

**Direction of E-Commerce in Southeast Asia and Thailand's  
Logistics Development Approach**

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**Abstract**

This research project is a qualitative research. The objective was to study the direction of e-commerce in Southeast Asia (SEA) that would have an effect on the future development of Thailand's logistics. The sample group consisted of executives of various organizations in international trade, international e-commerce, international logistics in Thailand, totaling 21 key informants, selected using the snowball sampling technique. The researcher collected data using non-participant observation, and in-depth interviews. Subsequently, the data were analyzed using the content analysis technique. Results of the study revealed that 1) The direction of e-commerce in SEA has developed a new form of international trade or dual

circulation, with the utilization of international trade agreements as a mechanism for developing products and services. 2) The relationship between e-commerce and logistics in SEA, it was found that the relationship between e-commerce and logistics had developed harmoniously through an e-commerce platform that could be accessed with a smartphone and electronic device. Even though it created business growth, a new problem may arise, the number of logistics service providers might not be enough to provide services in the future. 3) The trend of logistics in SEA was the emergence of new forms of logistics businesses, such as specialized logistics services, specialized services in product management for e-grocery stores, and international integrated logistics services. 4) The approach to develop Thailand's logistics to support the growth of e-commerce in SEA had to be accelerated, such as providing logistics services with e-fulfillment and development towards green logistics.

**Keywords:** E-Commerce, Southeast Asia, Logistics Development, International Business

## **1. Introduction**

The world's rapid changes in information technology have given rise to new knowledge, new tools, new equipment, and have changed the culture of people's lives (Puncreobutr, 2021; Puncreobutr et al., 2022). Additionally, there have been new ways of conducting commercial businesses such as e-commerce, which is the operation of businesses and commercial activities to achieve business objectives through all forms of electronics, including the internet, mobile phones, computers, and information technology. This is to make business processes efficient and fast, to reduce costs, and to expand business and management opportunities (Korbua et al., 2012; Thongpech et al., 2023), which is a sub-activity of e-business (Tuban and King, 2003). Due to the fact that business communications between sellers and buyers are easy, convenient, and fast (Thongpech et al., 2023), the e-commerce in Thailand and in SEA has grown rapidly and continuously, with a higher market value each year. The product groups with very high expenses are electronics, fashion, toys, food, and drinks (Statista, 2023).

The characteristics of e-commerce came in many different forms, depending on what was used as an important point of consideration, such as the relationship of the transactors (Christiana, 2010), the use of electronics in management (Quaddus & Xu, 2007), or product distribution channels (Techsauce, 2020), etc.

Considering the relationship between transaction parties which consisted of business (B), customer (C) and government (G), e-commerce could be divided into 4 categories: business to customer (B to C), business to government (B to G), business to business (B to B), and customer to customer (C to C). In light of this, there were a lot of transactions on the website (Christiana, 2010). It was found that in Thailand, the most popular e-commerce segment was B to C, and the most popular products were fashion, apparel, gems, and accessories, followed by B to B, and the products with the highest sales value were auto motives (Korbua et al., 2012).

Based on the use of electronics in management, e-commerce could be divided into 4 categories, which are 1) e-communication model, which is the use of email, websites and search engines to provide information on products and services to customers, a relationship between

buyers and sellers. 2) e-shopping, which is the use of all online channels to provide various services to customers, a relationship between buyers and sellers. 3) e-shopping with e-payment, which is the use of all online channels to provide various services to customers along with a payment system, creating a relationship between buyers, sellers, and banks. 4) e-supply chain, which is the use of an electronic chain to link every part of the supply chain systematically, creating relationships among suppliers, buyers, partners, and customers (Quaddus & Xu, 2007). It was found that businesses in SEA had a tendency to develop from the initial phase, e-communication model, to the 4<sup>th</sup> phase, e-supply chain, rapidly (Thongpech et al., 2023).

When considering sales channels, e-commerce could be divided into 3 categories, which are 1) e-marketplace, characterized by the sale of products online in the same place, which is a market or a central market such as Shopee, Lazada, etc. 2) e-tailer, characterized by the sale of products online through the company's stores such as websites or various applications. 3) Social commerce, characterized by the sales of various products through different social media platforms, such as Facebook, Instagram, Line@, TikTok, etc. With diversified e-commerce businesses covering the use of commerce services for livelihoods and responding to the use of services of all groups of customers, as a result, countries are more interested in developing e-commerce for competition (Techsauce, 2020).

