Research on Current Situation, Problems and Countermeasures of Cross-border E-commerce between China and ASEAN under the RCEP Background

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Abstract. In recent years, the scale of cross-border E-commerce in China has developed rapidly. ASEAN is an important market of cross-border E-commerce in China. With the signing and entry into force of RCEP, the favorable factors such as the decline of raw materials, production costs and commodity prices of the contracting countries will bring many opportunities as well as a series of challenges to the development of cross-border E-commerce between China and ASEAN. How to grasp the new opportunities brought by RCEP to promote the high-quality development of cross-border E-commerce in China is an urgent problem to be solved. Therefore, based on the analysis of the current situation of cross-border E-commerce cooperation between China and ASEAN and the customer portraits of some ASEAN member countries based on data mining, this paper finds out the existing problems, and puts forward some solutions from the aspects of optimizing the supervision system, establishing overseas warehouses, carrying out precise marketing, and cultivating compound cross-border E-commerce talents, so as to provide targeted reference value and practical guiding significance for cross-border E-commerce for China to seize opportunities and meet challenges under the RCEP background. Keywords: RCEP, China-ASEAN, E-commerce, Countermeasures.

1 Introduction

Since the 21st century, the Internet technology revolution has broken through the boundaries of spatial geography, and has improved the informationization and digitalization of international trade activities. In this context, global cross-border E-commerce shows great development potential and growth space. In recent years, the level of China’s opening to the outside world has been continuously improved, especially the development of cross-border E-commerce has become more and more mature. The 14th Five-Year E-Commerce Development Plan points out that by 2025, the cross-border E-commerce transaction volume in China will reach 2.5 trillion yuan, an increase of 47.92% compared with 1.69 trillion yuan in 2020. In 2020, ASEAN became China’s largest trading partner historically, and the two sides became each other’s largest trading partner for the first time. The Regional Comprehensive Economic Partnership (RCEP) agreement aims at establishing an open, mutually beneficial and unified free trade market composed of 16 countries by reducing tariff and non-tariff trade...
barriers. This is a regional economic integration organization with the widest territory, the largest population and the largest economy in the world, covering about 30% of the global population, 30% of the total economy and 30% of foreign trade. The successful signing of this agreement is an important milestone of regional economic integration in East Asia. The entry into force of RCEP will reduce trade barriers as a whole, and cross-border e-commerce will directly benefit from tariff reduction and customs clearance efficiency improvement, thus pushing China-ASEAN cross-border E-commerce into a golden age.

Nielson & Morris (2001) [1] defined cross-border E-commerce as a new international trade model, and believed that cross-border E-commerce has greater advantages in marketing, supply and sales than traditional international trade models; Clarke & Wallsten (2006) [2] found that the higher the development level of the Internet, the greater the growth of export trade from developing countries to developed countries; Bojnec & Ferto (2009) [3] believes that the development of the Internet will promote the export of manufacturing industry; Terzia (2011) [4] believes that cross-border E-commerce will promote domestic trade volume, and in the long run, it will also help promote the economic development of less developed regions in the world. At the end of 2020, RCEP was officially signed. As the focus of the agreement negotiation, cross-border E-commerce has gradually entered the perspective of domestic scholars. Yan & Fang (2021) [5] pointed out that in the context of RCEP, there are still problems in logistics, payment, regulations and other aspects restricting the cooperation between China and ASEAN countries in cross-border E-commerce cooperation. Huang (2021) [6] pointed out that the signing of RCEP is conducive to reducing trade costs, optimizing regional value chain resources, and accelerating the development of China’s cross-border E-commerce. Since the RCEP agreement has just come into force, domestic and foreign scholars have done relatively little research on intra-regional trade together with cross-border E-commerce. Therefore, based on the above research deficiencies, this paper takes the development status of cross-border e-commerce in typical countries in RCEP as the research object, and based on the internal data of enterprises, finds existing problems and puts forward development countermeasures.

