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Qiuchen Huang and [Ji Chen](#) \*

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## Article

# Strategy for Developing Cross-Border E-commerce of Yunnan Agricultural Products in the Context of "One Belt, One Road"

Qiuchen Huang \* and Ji Chen

College of Economic and Management, Yunnan Agricultural University, Kunming, Yunnan 650201, China; j.chn@ynau.edu.cn

\* Correspondence: qiuchen.huang@ynau.edu.cn

**Abstract:** Economic globalisation has promoted the extensive circulation of commodities around the world, and international trade has increasingly been a strong booster for economic growth in China. As an foundation for national economy, the shift of agricultural products (AP) from production to distribution has become the focus of agricultural development, and in recent years, the international trade of agricultural products in China has been the highest in the world. While, cross-border e-commerce (CBE), as one of the important modes of agricultural products circulation, has brought new opportunities for China's fresh agricultural products to carry out online import and export trade under the favourable policies continuously introduced internationally. This research analyses status of APCBE in Yunnan Province, China, and propose strategies for developing CBE of Yunnan AP.

**Keywords:** cross-border e-commerce; agricultural production; Yunnan; China

## 1. Introduction

The "One Belt, One Road" will support China's global strategy for agriculture and serve China's overall strategy that are agricultural product supplement and food security. The "One Belt, One Road" has brought a great opportunity for agricultural products cross-border e-commerce (APCBE) in China, which is opportunity to improve business environment, logistics, tax institution, and business management. The implementation of the "One Belt, One Road" and the "Internet + Agriculture" plan has brought opportunities and challenges to China's APCBE. In May 2020, the "One Belt, One Road" International Cooperation Summit Forum pointed out [1] that focusing on CBE and agricultural products will certainly collide with a new, huge market space, and this simply adds up to a market size of nearly 7 trillion yuan. Xu Jiahao said, relying on the "One Belt and One Road", the new world economic belt, CBE to help the introduction of agricultural products and go out, is not only the "One Belt and One Road" construction of enrichment and support, but also a strong promotion of China's agricultural development. In the context of "One Belt and One Road", we will start from building a standardized quality system for agricultural products, promoting integrated customs clearance for APCBE, promoting the integrated development of cross-border logistics and warehousing, and improving the financial payment and credit system for cross-border e-commerce (CBE) to help the integrated development of China's APCBE industry.

As a new "blue ocean" in the field of e-commerce, the development of APCBE has received keen attention from various parties and has been studied from several aspects.

*Comprehensive study.* CBE already has a positive impact and influence on the existing economy as well as its potential growth and future expansion. In 2016, the European Commission proposed the following objectives for a single e-strategy for Europe[2]: 1) eliminate geographical blockades to facilitate consumers to purchase any goods or services throughout the EU without any disruptions or restrictions; 2) optimise the logistics system and distribution system to make the delivery of parcels more affordable; 3) simplifying the burden of different VAT rates between countries and simplifying trade rules to reduce the burden for consumers and service providers. More favourable pillars are

provided for the development of the EU e-commerce market. The direction of CBE development is proposed in terms of logistics and distribution, means of payment, taxation and other influencing factors. In terms of the development status of CBE for fresh agricultural products, there are currently problems such as an inadequate quality certification system for fresh agricultural products, complicated customs clearance processes, imperfect taxation mechanisms, low logistics efficiency, difficult supply chain management, weak credit system construction and lack of talents.

*Platform aspect.* A CBE management platform for agricultural products can integrate the resources of fresh agricultural products suppliers and promote more transparent supplier information. The transformation and upgrading of traditional agricultural products to CBE should be developed strategically. A part of scholars has studied five dimensions such as fresh agricultural products product characteristics and website service quality, and fresh agricultural products popularity as factors affecting the willingness of agricultural products CBE consumers to purchase for empirical research.

