

# Research on the High-Quality Development of Agricultural Product Cross-Border E-Commerce Under Rural Revitalization

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**Abstract:** The agricultural product industry is under significant transformation pressure, and vigorously developing cross-border e-commerce (CBEC) for agricultural products can facilitate industrial upgrading and inject new vitality into rural revitalization. Based on large-scale field surveys and interviews with 120 enterprises in Linyi (China), this study examines the operational status of agricultural product businesses and their perceptions of CBEC, identifying key challenges and strategies for high-quality development. Findings reveal that while agricultural product enterprises recognize the necessity of adopting CBEC, they face multiple barriers, including lack of support policies and regulatory systems, limited awareness of CBEC potential, insufficient adoption of new technologies, shortage of professional and interdisciplinary talent, and weak awareness of cross-brand building. To effectively promote high-quality CBEC development, policymakers and stakeholders should improve support policies and regulatory systems, strengthen awareness of CBEC applications, enhance the promotion and application of new technologies, build a CBEC talent support system, and accelerate brand development for agricultural product CBEC.

**Keywords:** Rural Revitalization; Agricultural Product; Cross-Border E-Commerce(CBEC); High-Quality Development

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## 1.Introduction

Rural development constitutes a critical issue in China's modernization strategy. The strategic evolution from "New Rural Construction" to "Rural Revitalization" reflects not only terminological adjustment but also an emphasis on elevating rural development quality (Zhang, 2024; Fu & Yang, 2024). High-quality development is the foremost requirement of rural revitalization, underscoring its significance. The core of rural revitalization lies in leveraging local specialties (Xue, 2025). Thus, harnessing regional advantages to promote high-quality development of agricultural product industries has become a vital pathway for rural revitalization (Sun, 2024). Currently, China's agricultural product industry has reached a bottleneck, urgently requiring transformation. Cross-border e-commerce(CBEC) demonstrates unique advantages over traditional trade models, including vast market potential, relatively unsaturated competition, improved circulation efficiency, and information exchange benefits (Zhu, 2024). Moreover, the ongoing wave of technological revolution and digital transformation provides crucial momentum for integrating modern agriculture with digital trade, fostering the rise of CBEC for agricultural products (Fang et al., 2024; McKinsey & Company, 2024). Since 2021, despite challenges like global pandemics, supply chain

instability, and trade barriers, agricultural products CBEC has shown robust growth (Li, 2024) . As an innovative trade model, it exhibits strong dynamism and resilience, offering new vitality and vast potential for rural industrial revitalization.

## **2. Research Methodology**

### **2.1 Case Context**

Linyi is located in Shandong Province, China, situated within the 34 to 36 degrees north latitude golden industrial belt for high-quality agricultural products globally. It serves as a vital supply base for grain, oil, fruits, vegetables, and livestock products in China. Leveraging advantages such as commerce and logistics, Linyi focuses on optimizing agricultural products, deeply tapping into agricultural resources, and accelerating the cultivation of the entire agricultural industry chain. Agricultural products represent a niche category in Linyi's cross-border e-commerce (CBEC) offerings, facing numerous challenges yet holding vast potential for expansion (Li, 2024) .

### **2.2 Methodological Approach**

This study investigates the high-quality development issues of cross-border e-commerce (CBEC) for agricultural products in Linyi through field research, questionnaires, and symposiums. The research subjects encompass the majority of agricultural enterprises and cooperatives across all nine counties and three districts of Linyi, ensuring strong representativeness and authenticity of the samples. A total of 120 valid questionnaires were collected during the four-month research period from March to June 2024. The study covers background information of Linyi's agricultural enterprises, their current development status, and their understanding of CBEC.

## **3. Analyzing the Key Challenges in High-Quality Development of Agricultural Product Cross-Border E-Commerce (CBEC)**

### **3.1 Lack of Support Policies and Regulatory Systems**

The existing policy support system for cross-border e-commerce (CBEC) and rural e-commerce rarely focuses on agricultural products, lacking specificity (Ministry of Commerce et al., 2024) . The operational model of CBEC for agricultural products is complex and involves multiple stakeholders, yet there is a lack of smooth coordination mechanisms. Trade facilitation measures tailored to the import and export of agricultural products remain to be improved.

### **3.2 Limited Awareness of Cross-border e-commerce (CBEC) Potential**

Most agricultural product enterprises have limited understanding of cross-border e-commerce (CBEC) as a new business model. They fail to recognize the revolutionary changes it brings to international trade and lack awareness of leveraging CBEC for overseas sales, brand transformation, and digital upgrading of agricultural products (Zhu, 2024; Wang, 2023) .

### **3.3 Insufficient Adoption of New Technologies**

With technological advancements, new technologies such as artificial intelligence, big data analytics, blockchain, and cloud computing have emerged. Their application can not only enhance the operational efficiency of cross-border e-commerce (CBEC) but also improve user experience, reduce costs, and increase security. Currently, the development of CBEC for agricultural products significantly lags in utilizing these technologies (Mirabelli & Solina, 2020; Fang et al., 2024) .

### **3.4 Shortage of Professional and Interdisciplinary Talent**

The development of cross-border e-commerce (CBEC) for agricultural products requires international, interdisciplinary talent familiar with agricultural production, online marketing, and foreign trade experience. Current talent cultivation falls short of actual demand, with significant gaps in basic operational personnel and high-end management talent.

