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LOGISTICS TRONG THƯƠNG MẠI ĐIỆN TỬ XUYÊN BIÊN GIỚI CỦA TRUNG QUỐC VÀ BÀI HỌC CHO VIỆT NAM

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Tóm tắt

Ngành Thương Mại Điện Tử xuyên biên giới của Trung Quốc ngày càng phát triển mạnh mẽ và có ảnh hưởng lớn đến hành vi và thói quen tiêu dùng của người Việt. Xu hướng người tiêu dùng lựa chọn đặt hàng trên các sàn thương mại điện tử của Trung Quốc ngày càng gia tăng do thời gian giao hàng nhanh chóng, cước phí rẻ và quy trình đặt hàng tiện lợi. Những ưu điểm này tới từ những thành công của logistics trong thương mại điện tử của Trung Quốc. Vì vậy, nghiên cứu này sẽ đưa ra tổng quan và thực trạng của logistics trong thương mại điện tử xuyên biên giới tại Trung Quốc và Việt Nam. Từ đó, phân tích những thành công của Trung Quốc và hạn chế của Việt Nam nhằm đưa ra giải pháp cũng như bài học cụ thể để logistics Việt Nam ngày càng phát triển hơn.

Từ khóa: Thương mại điện tử xuyên biên giới, CBEC, logistics, Trung Quốc, Việt Nam

LOGISTICS IN CROSS-BORDER E-COMMERCE OF CHINA AND LESSONS LEARNED FOR VIETNAM

Abstract

China's cross-border e -commerce industry is growing strongly and has a great influence on the behavior and consumption habits of Vietnamese people. The trend of consumers choosing to order on China's e -commerce platform is increasing due to fast delivery, lower shipping costs and convenient ordering procedures. These advantages come from the success of logistics in

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China's cross-border e -commerce. Therefore, this study will give an overview and the current situation of logistics in cross-border e -commerce in China and Vietnam. Since then, analyzing China's success as well as the limitation of Vietnam in order to recommend some solutions and lessons learned for logistics in cross-border e-commerce in Vietnam.

Keywords: Cross-border e-commerce, CBEC, logistics, logistics in CBEC, China, Vietnam

Introduction

In the rapidly evolving landscape of international trade, cross-border e-commerce has emerged as a pivotal force, reshaping the dynamics of global commerce. As the world becomes more interconnected, the significance of efficient and streamlined logistics in facilitating cross-border e-commerce cannot be overstated. This research paper delves into the intricacies of logistics in the context of cross-border e-commerce, with a specific focus on China and the valuable lessons it offers for Vietnam.

China stands as a global powerhouse in e-commerce, particularly in the context of cross-border transactions. The exponential growth of its e-commerce market has been accompanied by the development of sophisticated logistics networks to meet the increasing demands of global consumers. Understanding the logistics strategies and infrastructure that have contributed to China's success in cross-border e-commerce is fundamental for nations aspiring to enhance their presence in the digitized global marketplace.

Against this backdrop, Vietnam serves as an intriguing case study. As a rapidly developing economy with a burgeoning e-commerce sector, Vietnam can draw valuable insights from China's experiences to optimize its own logistics framework for cross-border transactions. This research seeks to explore the key logistical challenges faced by China and how these challenges have been effectively addressed, providing a roadmap for Vietnam to navigate similar obstacles and foster sustainable growth in its cross-border e-commerce endeavors.

The objectives of this study encompass a comprehensive analysis of the logistics ecosystem in both China and Vietnam, identifying best practices, bottlenecks, and innovative solutions. By examining the successful strategies employed by China and evaluating their applicability in the Vietnamese context, this research aims to offer practical recommendations to policymakers, businesses, and stakeholders involved in cross-border e-commerce logistics.

Through this comparative study, we endeavor to contribute to the academic discourse regarding the enhancement of logistics in China's cross-border e-commerce, as well as shedding light on the intricacies of this dynamic field and providing actionable insights for countries aspiring to harness the full potential of global e-commerce markets, particularly Vietnam. As we navigate the complexities of logistics in cross-border e-commerce, this research paper seeks to bridge the gap between theoretical concepts and their real-world implementation, providing a roadmap for fostering sustainable and efficient cross-border trade within the evolving landscape of a digitized global economy.

1. Theoretical framework

1.1. Logistics

According to the Council of Logistics Management, logistics can be defined as "part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements" (CLM, 1986). The definition includes inbound, outbound, internal and external movements and reverse logistics which refers to the return of materials for environment purposes.

There are many steps to fulfill the process from production to consumption. The goal of logistics is to operate this process efficiently. In the past, the main mission of logistics was to deal with long distance delivery by increasing transportation efficiency and reducing the time to deliver the goods. However, now it is no longer only the problem of speed but also how timely the goods can be delivered to consumers. For this reason, it is essential to have a system that has functions such as transportation and storage as well as adjust the quantity, time, and location of goods to prevent both cases of too much and too little inventory while delivering goods efficiently and without waste. This logistic flow can be illustrated as following:

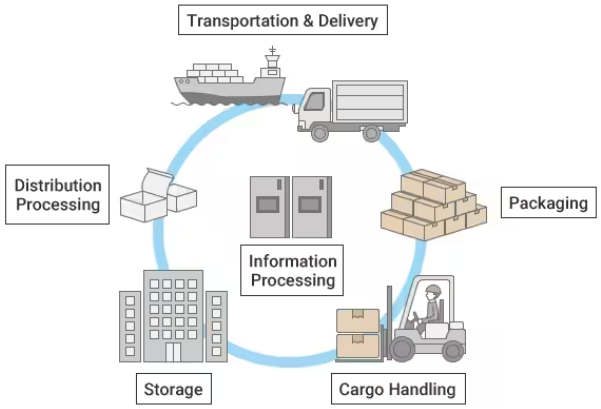


Figure 1: The Logistics System

Source: Keyence.eu

1.2. Logistics of cross-border e-commerce

1.2.1. The concept of cross-border e-commerce

Cross–border e–commerce (CBEC) is a type of international commercial activity between different trading entities (individuals or enterprises) which belong to different customs areas through electronic commerce platform, online payment, and cross–border logistics to complete the transaction (Pang, Y., 2015). In general, CBEC is an extension of the development of electronic commerce and communication technologies, also known as international e–commerce. Compared to traditional commerce, the electronic one can benefit from low transaction costs, fast transaction speed and so on.

1.2.2. Concept and characteristics of logistics of cross-border e-commerce

The logistics process of cross border e–commerce shows how cargo and information flows from domestic suppliers to foreign customers through CBE platforms and the logistics service integrator. Its main links include domestic collection, domestic transportation and

warehousing, customs clearance at home and abroad, foreign transportation and warehousing. In CBEC, a safe and reliable logistics system is a crucial link to ensure smooth processes.

