

Research on the Current Situation and Countermeasures of E-Commerce Logistics Development in Jiangxi Province

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Keywords: Jiangxi Province; E-commerce; Logistics; Development Status; Countermeasures

Abstract: E-commerce in Jiangxi has seen rapid growth, with a good development trend and great potential for expansion. In particular, the vigorous development of cross-border e-commerce has played the role of spring breeze, blowing new vitality into Jiangxi's e-commerce sector and bringing unprecedented opportunities to it. Jiangxi Province is making active use of such important platforms as the Cross-Border E-commerce Comprehensive Pilot Zone, Cross-Border E-commerce Industrial Parks, advantageous industrial clusters, and foreign trade transformation and upgrading bases. It carefully cultivates the model of "Cross-Border E-commerce Empowering Industry Belt" and strives to create a development benchmark. Meanwhile, it encourages local areas with favorable conditions to build industry showcase centers based on the local industry and work with cross-border e-commerce platforms to establish "online sections" for the industry belts, thus widening development paths.

1. Introduction

In 2023-2024, among them are 30 e-commerce industrial parks, including Hongda E-commerce Industrial Park and Jiangxi Traffic Economic Industrial Base, which stood out and were recognized as Jiangxi Province's E-commerce Demonstration Bases, becoming the highlights in Jiangxi's e-commerce development. Logistics is the important bond in e-commerce development, and its development level has a great influence on the restriction of e-commerce development. The current characteristics of e-commerce logistics development in Jiangxi are as follows:

2. High Demand for E-commerce Logistics, Positive Development Trend

From 2020 to 2023, the volume of e-commerce transactions in Jiangxi Province has seen a steady rise for four consecutive years. From 158.8 billion yuan in 2020, it rose to 164.2 billion yuan in 2021, then 216.4 billion yuan in 2022, and reached 259.9 billion yuan in 2023. This continuous growth trend highlights the strong development momentum in Jiangxi's e-commerce sector. In the first half of 2024, Jiangxi's online commodity trading market had 815,573 entities, including 606,699 trading entities and 208,874 non-trading entities. Notably, enterprises above a designated size in Jiangxi have accumulated e-commerce transactions of 101.75 billion yuan, accounting for 73.5% of the total provincial transaction volume, emphasizing the significant role of large-scale enterprises in e-commerce transactions.

In recent years, the e-commerce transaction volume in Jiangxi Province has consistently maintained a strong growth trend. From the perspective of the overall economic development of the province, Jiangxi's Gross Regional Product (GRP) reached 3.22 trillion yuan in 2023, a 4.1% increase from the previous year. Specifically, the added value of the primary industry was 245.04 billion yuan, with a growth rate of 4.0%; the secondary industry added value was 1.37 trillion yuan, with a growth rate of 4.6%; and the tertiary industry added value was 1.60 trillion yuan, with a growth rate of 3.6%. These figures strongly demonstrate that the economy of Jiangxi is steadily developing, and e-commerce transactions are continuously increasing. Both are mutually reinforcing and jointly driving Jiangxi's economy toward higher quality development.

3. Low Level of E-commerce Logistics Infrastructure

Although infrastructure in Jiangxi Province has been constructed year by year, the degree of modernization is relatively low, making it difficult to form a modern logistics network. A modern logistics system requires low costs and high efficiency. However, the logistics infrastructure in our province has been influenced by the concept of prioritizing production over circulation, leading to a generally smaller scale and relatively underdeveloped infrastructure. For example, while the length of road transport in the province has increased year by year, the quality of infrastructure still lags significantly behind neighboring provinces. As of the end of 2023, the total length of highways in Jiangxi Province reached 209,600 kilometers, with a highway density of 125.5 kilometers per 100 square kilometers. The province has achieved county-level access to expressways, forming a highway network that "runs north-south, crosses east-west, covers the entire province, and connects with neighboring regions." The province has 3,221 kilometers of first-level roads, 12,556 kilometers of second-level roads, 19,956 kilometers of third-level roads, and 162,904 kilometers of fourth-level roads. The ordinary national roads cover 7,720 kilometers, with 93.42% of the roads at the second level or above; the provincial roads cover 10,990 kilometers, with 63.34% at the second level or above. Ordinary national and provincial roads cover more than 86% of the county-level towns in the province. The rural road network spans 184,108 kilometers, with county roads totaling 20,892 kilometers, township roads 39,979 kilometers, and village roads 123,237 kilometers. Among these, 65.10% of county roads are at the third level or above, and 100% of towns and villages have access to cement (asphalt) roads.

