

# COORDINATED DEVELOPMENT OF CROSS-BORDER E-COMMERCE INDUSTRY AND STRATEGIC EMERGING INDUSTRIES IN JIANGXI PROVINCE

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**Abstract:** This study, set against the backdrop of Jiangxi Province's '1269' Action Plan, explores the pathways and mechanisms for integrating the cross-border e-commerce industry with strategic emerging industries. In the context of the rapid development of the global digital economy and the formation of a dual circulation pattern both domestically and internationally, cross-border e-commerce, as a new form of trade, has formed deep interactions with Jiangxi Province's key strategic emerging industries, such as electronics, new energy, and aviation. The study employs methods such as literature analysis, data mining, and case studies to systematically examine the current status, collaborative mechanisms, and integration paths of the cross-border e-commerce industry and strategic emerging industries in Jiangxi Province. The findings indicate that Jiangxi Province has effectively promoted the digital transformation of traditional industries and the international layout of emerging industries through the 'cross-border e-commerce + industrial belt' model, forming distinctive cross-border e-commerce industrial belts in areas like Ganzhou furniture, Jingdezhen ceramics, and Nanchang electronics. However, there are still shortcomings in policy coordination, industrial chain integration, and talent support. This study proposes a 'four-dimensional linkage' model of coordinated development, providing a theoretical framework and practical reference for inland regions to leverage cross-border e-commerce to empower industrial upgrading.

**Keywords:** Cross-border e-commerce; Strategic emerging industry; Industrial coordination; Digital transformation

## 1 INTRODUCTION

In the context of the restructuring of global value chains and the thriving digital economy, cross-border e-commerce has become a key driver for transforming China's foreign trade and upgrading its industries[1]. According to data from the Ministry of Commerce, in 2024, China's cross-border e-commerce import and export volume reached 2.63 trillion yuan, marking a 10.8% year-on-year increase, with a growth of over ten times over the past five years. The rapid development of this new trade model is profoundly altering the internationalization paths and models of traditional industries. Meanwhile, provinces and cities are increasingly focusing on strategic emerging industries as the core drivers of high-quality economic development. How to leverage cross-border e-commerce to support the international layout of these strategic emerging industries has become a critical issue for regional economic development[2].

As an inland open economy experimental zone, Jiangxi Province has made significant progress in the development of strategic emerging industries under the guidance of the '1269' action plan in recent years. In 2024, the province's electronic information industry revenue surpassed 1.16 trillion yuan, marking the third consecutive year it has reached this milestone. The added value of large-scale industrial enterprises grew by 8.5%, ranking fifth in the country[3]. Notably, Jiangxi's cross-border e-commerce sector has seen explosive growth, with a total import and export volume of 127.52 billion yuan in 2022, placing it fifth nationally and first in the central and western regions, fostering a positive interaction with the strategic emerging industries[4].

In this context, exploring the synergistic development mechanism between the cross-border e-commerce industry and Jiangxi Province's strategic emerging industries holds significant theoretical and practical importance[5]. Theoretically, most existing research focuses on the integration of cross-border e-commerce with traditional manufacturing or the technological innovation pathways of strategic emerging industries, while studies on how cross-border e-commerce can empower the internationalization of these industries are relatively scarce. Practically, as an inland province, Jiangxi Province, under the geographical condition of being neither coastal nor bordering, has achieved a leapfrog development through the synergy of cross-border e-commerce and strategic emerging industries, which offers valuable lessons for similar regions[6].

This study is grounded in the implementation of Jiangxi Province's '1269' Action Plan and the development of a modern industrial system. It systematically examines the interaction, coordination mechanisms, and integration paths between the cross-border e-commerce industry and strategic emerging industries, focusing on the following questions: (1) the current status and characteristics of the cross-border e-commerce industry and strategic emerging industries in Jiangxi Province; (2) the coordination mechanisms and effects between these two sectors; (3) practical experiences and existing issues with the 'cross-border e-commerce + industrial belt' model in Jiangxi Province; (4) policy recommendations and implementation strategies to promote the deep integration of these two industries[7].