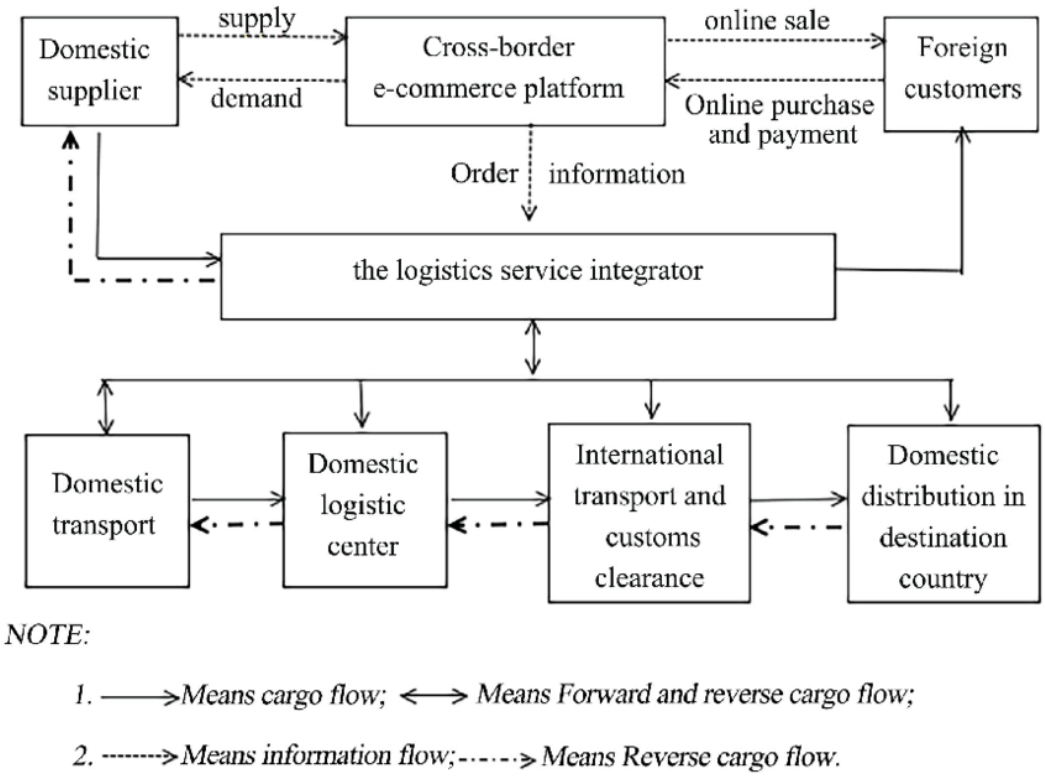


Figure 2: Logistics of CBEC Process

Source: Open Journal of Business and Management

The logistics of CBEC has three main characteristics: (1) many links and high complexity, (2) is greatly affected by political factors within domestic and foreign markets such as customs clearance policies, (3) the global dispersion.

Typically, there are several main logistic models used in CBEC:

- Third–party logistics (3PL): outsource services from logistics companies
- Logistics alliances: between import–export businesses
- Offshore warehousing: storage facilities established overseas

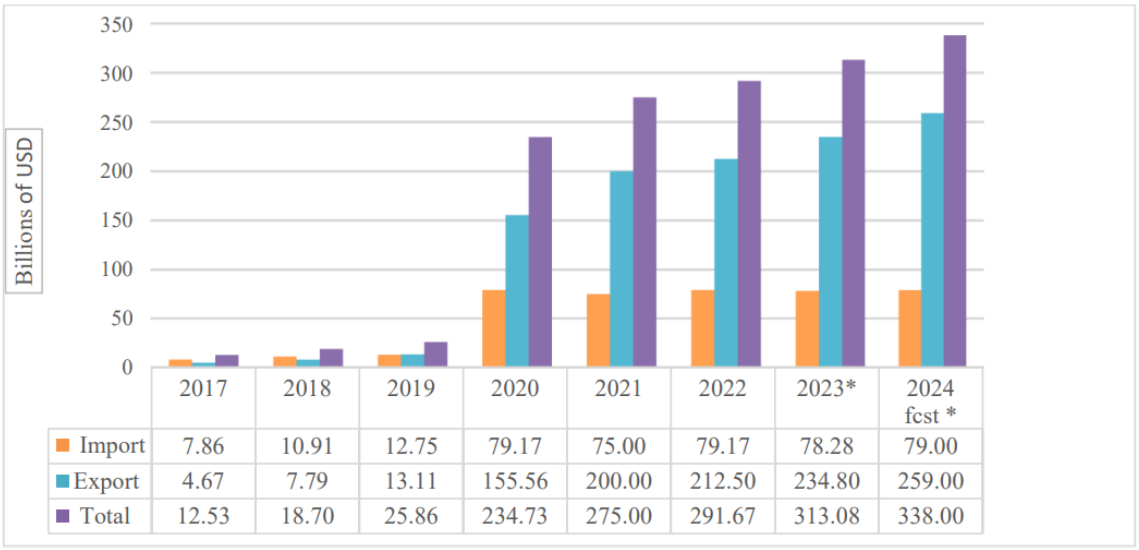
2. Logistics in cross-border e-commerce of China

2.1. Overview of CBEC in China

China Cross-Border E-commerce (CBEC) is a program exempting import tariffs and simplifying customs for consumer products. It applies to direct purchases by Chinese consumers through third-party platforms. Goods enter via bonded zones, with customs verifying transaction details. Compared to traditional trade, CBEC eliminates tariffs, reduces VAT by 30%, allows original packaging, and expedites customs clearance.

In 2022, China's cross-border e-commerce surpassed a historic 2 trillion yuan, marking a 7.1% increase from 2021, as reported by China's General Administration of Customs (GAC).

In the first half of 2023, China's CBEC trade value reached $152.7 billion, an increase of 16 percent from the same period in 2022. (Dokken, 2023).



	2017	2018	2019	2020	2021	2022	2023*	2024 fcst *
Import	7.86	10.91	12.75	79.17	75.00	79.17	78.28	79.00
Export	4.67	7.79	13.11	155.56	200.00	212.50	234.80	259.00
Total	12.53	18.70	25.86	234.73	275.00	291.67	313.08	338.00

Figure 3: CBEC Trade Value

Source: General Administration of Customs by USDA FAS China, 2023

The growth is further underscored by the expansion of market entities in China's CBEC sector, exceeding 100,000 as of June 2023. The proportion of CBEC goods in foreign trade has risen from less than 1 percent five years ago to around 5 percent currently. Notably, exports accounted for 1.53 trillion yuan, exhibiting a growth rate of 10.1% and representing 6.4% of the total value of national exports. (Gao Jingyan, 2023).

Major Cross-Border E-Commerce (CBEC) import platforms include Tmall Global, JD Worldwide, Koala, and VIP Global. Tmall Global now dominates with almost 40% market share, followed by JD Worldwide at 25% and Kaola at 20%. In 2019, Kaola led with 27%, Tmall Global had 24%, and JD Worldwide had 13%. (Dokken, 2023)

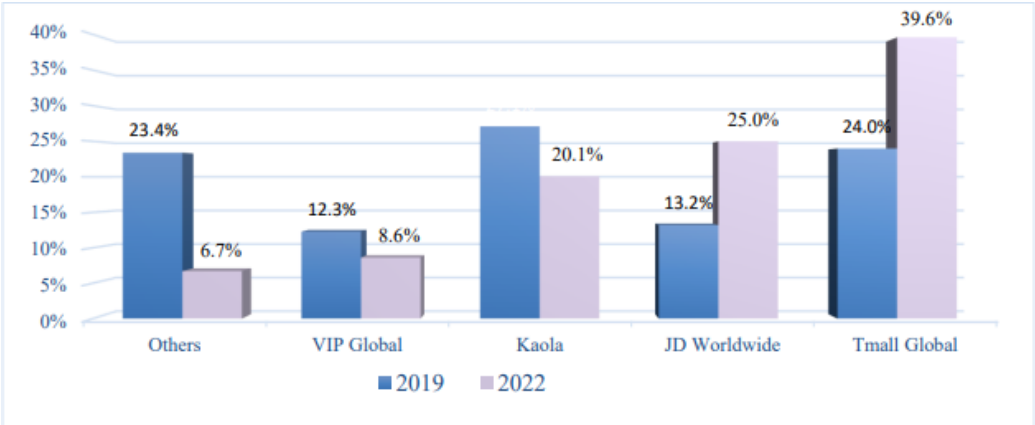


Figure 4: Comparison of China CBEC Platforms Market Share (2022 vs 2019)

Source: Analysys.cn, 2023

In general, China's cross-border e-commerce (CBEC) maintained steady growth in recent years. Exports comprise a larger percentage of CBEC trade, but imports remain significant.

The (CBEC) import platforms data also highlight the dynamic evolution and significant impact of CBEC on China's e-commerce landscape.

2.2. Current Situation of logistics in CBEC of China

As an important part of cross-border ecommerce, cross-border logistics is closely related to cross border e-commerce. Despite challenges posed by the COVID-19 pandemic and global economic uncertainties, China's cross-border logistics industry has witnessed significant growth in recent years, especially in 2022.