This paper is organized into four parts. After introduction, an overview of cross-border E-commerce development in China is presented; the third part provides the portrait of ASEAN country users under RCEP framework; the fourth part analyses existing problems in the development of cross-border E-commerce between China and ASEAN; finally, countermeasures for the development of cross-border E-commerce between China-ASEAN in the context of RCEP will be put forward to.

2 Overview of Cross-border E-commerce Development in China

2.1 The Overall Transaction Scale Continues to Expand

Cross-border E-commerce, as a new format and kinetic energy of China’s foreign trade growth, strongly supports the strong growth of China’s import and export trade. Transaction scale and growth rate of cross-border E-commerce industry in China from 2015 to 2021 are described as below figure. 1.

2.2 The Trade Market Tends to be Diversified

Driven by “going global” and RCEP, countries, regions and emerging countries along “The Belt and Road Initiative” represented by Southeast Asia will become an important part of China’s cross-border E-commerce trade market. Market distribution of cross-border E-commerce enterprises in China in 2020 are listed as below figure. 2.
3 Overview of Cross-border E-commerce Development between China-ASEAN

ASEAN became China’s largest trading partner for the first time in 2020. In 2021, China and ASEAN economies formally established dialogue and cooperation relations for 30 years. On January 1st, 2022, RCEP came into effect, which marked the further reduction of trade barriers between China and ASEAN, and the further development of cooperation areas and depth. RCEP has standardized the cross-border e-commerce in the region, including the trade in goods, trade in services and investment rules.

3.1 The Scale of Trade is Expanding

In 2020, the trade volume between China and ASEAN reached 684.60 billion US dollars, up 6.7% year on year. Among them, China’s exports to ASEAN reached US $383.72 billion, up 6.7% year on year; Imports from ASEAN reached USD 300.88 billion, up 6.6% year on year. Vietnam, Malaysia and Thailand are China’s top three trading partners in ASEAN. Detailed ranking is as follows figure. 3.

3.2 The Development Space and Potential are Huge

According to the research report released by the International E-Commerce Center, Southeast Asia has great market potential, and its E-commerce growth rate has reached the second place in the world. The total value of E-commerce in ASEAN has increased nearly six times in just four years, from 9.5 billion dollars in 2016 to 54.2 billion dollars in 2020. With the increasing number of digital consumers, this field is expected to grow by 22% every year and reach 146 billion dollars by 2025 [7].

![Figure 1. Transaction scale and growth rate of cross-border E-commerce industry in China from 2015 to 2021](source: Prospective Industry Research Institute.)
### Table 1. Local E-commerce platforms in China and ASEAN countries

<table>
<thead>
<tr>
<th>Category</th>
<th>Representative Platforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional E-commerce Platforms</td>
<td>Shopee, Lazada</td>
</tr>
<tr>
<td>Local E-commerce Platforms</td>
<td>Cambodia: J-TAO, L192</td>
</tr>
<tr>
<td></td>
<td>Indonesia: Bukalapak, Tokopedia</td>
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<tr>
<td></td>
<td>Malaysia: PG Mall, Zalora</td>
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<td></td>
<td>Philippines: Beauty MNL, Galleon</td>
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<td></td>
<td>Singapore: Qoo10, Castlery</td>
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<td></td>
<td>Thailand: Central Online, HomePro</td>
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<td></td>
<td>Vietnam: TiKi, Sendo</td>
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<tr>
<td></td>
<td>Brunei: Bruvera</td>
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<tr>
<td></td>
<td>China: Tmall, Jingdong</td>
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</table>


### 3.3 The E-commerce Cooperation between China Enterprises and ASEAN is Increasingly Close

Many mainstream E-commerce companies in China have increased their investment in ASEAN, especially in logistics and mobile applications. Alibaba, Tencent and JD.COM all provide technical support for ASEAN [8]. Local E-commerce platforms in China and ASEAN countries are listed in below table 1.