*Consumer satisfaction and online shopping behaviour.* Satisfaction with cross-border logistics directly affects the development of CBE. Low logistics efficiency, high distribution costs, long delivery cycles and low service levels all constrain the development of CBE; Ratna Singham et al. constructed a model of factors influencing consumer satisfaction in fresh produce e-commerce based on the purchase process, using comprehensive customer satisfaction theory and Oliver's expectation-performance theory model as theoretical support. The results of the empirical study show that fresh produce e-commerce consumer loyalty is significantly influenced by consumer satisfaction; the quality of the produce, the service level of the e-commerce company and the functionality of the website are important factors affecting consumer satisfaction.

*Province and country research.* Domestic and international scholars have also conducted research on CBE for agricultural products with regard to specific provinces and countries. Han guoshan, in the context of Henan Province, conducted a study on the construction of a CBE logistics system for local agricultural products. Zhou Dao et al. analysed the opportunities and problems of CBE for agricultural products under Hunan's Belt and Road policy and proposed countermeasures for development, using Hunan as a background. Zheng Jie analysed the development problems and countermeasures of CBE agricultural trade in southwest China with Sichuan Province as an example [3] and proposed a development model of CBE for agricultural products with consumer satisfaction as the development orientation. ng Yew Kang conducted a research study on the factors influencing the behaviour of CBE consumers with Malaysia as an example.

In recent years there has been much research on various aspects of APCBE, which has received wide interests from scholars. A synthesis of this literature shows that the development of CBE for agricultural products is influenced by government policy, the construction of platforms, logistics and supply chains, consumer behaviour, payments, and tariffs. There are also local characteristics of CBE for agricultural products in different regions. However, few studies on the development of CBE for fresh produce have analysed the development of enterprises and are not very practical and relevant. Moreover, when empirical studies on the determinants of APCBE are conducted in the existing literature, they mainly focus on one influencing factor or one perspective as an entry point for in-depth analysis, which is targeted but too one-sided. The lack of research in the context of Yunnan, one of China's major agricultural provinces, where agricultural development is a top priority for the province's economy and industry, and where CBE is not only a policy trend but also helps the development of enterprises, makes it imperative to strengthen research on CBE for agricultural products.

Through a comprehensive analysis of the current situation of CBE for agricultural products at home and abroad, as well as an analysis of the characteristics of local agricultural products and the operational characteristics of enterprises in Yunnan, this study combines the current relevant cross-border policies of various countries and proposes development strategies for CBE for agricultural products in enterprises, which can better optimise the actual development of enterprises.

Encourage more enterprises to join the transformation of agricultural trade practices through research on the ground. In traditional trade, the export of agricultural products involves many links,

and consumers usually have to go through multiple intermediaries before they can get their products, which not only affects the freshness of the agricultural products, but also increases the distribution costs, thus reducing the profits of export enterprises and consumers' willingness to buy. At the same time, as agricultural exporters can publish product information on the Internet at any time, they can also promote and publicise their products through various online marketing methods and tools, thus saving a large amount of advertising costs.

The study of CBE models promotes the diversification of agricultural trade channels. As the demand for agricultural products in CBE is more diversified than traditional agricultural trade, in addition to B2B and B2C trading models, C2C, F2B2C, M2C and other models have also been introduced, which not only simplifies the process of trading large amounts of agricultural products, but also promotes the development of "small batch and multi-batch" retail trade in agricultural products. This, coupled with the continuous innovation and development of comprehensive, vertical and self-managed CBE platforms, has led to a gradual diversification of agricultural trade channels.

The choice of products and the optimisation of logistics are recommended to promote brand consumption in agricultural trade. The development of CBE for agricultural products has led to a more diversified approach to marketing and promotion, effectively solving the traditional challenges of long marketing and promotion cycles and high costs for international trade in agricultural products. By integrating the resources of special agricultural products, enhancing the ability to refine and create value for agricultural products, and cultivating special agricultural brands, a CBE path with Yunnan's ethnic characteristics has been developed.

