

Research on Digital Path Optimization of China-Korea (Yancheng) Cross-border E-Commerce Industry

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Abstract: This paper aims to deeply study the digital path of the China-Korea (Yancheng) cross-border e-commerce industry and put forward optimization suggestions to promote the sustainable and healthy development of Yancheng's cross-border e-commerce industry. By analyzing the current situation and trends of the China-Korea cross-border e-commerce market, combined with Yancheng's regional characteristics and industrial advantages, and the application of digital technology, this paper explores the digital path optimization strategy to further improve the competitiveness of China-Korea (Yancheng) in the field of cross-border e-commerce.

1. Introduction

With the continuous development of digitalization such as the Internet, AI artificial intelligence, and big data, the China-Korea (Yancheng) cross-border e-commerce industry has brought huge development potential. Research on digital path optimization is of great significance to achieving industrial upgrading and enhancing competitiveness.

After sorting out the literature, it was found that domestic research on the digitalization of cross-border e-commerce is characterized by a short research time and an increasing research scale year by year. Most of the academic research on cross-border e-commerce and digitalization focuses on one aspect, such as the role of cross-border e-commerce platforms, cross-border payments, cross-border logistics, and problems in development. Although existing literature has deeply elaborated on its relevance and compatibility, there are not many studies on its integration with industrial economy. Tian Xiaoyan analyzed the smart operation strategies of Chinese cross-border e-commerce companies in the context of digitalization and believed that the power of professional institutions in the global big data market should be mobilized to give play to the value of cloud computing, reduce the computing resource cost of smart operation, actively expand interdisciplinary cross-border e-commerce smart operations, digitize from the source, and integrate data systems.[1].

Jiang Wei believes that it is necessary to explore the integrated development path of new foreign trade formats, from the entire process of cross-border e-commerce, such as product selection, operation, logistics, customs clearance, commodity inspection, credit insurance, foreign exchange collection, tax refund, and return, in order to achieve high-quality development of cross-border e-commerce in terms of digitalization, specialization, and convenience. This will promote the integrated development of cross-border e-commerce and various new foreign trade formats, and further facilitate the transformation and upgrading of trade, incorporating digitalization, specialization, and

convenience. Ultimately, it will promote the integration of cross-border e-commerce and various new foreign trade formats[2].

There are very few literatures on cross-border e-commerce in Yancheng. Cai Hongzhi proposed five strategies for consolidating the foundation of the cross-border e-commerce industry, improving the operation plan, introducing enterprises, building platforms, and building overseas warehouses through research on the cross-border e-commerce industry chain in the national-level Yancheng Comprehensive Bonded Zone. Zhang Enming and Wei Yazhou conducted a comparative analysis of the macro environment, operating status, and transaction links of cross-border e-commerce in Yancheng and Hangzhou, and concluded that there is a certain gap between the development of Yancheng's cross-border e-commerce industry and Hangzhou [3-4].

Based on this, this study takes the China-Korea (Yancheng) cross-border e-commerce industry as the research object, explores its digital status and existing problems, and provides optimization suggestions and references for the digital development of the (China-Korea) Yancheng cross-border e-commerce industry.