Jiangxi's port logistics have developed rapidly, with significant growth in port throughput and container throughput. In 2023, Jiangxi's ports handled a total cargo throughput of 269 million tons, a year-on-year increase of 19.0%. Container throughput reached 1.003 million TEUs, an increase of 13.4%. The province completed 163 million tons of freight and 49.31 billion ton-kilometers in cargo turnover, representing year-on-year growth of 21.8% and 19.1%, respectively. A logistics system has been developed, centered on Jiujiang Port and Nanchang Port, with modern and specialized terminals supported by high-grade waterways such as the Yangtze River, Ganjiang River, and Xinjian River. Efforts are underway to build a modern transportation system with seamless connections between "water, land, rail, and air" and multi-modal transport integrating "road, water, and rail." Although the development of e-commerce logistics infrastructure in Jiangxi has been relatively rapid, it is still relatively underdeveloped overall.

4. E-commerce Logistics Information Platforms Started Late and Logistics Technology was Backward

The Logistics public information platform in Jiangxi Province started its operation in February 2010. The government affair platform, electronic supervision platform, and business platform were all part of the logistics public information platform. Some specialized logistics information networks have also been established: "Jiangxi Postal Network," "Jiangxi E-commerce Network," "Jiangxi Road Transport Network," and "Jiangxi Logistics Network." Modern logistics distribution systems are starting to be employed by logistics enterprises, such as road transport video systems, GPS positioning systems, and vehicle tracking service systems. However, generally speaking, the logistics informatization level of Jiangxi Province is still very low. Most logistics companies do not have the conditions to use advanced modern logistics information technology, and there is a lack of comprehensive logistics information platforms. Logistics companies have weak awareness of logistics and outdated internal logistics information management and technical methods. Most logistics companies are still at a traditional operational model, and the informatization level is very low. In the point of view of logistics technology, Jiangxi is relatively backward. Modern logistics equipment is seriously lacking in logistics companies in this province, and its application of advanced logistics technology also limits the great development of the modern logistics industries.

Jiangxi is an important large agricultural province in China; it has plenty of rich agricultural products.

According to the statistics, in the year 2023, the fruit output of Jiangxi reached 4.503 million tons, a growth of 8.6%. Within the year, vegetable production reached 18.609 million tons, up 4.1%, while the total meat production of major livestock and poultry in the province reached 3.676 million tons, up 2.5%. The production of poultry egg reached 732,000 tons, increasing 7.1%. Among these, the output of pig meat reached 2.574 million tons, a year-on-year increase of 3.0%, while those for beef, mutton, and poultry meat were 178,000 tons, 32,000 tons, and 892,000 tons, up by 3.9%, 1.6%, and 0.9%, respectively. In 2023, the province added 57 new poultry farms with the production of poultry egg in the whole province amounting to 732,000 tons, a growth of 7.1%, including 486,000 tons for chicken eggs, up 10.1% compared to last year. This is further enhanced by the constant rise in the production of agricultural products, which has, in turn, driven the fast development of cold chain logistics. The total value of cold chain logistics in the province reached 263.096 billion yuan, a year-on-year increase of 12.63%, accounting for 8.8% of the total commercial logistics of the province. Total revenue from cold chain logistics reached 12.28 billion yuan, growing by 21.9%. As people's demand for high-quality agricultural products increases, the requirements for cold chain logistics services have also become higher, not only for the timeliness of cold chain logistics but also to ensure food safety. In particular, the cold chain preservation technology for transporting agricultural products is very outdated; more severe losses are caused during transportation and storage, with very high logistics costs. This has become a major constraint in the development of Jiangxi Province e-commerce logistics.

5. High E-commerce Logistics Costs and Difficulty in Fully Covering the Last "Mile"

The reason why the logistics cost of e-commerce companies in Jiangxi Province remains high is that the logistics awareness of logistics enterprises is weak and the management standard is low. Moreover, influenced by the high empty container rate, the logistics cost in Jiangxi is 40% higher than that in coastal areas, approaching 50%. Although the proportion of total social logistics costs in Jiangxi has been decreasing gradually, it has remained around 19%, still higher than the national average by 1.1 percentage points. In 2023, Jiangxi Province's road transport completed a passenger volume of 77.27 million people and a passenger turnover of 5.51 billion person-kilometers, up 12.7% and 29.8% respectively compared with the same period of last year. Freight volume reached 1.2 billion tons, cargo turnover was 273.15 billion ton-kilometers, up by 4.2% and 3.6%, respectively. These show that in Jiangxi, in 2023, logistics demand grew significantly, especially the transport of passengers and inland waterway freight. The increased passenger volume reflects the increase in people's travel demand, and the freight volume reflects that the economy is very lively, with a strong logistics demand.