## 2 DEVELOPMENT STATUS OF CROSS-BORDER E-COMMERCE INDUSTRY AND STRATEGIC EMERGING INDUSTRIES IN JIANGXI PROVINCE

### 2.1 The Rise and Characteristics of Cross-Border E-Commerce Industry in Jiangxi Province

Although the cross-border e-commerce industry in Jiangxi Province started late, it has grown rapidly and developed distinct inland characteristics. In terms of scale, the total import and export value of cross-border e-commerce in the province reached 127.52 billion yuan in 2022, and continued to grow rapidly in 2023[8]. Notably, Ganzhou City's 1210 'cross-border e-commerce online shopping bonded import business volume surpassed ten million orders, with an import value of 483 million yuan. In terms of spatial layout, the province has formed a development pattern with Nanchang and Ganzhou as the dual cores, supported by multiple points such as Jingdezhen and Ji'an. Nanchang, leveraging its advantages in the electronics information industry, saw its cross-border e-commerce import and export value reach 20.4 billion yuan in 2023[9]. Ganzhou, based on its furniture industry belt, saw its cross-border trade goods import and export volume exceed 45 million tickets, driving foreign trade to surpass 10 billion yuan for two consecutive years[10]. The development of cross-border e-commerce in Jiangxi province shows three significant characteristics:

The industrial belt drives the development of cross-border e-commerce in Jiangxi Province. Unlike the coastal areas, where platform enterprises dominate, Jiangxi's cross-border e-commerce primarily relies on local industrial belts, forming a unique 'cross-border e-commerce + industrial belt' model[11]. The Nankang furniture industry belt in Ganzhou has expanded its market to over 100 countries and regions through cross-border e-commerce, boosting the industry's scale to over 270 billion yuan. The Jingdezhen ceramic industry belt has developed a number of platform enterprises targeting the global market through the construction of cross-border e-commerce comprehensive pilot zones. Nanchang, leveraging its electronic information industry, has strengthened cooperation with major e-commerce platforms. This industrial belt-driven model ensures that Jiangxi's cross-border e-commerce has a solid industrial foundation and sustained innovation momentum.

Logistics channels have significant advantages. Jiangxi Province has leveraged its 'well-connected' geographical advantages to establish an efficient and convenient international logistics network. On one hand, through platforms such as the Ganzhou International Land Port and Nanchang Airport, it has formed major international logistics routes that extend south, east, north, and west. On the other hand, by innovating the 'cross-border e-commerce + China-Europe train + overseas warehouse' model, it has effectively addressed the cross-border logistics challenges for large items like furniture. Through this model, Nankang District has successfully exported furniture to over 100 countries and regions worldwide[12].

Policy innovation continues to deepen. Jiangxi Province has integrated cross-border e-commerce into the '1269' action plan, introducing a series of supportive policies. These include setting up a special fund for cross-border e-commerce development, optimizing tax policies, and enhancing financial service innovations. Cities like Ganzhou and Nanchang are also exploring regulatory innovations, such as the 'four-zone integration' model (international land port, comprehensive bonded zone, cross-border e-commerce comprehensive pilot zone, and import trade promotion and innovation demonstration zone) introduced by Ganzhou, which has significantly improved trade facilitation[13].

### 2.2 Layout and Achievements of Strategic Emerging Industries in Jiangxi Province

Jiangxi Province's 14th Five-Year Plan clearly proposes to build an industrial space pattern of "one core, two wings and multiple bases", focusing on the development of six strategic emerging industries and seven digital economy industries. After years of cultivation, the development of strategic emerging industries has achieved remarkable results.

The electronic information industry, as Jiangxi Province's first trillion-yuan-level industry, has developed into an industrial cluster belt centered around the Jingjiu High-Speed Railway. In 2024, it generated a revenue of 1.16 trillion yuan, accounting for 20.9% of the province's large-scale industrial revenue and contributing 34.2% to industrial growth[14]. Nanchang focuses on semiconductor lighting and smart terminals; Ji'an develops communication terminals and electronic components; Jiujiang and Ganzhou focus on new electronic materials and printed circuit boards; Shangrao, Yichun, and Yingtan concentrate on photovoltaic, lithium batteries, and the Internet of Things, forming a relatively complete industrial chain[15].

The new energy industry, primarily focused on lithium batteries and photovoltaics, has formed industrial clusters in cities such as Shangrao, Yichun, and Xinyu. Yichun, leveraging its abundant lithium ore resources, has established itself as the 'Lithium Capital of Asia,' with the lithium battery industry chain continuously expanding. Meanwhile, Shangrao's photovoltaic sector is growing steadily, and Jinko Solar, a leading company, has become a global leader in photovoltaic module shipments.

As shown in table 1, the aviation industry, supported by Nanchang Aviation City and Jingdezhen Aviation Town, has developed a comprehensive industrial chain that includes trainer aircraft, helicopters, and drones. Nanchang Aviation City is home to leading enterprises such as Hongdu Aviation and the China Commercial Aircraft Corporation Jiangxi Production and Test Flight Center, while Jingdezhen focuses on the helicopter sector. Together, these two cities are working to realize Jiangxi's aviation dream.'