As e-commerce in each country grew, expanded, and developed to become more competitive, logistics businesses which go hand-in-hand with e-commerce would inevitably be affected both positively and negatively. For example, in the case of trading through e-commerce, if the volume was high, but the delivery through logistics businesses was delayed or the products received were damaged, it would certainly have an effect on the total number of e-commerce orders in the future, and so on (Heng-Hsien & Meiting, 2022). In addition, the operations of the logistics businesses themselves involve many other factors that must be taken into consideration, including time management in each activity, such as order picking, freight transport, shipping and delivery, backhauling, and warehouse management in accordance with consumer needs (Pham & Thanh-Thuy, 2020).

Effective logistics management is related to e-commerce from the period of production, number of products that could be produced, inventory quantity, warehouse capacity, order tables and purchasing trends, and various costs at each stage of transportation, etc. International business executives need to control and ensure that their logistics are keeping up with the ever-changing environment, such as customer behavior, pandemics, technological and social media advancements, as well as adjust their strategies to be ready for unpredictable situations or events in the future (Lambert & Burduroglu, 2000; David, Xin, & Julien, 2013; Jarutirasarn & Tamkaew, 2023).

Due to the fact that e-commerce and logistics businesses are closely related and are important for the growth of international businesses, it is therefore essential to study the development of Thailand's logistics in the future. The research team was of the opinion that there should be a study on the direction of e-commerce in Southeast Asia and the development approach of Thailand's logistics, which would be beneficial to international trade agencies, international logistics agencies, other related agencies, and Thai e-commerce and logistics operators. The information obtained will be used to plan the development of both e-commerce and logistics in Thailand to create a competitive advantage in Southeast Asia's trade market.

## **2. Research Objectives**

To analyze the direction of e-commerce in Southeast Asia, logistics trends in Southeast Asia, and the approach to develop Thailand's logistics to support the growth of e-commerce in Southeast Asia.

## **3. Methodology**

This research is a qualitative research. The sample group consisted of executives of various organizations: six people from international trade, international e-commerce or cross-border e-commerce, international logistics agencies; eight people from the business executive group or e-commerce business operators in international trade; and seven people from the business executive group or international logistics operators, totaling 21 key informants. The key informants were selected through the snowball sampling technique. The researcher collected data through non-participant observation and in-depth interviews with the sample group.

For the analysis of the future direction of e-commerce in Southeast Asia which affects the development of Thai logistics, the researcher integrated the analytical framework from the concept of e-commerce by Tuban and King (2003), Laudon and Traver (2007), from the study of e-commerce by Christiana (2010), and from the study of logistics efficiency by Lambert and Burduroglo (2000), Pham and Thanh-Thuy (2020) and Heng-Hsing and Meiting (2022). This is done by classifying the study framework into 4 subjects: 1) the direction of e-commerce in Southeast Asia, 2) the relationship between e-commerce and logistics in Southeast Asia, 3) logistics trends in Southeast Asia, 4) the approach to develop Thai logistics to support the growth of e-commerce in Southeast Asia.

The researcher collected data during the months of August 2023 – December 2023, analyzed the results using the content analysis technique, and summarized the results.

## **4. Research Results**

Results of data analysis according to the research framework are as follows:

### **4.1 Direction of e-commerce in Southeast Asia**

The study found that the direction of e-commerce in SEA in the future would prosper in all 3 types: 1) electronic commerce between business organizations and individuals (Business-to-Customer: B2C), by commercial business agencies selling products and providing services to the general public. 2) Electronic commerce between business organizations and business organizations (Business-to-Business), which was divided into 2 subgroups: commercial business units which sold products and services to the general commercial business organizations (Business-to-Business: B2B) and commercial business units which sold products and services to the government agencies (Business-to-Government: B2G). 3) Electronic commerce between individuals and individuals (Customer-to-Customer: C2C), where ordinary individuals sell products and services to each other through an intermediary website acting as a marketplace to facilitate the gathering of buyers and sellers.

As for the future development of e-commerce businesses, most operators agree that the e-commerce business development to support current technological changes had no impact on each type of business, B2C, B2B, C2C. However, the influential factors are the economic, social and cultural factors.

The most influential economic factor affecting the income of e-commerce businesses was the policy of allowing tax-free trade. This meant that conducting business would be more convenient, leading to lower costs and price of goods and services, and an increase of competitors in the market. The most influential social factors affecting the income of e-commerce businesses were the values of the people, the speed of access to the changing values of people in each of the SEA countries, which had different values. The direction and the speed of change were different, and therefore important. As for the influential cultural factor affecting the income of e-commerce businesses, it was the foreign language proficiencies, not only English, but also the language used in the target country, which should be taken into consideration.