According to the analysis of favourable national policies, the construction of the platform promotes the creation of more trade opportunities. Exporters can release product information in real time and consumers in different countries can search for the products they want to buy at any time, which reduces the cost of marketing and promotion as well as the amount of product inventory and brings more market opportunities. In recent years, with the implementation of the "One Belt, One Road" initiative, Yunnan Province has become the only province where China's major strategies, including the Yangtze River Economic Belt, the Western Development and the Regional Comprehensive Economic Partnership, overlap and intersect, with rapid development in international trade and tourism.

## **2. Relevant theories and concepts**

### *2.1. The concept of "One Belt, One Road"*

"The Silk Road Economic Belt, proposed by President Xi Jinping of the People's Republic of China on 7 September 2013, consists of three land routes starting from the Pacific coast, passing through China's north-western provinces and autonomous regions, and then reaching European Union countries through Kazakhstan [2]. On 3 October 2013, President Xi Jinping delivered an important speech at the Indonesian Parliament, proposing the joint construction of the 21st Century Maritime Silk Road. The Maritime Silk Road starts from the ports of China's southeast coast and reaches South Asia, West Asia, Southern Europe and East Africa via Southeast Asian countries.<sup>4</sup> In 2015, China released the "Vision and Action for Promoting the Construction of the Silk Road Economic Belt and the 21st Century Maritime Silk Road", which clearly puts forward the framework idea of the "Belt and Road", i.e. to smoothly connect China to Europe (Baltic Sea) via Central Asia and Russia; China to the Persian Gulf and the Mediterranean Sea via Central Asia and West Asia; China to Southeast Asia, South Asia and the Indian Ocean. The key directions are Chinese coastal ports via the South China Sea to the Indian Ocean, finally reaches Europe; and from Chinese coastal ports across the South China Sea to the South Pacific [5].

### *2.2. The concept of CBE*

The concept of CBE is divided into a broad definition and a narrow definition. CBE in a broad sense refers to cross-border import and export activities in which trading entities belong to different customs borders reach transactions through e-commerce means. The concept of CBE in a narrow

sense refers specifically to cross-border e-tailing, which refers to a new international trade industry in which trading entities belong to different customs borders reach transactions through e-commerce platforms, make cross-border payments and settlements, and deliver goods through cross-border logistics to complete transactions. Cross-border e-tailing is a new trade form generated by the development of the Internet to a certain stage [6]. The concept of domestic CBE emerged in 2008[7]. After more than 20 years of development, the function of CBE has changed from the initial online display of goods to online transactions. CBE involves international commercial activities performed by trading entities belonging to different customs zones, where transactions are concluded, and payments are settled through e-commerce platforms. Transactions and settlements are carried out through e-commerce platforms and rely on international logistics systems for the delivery of goods. International logistics systems. Free trade between businesses is facilitated in terms of information, financial and commodity flows. Third-party facilitate the flow of information, funds, and goods. They profit by charging commissions based on the value of transactions.

### 3. Development of APCBE in Yunnan

Yunnan's CBE officially took off in 2018 with the establishment of the Kunming CBE comprehensive pilot zone. Subsequently, the Dehong and Honghe CBE comprehensive pilot zones were approved, and the scope and coverage of CBE reform in Yunnan was further expanded. At present, three states, Kunming, Dehong and Honghe, can carry out two types of business: bonded online shopping preparation and CBE direct mail direct purchase, while other states with customs supervised zones are able to carry out CBE direct mail direct purchase business. The province's CBE business is oriented towards the markets of many countries such as the U.S., India, Thailand, Vietnam, Bangladesh and Australia. between 2019 and 2021, the volume of CBE import and export declarations in Yunnan Province will be 893,600, 13,194,700 and 15,498,400 respectively, with rapid growth in import and export declarations[8]. in 2019, the amount of CBE import and export in Yunnan Province will be 103 million yuan in 2020, grows rapidly to 1.353 billion yuan in 2020, and increases 317.37% year-on-year to 4.294 billion yuan in 2021. The proportion of CBE imports and exports in foreign trade also grows from 0.4% in 2019 to 1.4%. According to the national average level of CBE accounting for nearly 30% of foreign trade, there is still more room for development in the scale of CBE transactions in Yunnan Province.