2. Current status of cross-border e-commerce development in Yancheng

2.1 Support from government policies

In April 2020, the State Council approved the establishment of the China (Yancheng) Cross-border E-commerce Comprehensive Pilot Zone. Yancheng entered a new era of cross-border e-commerce and made every effort to promote the transformation and high-quality development of foreign trade. In November 2020, the General Office of the Jiangsu Provincial People's Government issued the "Implementation Plan for the China (Yancheng) Cross-border E-commerce Comprehensive Pilot Zone", which pointed out the direction for the development of Yancheng's cross-border e-commerce. In October 2021, the "Notice on Issuing Several Policies to Support the Construction and Development of the China (Yancheng) Cross-border E-commerce Comprehensive Pilot Zone" further promoted the construction of the China (Yancheng) Cross-border E-commerce Comprehensive Pilot Zone. In February 2022, the "Yancheng 14th Five-Year Plan for Coastal Development" pointed out: "Build the China (Yancheng) Cross-border E-commerce Comprehensive Pilot Zone at a high level, accelerate the construction of the International Express Supervision Center and the International Mail Exchange Bureau, accelerate the establishment of the Yancheng Public Overseas Warehouse International Marketing Platform, create a new highland for foreign investment and foreign trade, and build a high-quality intersection of the 'Belt and Road'." In October 2022, the "Notice on Printing and Distributing the Implementation Opinions on Accelerating the High-quality Development of E-commerce in the City" formulated a series of implementation opinions based on the actual situation of Yancheng, from the perspective of e-commerce in cultivating new driving forces for economic development, stimulating new momentum for transformation and upgrading, and expanding new channels for people to increase their income. In August 2023, the "Notice on Several Measures to Promote the Stabilization of Foreign Trade Scale and Optimization of Structure" was issued. This series of policies is a cross-border e-commerce feasibility plan formulated in conjunction with local economic development, which provides a strong guarantee for the economic development of the Yancheng region. In September 2023, the notice on "Several Policies of Yancheng Economic and Technological Development Zone to Promote the Development of Cross-border E-commerce" was issued, formulating preferential policies to support the attraction of cross-border e-commerce entities, support the construction of cross-border e-commerce platforms, support the construction of a cross-border e-commerce ecosystem, expand the scale of cross-border e-commerce, and promote the high-quality development of Yancheng's cross-border e-commerce .

2.2 Scale of Yancheng's cross-border e-commerce industry

2.2.1 Number of industrial parks

According to survey data, as of the end of 2022, Yancheng City has a total of 8 cross-border e-commerce industrial parks (Table 1), with more than 1,000 companies and merchants engaged in cross-border e-commerce business, and has established good cooperative relations with leading platforms such as Alibaba, AliExpress, Amazon, and Made-in-China.com.

Table 1: Summary of Yancheng City's cross-border e-commerce industrial parks

Serial number	area	Industrial Park Name
1	Economic Development Zone	Yancheng Comprehensive Bonded Zone
2	Dafeng District	Dafeng Bonded Logistics Center (Type B) Cross-border E-commerce Industrial Park
3	Tinghu District	Yancheng Longgongchang Cross-border E-commerce Industrial Park
4	Dongtai City	Dongtai Cross-border E-commerce Industrial Park
5	Funing County	Funing Dalong Network Cross-border E-commerce Incubation Base
6	Binhai County	Binhai Yigo Cross-border E-commerce Industrial Park
7	Xiangshui County	Guanhe Cross-border E-commerce Industrial Park
8	Sheyang County	Sheyang Cross-border E-commerce Industrial Park

2.2.2 Operation model of the industrial park

Through the "Internet + foreign trade + four empowerments + product display + live streaming + double innovation incubation" model (Figure 1), Yancheng cross-border e-commerce companies have successfully established themselves in domestic and foreign markets, thereby promoting corporate transformation and upgrading and creating a good cross-border e-commerce cultural ecosystem.