**Table 1** Layout and Scale of Major Strategic Emerging Industries in Jiangxi Province (2024)

| estate<br>class              | Key layout area                     | Main segments                                                       | Industry scale                                     | Represents<br>enterprise/project        |
|------------------------------|-------------------------------------|---------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------|
| electronic information       | Nanchang, Ji 'an, Ganzhou, Jiujiang | Semiconductor lighting, intelligent terminal, electronic components | one trillion, one hundred and sixty billion yuan   | Ofei Optoelectronics, Mulinsen Lighting |
| new energy                   | Shangrao, Yichun, Xinyu             | Photovoltaic, lithium and hydrogen energy                           | -                                                  | Jinko Solar, Ganfeng Lithium            |
| aviation                     | Nanchang, Jingdezhen                | Coaches, helicopters, drones                                        | -                                                  | Hongdu Aviation, Changhe Aircraft       |
| new material                 | Yingtian, Ganzhou, Nanchang         | Copper based, tungsten based and rare earth materials               | -                                                  | Jiangxi Copper, China Rare Earth Group  |
| traditional Chinese medicine | Zhangshu, Nanchang                  | Chinese medicine manufacturing, Chinese medicine services           | -                                                  | Renhe Pharmaceutical, Jiangzhong Group  |
| digital economy              | Nanchang, Yingtian, Shangrao        | VR, Internet of Things, big data                                    | The added value accounted for more than 45% of GDP | Nanchang VR Industry Base               |

### 2.3 The Internal Connection between Cross-Border E-Commerce and Strategic Emerging Industries

Cross-border e-commerce and strategic emerging industries are not isolated in Jiangxi's economic development; instead, they have formed a deep interactive relationship. On one hand, cross-border e-commerce provides a fast track for the international development of strategic emerging industries; on the other hand, these industries supply high-quality products and drive innovation for cross-border e-commerce.

Cross-border e-commerce is empowering the internationalization of strategic emerging industries. Under traditional trade models, the internationalization of emerging industries faces challenges such as long channel construction periods and high costs. Cross-border e-commerce, through digital platforms, significantly lowers the barriers for companies to enter the international market. For instance, in Ganzhou's electronic information industry, products like printed circuit boards and electronic components produced locally can now directly connect with global buyers via cross-border e-commerce platforms, thereby shortening the supply chain. In Nanchang, LED lighting products have achieved annual exports exceeding 5 billion yuan through cross-border e-commerce, reaching over 120 countries and regions.

Strategic emerging industries enhance the competitiveness of cross-border e-commerce. Unlike traditional cross-border e-commerce products such as clothing and daily necessities, strategic emerging industry products are characterized by high technological content and added value, which can boost the profit margins and brand influence of cross-border e-commerce. For instance, in Jiangxi's electronic information sector, products like smart terminals and semiconductor lighting have an average export price 3 to 5 times higher than traditional products. The furniture industry in Ganzhou has successfully expanded its brand presence overseas through cross-border e-commerce, significantly enhancing the premium pricing power of its products.

Digital technology and cross-border e-commerce mutually reinforce each other. The key digital industries in Jiangxi Province, such as VR, IoT, and big data, provide essential technical support for cross-border e-commerce. In Nanchang, VR technology is used to enhance user experience by showcasing and marketing products for cross-border e-commerce. In Yingtian, IoT technology optimizes logistics tracking and warehouse management for cross-border e-commerce. Conversely, the growth of cross-border e-commerce also provides practical applications and market opportunities for digital technology, driving technological innovation and upgrades.

## 3 THE MECHANISM AND EFFECT OF CROSS-BORDER E-COMMERCE AND STRATEGIC EMERGING INDUSTRIES DEVELOPING IN SYNERGY

### 3.1 The Theoretical Basis of Coordinated Development

The coordinated development of cross-border e-commerce industry and strategic emerging industries can be explained from three dimensions: industrial integration theory, global value chain theory and innovation ecosystem theory.

According to the theory of industrial integration, different industries or sectors within the same industry can form new industries through mutual penetration and cross-fusion. In the context of the digital economy, cross-border e-commerce, as a new form of trade, is increasingly integrating with strategic emerging industries in terms of technology, products, and markets. The 'cross-border e-commerce + industrial belt' model in Jiangxi Province essentially represents the integration of trade digitalization and industrial upgrading, giving rise to new business models and value creation methods.