In 2022, the cross-border logistics industry in China experienced a notable 12.2% year-on-year growth, reaching a total business revenue of RMB 2.56 trillion, according to the China Federation of Logistics & Purchasing (CFLP). Throughout this period, cross-border logistics services continued to thrive due to the foreign trade sector and ongoing supply chain enhancements in China. Various segments within the industry saw an increase in business volumes, highlighting its crucial role in supporting China's extensive imports and exports. Notably, the business revenue for cross-border express delivery services surged to RMB 113.2 billion in 2022, marking a 13.3% increase compared to the previous year. (Boying Ji, 2023).

2.2.1. Transportation infrastructure

Domestically, China's comprehensive transportation infrastructure continues developing rapidly to facilitate efficient cross-border logistics. The national railway network saw an expansion of over 14,000 kilometers, surpassing 150,000 kilometers in total length in 2022. This development supports cross-border cargo transportation through container block trains, connecting China with key trade partners in Europe and Southeast Asia. Coastal port throughput exceeded 27 billion tons, a 5.7% YoY increase, driven by new port commissions in coastal provinces. For instance, Shenzhen's Qianwan Container Terminal handled over 20 million TEU in 2022, showcasing the robust maritime connectivity. Improved railway, highway, and port infrastructure has significantly strengthened logistics connectivity within China and globally. (Boying Ji, 2023)

2.2.2. Warehouse

In October 2023, China's warehouse sector business index, reported by the China Federation of Logistics & Purchasing and China Storage Development Co., reached 50.9%, a 2.6 percentage point decrease from the previous month. Despite this decline, the industry has maintained expansion for the ninth consecutive month. The drop in the index is attributed to a high base level in the early phase but still signifies ongoing growth.

Table 1: China's Warehouse Sector Business Index in October 2023

Index	10/2023 (%)	Compared to 9/2023 (%)
General	50.9	-2.6
Business volume	51	5.2
Facilities use	53	-3.2

Inventory at the end of the priod	51.8	-2.4
The average inventory rotation	50.4	-3.4
Expected index of business activities	56.6	-0.5

Source: Ministry of Industry and Trade, 2023

The growth rate of business volume and facility utilization decreased, with indices at 51% and 53%, respectively. This decline, driven by a slowdown in demand for warehouse business after the early market phase, is considered a short-term adjustment. The end-of-period inventory index was 51.8%, indicating a reduction in businesses' enthusiasm for additional inventory and a slowed growth rate after the market returned to normal.

2.2.3. Policy

In recent years, China has implemented a more supportive regulatory framework for cross-border logistics. Policies issued in 2022 aim to diminish trade and logistics obstacles, such as simplifying border clearance and inspection procedures. Notably, customs clearance has been significantly improved through the expansion of the 'Green Channel' for expedited inspections. Implication of export/import licensing rules has also been simplified. Chinese customs is updating clearance systems by implementing digitization initiatives including the “Single Window”, which consolidates trade and transport document submissions through a unified portal. These reforms aim to establish a supportive policy framework for an efficient and smooth-running cross-border logistics sector.

2.2.4. Technology

Chinese cross-border logistics companies have rapidly embraced digital transformation since 2022 to enhance service capabilities, driven by strong market demand and government support. Utilizing technologies such as big data, cloud computing, IoT, GPS tracking, and route optimization algorithms, major providers like S.F. Holding and YTO Express have established digital operation command centers. These innovations improve service responsiveness, truck utilization, cargo security, and explore the use of blockchain for transparent cross-border trade documentation and financing. Automation and robotics are also being introduced in warehouses for efficient order picking, propelling China's cross-border logistics sector into its next phase of high-quality growth.

2.3. Evaluate the success of China in logistics in CBEC

2.3.1. Developing logistics in infrastructure

Historically, foreign merchants faced significant challenges due to China's underdeveloped and inefficient logistics infrastructure. However, recent developments, such as the explosive growth of eCommerce and the government's strategic five-year plans, have led to substantial improvements in Chinese infrastructure. Presently, China boasts a modern logistics network, featuring over 241 airports (as of the beginning of 2022) and an extensive high-speed rail system. The landmark projects such as Beijing Daxing Airport, Hong Kong-Zhuhai-Macao Bridge, Shanghai Yangshan Port Automation Terminal, etc., have witnessed China's progress

towards a transportation power, which significantly contributes to the responsiveness and the fluidity of supply chain activities.

Notably, China's dominance in maritime infrastructure is evident, boasting an impressive 76 ports capable of accommodating large vessels carrying over 14,000 20ft containers each. In stark contrast, South and Southeast Asian nations collectively possess only 31 such ports. MDS Transmodal, a data provider, reveals that large container ships contribute significantly, comprising approximately two-thirds of cargo capacity on maritime routes between East Asia and Europe.

Moreover, the government is actively expanding the National Logistics Hubs, with 22 new hubs added in 2020 and an additional 25 in 2021, bringing the total to 70. The government aims to further increase this number to 150 by 2025, according to TMO Group in 2022.

Le Minh discusses, through the analysis of a practical example, how ***JD Logistics***, the logistics division of China's e-commerce giant JD.com, has consistently invested in expanding its logistics facilities for its global supply chain. With almost 90 overseas warehouses scattered worldwide, including key locations in Europe like Germany, France, and the UK, JD Logistics has successfully established a self-operating warehouse network. The company's focus extends beyond improving warehouse productivity; JD Logistics Europe actively collaborates with various service providers in different countries to enhance its parcel delivery capabilities.

Moreover, during the 2023 “11/11” shopping event, Alibaba Group's global cargo tracking platform, ***Cainiao Global***, officially launched the "Global 5-Day Delivery" service. This groundbreaking service allows deliveries from China to customers located thousands of miles away in just five days. In order to achieve such rapid delivery, Cainiao Global made substantial improvements to its technology and logistics infrastructure. Notably, the company built China's largest cross-border logistics hub, equipped with intelligent sorting machines and a state-of-the-art air transport center. The integration of wide-body Boeing 747 planes has significantly boosted the efficiency of the entire delivery process.

2.3.2. Advanced import models

Currently, according to TMO Group in 2022, in the field of cross-border eCommerce to China, there are two primary import models: the bonded imports model and the direct purchase imports model. Within the bonded imports model, it can be subcategorized into the bonded warehouse model and the direct mailing model.

Bonded warehouse import model

A bonded warehouse is a facility or secured space within a designated customs supervision area in China where dutiable goods are kept prior to duty payment. This arrangement typically expedites the arrival of products.

In the bonded warehouse model, goods are initially imported in large quantities into authorized cross-border eCommerce warehouse zones throughout China. Subsequently, these products go through customs clearance when Chinese consumers place orders on a registered cross-border eCommerce site/platform. The advantage lies in the expedited registration process

and simplified customs clearance for products listed on the Positive List. Moreover, foreign merchants can conveniently defer import duty and VAT charges until the actual point of sale.

Following several revisions, the present iteration of the Positive List comprises 1,413 product categories eligible for importation into any of the 15 designated pilot zones throughout China. Subsequently, the products can be housed within one of the bonded warehouses located within the respective zone.