The e-commerce business still has to be continuously developed in terms of the type and format of goods and services, to meet the diversified needs of the SEA region. However, although business competition can be intense, it is still a business with a lot of opportunity to grow. As for operators of SMEs who have flexibility in their work and the ability to analyze competitors, they can utilize their advantages to find information on customer needs, to be used for accurate market penetration. They also have the capability to develop new types of goods and services, new products that respond to the needs of customers in different generations, as well as to develop the business' e-commerce platform to offer various products and services, which is more convenient for the buyers as well.

The most important element for the future of e-commerce business, agreed among the executive group of various international trade agencies and the business executive group of international e-commerce, is how business operators should apply the new concept of international trade development or dual circulation and take advantage of trade cooperation agreements in which the state made with various countries as a mechanism for developing products and services. This would create a variety of alternatives for consumers, open the market to the world, and drive new international trades with high purchasing power.

#### **4.2 The relationship between e-commerce and logistics in Southeast Asia**

The relationship between e-commerce and logistics is considered as a new form of international trade. That is, it integrates the traditional international trade concepts with electronic technology and logistics networks, bringing trading channels to the internet system, making international trade convenient and fast. Therefore, it was widely popular all over the world, including countries in SEA.

The upstream industry chain of e-commerce includes various suppliers such as brands, wholesalers, and retailers. The midstream industry chain of e-commerce is the platform for offering products and services, and trading channels, both the B2C and B2B formats. The downstream industry chain of e-commerce is the consumers, with logistics service providers acting as a supporter throughout the process.

Therefore, the relationship between e-commerce and logistics has to grow in a corresponding direction since if the trading volume of both B2C and B2B channels were high, but the logistics services run by service providers in the logistics industry responded slowly, resulting in late delivery, or not fulfilling the needs on time, damage caused during shipment, or the delivery was restricted to some countries, not covering the entire SEA, etc., that would inevitably affect the trading volume of e-commerce.

Results of the study with groups of executives of various international trade agencies, international e-commerce agencies, groups of international e-commerce business executives as well as international logistics business executives, reached a consensus. That is, Thai international e-commerce business operators and Thai international logistics business operators are currently operating in a discordant way, causing Thailand to miss out on e-commerce opportunities in SEA, while many other countries had a harmonious development in the relationship between e-commerce and logistics, through an e-commerce platform that could be accessed with a smartphone and various electronic devices.

There are numerous e-commerce platforms accessible through smartphones and various electronic devices in SEA, such as Lazada, Shopee, Tokopedia, and Tiki, Sendo, etc. The countries with the highest e-commerce penetration rate were Indonesia and Singapore, followed by the Philippines, Vietnam and Thailand. Indonesia is considered the key driver, due to its very large consumer market, while Vietnam is considered the key driver of exponential growth.

The e-commerce operators and logistics operators have aligning views that the growth of e-commerce is increasing every year. Despite its important role in making the logistics business continually and increasingly successful, with the growth rate of e-commerce increasing exponentially, there might be a problem in the future resulting from the insufficient number of logistics service providers.

#### **4.3 Logistics trends in Southeast Asia**

The results of the study revealed that the consumer behavior in the e-commerce market in SEA had a tendency to change in terms of the confidence in ordering and receiving products, product prices, and types of products ordered and ordering channels. This affects logistics business operations, which is likely to change as well.

1) Consumer behavior towards e-commerce that has changed significantly was the confidence in ordering products. It was found that the value of products ordered per product unit has a continuously increasing trend. At the same time, the number of products returned to distributors continued to decrease. This indicates that consumers were confident that they would receive the products as agreed upon. In addition, it was found that complaints related to late deliveries and damaged products during shipment appeared less and less and in fact, occurring at a very low level. This demonstrates that consumers were confident that when ordered, they would receive the product. Therefore, since the product value per unit increased, the trend of the logistics business is to accelerate preparations to support the safe delivery of high value products.

2) Another interesting change in consumer behavior is the influential factor when making the decision to order a product or service. It does not depend on the price of the product, but rather on the innovation of the product that satisfies the needs of each group of customers. That is, the same type of product from the same company, when on e-commerce, would have different product designs which are suited to the lifestyle of each generation. Cheap products might not receive orders because the price is just one of many factors in the decision-making process. Therefore, the trend of the logistics business is to accelerate preparations to support new forms of product packaging, transportation, and delivery.