The theory of global value chains highlights that companies or regions can achieve industrial upgrading and technological advancement by participating in the global value chain. Cross-border e-commerce reduces intermediary links, enabling enterprises in strategic emerging industries in inland areas to directly connect with the global market, transforming from passive recipients to active participants, and even becoming 'chain leaders' in the value chain. The furniture industry in Ganzhou has gradually shifted from OEM contract manufacturing to ODM design and manufacturing, and then to OBM brand manufacturing through cross-border e-commerce platforms, continuously enhancing its position in the global value chain.

The theory of the innovation ecosystem views regional economic development as an ecosystem comprising various

innovative entities and environments. In this system, cross-border e-commerce platforms, strategic emerging industry enterprises, research institutions, and government departments interact to form a network for knowledge flow and innovation diffusion. Jiangxi Province has promoted the aggregation and circulation of innovative elements by establishing comprehensive cross-border e-commerce pilot zones and industrial innovation alliances, thereby providing sustained innovation momentum for strategic emerging industries.

### 3.2 The Mechanism of Coordinated Development

The coordinated development of cross-border e-commerce and strategic emerging industries is mainly realized through the following mechanisms:

**Market expansion mechanism.** Cross-border e-commerce has broken the time and space constraints of traditional trade, providing new channels for strategic emerging industries to access the global market. Especially for technology-intensive products like electronics and new materials, traditional foreign trade channels often face challenges such as certification difficulties and high promotion costs. However, cross-border e-commerce platforms significantly reduce these costs through precise matching and digital marketing. According to statistics, enterprises in Jiangxi Province's strategic emerging industries can reduce their international market expansion costs by about 40% compared to traditional methods, while improving efficiency by over 50%.

**Innovative feedback mechanism.** Cross-border e-commerce platforms have accumulated a vast amount of international market data and consumer feedback, which serves as a crucial basis for product innovation in strategic emerging industries. By analyzing the sales data and user reviews from these platforms, companies can accurately gauge changes in international market demand and promptly adjust their product design and R&D strategies. For instance, a furniture company in Ganzhou noticed through cross-border e-commerce platform feedback that the demand for eco-friendly furniture in the European and American markets was rapidly increasing. The company then adjusted its materials and production processes to develop a series of eco-friendly furniture products, successfully entering the high-end market.

**The mechanism for integrating elements.** The growth of cross-border e-commerce has facilitated the cross-border flow and optimal allocation of high-end resources, including talent, technology, and capital. On one hand, cross-border e-commerce platforms have attracted a significant number of international talents and advanced technologies; on the other hand, the development of strategic emerging industries also requires these high-end resources. Jiangxi Province has leveraged its cooperation with the Guangdong-Hong Kong-Macao Greater Bay Area through cross-border e-commerce to introduce advanced experiences and talent resources in electronic information technology and logistics management from places like Shenzhen. Additionally, the foreign exchange earnings and capital accumulation generated by cross-border e-commerce have provided financial support for the technological research and development and equipment upgrades of strategic emerging industries.

**Brand enhancement mechanism.** Under the traditional trade model, it is challenging for inland enterprises to establish their own international brands. However, cross-border e-commerce, through digital marketing and social media, has opened up new avenues for brand building. Industries in Jiangxi Province, such as electronics and furniture, have leveraged cross-border e-commerce platforms to nurture a number of internationally recognized brands. For instance, Nankang Furniture has set up brand stores on platforms like Amazon and Shopee, with products reaching over 20 countries and regions, including Europe, America, and Southeast Asia, significantly enhancing its brand premium.

### 3.3 Economic Effects of Coordinated Development

The coordinated development of cross-border e-commerce and strategic emerging industries has produced significant economic effects, which are mainly reflected in the following aspects:

**The industrial structure upgrade effect.** Cross-border e-commerce, guided by market demand, has driven Jiangxi Province's industrial structure to upgrade towards high technology and high value-added sectors. On one hand, traditional industries, after connecting with the global market through cross-border e-commerce, have had to enhance their product technology content and quality standards to compete internationally. On the other hand, the market opportunities provided by cross-border e-commerce have attracted more resources to strategic emerging industries such as electronics and new energy. Data shows that in 2024, the added value of strategic emerging industries in Jiangxi Province accounted for 25% of the GDP, an increase of 7 percentage points from 2020.