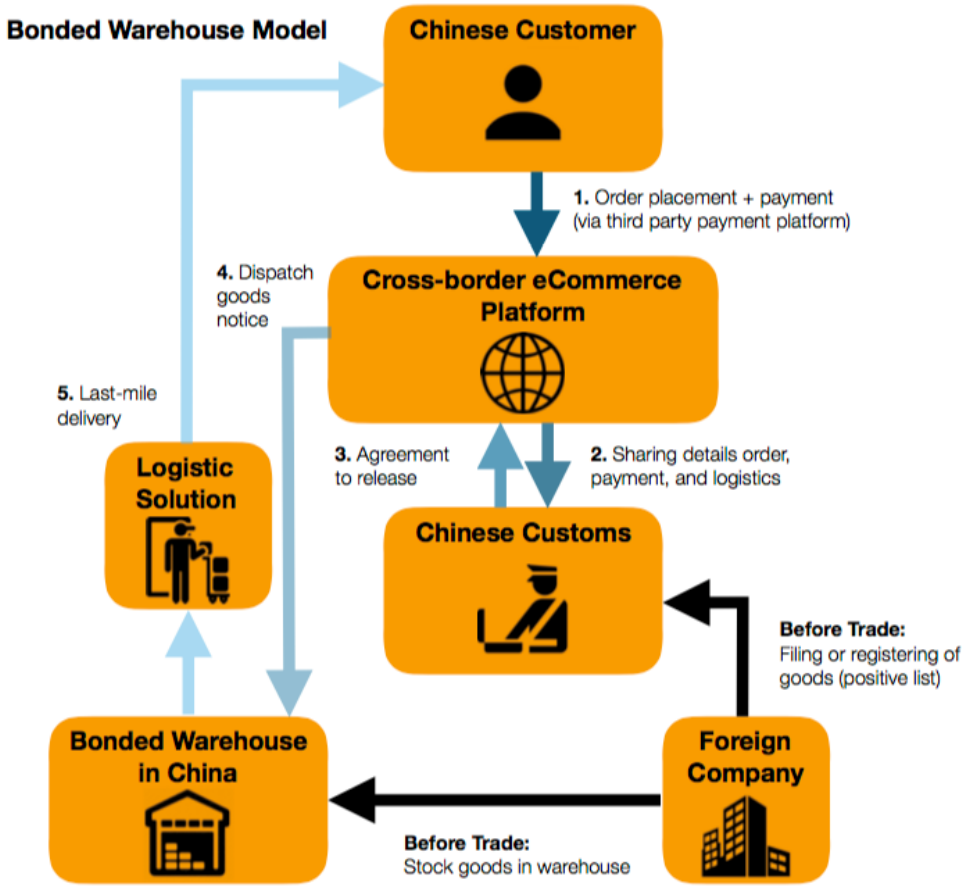


Figure 5: Bonded warehouse import model

Direct mailing import model

In the direct mailing model, the procedure initiates when Chinese consumers make a purchase on a certified cross-border eCommerce website/platform. Following this, the platforms will furnish customs with the order, shipment, and payment details. Once VAT and customs duties are settled, the products will be dispatched from an overseas warehouse through direct mailing, ensuring a streamlined customs process before being forwarded for last-mile delivery.

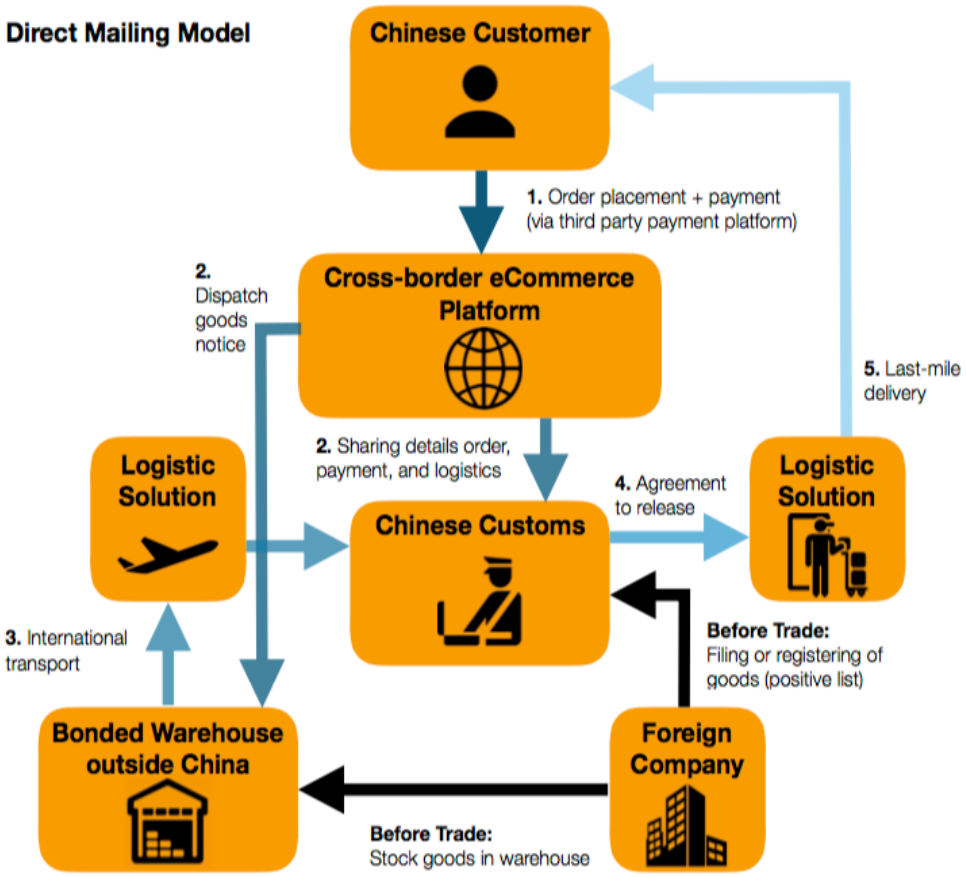


Figure 6: Direct mailing import model

2.3.3. Technological advancements in logistics infrastructure

As highlighted in a report by the Australian Science Policy Institute (ASPI), China leads in global technology competition, surpassing the United States in 37 out of 44 critical technologies, including 5G, hydrogen, electric batteries, nano materials, advanced coatings, supercapacitors, supersonic technologies, as well as other advancements in navigations systems such as GPS and GIS. Experts predict that China will possess exclusive capabilities in these technologies in the near future.

In fact, to meet the growing demands of the booming e-commerce industry, China is upgrading new technologies to revolutionize logistics, stated by VietnamNet. The future of logistics is moving beyond conventional industrial engineering to advanced communications technology. The best example is 5G, the fifth generation standard for wireless communication. China has already deployed the largest 5G network on the planet, developing, in the process, over 100 5G-enabled manufacturing benchmark software applications, including the 5G+ industrial internet app.

The integration of 5G technology in e-commerce logistics within China's cross-border trade offers a range of transformative benefits. Utilizing 5G-enabled sensors and devices, Chinese businesses can access real-time, comprehensive information about their inventory, significantly enhancing inventory management. This not only minimizes the risk of running out of stock but also contributes to an overall improvement in operational efficiency.

In addition to its impact on inventory management, 5G plays a crucial role in optimizing transportation routes, as stated by Kingstec in 2022. With 5G, manufacturers will have the capability to create fully-automated smart warehouses, automating sorting and transfer, as well as inbound and outbound logistics management. 5G connectivity will also make it possible for workers to use augmented reality applications, greatly improving processes for product sorting and reviewing. 5G connectivity also enables fully-automated transportation, including automated driving or smart driving vehicles. Transportation systems already use 5G for terminal communication between transport vehicles and logistics applications in the cloud. Further implementation of this technology provides the necessary bandwidth for self-organized network construction, real-time information sharing, and mass transmission of logistical data.

Furthermore, the potential of 5G to revolutionize last-mile delivery, the often challenging and costly aspect of logistics, is noteworthy. Through the integration of 5G-enabled drones and autonomous vehicles, deliveries can be executed faster and more efficiently. These vehicles can autonomously navigate traffic, avoid obstacles, and deliver packages directly to customers, minimizing human intervention and consequently reducing delivery costs.

The deployment of 5G technology in China's e-commerce logistics sector also opens up new possibilities for value-added services. The increased bandwidth and low latency of 5G facilitate the integration of virtual reality (VR) and augmented reality (AR) technology into the shopping experience. Customers can virtually try on clothes, preview home furnishings, or take virtual tours of products before making a purchase. These immersive shopping experiences not only enhance customer satisfaction but also drive sales for e-commerce businesses.

2.3.4. Focus on green and sustainable development

China is experiencing a remarkable surge in the deployment of solar power capacity and the sales of electric vehicles. The rapid pace of adopting clean energy suggests that the nation's economy might soon embark on a sustained trajectory of reducing reliance on fossil fuels, encompassing coal, crude oil, and gas in the coming year.

Bloomberg NEF's projections indicate that China is poised to achieve its peak greenhouse gas emissions this year, a significant advancement compared to the initially targeted date of 2030. This accelerated timeline reflects China's proactive measures and commitment to curbing emissions. A pivotal factor driving this reduction is the substantial contribution of clean electricity, heralding a positive trend in mitigating greenhouse gas emissions within the world's second-largest economy.