### 4 Portrait of ASEAN Country Users under RCEP Framework

#### 4.1 Thailand

Thailand is the second largest economy in Southeast Asia, with the third per capita income in Southeast Asia. Thailand is one of the major foreign trade countries in the world, and China is its largest import country. The president of the Thai Electronic Commerce Association...
(Theca) pointed out that global E-commerce is expected to reach USD 500 billion by 2023 and it will reach USD 7.3 trillion by 2025, up from USD 5.5 trillion in 2022. In Thailand, the online retail market involving B2C and C2C is expected to reach 4 trillion Baht in 2025, with an average growth rate of 75% from 2022 to 2025, meanwhile online sales through virtual space will become main trend in the future. The number of E-commerce users and online spending in Thailand continue to increase, pushing the E-commerce market to continue to expand, with a compound annual growth of 35%. The penetration rate of E-commerce users will reach 57.8% by 2023, and the number of users is expected to continuously increase to 40.6 million. The estimated E-commerce users and consumer spending in Thailand is outlined as below figure. 4.

Thailand’s logistics efficiency is higher than the average in Southeast Asia, however, the regional development is unbalanced, which affects the shopping experience. For sellers of China mainland, Shopee (Thailand)’s cross-border logistics mainly uses Shopee’s own channel SLS (Shopee Logistics Service, hereafter SLS). From the transshipment warehouse to the buyer, it takes an average of 6.4 days by land, and only 4.4 days by air. Average time required for cross-border logistics in Thailand is listed as below figure. 5.

4.2 Singapore

Singapore has the third highest population density in the world, which promotes the demand for online shopping. Chinese account for nearly 3/4, and China is its largest trading country. The government’s retail transformation route will further boost the proportion of E-commerce revenue. According to the statistics of PayPal and Ipsos in 2018, more than 86% of consumers in Singapore accept and are willing to make cross-border shopping, higher than 6% in Japan and 43% in China, ranking first in the Asia-Pacific region. According to JP Morgan report in 2019, the preferred country for cross-border shopping in Singapore is China. The penetration rate of new E-commerce users will reach 73.2% until 2023, and the number of users

![Figure 3. Ranking of Foreign Trade Import and Export Volume between China and ASEAN in 2020 (unit: USD)](source: Foreign trade headlines)
is expected to increase to 4.39 million. The scale of E-commerce in Singapore is estimated to reach USD 7 billion by 2025. The consumption orientation of online shopping consumers in Singapore in 2018 and estimated E-commerce users in Singapore are presented as below figure. 6 and figure. 7.

Singapore’s logistics industry is mature, maintaining steady and rapid growth. For sellers in Chinese mainland, Shopee (Singapore) cross-border logistics mainly uses its own channel SLS, and also provides B2C shipping services to sellers through third-party. The average time from the goods transfer warehouse to the buyer is 4.8 days, ranking first in Southeast Asia. Average time required for cross-border logistics in Singapore is listed as below figure. 8.

4.3 Malaysia

Malaysia is the third largest economy in Southeast Asia, and there are many young people. National income per capita in Malaysia ranks the second in Southeast Asia, higher than that of China. Malaysian people are very fond of Chinese products. Its largest import country is China. The number of E-commerce users and online spending in Malaysia continue to increase, pushing the E-commerce market to continue to expand, with a compound annual growth of 21%. The penetration rate of E-commerce users will reach 64.3% by 2023, and

Figure 4. Estimated E-commerce users in Thailand
Source: Alibaba internal information

Figure 5. Average time required for cross-border logistics in Thailand
Source: Alibaba internal data
the number of users is expected to continuously increase to 21.6 million. The proportion of E-commerce to total retail sales is expected to increase from 1.1% in 2015 to 5.4% in 2025. Estimated E-commerce users and E-commerce market size in Malaysia are presented as below figure. 9 and figure. 10.

Evaluated from the aspects of infrastructure, services, cross-border procedures and time, as well as supply chain capability, Malaysia’s logistics efficiency and customs clearance efficiency are higher than the average among Southeast Asian countries.

4.4 The Philippines

The Philippines is the second most populous country in Southeast Asia, with a large proportion of young people, a high English prevalence rate and great potential for economic development. China is the largest trading partner and the largest import source of the Philippines. The number and expenditure of E-commerce users in the Philippines continue to increase, pushing the E-commerce market to continue to expand, with a compound growth of 36% from 2015 to 2025. The penetration rate of E-commerce users will reach 47.4% by 2023, and the number of users is expected to continue to increase to 54 million. Estimated E-commerce users and E-commerce market size in the Philippines are presented as below figure. 12 and figure. 11.