The optimization of the trade structure has been significantly influenced by cross-border e-commerce, which has transformed Jiangxi Province's export structure from primarily resource-based products and primary manufactured goods to a more diversified mix, with a growing share of high-tech exports. In 2023, the export ratio of electromechanical products and high-tech products in Jiangxi Province reached 45.2% and 28.6%, respectively, representing increases of 12.3 and 9.8 percentage points compared to 2020. Notably, the rapid growth in the export of electronic information products through cross-border e-commerce has become a new driver of foreign trade growth. The annual average growth rate of cross-border e-commerce exports of electronic information products in Nanchang High-tech Zone exceeds 30%, significantly outpacing the growth rate of traditional product exports.

**The agglomeration effect of industries.** The interaction between cross-border e-commerce and strategic emerging industries has facilitated the formation and development of industrial clusters. On one hand, cross-border e-commerce companies tend to cluster in regions with a solid industrial foundation; on the other hand, enterprises in strategic emerging industries also prefer to locate in areas with well-developed cross-border e-commerce services. Jiangxi

Province has developed several distinctive cross-border e-commerce industry clusters, such as Nanchang's electronics information, Ganzhou's furniture, and Jingdezhen's ceramics, which have generated significant economies of scale and scope. For instance, the rapid growth of the cross-border e-commerce sector in Ganzhou's furniture industry has attracted over 900 related enterprises, forming a complete industrial chain from design, manufacturing, marketing, to logistics.

The improvement in employment quality. The integration of cross-border e-commerce with strategic emerging industries has created numerous high-skilled and high-paying jobs. On one hand, the operation of cross-border e-commerce requires professionals in e-commerce operations, digital marketing, and international logistics; on the other hand, the growth of strategic emerging industries has increased the demand for high-end positions in research and development, design, and management. According to statistics, over 1 million people in Jiangxi Province are employed in cross-border e-commerce and strategic emerging industries, with more than 60% holding a college degree or higher, and their average salary is over 30% higher than that of traditional industries.

#### **4 PRACTICE EXPLORATION OF "CROSS-BORDER E-COMMERCE + INDUSTRIAL BELT" MODEL IN JIANGXI PROVINCE**

##### **4.1 Ganzhou Furniture Industry Belt: a Model of Digital Transformation of Traditional Industries**

Nankang District, known as the 'Capital of Chinese Solid Wood Furniture,' has achieved a digital transformation and international upgrade of its traditional furniture industry through cross-border e-commerce, serving as a prime example of the 'cross-border e-commerce + industrial belt' development in inland regions. Nankang District has embraced cross-border e-commerce as a key driver for the transformation and upgrading of the furniture industry, actively exploring new opportunities in this emerging market. In 2023, the district's cross-border trade volume surpassed 45 million transactions, driving foreign trade to exceed 10 billion yuan for two consecutive years and boosting the furniture industry's scale to over 270 billion yuan.

The core of the Nankang model is to establish a comprehensive cross-border e-commerce ecosystem. On the production side, it promotes digital transformation in furniture companies by building shared intelligent material preparation centers and innovative design centers, enhancing product standardization and design innovation. On the distribution side, it collaborates deeply with platforms like Alibaba International and Amazon, constructing cross-border e-commerce industrial parks and overseas warehouses to build an international marketing network that reaches directly to consumers. On the service side, it introduces professional institutions such as the Shenzhen Cross-border E-commerce Association to provide comprehensive services including talent development, brand building, and supply chain optimization. Through this ecosystem, Nankang furniture has transformed from 'offline wholesale' to 'brand going global,' increasing its average profit margin from 8% to over 20%.

Notably, Nankang District has innovatively developed the 'cross-border e-commerce + China-Europe train + overseas warehouse' model, effectively addressing the logistics challenges of large furniture items. Through the Ganzhou International Land Port China-Europe Train, furniture products can reach major markets in Europe and Central Asia directly, reducing logistics time by two-thirds compared to sea freight and cutting costs by 40%. Additionally, overseas warehouses have been established in key target markets to facilitate localized storage and distribution, significantly enhancing the consumer experience. Currently, Nankang furniture is exported to over 100 countries and regions worldwide, with timber imported from more than 70 countries and regions, creating a 'buy globally, sell globally' market.

##### **4.2 Nanchang Electronic Information Industry Belt: Technology-Driven Cross-Border E-Commerce Development Path**

Nanchang City, as the core area of Jiangxi Province's electronic information industry, has explored a technology-driven path for cross-border e-commerce development. In 2023, Nanchang's total cross-border e-commerce import and export volume reached 20.4 billion yuan, with over 60% of the products being electronic information products. Unlike the furniture industry belt in Ganzhou, the products from Nanchang's electronic information industry belt are characterized by high technological content and rapid updates, which places higher demands on the supply chain response speed and intellectual property protection in cross-border e-commerce.

