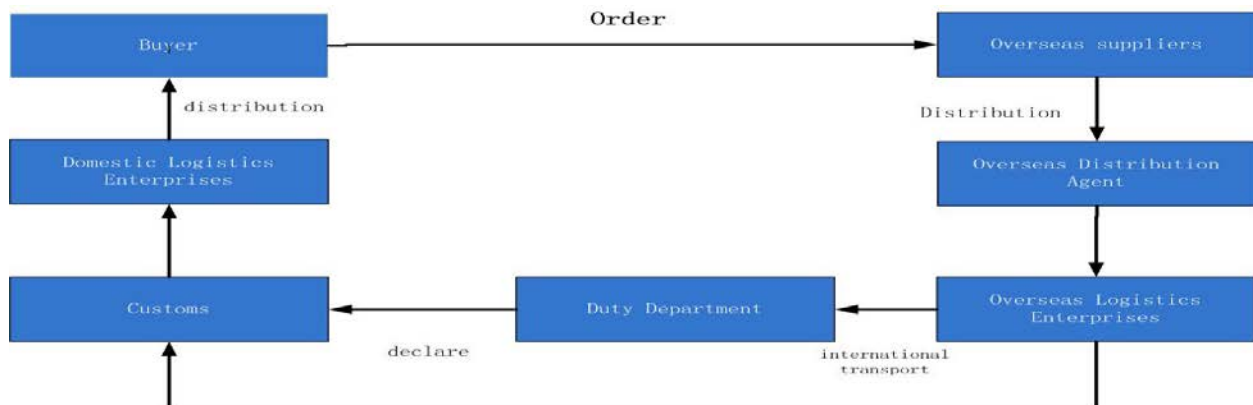


Figure 6 Operation process of transportation agent mode.

3.2.3 Direct distribution mode

Direct distribution mode refers to the logistics mode in which overseas suppliers directly distribute goods to consumers after accepting a predetermined order[6]. This logistics mode makes consumers do not need to settle twice. Consumers will settle all kinds of international logistics costs, taxes and fees at one time when ordering. Direct delivery mode is easy to operate and can save fees paid to intermediaries. Among the three logistics modes, the price is the lowest, but it is difficult to solve the problem when returning or changing goods or finding problems in the quality of goods, and it is not protected by domestic laws. Figure 7 shows the operation flow of direct delivery mode.

4. Comparative analysis of export logistics modes between China and Korea

4.1 China's cross-border e-commerce export logistics modes

China's cross-border E-commerce export logistics Modes mainly includes four types: international postal parcels, international business express, special line logistics and overseas warehouse[7].

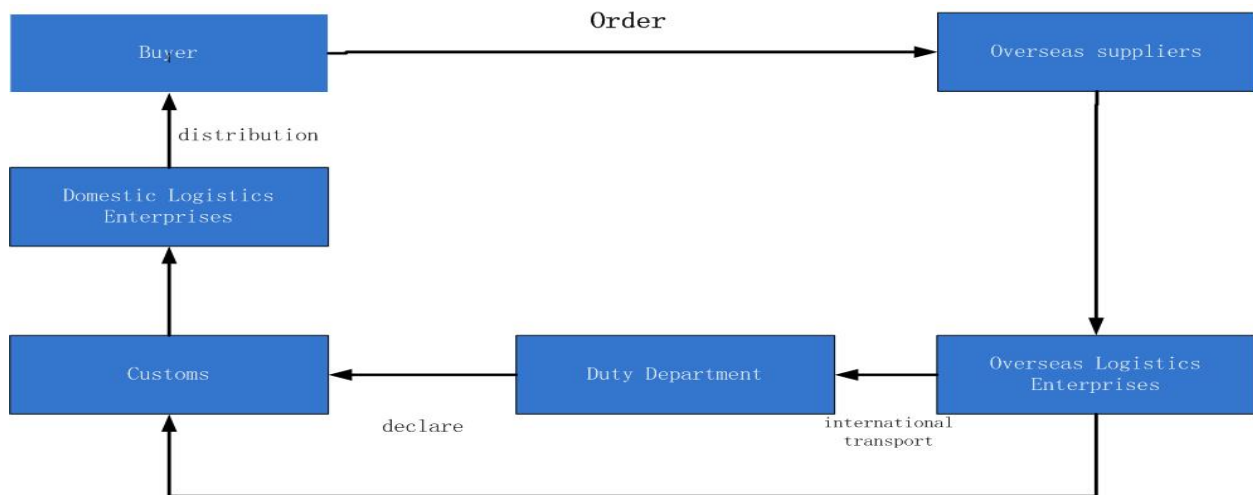


Figure 7 Operation process of direct transportation mode.