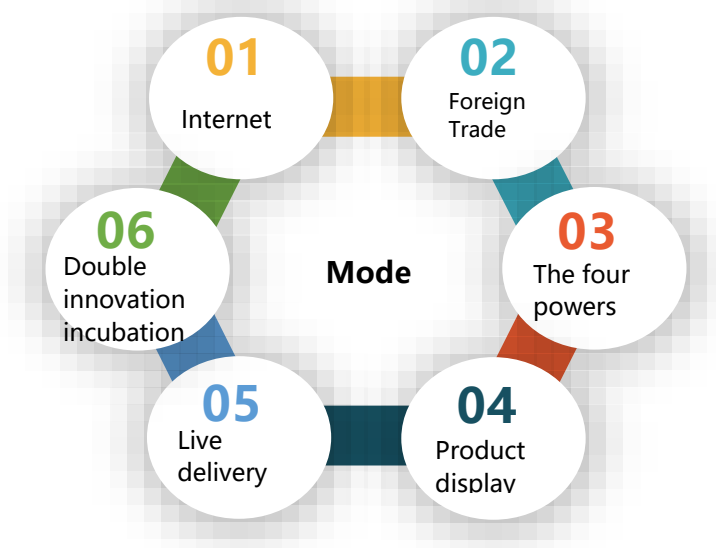


Figure 1: Operation model

2.3 Economic Benefits

Yancheng's cross-border e-commerce mainly focuses on three business models: cross-border e-commerce B2C direct export (9610 model), cross-border e-commerce online shopping bonded import (1210 model), and cross-border e-commerce B2B direct export (9710 model). The total import and export volume and growth rate from 2020 to 2022 are among the highest in the province (Table 2). In the first half of 2023, Yancheng's cross-border e-commerce trade volume ranked third in the province, of which the 9710 model export increased by 35%, and the 9610 model export accounted for 1/7 of the provincial share of this model. In the past three years, the economic benefits generated by cross-border e-commerce have really contributed to the economic development of Yancheng.

Table 2: Yancheng cross-border e-commerce import and export scale from 2020 to 2022

years	Import and export volume (100 million US dollars)	Increase (%)
2020	1.78	493.3
2021	10.72	502.2
2022	12.22	14

Note: The statistical data is broad in scope and comes from the Ministry of Commerce.

3. Digitalization Analysis of China-Korea (Yancheng) Cross-border E-commerce Industry

3.1 Problems arising from the digitalization of the China-Korea (Yancheng) cross-border e-commerce industry

3.1.1 Imperfect digital facilities and regulatory and policy restrictions

At present, the digital network infrastructure in some areas of Yancheng is not perfect, and there are still certain technical difficulties in the digitalization of cross-border payment and logistics. In terms of laws and policies, e-commerce laws and policies in different countries and regions, including customs clearance requirements and tax regulations, are different. This may increase compliance costs and increase the difficulty of operation for Yancheng cross-border e-commerce companies. At the same time, for intellectual property protection, consumer rights protection and other aspects, specialized talents are also needed to understand these laws and regulations. At the same time, due to the lack of policy support at the national level, it is difficult to attract and settle the leading enterprises of China-Korea (Yancheng) cross-border e-commerce. There are relatively few well-known cross-border e-commerce projects in Yancheng. The driving effect of cross-border e-commerce enterprises in Yancheng and the large-scale industrial cluster effect have not yet appeared.

3.1.2 Challenges in cross-border logistics and warehousing

Cross-border logistics and warehousing need to face issues such as tariffs, customs declarations, cross-border transportation and distribution in different countries and regions. These problems may lead to extended logistics time, increased costs, and loss or damage of goods. At present, Jiangsu Province currently has 37 provincial public overseas warehouses, and Yancheng is still blank. However, a number of traditional foreign trade companies such as Yancheng Delong Zhenye, Jiangdong Gasoline Engine and Zhongheng Pet Products have their own overseas warehouses, but the awareness of sharing is not strong. Due to the high cost of building public overseas warehouses, the cross-border e-commerce business of state-owned enterprises such as Yancheng Port Holding Group and Yanwu Group is still in its infancy, and the conditions are not yet mature.

3.1.3 Low awareness of digital trade

Through research, the author found that most foreign trade enterprises in Yancheng, including traditional foreign trade enterprises, trade e-commerce enterprises, and cross-border e-commerce enterprises, still remain at the stage of online trade chain in terms of digitalization, and seek a systematic awareness that needs to be broken through. According to preliminary statistics, 72% of foreign trade enterprises in Yancheng are still traditional enterprises, and the leaders of these enterprises have rigid thinking and insufficient understanding of the digitalization and intelligence of the industrial chain. Their thinking upgrades cannot keep up with the new trend of digital trade development, and they are not very proactive in participating in digital trade.

3.1.4 Lack of professional talents

The shortage of professional talents in Yancheng's cross-border e-commerce restricts its development. The digital development of cross-border e-commerce requires talents with relevant digital technologies and cross-border e-commerce knowledge. Cultivating and attracting outstanding talents and improving technical levels and innovation capabilities are important tasks for Yancheng universities in promoting the digitalization of enterprises. Cross-border e-commerce companies in the Yancheng area can cooperate with the government and relevant Yancheng universities to promote the construction of digital infrastructure and the improvement of laws and regulations, strengthen international cooperation, and promote standardization and collaboration to promote the further development of the digitalization of the China-Korea (Yancheng) cross-border e-commerce industry.