Jenny Chase, the lead solar analyst at BloombergNEF, underscores China's pivotal role in shaping the global solar market. Notably, she asserts that China currently stands as the world's largest solar market and anticipates maintaining this leadership position through 2030. Particularly noteworthy is China's significant investment in solar power alone, amounting to 228 GW, exceeding the collective investment of the rest of the world. Bloomberg reports that China's total investment in renewable energy reached an impressive $495 billion in 2022, constituting 55% of the global investment in this sector. These declarations speak to China's enduring commitment to renewable energy initiatives, particularly solar power, signaling a sustained influence on the global clean energy landscape in the coming decade.

3. Logistics in cross-border e-commerce of Vietnam

3.1. Overview of CBEC in Vietnam

Since COVID-19, online shopping has taken off in ASEAN, transforming how businesses operate and sell their goods. Illustrating this pattern, the aggregate Gross Merchandise Value (GMV) from e-commerce in the ASEAN-6 countries (Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam) surged from US$43 billion (HK$336.5 billion) in 2019 to US$131 billion (HK$1,025 billion) in 2022, more than tripling over this period. Among them, Vietnam is the second country with the most rapid growth of 61% during the forecast period of 2022 to 2025.

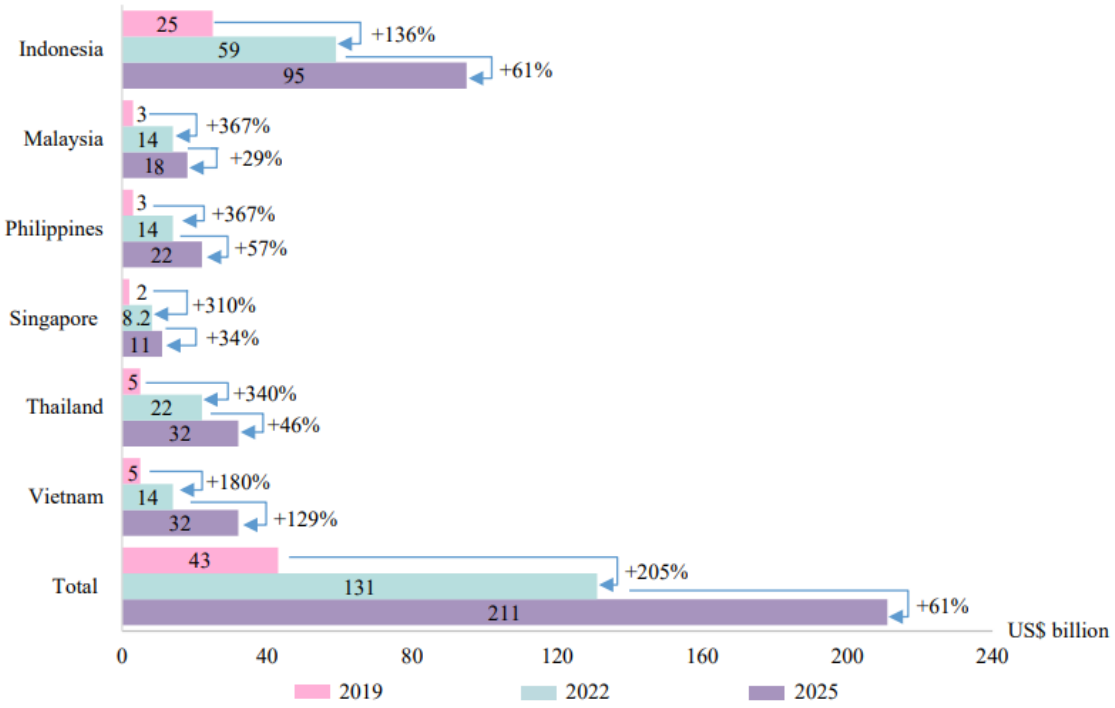


Figure 7: Gross merchandise value of e-commerce in ASEAN-6

Source: Google, Temasek and Bain & Company, 2022

Over the past few years, Vietnam has experienced a notable increase in e-commerce exports, providing a favorable opportunity for numerous micro, small, and medium-sized enterprises (MSMEs) to capitalize on the booming e-commerce industry. Cross-border shopping is significantly important, constituting 37% of Vietnam's overall e-commerce market.

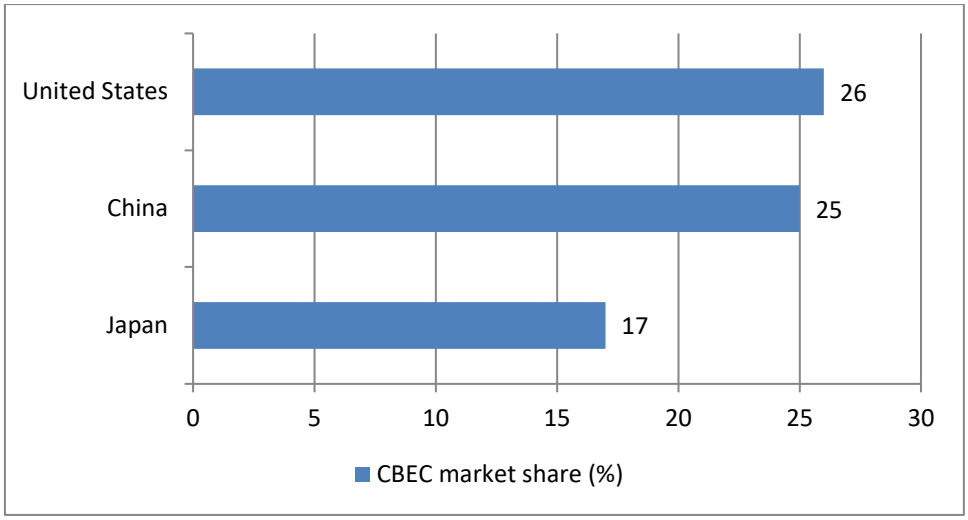


Figure 8: Market share of cross-border e-commerce in Vietnam as of January 2020, by country

Source: Statista, 2024

According to the graph above, China and the United States are the two main markets for Vietnam's cross-border e-commerce. Amazon - a diverse and enormous e-platform in the US reports that Vietnamese businesses have effectively marketed 17 million product units globally on their platform. The count of Vietnamese collaborators on Amazon has risen by 40%, along with a 50% increase in export value. In a similar vein, Alibaba.com, a notable e-commerce platform in China, disclosed that small and medium-sized enterprises from Vietnam saw a substantial growth of almost 50% in the value of trans-border e-commerce trade in the initial nine months of 2023.

According to research from Access Partnership, Vietnam's business-to-consumer (B2C) e-commerce exports reached a value of VND80.7 trillion (USD3.5 billion), representing 1% of the total export revenue in 2022. If MSMEs expedite their adoption of e-commerce for exporting goods and services, it is anticipated that Vietnam's e-commerce export earnings could potentially rise to VND296.3 trillion (USD13 billion) by 2027, with the proportion of revenues rising from 24% to 67%. In 2022, a program report disclosed that around 10 million domestically produced items were sold to customers through the e-commerce platform, encompassing dried food, beverages, medicines, garments, textiles, and handicrafts. Household appliances, clothing and textiles, healthcare products, and convenience goods produced by Vietnamese brands gained substantial popularity among international online shoppers in the previous year.

With its substantial growth potential, cross-border e-commerce aligns with the Vietnamese government's strategic initiatives for developing a robust digital economy. Moreover, it presents a valuable complementary channel to traditional international trade, leveraging technological advancements to expand the global reach of Vietnamese goods.

3.2. Current situation of logistic in CBEC of Vietnam

In the realm of Cross-Border E-Commerce (CBEC), a secure and reliable logistics system is an essential component for ensuring smooth operations. Logistics not only supports the

efficient flow of goods within domestic and international markets but also significantly influences the timeliness and profitability of products in the global marketplace.

Logistics in CBEC of Vietnam is growing rapidly; however, there are still some formidable challenges arising from the limitations within the logistics system.