At present, Yunnan has built a series of regional cooperation CBE platforms, including the province's CBE public service platform, the China-ASEAN Free Trade Zone Business Portal, the China-South Asia Free Trade Business Portal and the GMS CBE cooperation platform. The public service framework for the CBE market in South and Southeast Asian countries has been basically built and operated. Ten CBE parks in the province have been docked to the Yunnan CBE public service platform, and the customs CBE supervision business has been fully opened. The Yunnan CBE public service platform allows for the collection, exchange and comparison and supervision of data regarding CBE transactions on the one hand, and facilitates CBE enterprises to provide taxation services and carry out payment and settlement on the other. The CBE public platform has played an active role in promoting the digital development of Yunnan's industries.

In 2021, the overall import and export clearance time at Yunnan ports was 7.93 hours and 0.15 hours respectively, ranking third and second in the country in terms of overall import and export clearance efficiency [9]. In the area of CBE supervision, Yunnan Customs has implemented early and pilot implementation of CBE and other new trade modes in the CBE pilot zone, and implemented such regulatory innovations as "entering the zone first, declaring customs later", "simplifying the accompanying documents for paperless customs clearance", and "warehousing goods according to The regulatory innovation system such as "state classification supervision" has further optimized the regulatory process of CBE and further improved the efficiency of customs clearance. Based on the border ports and border trade in Yunnan Province, the Yunnan Provincial Customs has carried out the innovation of "border export e-commerce", and the Customs has assisted development of CBE by information sharing among border warehouses, overseas warehouses and overseas operation centres.

Yunnan Province has increased its investment in transport and logistics in recent years and is becoming a comprehensive transport hub for South and Southeast Asia and the Indian Ocean. At present, the province has built a network of "seven highways out of the province and five out of the country", "two waterways out of the province and three out of the country", "eight railways out of the province and five out of the country" and an aviation network covering the whole country and South and Southeast Asia. The network will form a three-dimensional comprehensive transportation system. In particular, the opening of the China-Laos Railway in December 2021 will lead to the rapid development of international freight transport by virtue of its "high carrying capacity, high safety and low transport costs". The operation of the China-Laos Railway marks the official operation of Yunnan's "CBE + railway transport" business model.

Under the framework of the "One Belt, One Road" strategy, CBE in Yunnan Province has developed relatively quickly, which is related to Yunnan's core position in radiation with Southeast Asia and South Asia, and also as a domestic transit point for these Southeast Asian countries, which also plays the role of a logistics centre. In its infancy, there is a large gap between the development of CBE and that of the coastal provinces. The main reason for this is the lack of a unified scale effect of CBE in Yunnan Province across all municipalities in the province. At the same time CBE in foreign trade enterprises are still doing experimental development work, which still has a lack of development concept, innovation spirit. According to sources from the Department of Commerce of Yunnan Province, in 2019, CBE in Yunnan Province developed at a very impressive pace, with the province achieving online transactions of 214.1 billion yuan, a year-on-year growth of 38.69% respectively [10]. In general, the scale of e-commerce development in Yunnan Province is not large, mainly due to the small scale of e-tailing and the poor aggregation effect of enterprises, which prevents the formation of strategic depth. In particular, the lack of overall planning for the development of CBE in Yunnan is one of the reasons for this lack of scale. The other is that Yunnan, as a border area of China bordering several countries, has a natural cross-border advantage, which is both good and bad, good in that it can revitalise the local economy through border trade, and bad in that it is flawed in its enthusiasm and constructiveness for the establishment of CBE, for which Yunnan must go global and This is the only way to change the current status quo of a single trade export.

#### **4. Constraints to development of APCBE in Yunnan**

Although, the development of APCBE in Yunnan Province is gaining momentum, after collating existing studies and conducting field research on enterprises, the development of APCBE in Yunnan Province still faces a number of constraints. This paper provides an in-depth analysis of the efficiency of customs clearance, tax declaration and tax compensation, logistics, payment, management factors and talent factors.