3.2 Advantages of digitalization in the China-Korea (Yancheng) cross-border e-commerce industry

3.2.1 Online digital upgrade

At present, the Yancheng area is strengthening the construction of online and offline comprehensive service platforms. Since 2021, the Yancheng Comprehensive Pilot Zone portal website has been integrated with the original cross-border e-commerce public service platform, and the online comprehensive service platform has been connected to the Dafeng Bonded Logistics Center (Type B) Inspection Center Service Platform, and the online comprehensive service platform of the comprehensive pilot zone has been comprehensively upgraded. The Dafeng B Bonded and Yancheng Comprehensive Bonded Zones have successively completed the upgrade and transformation of cross-border e-commerce supervision stations, and the stations have been interconnected with the online comprehensive service platform data to improve customs clearance efficiency and effectively create a "one-stop" service platform for cross-border e-commerce. As of September 2023, there were 137 cross-border e-commerce companies registered on the online comprehensive service platform. The upgrade of online digitalization has accelerated the transaction speed and reduced the time and labor costs of the intermediate links. At the same time, the digital system can also provide real-time inventory management and logistics tracking, optimize logistics management, and improve transaction efficiency.

3.2.2 Focus on cooperation and exchanges in digital development

On August 23, 2023, the 2023 Yancheng Cross-border E-commerce Ecological Innovation Conference and Brand Overseas Summit with the theme of "The Yangtze River Delta's New Journey to the Sea" was held in Yancheng, Jiangsu. This conference helped Yancheng local enterprises to

upgrade their domestic and foreign trade industries and promote the construction of a "cross-border e-commerce ecological chain" around Yancheng to form an adsorption-type cross-border e-commerce ecosystem. Since 2023, well-known cross-border e-commerce companies such as Alibaba, Dalong.com, and Zhejiang International Trade have successively carried out various trainings in the Yancheng Comprehensive Pilot Zone, with more than 2,500 participants, further enhancing the willingness and business level of cross-border e-commerce transformation, giving full play to the main role of enterprises, vigorously cultivating industry and regional international brands, and enhancing brand cultivation and international market expansion capabilities with the help of cross-border e-commerce. According to statistics, by the end of 2022, Yancheng City had added 35 overseas registered trademarks.

3.2.3 Develop new digital business models

Yancheng City actively promotes the integrated development of market procurement trade and cross-border e-commerce. In 2021, Yancheng City was the first city in the province to settle on the "Shicaitong" platform, guiding small and micro enterprises to use the "Shicaitong" platform for compliant and efficient exports, and exported a total of US\$870 million through market procurement trade (1039 model), ranking first among the 11 promoted cities in Jiangsu Province. In 2023, it has exported US\$280 million, doubling its exports.

3.2.4 Helps foster new business formats

Yancheng City plans to organize three companies to apply for provincial public overseas warehouses within the year, focusing on serving Dongtai Jinlida Home Textiles, Yandu Zhongheng Pet Products and other companies, and strive to make breakthroughs in provincial public overseas warehouses. We should accelerate the coordination and promotion of Binhai Port LNG bonded tanks, and strive to generate import data as soon as possible. We should also promote the cooperation of Chengbei Logistics Park warehousing project with central enterprises such as COSCO and CIMC, and build customs declaration warehousing for imported goods with the help of the North Railway Freight Station.

According to the latest survey, the office cargo order of Polang (Yancheng) Cross-border E-commerce Co., Ltd. was successfully cleared, marking a new breakthrough in Yancheng Cross-border E-commerce B2B export overseas warehouse (9810 model) business.

The development of digital technology has broken the geographical and spatial limitations, allowing cross-border e-commerce companies to have more exchanges and cooperation. The digitalization of China-Korea (Yancheng) cross-border e-commerce companies can not only expand the market boundaries, thereby tapping more potential high-quality customers, but also enable companies to better adapt to the digital business environment and achieve sustainable development.

4. Necessity of Optimizing Digital Paths for Cross-Border E-Commerce between China and South Korea (Yancheng)

4.1 Expanding overseas markets and reducing operating costs

The optimization of digital paths can help Chinese and Korean (Yancheng) enterprises better enter overseas markets, expand sales channels through online platforms, and reach more potential high-quality customers. For example, Jiangsu Boyang Intelligent Equipment Co., Ltd. is a high-tech enterprise integrating the research and development, design, manufacturing and installation of automatic production lines for solar photovoltaic modules. In 2022, Boyang achieved a 40% increase

in output value, of which export orders accounted for 50%. Since 2023, the company has received 5GW of production orders from Brazil, Vietnam, Turkey, Indonesia and other countries, and the total export order amount has exceeded 200 million yuan.