- Vietnam's logistics infrastructure is still maturing, with limited capacity and efficiency compared to developed countries. According to World Bank (2023), Vietnam's Logistics Performance Index (LPI) for trade and transport infrastructure in 2022 was 3.2, trailing behind Singapore's top score of 4.6. This limitation can lead to bottlenecks and delays in shipment processing and delivery.
- The cost of logistics for cross-border e-commerce in Vietnam is still pretty high, due to factors such as distance, customs clearance fees, and a lack of competition among logistics providers. This can make it difficult for Vietnamese businesses to compete on price with overseas sellers. To maintain a consistent level of logistics service, cross-border logistics companies must bear additional costs.
- The participation of international logistics companies and express delivery services in cross-border logistics is restricted, posing challenges in managing logistics connections. Despite the yearly growth in Cross-Border E-Commerce (CBEC) transactions, the logistics capacity remains insufficient. For instance, while international express delivery is presently the predominant logistics method in CBEC, depending solely on it is inadequate due to its constrained capacity and elevated costs.

On promoting cross-border e-commerce, the government has laid down Masterplan for National E-Commerce Development (2021-2025) which features:

1) Establishment of National E-commerce Pavilions: Implement the strategic placement of official national pavilions on leading cross-border e-commerce platforms. These pavilions will serve as dedicated showcases for promoting prominent Vietnamese brands to a global audience. Alongside this initiative, comprehensive support systems will be established to facilitate the onboarding of Small and Medium Enterprises (SMEs) onto both domestic and international e-commerce platforms.

2) Policy and Legislative Optimization: Foster a conducive environment for e-commerce growth by continuously refining relevant policies and legislative frameworks. This ongoing process will ensure alignment with the latest technological advancements and emerging trends within the e-commerce landscape.

3) Development of a National E-commerce Logistics Platform: Design and implement a centralized online system for managing the crucial aspects of transportation, delivery, and order fulfillment services specifically tailored for the Vietnamese e-commerce ecosystem. This platform can be progressively expanded to encompass regional integration, thereby empowering cross-border e-commerce activities.

4) Promotion of Cross-border E-commerce Activities: Organize and host annual e-commerce events designed to specifically target and expand cross-border e-commerce opportunities. These events will serve as catalysts for connecting Vietnamese businesses with international markets, fostering a dynamic and thriving cross-border e-commerce environment.

These efforts have yielded positive results. Vietnam's CBEC market has witnessed impressive growth in recent years, with its GMV expected to reach $45 billion by 2025. The number of Vietnamese businesses engaged in CBEC is also on the rise, with increasing participation from SMEs in various sectors. Furthermore, Vietnam has climbed up the rankings in international e-commerce readiness indices, reflecting the effectiveness of the Masterplan's initiatives.

3.3. Evaluate the success and limitation of Vietnam in logistics in CBEC

3.3.1. Limitations

Poor and congrested transportation infrastructure

Incomplete transport infrastructure is the primary obstacle, among others, to the development of Vietnam's logistics industry (VietnamPlus, 2021) (Tú, 2023). Some of the main factors that contribute to this problem are:

- **Port congestion**: Cat Lai Port is Vietnam's largest port, has been handling over 70 % of all import and export containers in Vietnam over recent months. Phu Huu Port, which is 3 km from Cat Lai, also suffers regularly from overloading and traffic and cargo congestion (Nghi, 2023). As ports are vital nodes in the global supply chain, port congestion can reduce the efficiency and reliability of maritime transport, increase the costs of trade, affect the availability of goods in the market (International Monetary Fund, 2022) (VietnamPlus, 2022) and challenge the growth of cross-border e-commerce logistics.
- **Lack of multimodal connectivity**: Multimodal transport refers to the use of different modes of transport, such as rail, air, or water, to move goods from origin to destination (Harris, Wang, & Wang, 2015). Multimodal transport can offer advantages such as lower costs, faster delivery, and reduced environmental impact. However, many countries, including Vietnam, lack the necessary infrastructure and coordination to facilitate multimodal transport, such as intermodal terminals, integrated logistics services, and harmonized regulations (VietnamPlus, 2021). For specific, logistics services in Vietnam are largely dependent on road transport despite being overloaded and degraded, while other modes of transport remain underdeveloped (Tú, 2023). Many highway and Ring Road projects are only progressing slowly. Figures show that Vietnam boasts 630,546 km of roads, including less than 2,000 km of expressways (VietnamPlus, 2021). This can limit the options and flexibility of shippers and carriers, and reduce the competitiveness of cross-border e-commerce logistics in Vietnam.

High logistics costs

The rapid growth of goods production and trade has caused a sharp increase in demand for cross-border e-commerce logistics infrastructure and services. But both hardware (ie. physical construction) and software (ie. planning and management) of Vietnam logistics yet to meet demand, resulting in high costs which account for 20-22% of the country's GDP, much higher than Thailand (19%), China (18%), Malaysia (13%) and nearly three times higher than the US and Singapore (8%) (VNS, 2022). In specific, the report by the Ministry of Industry and Trade points out that among the factors that increase logistics cost in Vietnam, transport cost accounts for the highest proportion (VietnamCredit, 2020a). According to data from enterprises,

gasoline accounts for about 30-35% in road transport costs, average tolls (BOT) account for about 10-15%, while off-channel fees account for approximately 5% (VietnamCredit, 2020b).

Shortage of qualified and skilled logistics workers

Human resources is another issue of Vietnam's cross-border e-commerce logistics. In general, the knowledge, skills, attitudes, and the psychological state of Vietnam's logistics workers for the labor movement among the ASEAN countries is insufficient (Phat & Mai, 2021). Accordingly:

- The management group (including members of the board of directors and board of management) is mostly experienced in business, has a wide business network (including international partners), has been trained to meet management needs from time to time. However, this group lacks indepth knowledge.
- The group of managers and supervisors (including department managers and supervisors or team / group leaders) are people with practical experience in operating, and good expertise. However, most of them lack in-depth knowledge due to lack of systematic training.
- The group of staffs (office, field) mostly graduated from university but mainly in majors completely different from or just slightly close to logistics.
- The group of labor working directly at transportation firms, warehouses and factories are mostly trained from vocational schools.

3.3.2. Successes

Despite the difficulties, Vietnam has made significant progress in developing logistics for cross-border e-commerce. Some notable achievements are:

Enhanced logistics policies

The Vietnamese government has issued policies and regulations to encourage and support the operations of logistics businesses and facilitate the import and export of goods through e-commerce channels. Decree No. 160/2016/ND-CP, 29 November 2016, stipulates the business conditions relating to organisational structure, finance, and human resources. With regard to international economic integration, Vietnam has signed a number of regional agreements that support logistic connectivity, such as the Border Transport Agreement (1999), the Agreement Facilitating Transit Goods (1968), and the ASEAN Multilateral Transport Framework Agreement (2005). Viet Nam has undertaken commitments on maritime transport services which are regulated by ASEAN and the WTO, commitments under the Trans-Pacific Partnership Agreement/Comprehensive (TPP) and Progressive Agreement for TransPacific Partnership (CPTPP), and other new free trade agreements with the EU, Korea, and the Asia-Europe Union, thus establishing a legal, transparent framework for local and foreign companies in shipping. In 2005 the Commercial Law was replaced with the 1997 Commercial Law, where the 'logistics' term replaced the previous term 'delivery service'. The 2005 amendment of the 1990 Maritime Code in Viet Nam is consistent with international law. In 2006, Viet Nam formally signed the Facilitation of International Maritime Traffic Convention. Nevertheless, Customs Law, Credit Institution Law, Insurance Law and a number of laws related to air, road, railroad, and inland waterways were also created. The Decree 140/2007/ND-CP also specifies the terms of operation in logistics services and limits the liability of logistics services. Decree

163/ ND-CP which introduced on 20 February 2018, enables foreign companies to contribute to the advancement of e-logistics.

Technology-driven logistics expansion

Vietnamese logistics companies have invested in technology, human resources, and international cooperation to enhance their capacity to provide high-quality logistics services that meet the needs of cross-border e-commerce. Viettel Post has implemented a smart warehouse management system, utilizing artificial intelligence and robots for sorting and delivery. VNPost has established partnerships with international counterparts such as Singapore Airline, Etihad Airways, Malaysia Airlines, Prime Cargo, Qatar Airlines, CJ, Australia Post to serve customers in cross-border purchases.