Most express companies do not cover county-level or lower places, and their delivery capability for the "last mile" is poor. Although there is great potential in the rural market, rural people are distributed across vast distances with a small population. Therefore, it is something that cannot be avoided. High social logistics costs, coupled with the underdevelopment of modern warehousing, multi-modal transport, and urban-rural delivery facilities, determine that it is urgent to strengthen the construction of logistics infrastructures. Logistics hub layout optimization, full use of new-generation information technologies such as IoT, cloud computing, and big data, and transformation of traditional logistics resource management models will be conducive to economies of scale and cost advantages with an integrated logistics network.

6. Scarcity of E-commerce Logistics Talent

Talent is one of the key factors restricting the development of e-commerce logistics in Jiangxi Province. Many e-commerce enterprises are unable to recruit professional operational staff, and even experienced customer service representatives are difficult to hire, reflecting an underdeveloped talent environment and insufficient policies. Attracting e-commerce talent who have ventured outside the province to return and start businesses in Jiangxi, as well as attracting talent and e-commerce logistics companies from other regions, are urgent issues that need to be addressed for

the development of e-commerce logistics. The e-commerce sector is an organic combination of information technology and the real economy, requiring a large number of professionals skilled in emerging information technologies and modern business concepts. Currently, there is a significant talent gap in the province, particularly a shortage of high-end e-commerce professionals. For example, only 14.6% of e-commerce company legal representatives in the province have a bachelor's degree or higher. The shortage of e-commerce logistics professionals is a major bottleneck in the development of e-commerce logistics in Jiangxi.[1]

E-commerce is one of China's leading industries and has made significant contributions to economic development. Logistics and distribution are the most crucial links in e-commerce. Although the logistics industry has developed rapidly and logistics distribution models are maturing, there are still issues such as high costs, low distribution quality, underdeveloped logistics networks, and a shortage of e-commerce logistics professionals. Under the context of e-commerce development, the key challenge for the development of e-commerce logistics is how to achieve integrated development between e-commerce and the logistics industry.

6.1. Actively Develop Cross-Border E-commerce to Open New Avenues for E-commerce Logistics in Jiangxi

In 2023, cross-border e-commerce in Jiangxi Province developed rapidly, with a transaction scale reaching 127.52 billion yuan, a year-on-year increase of 160%, ranking 5th nationwide and 1st among central and western provinces. Efforts are being made to accelerate the construction of public service platforms for cross-border e-commerce, port customs clearance and supervision platforms, centralized supervision sites, and international express mail monitoring centers. These platforms aim to provide services such as customs clearance, logistics, warehousing, and financing for the province's e-commerce. The provincial government has fully implemented various policy measures, such as the "Opinions on Expanding Cross-Border E-commerce Exports and Promoting Overseas Warehouse Construction" and "Implementation Opinions on Accelerating the Development of New Foreign Trade Business Formats and Models." The government is focused on building Nanchang as an international aviation logistics hub and enhancing international logistics channels. Furthermore, it encourages e-commerce enterprises to engage in cross-border wholesale and retail, and supports eligible localities in applying for pilot cities for cross-border trade e-commerce services, aiming to enhance the brand influence and added value of Jiangxi's products in overseas markets.[2]

6.2. Enhance Cold Chain Logistics Service Capabilities and Improve E-commerce Logistics Technology in Jiangxi

The underdevelopment of cold chain preservation technology in Jiangxi Province has resulted in significant losses during the transportation and storage of agricultural products. The research and promotion of cold chain preservation technology have become key obstacles to the development of modern logistics in the province. Agricultural products are highly perishable during transportation, requiring preservation techniques, refrigeration, and freezing technologies to prevent spoilage, which can lead to economic losses for both transportation companies and farmers. Therefore, increasing logistics companies' investment in cold chain transportation equipment, improving their cold chain logistics capabilities, and enhancing the logistics technology level of e-commerce logistics companies will help raise the overall logistics technology standard in Jiangxi, thereby driving the development of rural e-commerce in the province.[3,4]

6.3. Strengthen Government Incentive Policies for E-commerce Logistics Development and Establish a Comprehensive E-commerce Logistics Policy System

Government support plays a critical role in the development of e-commerce logistics in Jiangxi, serving as a guiding force. In recent years, the Jiangxi provincial government has placed increased emphasis on e-commerce, viewing it as a new engine for economic development. To this end, the provincial government has introduced a series of incentive policies, such as the "14th Five-Year Plan for E-commerce Development in Jiangxi," "Guiding Opinions on Accelerating the Integration

of E-commerce and Industries to Promote the Upgrade of Online Consumption," "Opinions on Deepening the Digital Economy and Strengthening the 'One Major Development Project,'" and "Opinions on Promoting the High-Quality Development of Live E-commerce," among other documents. These measures establish a relatively comprehensive e-commerce logistics policy system from multiple aspects and angles.