### **3.5 Weak Awareness of Cross-Brand Building**

Due to the prominent issue of product homogenization in cross-border e-commerce (CBEC) of agricultural products, the lack of uniqueness and differentiation makes it extremely challenging to establish distinctive brand characteristics. Meanwhile, most agricultural enterprises lack awareness of CBEC brand building, making it difficult to create competitive brands and effectively conduct market promotion, thereby limiting the market share and visibility of their products (European Commission, 2022; Sun, 2024) .

## **4. Ecommendations for High-Quality Development of CBEC for Agricultural Products**

#### **4.1 Improve Support Policies and Regulatory Systems**

First, enhance the reputation of Linyi Mall and China Grand Bazaar by integrating agricultural product cross-border e-commerce (CBEC) into these platforms, leveraging their influence to boost the overseas expansion of agricultural products. Second, streamline administrative approval processes to reduce transaction costs and administrative burdens for cross-border agricultural products. For example, Haikou Customs has established fast-track channels for exporting premium agricultural products like tropical fruits and flowers (Ministry of Commerce et al., 2024). Third, refine laws and regulations to provide clear rules and safeguards for cross-border agricultural product trade. Fourth, establish a stringent quality supervision system for agricultural products, strengthen source management, and ensure compliance with the quality standards of importing countries. For instance, following the example of Wuchang City, implementing traceability and anti-counterfeiting systems and promoting local standards can enhance the market competitiveness of agricultural products (Fang, 2015).

#### **4.2 Strengthen Awareness of CBEC Applications**

First, promote the importance and success stories of cross-border e-commerce (CBEC) through multiple channels such as government, industry associations, and media to increase awareness and interest among agricultural product enterprises. For example, Guangdong pioneered the slogan “Guangdong Invites the World to Taste Lychees,” which boosted the popularity of Guangdong lychees overseas through CBEC exports, achieving record-high export volumes (Zhu, 2024). Second, provide CBEC training for agricultural product enterprises, covering platform operations, marketing strategies, logistics, and other aspects to help them better understand and utilize CBEC. Third, establish collaboration and exchange platforms for agricultural product CBEC to facilitate information sharing and experience exchange among enterprises, fostering a conducive environment for mutual development. For instance, Ningxia used goji berries as a medium to collaborate with outstanding enterprises in South Chungcheong Province, South Korea, and platforms like JD Health, promoting the international development of its goji berry industry.

#### **4.3 Enhance the Promotion and Application of New Technologies**

First, leverage IoT technology to enable comprehensive monitoring throughout agricultural product production, transportation, and storage. Second, establish a new model of “Blockchain + Cross-border e-commerce (CBEC) for agricultural products,” recording information at every stage from production, processing, transportation to sales. For instance, drawing lessons from the Gannan Navel Orange blockchain traceability project, data from each production stage is uploaded to the blockchain, achieving full-process safety traceability (Zhou, 2023). Third, rationally apply AI and big data technologies to mine and analyze massive datasets, helping businesses precisely target markets and optimize product supply and marketing strategies (McKinsey & Company, 2024). Fourth, continuously upgrade smart logistics and warehousing systems to achieve rapid sorting, delivery, and storage management. Fifth, revolutionize CBEC for farm products with VR and AR technologies, allowing consumers to visually understand growth environments and processing procedures through virtual scenarios, enhancing purchase intent. Sixth, utilize AI to create immersive new experiences, concretizing product features in live streams and hosting virtual avatar interactions with international hosts to boost engagement.

#### **4.4 Building a CBEC Talent Support System**

First, for practitioners lacking professional knowledge, provide vocational training covering international trade rules, e-commerce platform operations, and global marketing for agricultural product cross-border e-commerce (CBEC). Second, actively recruit top domestic and international talent, especially those with international trade expertise. Third, establish stable university-enterprise partnerships, such as deep collaboration with Qingdao University of Technology (Linyi), to launch CBEC joint programs. Fourth, promote industry exchange events to foster interdisciplinary talent integration and advance agricultural product CBEC. For example, Foshan Lishui hosted the Guangdong Agricultural Products CBEC Forum and founded the “Guangdong Agricultural Products CBEC Alliance & Think Tank,” aiming to build a robust talent ecosystem.

#### **4.5 Accelerating Brand Development for Agricultural product CBEC**

First, deeply explore the agricultural product resources in the Linyi region and cultivate a group of “small but beautiful” cross-border e-commerce (CBEC) brands for agricultural products. Develop intensive processing of agricultural products to increase their added value, promote their transformation from primary products to high-value-added products, and enhance

brand value. Second, utilize various channels such as social media, e-commerce platforms, and search engines for brand promotion to increase brand awareness and exposure. For example, following the approach of Shuangxi Village, Dongbao Town, Jiange County, Guangyuan, Sichuan, release local food preparation videos on new media platforms like TikTok to promote local agricultural product brands. Third, cultivate internationally-minded live-streaming hosts to help Linyi's advantageous products explore the international market through the model of "CBEC + Agricultural products + International hosts." For instance, e-commerce influencers like Chunfeng Tianji conduct cross-border live-streaming on platforms such as Lazada and TikTok, using both Chinese and English to promote local agricultural product brands (Chen & Long, 2024).

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## Conflict of Interests

The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

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