Integrated e-commerce solution

Vietnamese e-commerce platforms have integrated logistics solutions into their business operations to improve the experience of both sellers and buyers in cross-border transactions. Shopee has collaborated with logistics partners such as SPX Express, Pos Laju, DHL eCommerce, J&T Express, and Ninja Van to provide the Shopee International Platform, enabling Shopee is available in more than 10 countries around the world.

In general, cross-border e-commerce is a field with great potential and opportunities for Vietnam, but it also requires continuous improvement in logistics to ensure efficiency and safety in transactions. Investing in technology, training personnel, international cooperation, and enforcing laws and regulations are key factors for developing logistics in cross-border e-commerce.

4. Lessons for Vietnam from the success of China

Since China is a developed country, its ascendancy in logistics infrastructure has been underpinned by visionary investments, creating the world's largest logistics market. Vietnam stands at the cusp of transformative growth in cross-border e-commerce logistics, and there are invaluable lessons to be gleaned from China's unparalleled success in this domain. Noteworthy achievements include lessons about investment in infrastructure, technology integration, environmental friendly logistics and some other lessons.

First of all, Vietnam should prioritize infrastructure development to enhance its logistics capabilities. China’s success was reinforced by substantial investments in physical infrastructure. It was reported that China invested heavily on building and upgrading its logistics infrastructure, including transportation networks, ports, and warehouses. Moreover, Vietnam should also take advantage of our sealines and enhance marine infrastructure. For example, Vietnam can upgrade its ports, ships and build larger freeways from the port to warehouses, making it easier for goods to move efficiently across borders.

Secondly, it is important to focus on technological advancements in logistics infrastructure. China has embraced technology in logistics, utilizing advanced tracking systems, data analytics, and automation. Vietnam should invest in technology to optimize supply chain processes, improve visibility, and enhance overall efficiency. Additionally,

technologies such as 5G, hydrogen, electric batteries, and advanced coatings should also be applied in logistics of Vietnam.

Thirdly, China's commitment to green and sustainable development offers another pivotal lesson for Vietnam. China's surge in solar power capacity and substantial investments in renewable energy underscore a proactive approach to environmental responsibility. This commitment aligns with global sustainability trends and positions China as a leader in green logistics. As Vietnam charts its course in cross-border e-commerce logistics, embracing sustainable practices and renewable energy solutions can foster not only environmental stewardship but also long-term economic resilience.

Lastly, through evaluating Vietnam’s problem, it can also be recommended that Vietnam should explore partnerships and collaborations with neighboring countries and international organizations to enhance cross-border trade facilitation. And in order to ensure border e-commerce development, Vietnam’s workforce should also be well-trained to be more professional in dealing with international trading. Training programs should be used to develop a pool of skilled professionals in logistics and supply chain management, equipped with the knowledge of the latest technologies and best practices.

Conclusion

In general, we can conclude that the EU is a market with a lot of potential for the plastic industry of Vietnam. Benefits granted by the commitments as well as challenges are worth noting in the context of the EVFTA. After the implementation of the EVFTA, Vietnam’s plastic industry can shift from the preferential tariff from the GSP to experience a 0% tariff from EVFTA for plastic products. This resulted in an increase in export turnover of plastic products and expanded the export market in countries such as Czech Republic, Greece and Saudi Arabia. Notably, the considerable increase in export volume into Germany has led to Germany becoming one of the five largest export partners of Vietnam. With the advent of the EVFTA, Vietnam’s plastic industry enjoyed a decreased tariff for plastic products. However, the industry also encounters challenges such as the requirement to meet the Rule of origin, the need to adapt to the EU market taste and import regulations as well as increasing risk of trade remedies, competition, and cost. Therefore, the authors give recommendations such as investing in technology, raising standards and quality to meet EU market regulations and taste as well as improve plastic products’ competitiveness.

China, being a global powerhouse in e-commerce, has demonstrated remarkable success in cross-border transactions, largely due to its well-developed logistics strategies and infrastructure. China's exponential growth in e-commerce has been accompanied by the establishment of sophisticated logistics networks to meet the increasing demands of global consumers. Understanding and emulating China's logistics practices can be instrumental for Vietnam in enhancing its presence in the digitized global marketplace.

Vietnam, as a rapidly developing economy with a growing e-commerce sector, can draw valuable insights from China's experiences to optimize its own logistics framework for cross-border transactions. Vietnam's logistics sector faces challenges such as poor transportation infrastructure, high logistics costs, and a shortage of skilled workers. However, the Vietnamese

government has implemented policies and regulations to support logistics businesses and facilitate the import and export of goods through e-commerce channels.

To navigate similar obstacles and foster sustainable growth in cross-border e-commerce, Vietnam can learn from China's successful strategies in addressing logistical challenges. By conducting a comprehensive analysis of the logistics ecosystem in both China and Vietnam, best practices, bottlenecks, and innovative solutions can be identified. Practical recommendations can then be provided to policymakers, businesses, and stakeholders involved in cross-border e-commerce logistics.

It is crucial for Vietnam to address the gap between the growing demand for efficient and reliable logistics services and the current capacity and quality of its logistics infrastructure and workforce. Investing in technology, training personnel, international cooperation, and enforcing laws and regulations are key factors for developing logistics in cross-border e-commerce. Additionally, focusing on green and sustainable development can contribute to reducing reliance on fossil fuels and mitigating environmental impacts.

In conclusion, Vietnam can learn valuable lessons from China's success in cross-border e-commerce logistics. By understanding and implementing effective logistics strategies, improving infrastructure and capabilities, and fostering international cooperation, Vietnam can enhance its competitiveness and tap into the full potential of the global e-commerce market.

References

A Dlouhy, J. (2021), "How China beat the US to become world's undisputed solar champion", *The Business Standard*, Available at: https://www.tbsnews.net/analysis/how-china-beat-us-become-worlds-undisputed-solar-champion-255865 [Retrieved January 25, 2024]

Agility. (2022), "Agility Emerging Markets Logistics Index", *Agility Emerging Markets Logistics Index*, Available at: https://www.agility.com/wp-content/uploads/2022/02/Agility-Emerging-Markets-Logistics-Index2022.pdf

Akbar, P., Storeygard, A., Duranton, G. & Couture, V. (2023), "The fast, the slow, and the congested: Urban transportation in rich and poor countries", *CEPR*, Available at: https://cepr.org/voxeu/columns/fast-slow-and-congested-urban-transportation-rich-and-poor-countries [Retrieved January 25, 2024].

Boying Ji. (2023), "Analysis of China's Cross-Border Logistics Market", *EqualOcean*, Available at: https://equalocean.com/analysis/2023083120133 [Retrieved January 25, 2024].

Cross Border E-Commerce transcosmos. (no date), *www.trans-cosmos.co.jp*, Available at: https://www.trans-cosmos.co.jp/english/ec/cross-border.html [Retrieved January 25, 2024].

Dharmaraj, S. (2023), "Vietnam's Cross-Border E-commerce Growth", *OpenGov Asia*, Available at: https://opengovasia.com/vietnams-cross-border-e-commerce-growth/ [Retrieved January 24, 2024].

Ding, F., Huo, J., & Campos, J. K. (2017), "The Development of Cross Border E-commerce', *Proceedings of the International Conference on Transformations and Innovations in Management,* Vol. 37.

Dương, N. (2022), "Nhân lực logistics của Việt Nam vừa thiếu vừa yếu", *VNEconomy,* Available at: https://vneconomy.vn/nhan-luc-logistics-cua-viet-nam-vua-thieu-vua-yeu.htm [Retrieved January 24, 2024].