The Philippines’ infrastructure needs to be improved. Government investment will accelerate the improvement of infrastructure, and the express delivery industry is an emerging

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**Figure 6.** Consumption Orientation of Online Shopping Consumers in Singapore in 2018
Source: Alibaba internal information

**Figure 7.** Estimated map of E-commerce users in Singapore
Source: Alibaba internal information

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**Figure 8.** Average time required for cross-border logistics in Singapore
Source: Alibaba internal data
high-speed development field. The logistics industry has maintained steady and rapid growth, and its development prospect is broad. The logistics industry has maintained steady and rapid growth, and its development prospect is broad. Philippine logistics channel is outlined as below figure. 13.

Philippines supports COD and non-COD payment methods. Cross-border logistics can use Shopee’s own channel SLS, which takes an average of 5.8 days from delivery to arrival.

Figure 9. Estimated E-commerce users in Malaysia
Source: Alibaba internal data

Figure 10. Malaysia E-commerce market size (GMV, USD)
Source: Alibaba internal data

Figure 11. Estimated E-commerce users in the Philippines
Source: Alibaba internal data

Figure 12. Size of E-commerce market in the Philippines (GMV USD)
Source: Alibaba internal data

Figure 13. Philippine logistics channel
Source: Alibaba internal data
Average time required for cross-border logistics in the Philippines is listed as below figure. 14.

### 4.5 Indonesia

Indonesia is the fourth most populous country in the world and is ASEAN’s largest economy. Strong domestic demand drives its economic growth. However, there are great differences in the speed of economic development among different regions, with Java Island contributing 50%-60% of Indonesia’s GDP. By 2025, the market size of Indonesia will reach USD 53 billion, far exceeding that of other countries in Southeast Asia. The penetration rate of E-commerce users will reach 75.3% and the number of users will increase to 112.2 million by 2023, with a growth rate of 26.1%. In 2019, the Indonesia’s E-commerce market was USD 20.9 billion, and it is expected to reach USD 82 billion in 2025, with a compound annual growth rate of 48%. The estimated E-commerce users and E-commerce market size in Indonesia are described as below figure. 15 and figure. 16.

Indonesia’s infrastructure is imperfect and logistics costs are high. Indonesia, as the title of a thousand islands, has complicated distribution in the last mile, and the freight rates across islands and third- or fourth-tier cities are often higher than international freight rates. Problems such as uneven infrastructure level are still the biggest bottleneck of E-commerce expansion in Indonesia.

### 4.6 Vietnam

Vietnam holds a great economic growth potential and its population ranks the third in Southeast Asia. By the end of August 2019, China remained the largest import market for Vietnam. Vietnam’s importing from China reached USD 49.2 billion, up by 18.2% year-on-year. The scale of Vietnam’s E-commerce market will reach USD 23 billion in 2025. The penetration rate of E-commerce users will reach 64.4% by 2023, and the number of users is expected to continuously increase to 64.2 million. The estimated E-commerce users and E-commerce market size in Vietnam are presented as below figure. 17 and figure figure. 18.

The logistics industry has maintained a rapid growth, and the express delivery industry has a bright future, which provides a guarantee for the development of E-commerce. Shoppe(Vietnam) cross-border logistics has opened SLS channel, which can only be used by sellers in Chinese mainland at present. From the goods transfer warehouse to the buyer, the average time is 5.0 days, ranking second among the seven sites. Average time required for cross-border logistics in Vietnam is outlined as below figure. 19.