4.1.1 International postal parcels

The international postal parcels is a logistics mode that uses UPU (Universal Postal Union) to realize the trade of goods and to deliver goods in the form of personal postal package. The postal network covers more than 220 countries worldwide, and can reach all countries with the post offices. Also international postal parcels has the he most extensive logistics channels than other modes. The International Postal Parcels is mainly aimed at small and light electronic business parcels under 2 kg. It is positioned to serve B2C and C2C e-commerce customers. The product types can be subdivided into traditional small parcels, Prime registered small parcels, tracking small parcels, Sino-Kazakh-Russian, Yuxin-European special line and so on. Figure 8 shows the process of receiving and sending international postal package.

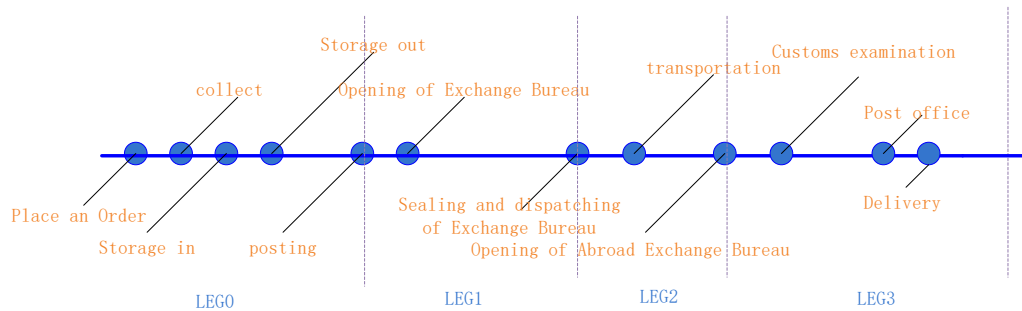


Figure 8 Process of international postal mail mode.

4.1.2 International business express

International business express is a common mode of cross-border e-commerce logistics. It generally has the characteristics of self-built global transportation network, strong IT and logistics system, high freight and fast timeliness. At present, from the global point of view, there are four main international express delivery companies: DHL, FedEx, UPS and EMS. Although the local enterprises represented by SF and SiTongYiDa have begun to speed up the distribution of overseas express market, the market share is still dominated by four major companies. The four major international express features are shown in Table 2.

4.1.3 Special line logistics

Special line logistics refers to the cross-border logistics mode which establishes warehouses in China, then uses the warehouse mode to deliver goods in batches to specific countries or regions, and then transports goods to consumers through local express companies. The departure and arrival place of the special cross-border line and the means, routes and time of transportation are basically

fixed. The two major characteristics of the special cross-border line logistics are scale transportation and fixed destination country, i.e. reducing transportation costs by centralized transportation of large quantities of goods to a particular country. In terms of timeliness, cross-border special line logistics is between international postal parcel and international commercial express delivery, such as from domestic delivery to Korea. It takes about 9-13 days for international postal parcel, 2-3 days for international commercial express delivery, and 6-8 days for cross-border logistics special line.

Table 2 Comparisons of four international business expresses.

International Express	DHL	UPS	FedEx	EMS
Headquarter	Germany	USA	USA	UPU
Advantages	high coverage and high competitiveness, short transit time, high customer satisfaction .	American and Japanese routes are strong; Price competitive; 48 hours of delivery in the USA	Southeast Asia routes are strong; high lead-time; good customs clearance ability	Wide transport network; low price; No surcharge.
Disadvantages	high cost; more restrictions	Freight is more expensive;	Western Europe, America, Middle East have no advantage in price.	Instability of transshipment time; low customer service

4.1.4 Overseas warehouse

Overseas warehouse mode is a new type of cross-border e-commerce logistics mode developed in recent years to adapt to the development of cross-border e-commerce[8]. It generally refers to the self-built or leased warehouses of cross-border e-commerce export sellers or third-party service platforms in overseas destination countries, and the goods are transported to overseas warehouses by air, sea or land transportation in advance. When an export enterprise receives an order, it delivers the goods directly from overseas warehouses and distributes them to customers. Overseas warehouses can improve customs clearance efficiency, reduce logistics costs, and help export enterprises better integrate into the overseas circulation system. The operation process of overseas warehouse mode mainly consists of three parts: first-way transportation, warehousing management and overseas distribution. The flow chart is shown in Figure 9. Overseas warehouse mode has the advantages of low logistics cost, strong timeliness and convenient return and exchange, but it also has some limitations. As for overseas warehouse, its operation cost is higher.