The "Key Points for Digital Village Development in Jiangxi Province in 2024" and the "Three-Year Action Plan for Express Delivery to Villages in Jiangxi (2024-2026)" strongly promote the healthy development of the rural digital economy. The government continues to facilitate the coordinated development of rural e-commerce and logistics industries, deepen the construction of rural e-commerce systems, and accelerate cooperation between logistics and e-commerce companies to better meet the needs of industrial goods delivery to rural areas and agricultural product distribution to urban markets. The government also aims to speed up the construction of rural logistics systems, deepen the integration of rural logistics with e-commerce, and leverage local industrial advantages to guide companies in developing models such as "rural logistics + e-commerce, tourism, agriculture," enhancing the self-sustaining capabilities of rural logistics and ensuring high-quality development in both rural e-commerce and logistics sectors. These efforts will provide strong support for rural revitalization initiatives.[5,6]

6.4. Improve the Talent Recruitment Mechanism for E-commerce Logistics and Strengthen the Training of E-commerce Logistics Professionals

Talent is one of the key factors limiting the development of e-commerce logistics in Jiangxi Province and is an urgent issue that needs to be addressed. The government can collaborate with local universities to implement a talent training mechanism based on industry needs, where local universities provide talent cultivation pathways and intellectual support for the development of e-commerce logistics in the region. Universities can also cooperate with enterprises to carry out school-enterprise partnerships, allowing students to receive practical training at e-commerce companies, familiarize themselves with every aspect of e-commerce operations, and improve their hands-on skills and practical e-commerce capabilities.

By implementing a talent cultivation program for e-commerce, the government can lead and guide training efforts while the market plays a key role[7]. This approach can establish a comprehensive e-commerce training system that includes provincial, municipal, county, and township levels, as well as bases (parks) and enterprises, working together to promote e-commerce training across all sectors. Ongoing e-commerce entrepreneurship training programs and poverty alleviation training plans for e-commerce can be expanded to strengthen the cultivation of e-commerce logistics talent in Jiangxi.

7. Conclusions

Although the development of Jiangxi Province's e-commerce logistics infrastructure has been relatively fast, the overall situation is still quite underdeveloped. E-commerce logistics infrastructure in this province is still backward compared to other provinces. It is urgent to continuously improve the ability of cold chain logistics and increase the technological level of Jiangxi e-commerce logistics. The development of cross-border e-commerce can open new paths for the province's e-commerce logistics. It will also require a further increase in attempts to cultivate e-commerce logistic talents and attract skilled talents for Jiangxi to see leapfrog development in this industry.

Acknowledgement

- "Research on the Construction of Rural E-commerce Logistics Network System in Jiangxi under the Background of Rural Revitalization" (Phase Research Results) - Jiangxi Provincial Department of Education Science and Technology Project (Project No. GJJ211839)

- "Research on the Green Supply Chain Operation Model of Live Pigs in the Poyang Lake Ecological Economic Zone Based on CDM" (Phase Research Results) - Jiangxi Provincial Department of Education Science and Technology Project (Project No. GJJ180902)

References

- [1] Xie Lijuan, Xu Yalin, Wu Zixin. E-commerce Going Rural, Development of the Circulation Industry, and Rural Residents' Income [J]. *Industrial Economics Review* (Shandong University), 2023, Vol. 22, Issue 4.
- [2] Zhang Cheng, Weng Xiyan. Has the Implementation of the Comprehensive Demonstration Policy for E-commerce in Rural Areas Narrowed the Consumption Gap for Farmers? [J]. *China Rural Observation*, 2024, Issue 2.
- [3] Liu Sichen. Analysis of the Current Dilemmas and Countermeasures for Rural E-commerce Development under the Background of Rural Revitalization in China [J]. *Frontiers in Social Sciences*, 2023, Issue 8.
- [4] Zhan Shaowen, Chen Shuai. Exploration of the Optimization of Rural E-commerce Logistics Distribution Models under the Background of Rural Revitalization [J]. *Logistics Technology*, 2023, Vol. 46, Issue 12.
- [5] Chen Peng. Research on the Issues of Rural E-commerce Development under the Background of Rural Revitalization—Based on a Survey in County N [J]. *Anhui Agricultural Sciences*, 2021, Vol. 49, Issue 10.
- [6] Cao Dingfan. Research on the Coordinated Development Path of Agricultural Product E-commerce Platforms and Rural Logistics under the Rural Revitalization Strategy [J]. *China Business Review*, 2023, Issue 24.
- [7] Fang Shuai. Dilemmas and Improvement Countermeasures for Rural Logistics Economic Development under the Rural Revitalization Strategy [J]. *China Navigation Weekly*, 2024, Issue 28.