![Figure 14. Philippine logistics channel](source: Alibaba internal data)
4.7 Summary

Through analyzing relevant data of cross-border E-commerce in several major ASEAN countries, several characteristics can be outlined as follows: (1) The relative stability of the country provides necessary conditions for the development of E-commerce; (2) Southeast Asia’s cross-border E-commerce market has a large scale and a fast growth rate; (3) Close to China, cross-border transportation costs are relatively cheap, which enhances the competitiveness of E-commerce products; (4) the majority of consumers are young people, and live E-commerce is gradually accepted; (5) There are many Chinese people who are familiar with each other in terms of language, culture, customs and habits, which reduces the difficulty of cross-border E-commerce transactions; (6) compared with mature E-commerce market, E-commerce pen-
etration rate in Southeast Asia is still low; (7) the infrastructure of cross-border E-commerce market in Southeast Asia is insufficient, and there is a big room for improvement in logistics, payment, and so on; (8) with the support and boost of RECP, cross-border E-commerce in Southeast Asia has a great potential.

5 Existing Problems in the Development of Cross-border E-commerce between China and ASEAN

5.1 The Regulatory System Lagging behind and the Rising Cost

Firstly, cross-border E-commerce involves logistics, transportation, customs clearance and other links, and its supervision function needs the cooperation of customs, taxation and other departments. However, there are some problems such as unclear delineation of institutional functions and inadequate performance of duties [9]. Secondly, China-ASEAN cross-border E-commerce is an extensive growth model. This will increase the occurrence of irregular behaviors, accordingly violating RCEP’s strict and meticulous trade rules, and easily increasing the business risks of e-commerce enterprises. Thirdly, RCEP pays a great attention to the protection of intellectual property rights. However, some Chinese E-commerce enterprises are weak in legal awareness of intellectual property rights at present, and may face the litigation risk of intellectual property rights.

5.2 Insufficient Infrastructure and Low Efficiency of Cross-border Logistics

Although land and air transportation infrastructure in Singapore and Malaysia is relatively perfect, considering the actual situation of other ASEAN member countries, the transportation infrastructure construction in most countries still needs to be further strengthened, especially in road, railway and air transportation. Port construction in the Philippines, Myanmar, Vietnam and etc. has not reached the world average level. In addition, the cross-border logistics efficiency is low and the logistics cost remains high. The development of cross-border logistics enterprises in China is slow, and the market coverage, transportation and storage facilities, and delivery efficiency of goods are at a low level in the industry. There are also some problems such as high unit price, long time and high damage rate[10].

5.3 Lack of Coordination in Customs Clearance and Complicated Process of Cross-border Payment

First, the customs clearance process of cross-border E-commerce between China and ASEAN members is complicated, and there still exists operational difficulties in specific links, which is not conducive to improving the export enthusiasm of E-commerce enterprises. In addition, ASEAN countries have different standards in import control, commodity inspection, import documents, customs storage period and customs clearance time, which is not conducive to creating a good experience for users. Second, the cross-border payment process is complicated, and the settlement risk and technical risk are high. The collection and payment process of cross-border E-commerce enterprises is complicated, and it needs to go through many intermediate links such as circulation, settlement, risk control and compliance of financial institutions, which lengthens the capital return cycle, reduces the turnover efficiency of enterprise funds, and also brings payment and settlement formalities and exchange losses [11].
5.4 Lack of Consumer Rights Protection and Non-standard Industry

The low entry threshold makes the qualification of cross-border sellers uneven. In order to gain more profits in the fierce market competition, some sellers adopt unfair competition means such as false propaganda, shoddy goods, fake goods, etc., which leads to the proliferation of fake and inferior goods. Meanwhile, goods may also be mixed with fake ones in the process of transportation and circulation, which causes serious damage to consumers’ rights and interests [12]. RCEP pays a great attention to the protection of consumers’ rights and interests. If E-commerce enterprises fail to safeguard the legitimate rights and interests of consumers, it may lead to complaints from consumers, or even more severe punishment from RCEP.

5.5 Limited E-commerce Platform

First, some E-commerce platforms are lack of technical qualifications, network technology needs to be updated and the platform search engine has defects. Second, E-commerce platforms have single and backward functions, logistics and tax collection, customs declaration and inspection requirements do not match with each other. Third, some cross-border E-commerce platforms pay more attention to infrastructure construction instead of platform security construction. Fourth, the popularity of E-commerce platforms is insufficient, and some cross-border E-commerce platforms use a single language, which brings difficulty in providing better services for consumers.