##### *4.1. Efficiency of customs clearance*

Traditional cross-border business between enterprises involves a large number of commodities and is not very frequent, so traditional levy management is quick for traditional cross-border business. However, with the development of CBE, the subject of the transaction gradually evolves from B2B to B2C, where the number of goods in a single transaction will not be large and the amount is small[11], but the frequency of the transaction is greatly increased. The two sides of the transaction, without the need to face each other, can complete the transaction through the Internet. The communication with the customer gradually shifts from the wholesaler to the distributor or producer. These shifts have brought new opportunities for companies to communicate more directly with the end consumer, to better meet the needs of their customers and to increase the volume of transactions. However, this has significantly increased the workload of customs. Particularly with agricultural products, there are issues of freshness, and the traditional customs clearance process cannot meet the current needs of CBE for agricultural products. Fast customs clearance, handling returns and exchanges, as well as adequate monitoring of goods, is a challenge for customs.

#### *4.2. Tax returns and tax compensation*

China has issued a series of customs documentation guidelines covering international revenue, collection after inspection and substantiation, refunds and other elements. However, there are no clear requirements. Most businesses and individuals in the CBE sector repackage their goods, which requires customs declarations and inspections. Some companies avoid customs declaring by changing the number of returns. Logistics cannot complete the transaction without providing the equivalent of the declared voucher in the centralised tariff return, thus preventing the use of export tax refunds. Export tax refunds realise tax-free income from the cost of goods and allow exports to compete on a level playing field with other goods on equal terms. This increases value of CBE and increases foreign exchange earnings. Yet, due to the small size of the various CBE products, they are not included in the regulatory structure of China's tariffs. As a result, these businesses are not eligible for tax rebates.

#### *4.3. Logistics*

Logistics is a bridge in CBE, which including warehousing, sorting, packaging, and distribution [12]. Rapid growth of e-commerce in China raises many private logistics operators. This growth has greatly contributed to the logistics industry and fulfilled the requirements of e-commerce in China and lower the costs and risks in transportation process. However, for CBE, logistics delays transportation in CBE. Most goods are delivered by air. As a result, the logistics model for CBE is relatively simple. Due to the rapid growth of cross-border goods, the current logistics structure is unable to meet the requirements of transporting goods. Heavy workload of air good transportation delays cross-border goods delivery. In addition, breakdown occurs in packaging and task arrangement of CBE. Goods may lose or damaged during transit. The risks is increased according to transportation distances, which negatively affects the customer's satisfaction on good delivery. As a result, the costs of good transportation is a major barrier for development of CBE in China.

#### *4.4. Payment risk*

Electronic payments are the main feature that distinguishes e-commerce from traditional commerce [13]. In addition, online payments in e-commerce are closely linked to the security of a business' profits. In traditional commerce, funds are often handled by bank dealers, together with appropriate certificates, which pose little risk to the security of assets. In CBE transactions, buyers and sellers do not go through a solid security check, and doesn't know each other's credit. Such risk could result that buyers not receiving goods or sellers not receiving payments. China does not have regulations on cross-border payments in electronic commerce. Any financial compensation involved in CBE transactions is entirely dependent on CBE platforms. These platforms are running with unstable technology and does not cooperate sufficiently with banks. This, in turn, raising concerns on fund security gurantee. Other significant challenges arise due to differences in exchange rates between regions and countries. In addition, the RMB is not freely redeemable or used as a currency for payment and settlement. The country has not yet issued appropriate guidelines; this has hindered the progress of CBE in China.

#### *4.5. Managerial and human resource*

CBE is a complicated business process involving proficiency in several areas [14], such as cross-border commerce, marketing and webspace knowledge. The development of CBE requires many skilled people. Traditional cross border traders have few knowledge of CBE, therefore, they must be trained to fit CBE development. Similarly, customers are used to traditional international trade, and do not have the knowledge of CBE. They often choose the traditional trade model and foreign agents they trust to complete overseas transactions. In addition, CBE requires many people with internet expertise to manipulate CBE platform and process orders. Yet, currently, skilled workforce is not enough.