3) Consumer behavior for the type of products ordered have also changed in many countries. Previously, products in the e-commerce business were mostly electronic parts, food, drinks, clothes, toys, and cosmetics. It was found that nowadays, all types of products can be distributed via e-commerce. In addition, formerly, products in the e-commerce business were mostly products that were not very large in size. However, nowadays, products of all sizes are available in the e-commerce business. Therefore, the trend of the logistics business is to speed up preparations for a more diversified product receiving system, transportation and delivery system.

4) Consumer behavior for ordering channels is also experiencing change according to the rapid advancement of communication tools. The use of channels like websites and central market platforms or social media as in the past might not be sufficient anymore, as new channels are emerging, such as social commerce and new applications. Therefore, the trend of the logistics business is to accelerate preparations to support the various changing operational channels, so as to respond quickly to the technological advances.

In addition, it was found that the development of logistics business in Southeast Asia had an impact on all 3 types of e-commerce businesses: B2C, B2B and C2C, as follows:

1) There is a consumer behavior trend to develop logistics business in e-commerce for the B2C (Business-to-Customer) model, regarding the types of products ordered, by providing more specialized logistics services. This includes specialized services in large products management such as wooden household appliances, knockdown houses, and home decoration, and specialized services in product management for e-grocery stores which requires urgent delivery of perishable goods within one day, which is gaining popularity in countries like Indonesia, Vietnam, and Thailand.

2) There is a trend to develop logistics business in e-commerce of the B2C (Business-to-Customer) model by taking the advantage of the delivery speed, with the change from the traditional international shipping by sea which would take approximately 15-30 days to be delivered, to delivery from consumers' domestic warehouses which would take only 2-3 days.

3) There is a trend to merge the logistics business in e-commerce of the B2B (Business-to-Business) model and the e-commerce C2C (Customer-to-Customer) model to become the B2B2C (Business-to-Business-to-Customer) model, providing comprehensive logistics services. As a result, there was an increase in international logistics service representatives or 3rd party logistics service providers. Such representatives would perform duties from customs clearance, warehousing, order management, shipping, in-depth market analysis, etc., up to after-sales services. In essence, the traditional international shipping method would be changed entirely.

#### **4.4 The approach to develop Thai logistics to support the growth of e-commerce in Southeast Asia**

Results of the study revealed that for the development of Thai logistics to support the growth of e-commerce in SEA, four approaches need to be accelerated. These are e-fulfillment services, adaptations to SME logistics, the use of high-tech or modern technology in providing services, and the development towards green logistics.

**1) E-fulfillment services**

E-fulfillment is a joint operation between the e-commerce business and the logistics business using an all-inclusive electronic technology system. In this approach, the logistics operators use electronic technology systems to facilitate e-commerce operators, starting from providing storage and warehouse services, order management, pick & pack services, e-delivery, and return services in the case of problems. Every process will be controlled by the electronic system with a link to the e-commerce operator's platform, subsequently each process should become faster and more coordinated in terms of direction. This system would act as a response to the volume of rapidly increasing e-commerce business consumers. It would also increase the efficiency of service delivery, while simultaneously reducing business costs.

**2) Adaptations to SME logistics**

Since businesses in SEA are moving towards the direction of e-fulfillment services, in the near future, those who would be affected significantly are SME logistics, which would receive fewer orders. Therefore, the Thai SME logistics should urgently adapt to remain as a part of the business. Adaptations could be made in at least two ways:

In the case that SME logistics are equipped with electronic technology, it might adapt itself to e-logistics, with specific characteristics, providing fast and accurate services. Such as, providing same-day delivery services, or transporting goods according to the specific needs of the recipient (on-demand delivery), coordinating with an e-marketplace, etc. System management technology and outsourcing may be used to connect e-fulfillment services to delivering products in existing service areas.

In the case that SME logistics are not equipped with electronic technology, this might require adaptations in the use of resources as a part of the business. Such as, being a warehouse leaser, a service provider for supply chain management, cold chain management, warehouse management, etc., or being a part of the e-fulfillment service by accepting sub-contracts for goods transportation, etc.

**3) The use of high-tech or modern technology in providing services**

With the rapidly developing advancement of Artificial Intelligence (AI), its ability to work with precision and its ability to learn, the use of AI to provide e-logistics services increased in foreign countries. For instance, the use of drones and robots in every work process. Therefore, Thai logistics have to be prepared and urgently experiment with the use of AI to provide logistics services, in order to reduce costs and increase efficiency in providing services. This would have a greater impact on the competitive capabilities in SEA.