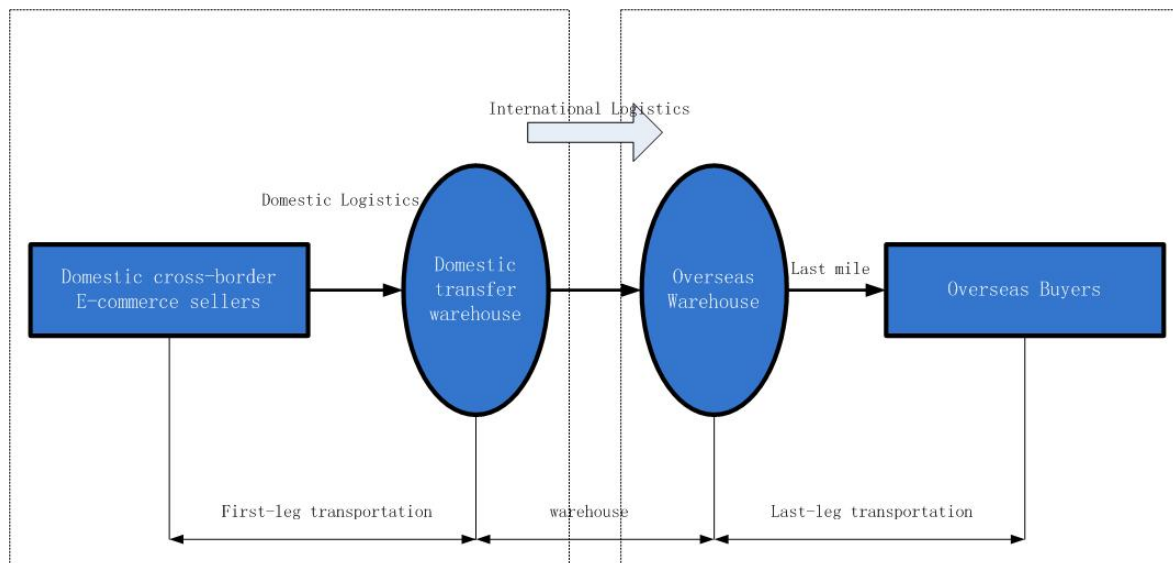


Figure 9 Logistics process of overseas warehouse mode.

4.2 Korea's cross-border e-commerce export logistics modes

Korea's cross-border e-commerce export logistics modes mainly include individual express delivery, own logistics, and Collective delivery. The three logistics modes have their own characteristics and advantages and disadvantages from the standpoint of both buyers and sellers, as shown in Table 3.

Table 3 Three major export cross border logistics model of Korea [9].

NO	Types	Characteristic s	Example	company side		consumer side	
				pros	cons	pros	cons
1	Individual express delivery	Shipped via express delivery	11st world delivery	Easy process	Scattered customer information	Speedy Process	Uncertain responsibility
2	Own logistics	Using own logistics	malltail	Increase trust Ease customer management	Scattered capability High cost	High responsibility	High cost
3	Collective delivery	Deliver the box packing after collecting items	kmall24	Cost reduction Focus on capability	Limitation of Brand establishment	Cost reduction	Low trust

4.2.1 Individual express delivery

Individual express delivery refers to the logistics mode in which goods ordered by foreign consumers are distributed individually in the domestic market. It is a logistics mode corresponding to the transshipment of goods. In the Korean cross-border logistics market, the main carriers of logistics enterprises are DHL, FedEx, UPS and Korea Post, and their logistics transportation process are the same as the international business express of China's export cross-border e-commerce.