The core of the Nanchang model lies in the establishment of a collaborative system that integrates technology research and development, cross-border e-commerce, and digital services. In terms of technology R&D, the model leverages platforms such as the Nanchang High-tech Zone and the Nanchang Economic and Technological Development Zone to attract leading enterprises like O-Film and Jingneng Optoelectronics, forming a comprehensive industrial chain from LED chips, packaging, to applications. For cross-border e-commerce, the focus is on developing a B2B model, collaborating with global electronic component distribution platforms to establish direct channels for international buyers. In digital services, the model utilizes technologies such as VR and big data to create systems for virtual product displays, intelligent supply-demand matching, and online technical support. This approach enables Nanchang's electronic information products to swiftly adapt to changes in international market demands, maintaining a technological edge.

The Nanchang Electronic Information Industry Belt is also actively exploring the integration and innovation of cross-border e-commerce with digital technologies. On one hand, VR technology is being used to enhance the online

display of electronic components and smart devices through virtual exhibition halls and 3D product models. On the other hand, IoT technology is being utilized to optimize cross-border logistics, enabling full-process tracking and intelligent warehouse management. These innovations not only boost the operational efficiency of cross-border e-commerce but also promote the commercial application of digital technologies like VR and IoT, creating a virtuous cycle.

### **4.3 Jingdezhen Ceramic Industry Belt: Cultural Empowerment of Cross-Border E-Commerce Brand Construction**

Jingdezhen City is leveraging its cultural heritage as the 'Thousand-Year Porcelain Capital' to promote the high-end development of the ceramics industry and internationalize its brands through cross-border e-commerce. In 2022, Jingdezhen was designated as a national cross-border e-commerce comprehensive pilot zone, leading to a significant increase in the export value of ceramic products via cross-border e-commerce. It is projected that by 2025, this value will reach over 10 billion yuan.

The essence of the Jingdezhen model lies in cultural empowerment and brand enhancement. On one hand, it involves deeply exploring the cultural significance of ceramics, integrating traditional techniques with modern design to create ceramic products that are both culturally rich and aesthetically appealing. On the other hand, it leverages cross-border e-commerce platforms for cultural promotion and brand marketing to boost the international recognition of the 'Jingdezhen' brand. Companies like Jingdezhen Ceramic Expo City Cross-border Trade Comprehensive Service Co., Ltd. offer a range of services, including brand incubation and intellectual property protection, to support small and medium-sized ceramic enterprises in transitioning from contract manufacturing to brand management.

Jingdezhen also focuses on building a cross-border e-commerce ecosystem for ceramics. By introducing and nurturing cross-border e-commerce platforms, it provides ceramic companies with channels for external communication and marketing. It organizes brand enterprises to establish overseas warehouses, enabling localized operations and services. Additionally, it collaborates with renowned art schools both domestically and internationally to train versatile talents who are proficient in both ceramic art and e-commerce operations. This ecosystem ensures that Jingdezhen's ceramic industry maintains its cultural identity while successfully integrating into the global market.

### **4.4 Challenges to Coordinated Development**

Although the "cross-border e-commerce + industrial belt" model in Jiangxi province has achieved remarkable results, it still faces many challenges in the process of deep integration between cross-border e-commerce and strategic emerging industries:

Policy coordination is insufficient. Cross-border e-commerce and strategic emerging industries are managed by different departments, including commerce, industry and information technology, and science and technology, making policy coordination challenging. Most existing support policies are general, lacking specific support for cross-border e-commerce of technology products. For example, issues such as testing and certification, and intellectual property protection in the export of high-tech products through cross-border e-commerce have not yet been systematically addressed.

The industrial chain is not fully developed. Jiangxi Province's cross-border e-commerce service chain still has shortcomings, particularly in high-end areas such as international logistics, payment settlement, and digital marketing. For instance, the demand for the timeliness and stability of cross-border logistics is extremely high for electronic information products, but Jiangxi's limited international air cargo capacity hinders the industry's development.

There is a shortage of talent in the structural level. The coordinated development of cross-border e-commerce and strategic emerging industries requires professionals who are proficient in both technical expertise and international trade, but Jiangxi Province faces a severe shortage of such talents. Although the province trains nearly 10,000 e-commerce professionals annually, it still heavily relies on recruiting high-end operational talents and cross-border e-commerce data analysts from coastal regions.