At the same time, China-Korea (Yancheng) cross-border e-commerce enterprises can realize online operations, reduce the consumption of human and material resources, and reduce operating costs. Digital tools and technologies can provide more efficient order processing, inventory management and logistics distribution, speed up transaction processes, and improve enterprise operational efficiency.

4.2 Providing personalized services and user experience

The optimization of digital paths can analyze user behaviors and preferences through big data and artificial intelligence (AI), and provide consumers with personalized product recommendations and customized services to meet consumer needs. By providing a convenient online shopping experience, a safe and reliable payment system, and efficient logistics and distribution, user satisfaction can be improved. At the same time, digital tools and data analysis can also be used to help cross-border e-commerce companies understand current market trends and competitor dynamics, develop more targeted marketing strategies, and improve their competitiveness in the market.

4.3 Promoting the coordinated development of cross-border e-commerce and industry

Through the optimization of digital paths, cross-border e-commerce companies can increase brand exposure and brand awareness through social media, influencer marketing and other means. For example, provincial industrial bases such as the National Foreign Trade Transformation and Upgrading Base (Automobiles and Parts) in Yancheng Development Zone, Home Textiles in Dafeng District, and Energy-Saving Electric Light Sources in Jianhu County attract cross-border e-commerce companies to settle in, forming industrial clusters and promoting the coordinated development of cross-border e-commerce and industry. Through the form of government departments setting up platforms, industry associations exerting efforts, and enterprises actively participating, we will actively play the advantages of industries such as pet supplies, home textiles, and toys, connect with various cross-border e-commerce platforms such as Amazon, AliExpress, and TIKTOK, and drive more companies to bring high-quality products to the world.

In short, the optimization of the digital path of the Sino-Korean (Yancheng) cross-border e-commerce industry can help enterprises expand their markets, improve operational efficiency, provide better user experience, strengthen brand building, and thus achieve more sustainable development. This is an inevitable choice to adapt to the trend of the digital age, and it is also an important means for Sino-Korean (Yancheng) enterprises to maintain their competitive advantages.

5. Digital Path Optimization Strategy for China-Korea (Yancheng) Cross-Border E-Commerce Industry

5.1 Digital technology support and logistics warehousing optimization

On the one hand, by improving network infrastructure construction and strengthening digital technology support, we can provide a stable network environment and good user experience for China-Korea (Yancheng) cross-border e-commerce companies. At the same time, we can make full use of the Yancheng Big Data Industrial Park, analyze user consumption behavior and consumer market needs through artificial intelligence (AI) technology, and provide cross-border e-commerce companies with accurate advertising marketing plans and promotion strategies.

On the other hand, cross-border e-commerce companies need to establish an efficient cross-border logistics system with the international logistics system, optimize warehousing and distribution models, reduce logistics costs and timeliness, and make full use of advanced Internet of Things technology and drone delivery to improve logistics efficiency and accuracy.

5.2 Digital platform construction and payment financial services

A company should establish a multi-channel digital sales platform to expand the market through a combination of online and offline methods.

For example, in June 2021, the People's Government of Yancheng City signed a strategic cooperation agreement with the Jiangsu Branch of China Export and Credit Insurance Corporation to support the high-quality development of Yancheng's foreign trade. The Yancheng Municipal Bureau of Commerce signed a cross-border e-commerce framework cooperation agreement with Alibaba Jiangsu Headquarters, and Alibaba's "AliExpress" platform settled in Yancheng; signed a framework cooperation agreement with the Provincial E-Commerce Association to cooperate in public overseas warehouses, cross-border e-commerce training and other aspects. The government encourage Yancheng's 32 traditional "time-honored" domestic brand enterprises to utilize the cross-border e-commerce model, leverage renowned platforms like Tmall Overseas Edition for marketing purposes, engage in the "two markets" of international and domestic arenas, thereby further elevating the brand value of Yancheng's local time-honored brands and broadening their recognition. Additionally, by harnessing social media and influencer marketing strategies, they aim to intensify the exposure and user loyalty towards Yancheng's regional characteristic brands. Furthermore, they support a greater number of commercial circulation entities in Yancheng to embark on online platforms, conduct foreign trade exports, expand their cross-border e-commerce operations, and augment sales avenues and market reach.