6 Countermeasures for the Development of Cross-border E-commerce between China-ASEAN in the Context of RCEP

6.1 Establishing RCEP Regional Market Supervision System

With the effectiveness of RCEP, the trade volume between member countries in the region will increase sharply, and the problems in commodity quality, payment security, intellectual property protection and other aspects will become more prominent. This requires the governments of RCEP members to strengthen cooperation, to constantly optimize relevant laws and regulations, to restrict the behavior of all parties, and to promote the establishment of cooperative regulatory mechanisms and information sharing mechanisms. In addition, relevant departments involved in cross-border E-commerce, such as customs, industry and commerce, taxation, etc., should also strengthen cooperation among various departments, clarify their responsibilities and rights, and establish a sound regulatory system.

6.2 Strengthening Network Technical Cooperation

Cross-border E-commerce trading platforms in Southeast Asia should be upgraded through promoting in-depth cooperation in the bilateral network technology, such as fully applying big data, 5G technology, online payment and other technical means. Further, cross-border E-commerce service system should be optimized. Especially in terms of network services, it is necessary to strengthen network technology cooperation with RCEP members and provide a cross-border E-commerce network technology environment with low cost, fast speed and strong stability.
6.3 Promoting Transformation and Upgrading of Traditional Enterprises and Cross-border E-commerce Enterprises

On the one hand, starting from new business formats such as product innovation, customs clearance efficiency, digital marketing, and intelligent logistics, we should focus on supporting the development and growth of a number of advantageous enterprises, and guiding local cross-border E-commerce enterprises to achieve scale and branding operation. On the other hand, we should promote the standardized development of cross-border E-commerce SMEs. We should help small and medium-sized cross-border E-commerce enterprises integrate into RCEP as soon as possible by strengthening international cooperation, technical support, capacity training, policy support, capital cooperation and other forms. We also should encourage small and medium-sized cross-border E-commerce enterprises to gather and develop, and reduce their operating costs. In addition, we will encourage relevant traditional foreign trade enterprises to realize the transformation to cross-border E-commerce and to open cross-border E-commerce business as well as innovate business development model. At the same time, we will focus on helping small and medium-sized foreign trade enterprises that are intend to transform or are considering transformation.

6.4 Encouraging Enterprises to Establish Overseas Warehouses

First of all, our government should encourage financial institutions to provide more financing facilities for enterprises to build overseas warehouses, and focus on supporting enterprises to build new overseas warehouses in RCEP member countries. Secondly, we should explore diversified overseas warehouse construction methods, support powerful enterprises to independently or in groups to build overseas warehouses, and encourage small and medium-sized E-commerce enterprises to conduct business by leasing public overseas warehouses. Third, the government can cooperate with cross-border E-commerce enterprises and logistics enterprises to establish public overseas warehouses in the PPP mode, so as to realize benefit sharing and risk sharing.

6.5 Carrying Out Precision Marketing

Chinese cross-border E-commerce enterprises should have a deep understanding of the local customs of the target country and make full use of the popular social software to interact and promote. In addition, Chinese sellers should also collect and integrate information about consumers’ purchase behavior, consumption habits and payment methods in RCEP member countries, and accurately segment consumers through in-depth data mining, so as to provide differentiated products and services for different consumer groups and achieve precision marketing.

6.6 Building a Composite Cross-border E-commerce Talent Team

First, we should strengthen the exchange and cooperation between China and ASEAN cross-border E-commerce experts and scholars, universities and enterprises, and jointly carry out cross-border E-commerce talent training and other related courses. Second, we should cultivate cross-border E-commerce professionals who give consideration to both theory and practice by means of strengthening school and enterprise cooperation, and providing practical courses for cross-border E-commerce. Third, we should support qualified training institutions, practice bases, industry colleges and other social training institutions to carry out professional skills training for employees of cross-border E-commerce enterprises based on the
development needs of cross-border E-commerce industry. We should also encourage top executives of domestic excellent cross-border E-commerce enterprises to regularly give lectures in universities and training bases.

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