4.2.2 Own logistics

Own logistics refers to the logistics mode that cross-border e-commerce platform enterprises provide both export business and logistics distribution services. Malltail is the representative self-service logistics in Korea. Through self-built logistics system of cross-border e-commerce platform enterprises, customers' trust and recognition of their goods can be increased, and it can simplify the whole shopping process. Its disadvantage is that cross-border e-commerce platform enterprises' core business is export trade, although they can provide logistics services, there is still a certain gap between their logistics professionalism and professional international logistics companies. Their logistics process is relatively simple, as shown in Figure 10.

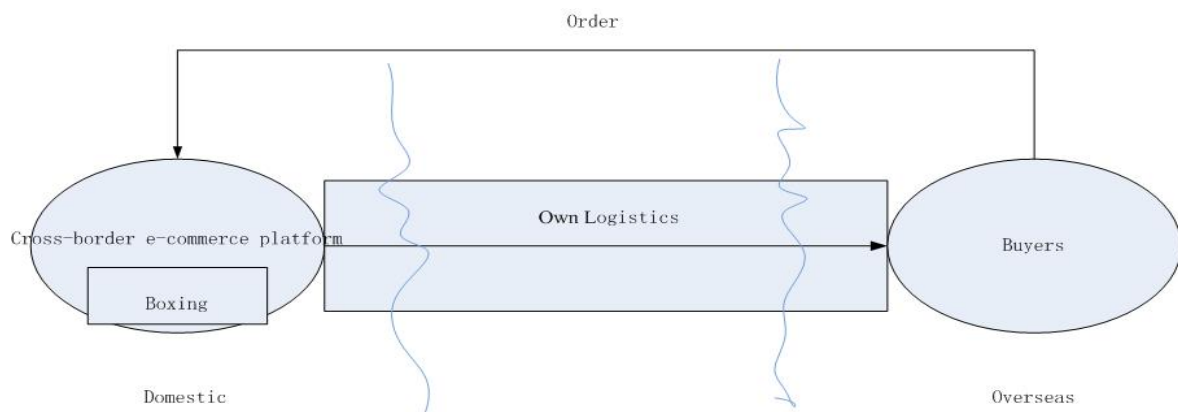


Figure 10 Logistics process of own logistics mode.

4.2.3 Collective delivery

Collective delivery refers to the logistics mode in which cross-border e-commerce export enterprises distribute their products to the destination country uniformly after collecting goods through domestic logistics. K-mall 24 is a typical gathering and transshipment platform in Korea. It unifies labeling, packaging and distribution of many small and medium-sized enterprises' commodities, and assumes corresponding responsibilities in the process of transportation and distribution. This model can make export trade enterprises reduce part of the cost of publicity, advertising and marketing promotion to enhance the investment in the quality and function of their products. Therefore, it is a logistics model that combines logistics distribution services with brand management. The disadvantage of this logistics model is that it has an impact on the stability of its brand, and at the same time, it has a low degree of trust from the perspective of customers. The flow chart of its logistics mode is shown in Figure 11.

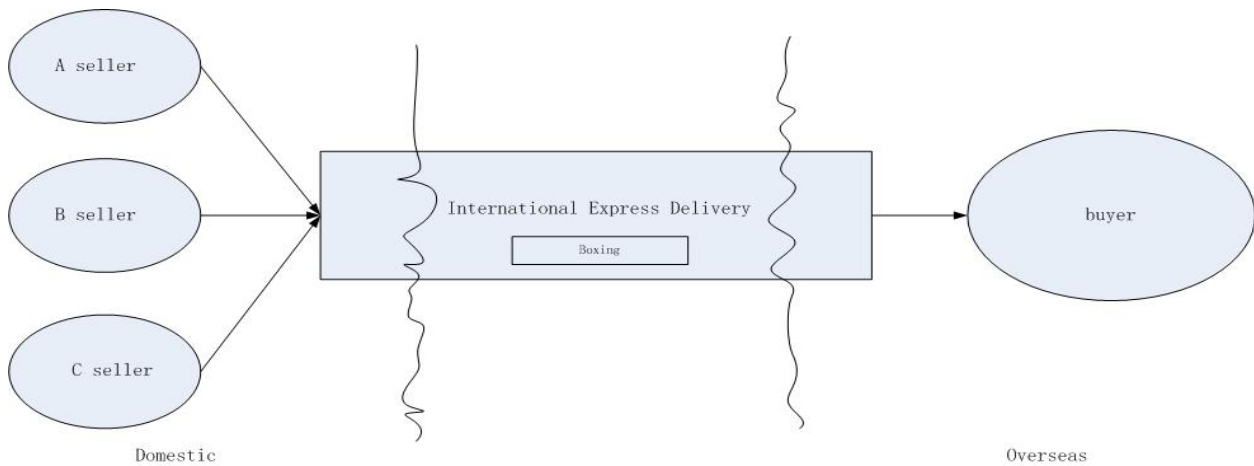


Figure 11 Process of collective delivery mode.