Harris, I., Wang, Y., & Wang, H. (2015), "ICT in multimodal transport and technological trends: Unleashing potential for the future", *International Journal of Production Economics*, Vol. 159, pp. 88–103.

ictvietnam.vn. (2015), "VNPost tăng cường hợp tác đa dịch vụ trên trường quốc tế", *Tạp chí điện tử Thông tin và Truyền thông,* Available at: https://ictvietnam.vn/vnpost-tang-cuong-hop-tac-da-dich-vu-tren-truong-quoc-te-48161.html#:~:text=V%E1%BB%9Bi%20ch%E1%BB%A7%20tr%C6%B0%C6%A1ng%20m%E1%BB%9Fr%E1%BB%99ng%20v%C3%A0%20t%C4%83ng%20c%C6%B0%E1%BB%9Dng%20h%E1%BB%A3p [Retrieved January 24, 2024].

International Monetary Fund. (2022), "Supply Chains and Port Congestion Around the World", *IMF*, Available at: https://www.imf.org/en/Publications/WP/Issues/2022/03/25/Supply-Chains-and-Port-Congestion-Around-the-World-515673.

Investment and Trade Promotion Centre. (2022), "Vietnam works to remove barrriers in cross border e-commerce", *itpc.hochiminhcity.gov.vn,* Available at: https://itpc.hochiminhcity.gov.vn/web/en/-/vietnam-works-to-remove-barriers-in-cross-border-e-commerce .

Jingyan, G. (2023). "Cross-border e-commerce brings business opportunities for China's foreign trade companies - BELT AND ROAD PORTAL", *eng.yidaiyilu.gov.cn,* Available at: http://eng.yidaiyilu.gov.cn/p/326889.html [Retrieved January 25, 2024].

Khang, T. (2024). "Khát vọng xây dựng hạ tầng logistics quốc gia", *VietNamNet News,* Available at: https://vietnamnet.vn/khat-vong-xay-dung-ha-tang-logistics-quoc-gia-2241028.html.

Kingstec. (2022), "Emerging Technologies Empower China's Logistics and Supply Chains | Blog | Kingstec", *Kingstec*, Available at: https://kingstec.com/emerging-technologies-empower-chinas-logistics-and-supply-chains/.

Lê Minh. (2024), "Logistics trước áp lực cạnh tranh - Bài 3: Mạng lưới logistics Trung Quốc vươn ra toàn cầu", *baotintuc.vn,* Available at: https://baotintuc.vn/kinh-te/logistics-truoc-ap-luc-canh-tranh-bai-3-mang-luoi-logistics-trung-quoc-vuon-ra-toan-cau-20240116060638709.htm.

Ministry of Industry and Trade. (2023), "Báo cáo thị trường logistics Trung Quốc tháng 11/2023", *https://nganhhang.vn,* Available at: https://nganhhang.vn/bao-cao-thi-truong-logistics-trung-quoc-thang-11-2023-mien-phi/.

Murtaugh, D. (2023), "Solar and EV Booms Push China Toward Energy Tipping Point", *Bloomberg.com*, Available at: https://www.bloomberg.com/news/newsletters/2023-05-30/china-nearing-inflection-point-for-solar-power-and-evs-ahead-of-2030-target.

Nghi, X. (2023), "Measures needed to tackle congestion at Vietnam's biggest port", *Vietnam Economic Times | VnEconom*, Available at: https://en.vneconomy.vn/measures-needed-to-tackle-congestion-at-vietnams-biggest-port.htm.

Pang, Y. (2015), "Research on international logistics model in cross-border e-commerce environment", *Chinese Journal of Circulation Economy*.

Phat, D. H., & Mai, P. N. X. (2021), "Solutions to developing human resources for Vietnamese logistics firms in the context of economic integration", *Business & IT*, Vol. XI No. 1, pp. 15–21.

Research office - Legislative Council Secretariat. (2023), *Information Note*, Available at: https://app7.legco.gov.hk/rpdb/en/uploads/2023/IN/IN20_2023_20231017_en.pdf.

Seetao. (2022), "Ten years of great changes in China's infrastructure, remarkable achievements—Seetao", *www.facebook.com*, Available at: https://www.seetao.com/details/174906.html [Retrieved January 25, 2024].

Shopee. (2023), "Introduction to Shopee Supported Logistics", *seller.shopee.com*, Available at: https://seller.shopee.com.my/edu/article/388.

Sun, P., & Gu, L. (2021), "Optimization of Cross-Border e-Commerce Logistics Supervision System Based on Internet of Things Technology", *Complexity*, Vol. 2021, pp. 1–11.

Technavio. (2020), "E-Commerce Logistics Market by Service and Geography - Forecast and Analysis 2021-2025".

Tecnobits. (2023), "In which countries is Shopee available?", *Tecnobits*, Available at: https://tecnobits.com/en/In-which-countries-is-shopee-available%3F/ [Retrieved January 24, 2024].

Thi, A. (2023, July 18), "Logistics in cross - border e-commerce", *vlr.vn*, Available at: https://vlr.vn/logistics-in-cross-border-e-commerce-14648.html .

TMO Group. (2021), "China Bonded Warehousing and eCommerce Tax Reform", *TMO Group*, Available at: https://www.tmogroup.asia/bonded-warehousing/ [Retrieved January 28, 2024]

Tú, A. (2023), "Improved traffic infrastructure key to enhancing logistics ranking", *Vietnam Economic Times | VnEconomy*, Available at: https://en.vneconomy.vn/improved-traffic-infrastructure-key-to-enhancing-logistics-ranking.htm [Retrieved January 25, 2024].

VietnamCredit. (2020a), "Vietnam Logistics Industry Report 2020", *vietnamcredit*, Available at: https://vietnamcredit.com.vn/products/vietnam-industries/vietnam-logistics-industry-report-2020-60.

VietnamCredit. (2020b, December 18), “Logistics cost in Vietnam remains high”, *VietnamCredit,* Available at: https://vietnamcredit.com.vn/news/logistics-cost-in-vietnam-remains-high-why_14242#:~:text=According%20to%20Vietnam%20Logistics%20Association%20%28VLA%29%2C%20Vietnam%E2%80%99s%20logistics [Retrieved January 28, 2024].

VietnamNet. (2023), “Chinese telecommunications shapes the future thanks to 5G technology - Vietnam.vn”, *VietNam.vn*, Available at: https://www.vietnam.vn/en/vien-thong-trung-quoc-dinh-hinh-tuong-lai-nho-cong-nghe-5g/ [Retrieved January 25, 2024].

VietnamPlus. (2021), “Vietnam looks to address bottlenecks in logistics infrastructure | Business | Vietnam+ (VietnamPlus)”, *VietnamPlus*, Available at: https://en.vietnamplus.vn/vietnam-looks-to-address-bottlenecks-in-logistics-infrastructure/198173.vnp [Retrieved January 25, 2024].

VietnamPlus. (2022), “Logistics industry held back by poor infrastructure, technology | Business | Vietnam+ (VietnamPlus)”, *VietnamPlus,* Available at: https://en.vietnamplus.vn/logistics-industry-held-back-by-poor-infrastructure-technology/240446.vnp [Retrieved January 24, 2024].

VnExpress. (2022, November 28), “Blockages remain on Vietnam’s path to full logistics potential - VnExpress International”, *VnExpress International*, Available at: https://e.vnexpress.net/news/industries/blockages-remain-on-vietnams-path-to-full-logistics-potential-4541414.html [Retrieved January 25, 2024].

VNS. (2022), “Lowering logistics costs key to competitiveness”, *vietnamnews.vn*, Available at: https://vietnamnews.vn/economy/1192801/lowering-logistics-costs-key-to-competitiveness.html# [Retrieved January 25, 2024]

Vu Huy Hung. (2022), “China’s 45 Years of Reform and Opening Up: A Journey Through Achievements, Challenges, and Future Prospects”, *vioit.org.vn,* Available at: https://vioit.org.vn/en/strategy-policy/china-s-45-years-of-reform-and-opening-up--a-journey-through-achievements--challenges--and-future-prospects----5656.4144.html [Retrieved January 25, 2024].

What Is Logistics. (no date), *www.ascm.org*, Available at: https://www.ascm.org/scm/logistics/.

World Bank Open Data. (no date), *World Bank Open Data*, Available at: https://data.worldbank.org/indicator/LP.LPI.INFR.XQ?contextual=max&end=2022&locations=VN&name_desc=false&start=2022&view=bar [Retrieved January 25, 2024].