The brand influence is limited. In addition to traditional competitive products such as furniture and ceramics, the brand awareness of strategic emerging industrial products in Jiangxi province in the international market is not high, mainly through cross-border e-commerce platforms to sell at low prices or contract manufacturing for international brands, and the construction of independent brands has a long way to go.

The development of data elements is insufficient. Cross-border e-commerce platforms have accumulated a vast amount of international market data, but these data resources have not been fully transformed into industrial innovation elements. On one hand, the data sharing mechanism is inadequate; on the other hand, companies' capabilities in data analysis and application are limited, making it difficult to extract value from the data.

## **5 CONCLUSION AND DISCUSSION**

### **5.1 Construction of "Four-Dimensional Linkage" Coordinated Development Model**

Based on the practice of Jiangxi province and the law of industrial development, this study puts forward a "four-dimensional linkage" model for the coordinated development of cross-border e-commerce and strategic emerging industries, including four dimensions: industrial empowerment, innovation drive, ecological co-construction and

institutional guarantee.

The dimension of industrial empowerment highlights the role of cross-border e-commerce as a new type of infrastructure, offering comprehensive support to strategic emerging industries in market expansion, brand building, and supply chain optimization. Specific strategies include: developing specialized cross-border e-commerce platforms for specific sectors like electronics and information technology, and new energy, to provide professional services; promoting the B2B model of cross-border e-commerce to facilitate direct connections between strategic emerging industry enterprises and global buyers; and establishing a 'cross-border e-commerce + overseas warehouse' network to enhance the international service capabilities for high-tech products.

The innovation drive highlights the interaction between cross-border e-commerce and strategic emerging industries in technological, model, and business innovation. Key measures include: establishing a big data center for cross-border e-commerce to support industrial innovation; promoting the use of VR/AR technology in product display and marketing; exploring the application of blockchain technology in cross-border e-commerce payments and logistics tracking to enhance transaction security and efficiency.

The dimension of ecological co-construction focuses on building a collaborative network involving multiple stakeholders, including enterprises, platforms, service providers, and research institutions. Key measures include: developing a 'garden within a garden' model that integrates cross-border e-commerce parks with strategic emerging industry bases; cultivating comprehensive cross-border e-commerce service providers to offer full-chain services to strategic emerging industries; forming industrial innovation alliances to promote collaborative innovation among industry, academia, and research.

As shown in table 2, the institutional guarantee dimension focuses on the construction of support systems, including policy coordination, standard setting, and talent development. Key tasks include: establishing a cross-departmental coordination mechanism to integrate policies for the development of cross-border e-commerce and strategic emerging industries; formulating standards for cross-border e-commerce transactions of technical products, covering product classification, quality assessment, and after-sales service; and enhancing the cross-border e-commerce talent training system to cultivate versatile professionals.

**Table 2** Key Areas and Paths for the Coordinated Development of Cross-Border E-Commerce and Strategic Emerging Industries in Jiangxi Province

| class                        | estate development                                                             | Key points of coordinated development                            | Cross-border e-commerce empowerment path                         | Expected results                                                                 |
|------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------|
| electronic information       | Smart terminal, semiconductor lighting, automotive electronics                 | Industry vertical platform, digital marketing, technical support | Industry vertical platform, digital marketing, technical support | Increase international market share and enhance brand influence                  |
| new energy                   | Photovoltaic modules, lithium products, energy storage systems                 | B2B e-commerce, cross-border certification, EPC services         | B2B e-commerce, cross-border certification, EPC services         | Expand the "Belt and Road" market and promote green products to go overseas      |
| aviation                     | Drones, aviation parts, simulators                                             | Technology trade, service trade, digital display                 | Technology trade, service trade, digital display                 | Promote international cooperation in aviation technology and open up new markets |
| new material                 | Copper based materials, rare earth functional materials                        | Cross-border supply chain e-commerce, technical standards output | Cross-border supply chain e-commerce, technical standards output | Improve the added value of the material industry and master the pricing power    |
| traditional Chinese medicine | Chinese medicine preparation, health care products, Chinese medicine equipment | Cross-border retail, communication and export                    | Cross-border retail, communication and export                    | Promote the internationalization of TCM and spread Chinese culture               |
| digital economy              | VR/AR, Internet of Things, big data                                            | Digital service technical solutions                              | Digital service technical solutions                              | We will foster new advantages in digital trade and seize the commanding heights  |

## 5.2 Specific Paths for Industrial Synergy Upgrading

As the first trillion-yuan industry in Jiangxi Province, the electronic information industry should focus on three key areas for its coordinated development with cross-border e-commerce: First, prioritize the B2B model of cross-border e-commerce for products like semiconductor lighting and smart terminals. By collaborating with global electronic component distribution platforms, establish a stable international supply chain. Second, use data from cross-border e-commerce to guide product innovation, such as adjusting R&D directions based on changes in international demand for smart home devices. Third, promote technical standards through cross-border e-commerce platforms to enhance the industry's international influence.