## 5. Conclusions

The CBE platforms help consumers purchasing goods across borders. It also helps business sell in a wider market. CBE also lower cost of trade and information associated with distance. Components of the Internet infrastructure includes electronic payment systems and transmission systems, which help further lower the costs of trade. While challenges are existing for cross-border business, these difficulties will not slow down the development of global trade in cross-border business. Yunnan's APCBE involves meeting trade challenges, global business exchanges, adapting to international business, and improving business efficiency. Some determinants that currently limit Yunnan's APCBE, including customs clearance, transportation costs and risks, challenge on regulation, taxation, payment, and insufficient skilled workforce. Our findings suggest that CBE business in Yunnan should meet customer's satisfaction by timely delivery and merit quality goods. Relevant agencies should implement comprehensive regulations on APCBE.

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## Reference

1. "One Belt One Road" International Cooperation Summit Foru. /2022-12-18. <http://www.scio.gov.cn/ztk/dtzt/36048/36560/index.htm>.
2. European Commission publishes strategy document "Shaping Europe's Digital Future". --- Chinese Academy of Sciences, Institute of Science and Technology Strategy and Consulting /2022-12-18. [http://www.casisd.cn/zkcg/ydkb/kjzcyzxb/2020kjzc/202004/202006/t20200615\\_5606679.html](http://www.casisd.cn/zkcg/ydkb/kjzcyzxb/2020kjzc/202004/202006/t20200615_5606679.html).
3. Zheng Jie. Problems and Countermeasures for the Development of Cross-border E-Commerce Agricultural Trade in Southwest China - Taking Sichuan Province as an Example [J]. Province as an Example[J]. Business and Economic Research, 2020(18).
4. "The Belt and Road Initiative: An Important Factor in China's Economic Development Going Global Public Service Platform. /2022-12-17. <http://fec.mofcom.gov.cn/article/fwydy/zgzx/202111/20211103218572.shtml>.
5. Vision and Action for Promoting the Construction of the Silk Road Economic Belt and the 21st Century Maritime Silk Road (full text) - International - People's Daily Online . /2022-12-17. <http://world.people.com.cn/gb/n1/2017/0309/c411452-29134334.html>.
6. Ali Research Institute: 2016 China cross-border e-commerce development report . /2022-12-17. [https://www.sohu.com/a/www.sohu.com/a/113375987\\_483389](https://www.sohu.com/a/www.sohu.com/a/113375987_483389).
7. Ma S, Chai Y, Zhang H. Rise of Cross-border E-commerce Exports in China[J]. China & World Economy, 2018, 26(3): 63-87.
8. Yunnan's cross-border e-commerce retail import and export volume exceeds 380 million in the first quarter . /2022-12-18. <https://baijiahao.baidu.com/s?id=1699837985824766955&wfr=spider&for=pc>.
9. Yunnan port exports second in China with overall customs clearance time of just 9 minutes. /2022-12-17. <https://baijiahao.baidu.com/s?id=1742547976968160032&wfr=spider&for=pc>.
10. Study on the development strategy of cross-border e-commerce for Yunnan's special agricultural products\_Reference.com. /2022-12-18. <https://m.fx361.com/news/2021/0922/8874749.html>.
11. Zhao Peng; Beyond platform responsibility: reflections on the model of online food trading regulation - Rule of Law Government.com. /2022-12-18. <http://fzzyfyjy.cupl.edu.cn/info/1060/6362.htm>.
12. Ding Yu; China Federation of Logistics and Purchasing has increased its influence in the past five years since its establishment [J]. Modern Logistics News, 2006: 001.
13. Liu Peinan; Exploration and research on e-commerce and traditional business[J]. Technology and innovation, 2014(19): 154-155.
14. Yang Guang. Research on the development of e-commerce of agricultural products in Xinbin County, Fushun City and countermeasures [J]. 2022.

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