5. Conclusions and suggestions

At present, the volume of cross-border e-commerce and cross-border logistics between China and South Korea are in a high-speed development stage, and there are many differences in their cross-border logistics modes. In import cross-border, China mainly adopts two modes of direct mail import and bonded import, while Korea mainly relies on distribution agent, purchase agent and direct mail. In terms of export cross-border, China mainly has four logistics modes: international postal parcels, international commercial express delivery, cross-border special line and overseas warehouse, while Korea mainly uses individual express delivery, own logistics and collective delivery. Although the cross-border logistics modes between China and Korea are quite different, there are also some overlaps. For example, the personal express transportation mode in Korea is also the international commercial express used in the actual operation process, which is similar to that in China. China and South Korea are two important economies in Northeast Asia and two important trading partners of "one belt and one road". The development of cross-border e-commerce and cross-border logistics between two countries is of great significance for promoting the sustainable economic development of both countries. I put forward three suggestions on promoting the development of cross-border logistics between the two countries.

5.1 Improving policies on customs clearance, taxation and logistics investment

China and Korea should formulate a reasonable port management system in the process of logistics cooperation. A good port management system can effectively improve the efficiency of logistics operation, thus promoting the development of cross-border e-commerce between the two countries. Among them, the formulation of customs clearance policies conducive to the development of trade logistics between the two countries is an important way to improve the

efficiency of port operation[10]. In addition, the two governments can guide the investment direction of logistics enterprises by reducing tax rates and tax exemption preferential policies, and guide social capital to flow into the fields of logistics cooperation between China and South Korea. At the same time, they can also use the mechanism of benefit difference of tax policies to guide resource flow in order to optimize the logistics structure of the two countries. In addition, the two countries should give logistics enterprises as much investment concessions as possible, not only to improve their logistics strength, but also to ensure the common interests of logistics cooperation between the two countries.

5.2 Strengthen collaboration between industries and enterprises

In order to further specialize and industrialize the logistics cooperation between China and Korea, the cooperation between logistics industry associations and manufacturing industry associations can be strengthened[11]. When manufacturing enterprises and logistics companies import and export related raw materials and commodities, the agreement between the two industries can be used to improve the convenience of logistics and trade. The cross-border e-commerce logistics enterprises of the two countries can also cooperate effectively by establishing integrated logistics service centers, port alliances and integrated overseas warehouses to enhance the logistics service capabilities of China and Korea at airports and ports. Although the complex logistics center needs a lot of investment in the early stage, in the long run, it is of great significance to the international trade between the two countries.

5.3 Constructing and perfecting statistical indicators of cross-border e-commerce logistics

At present, China's e-commerce and logistics related data mainly come from China's e-commerce research center and third-party statistical research institutions such as iiMedia Consulting, Baidu data, and lack of official statistics. The statistical indicators of third-party statistical institutions are influenced by scale, policy and comprehensive strength. It is difficult to refine the statistical data to quarterly or even monthly, which is not conducive to the relevant decision-making of our government, scholars and enterprises. South Korea has done a relatively good job in this respect. Since 2015, the Korea Statistics Office has monitored and counted cross-border e-commerce data, and issued statistical reports on the basis of annual, quarterly and monthly data, involving trade countries and regions, import and export scale, trade categories, etc. In this regard, we should draw lessons from the statistical methods of Korea Statistics Office to establish an official cross-border E-Commerce Statistical database. Although China and South Korea have statistics on cross-border e-commerce to some extent, they are basically blind spots in cross-border logistics. Next, the two countries should cooperate and support each other in cross-border e-commerce logistics, establish a professional cross-border logistics database, and provide support for the development of cross-border logistics in both countries.

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