The key points of the collaboration between the new energy industry and cross-border e-commerce include: first, establishing a green certification and international promotion system for products such as photovoltaic and lithium batteries, using cross-border e-commerce platforms to convey environmental values and enhance product premium;

second, developing an 'e-commerce + EPC service' model to provide comprehensive solutions, including photovoltaic power stations and energy storage systems, to countries along the 'Belt and Road' route; third, building a big data platform for cross-border e-commerce in the new energy sector to monitor global market demand and technological trends in real time.

The synergy between the aviation industry and cross-border e-commerce is unique, with a focus on: first, developing cross-border e-commerce exports of drones and related services, leveraging platforms to precisely connect with international buyers; second, promoting trade in aviation technology and services through cross-border e-commerce, such as exporting flight simulator technology and providing pilot training services; third, using VR/AR technology for the digital display and marketing of aviation products, enhancing user experience.

The synergy between the traditional Chinese medicine (TCM) industry and cross-border e-commerce holds significant potential. This can be achieved through the following approaches: 1) developing cross-border retail of TCM preparations and health products to directly reach overseas consumers; 2) promoting TCM culture on cross-border e-commerce platforms to enhance international recognition; 3) exploring a 'cross-border e-commerce + TCM services' model to promote the internationalization of TCM diagnostic and wellness services.

### 5.3 Policy Innovation and Safeguard Measures

In order to promote the deep coordination between cross-border e-commerce and strategic emerging industries, Jiangxi province should further improve the policy system and safeguard measures:

Strengthen top-level design and policy coordination. It is recommended to establish a provincial leadership group for the coordinated development of cross-border e-commerce and strategic emerging industries, to coordinate resources from various departments such as commerce, industry and information technology, science and technology, and customs, and to formulate specialized development plans and supporting policies. Key areas include: establishing a special fund for the coordinated development of cross-border e-commerce and industrial innovation; formulating facilitation measures for the export of high-tech products through cross-border e-commerce; improving the data sharing mechanism for cross-border e-commerce to provide data support for industrial innovation.

Improve the industrial chain support service system. To meet the specific needs of cross-border e-commerce for strategic emerging industry products, establish a specialized service system: set up high-tech product testing and certification platforms to provide international certification services; develop cross-border intellectual property services to assist companies in international patent layout and protection; enhance the international logistics system, particularly by strengthening air cargo capacity, to meet the transportation needs of high-value, time-sensitive products.

To address the shortage of versatile talents, a multi-faceted approach is needed to innovate and introduce talent mechanisms. This includes promoting universities to offer 'major + cross-border e-commerce' interdisciplinary programs, such as dual degrees in 'electronic information engineering + international trade'; establishing practical training bases for cross-border e-commerce and industrial innovation talents to conduct real-world training; implementing a high-end talent introduction plan to attract professionals in cross-border e-commerce platform operations and international digital marketing; and establishing a talent cooperation mechanism with the Guangdong-Hong Kong-Macao Greater Bay Area to share talent resources.

Deepen international cooperation and align with global rules. Seize the opportunity of 'Belt and Road' construction to expand international cooperation: establish cross-border e-commerce cooperation mechanisms with major trading partners, promoting mutual recognition of product standards; participate in the formulation of international digital trade rules to enhance our influence; encourage enterprises to engage in the restructuring of the international industrial chain through cross-border e-commerce, integrating into the global value chain at a higher level.

Optimizing the business environment and risk management. To foster a favorable environment for coordinated development: improve the statistical monitoring system for cross-border e-commerce to promptly track industry trends; establish a risk warning and response mechanism for cross-border e-commerce to prevent risks such as international trade frictions and intellectual property disputes; strengthen the integrity system of cross-border e-commerce to maintain a fair competitive environment.

### COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

### FUNDING

This project is funded by the Jiangxi Provincial Social Science Fund Project "Research on the Development of Strategic Emerging Industry Integration Clusters in Jiangxi Province", project number: 23WT78.

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