At the same time, a safe and reliable cross-border payment system is indispensable for the China-Korea (Yancheng) Yancheng cross-border e-commerce. While providing consumers with convenient payment methods, it is also necessary to strengthen risk control and prevent online fraud, and provide more cross-border financial services, such as cross-border settlement, financing and insurance, to help China-Korea (Yancheng) cross-border e-commerce companies reduce financial pressure and risks.

5.3 Innovating digital consumption scenarios and cultivating digital talents

Companies should actively explore new retail models of cross-border e-commerce using digital technology, such as opening bonded import O2O experience stores to create a new consumption scenario of "offline experience, online direct mail".

The existing Century New City Group has opened the "Korea Pavilion" in Chengdong Baolong, and the Yanwu Group has opened the "Shanghuifang" in Dayangwan. Both are bonded goods offline display and online platform order direct mail models, giving consumers a new experience of "being in Yancheng, shopping all over the world".

In the future, all colleges and universities in Yancheng will actively apply for cross-border e-commerce majors. For example, Yancheng Preschool Teachers College has vigorously introduced cross-border e-commerce compound teachers, focused on cultivating cross-border e-commerce digital talents, and laid a solid foundation for the cultivation of cross-border e-commerce digital talents in Yancheng. Four training rooms are set up on campus, namely the cross-border e-commerce comprehensive training room, the foreign trade comprehensive training room, the sandbox base, and the foreign language pronunciation training room. In terms of school-enterprise cooperation, there are currently 5 companies that have cooperated with Yancheng Preschool Teachers College to jointly build industrial colleges, jointly develop cross-border e-commerce courses, and share cross-border e-

commerce teachers (Table 3). In the future, cross-border e-commerce graduates can enter enterprises for on-the-job internships.

Table 3: Summary of school-enterprise cooperation

Serial number	Name of training base
1	Yancheng Preschool Hemingting Training Base
2	Yancheng Junior College Qianhai Business Training Base
3	Yancheng Preschool Comprehensive Bonded Zone Training Base
4	Yancheng Preschool College Mobis Training Base
5	Yancheng Yannan High-tech Zone Big Data Industrial Park Training Base

In summary, through the above digital optimization strategies, the competitiveness of China-Korea (Yancheng) cross-border e-commerce enterprises can be enhanced, market share can be expanded, and the sustainable development of the cross-border e-commerce industry can be promoted.

6. Conclusion

Through the analysis and interpretation of the current development status of Yancheng's cross-border e-commerce, digital analysis, the necessity of digital path optimization, the digital path optimization strategy and suggestions for the China-Korea (Yancheng) cross-border e-commerce industry, etc., Yancheng's competitiveness in the field of China-Korea cross-border e-commerce will be improved, which will help promote the healthy development of Yancheng's regional cross-border e-commerce industry and promote the development of Yancheng's cross-border e-commerce industry.

References

- [1] Tian Xiaoyan, Huang Dongbin, Zhang Tingting. Analysis of intelligent operation strategies of China's cross-border e-commerce enterprises under the background of digitalization [J]. *Commercial Economic Research*, 2021(08):152-155.
- [2] Jiang Wei. Research on the path of cross-border e-commerce integration and innovation development from the perspective of new foreign trade formats [J]. *Foreign Economic and Trade Practice*, 2022(12):62-66.
- [3] Zhang Enming, Wei Yazhou. Comparative analysis of the development of cross-border e-commerce in Yancheng and Hangzhou [J]. *Journal of Ningbo Vocational and Technical College*, 2020, 24(02): 87-91.
- [4] Cai Hongzhi. An empirical study on the construction of cross-border e-commerce industry chain in comprehensive bonded zones: A case study of the national-level Yancheng comprehensive bonded zone [J]. *China Collective Economy*, 2018(22):76-77.