**4) The development towards green logistics**

Green logistics covers the logistics management of the upstream, midstream, to the downstream, both forward and backward of a supply chain, with no negative impact on the ecosystem. Therefore, all logistics activities, from logistics communication and order processing, raw material preparation, relocating, transportation, storage, warehouse management, inventory management, material handling and packaging, customer services, and reverse logistics, have to respond to the achievement of carbon neutrality and zero net

greenhouse gas emissions. This is for the growth of SEA, without aggravating the climate change situation or contributing to its severity.

## **5. Conclusion**

The results of the study can be summarized as follows:

5.1 The direction of e-commerce in Southeast Asia in the future could thrive in the Business-to-Customer (B2C), Business-to-Business (B2B and B2G), and Customer-to-Customer (C2C) models, while economic, social and cultural factors would have a significant impact on the development of e-commerce business in the future.

Influential factors that have an effect on the income of e-commerce businesses include economic factors - the policy introducing tax-free trade, social factors - the values of people with different directions and speed of change, cultural factors - the foreign language proficiency for the targeted country for trade. Therefore, e-commerce would have to be continuously developed in terms of the type and format of products and services for each generation and the development of business platforms.

In addition, the e-commerce that could flourish in the future would be an e-commerce business that incorporated the concept of developing a new form of international trade or dual circulation and took advantage of international trade cooperation agreements as a mechanism for developing products and services, to create a variety of new alternatives with high purchasing power.

5.2 The relationship between e-commerce and logistics in Southeast Asia had developed into a new form of international trade through the use of electronic technology. The industrial chain of e-commerce, upstream, midstream, and downstream, was placed on the internet system, with logistics service providers offering support throughout the process.

Results of the study disclosed that Thai e-commerce business operators and logistics business operators have not yet established a comprehensive relationship. Meanwhile, many countries in SEA such as Indonesia, Singapore and Vietnam have already developed a harmonious relationship between e-commerce and logistics through an e-commerce platform that can be accessed via a smartphone and various electronic devices.

Nevertheless, despite the increasing growth of e-commerce being an important factor in making the logistics business in SEA increasingly and continuously successful, the exponential increase in growth rate might lead to a new problem, that is, the number of logistics service providers available might be insufficient to support services in the future.

5.3 Regarding the trends in the logistics business in Southeast Asia, the study found that consumer behavior in the e-commerce market had created new forms of logistics businesses. The consumer behavior trends in the e-commerce market is changing. For instance, there is increased confidence in ordering and receiving products, the decision to order a product or service does not depend on the product price, the types of products ordered were no longer limited to electronic parts, food, beverages, clothing, toys and cosmetics, it was no longer limited to small products, new purchasing channels emerged such as social commerce and new applications as new means to order goods.

Due to these changes in consumer behavior, new forms of logistics business were created. For example, providing more specialized logistics services, specialized services in product management for e-grocery stores, and an all-inclusive logistics service, as a result,

there are increasing numbers of 3rd party logistics service provider international representatives.

5.4 With regards to the development approach of Thai logistics to support the growth of e-commerce in Southeast Asia, the study found that there were 4 approaches that needed to be expedited. This includes e-fulfillment services, adaptations to SME logistics, the use of high-tech or modern technology in providing services, and the development towards green logistics.

## **6. Recommendations**

### **6.1 Recommendations for the application of research results**

In light of the research result, the direction of e-commerce in SEA tended to develop international trade as a dual circulation model, and each country utilized international trade cooperation agreements as a mechanism for developing their own products and services. It is therefore recommended that executives of various international trade agencies gather information on dual circulation and find ways to benefit from the international trade cooperation agreements that Thailand has with other countries, and disseminate them to various operators, so that they may be aware and utilize them as a mechanism for further development of Thai products and services.

According to the study, Thai e-commerce business operators and logistics business operators still have not established a harmonious relationship between e-commerce and logistics through a platform accessible via smartphones and various electronic devices. Moreover, the logistics trend in SEA was the emergence of new forms of logistics business, such as providing more specialized logistics services. It is therefore recommended that executives of various agencies in the field of international trade cooperate with other related agencies to mediate the relationship between the businesses, to develop the e-commerce business and logistics business to further increase the competitiveness in SEA.

### **6.2 Recommendations for further research**

The study revealed that the direction of e-commerce in SEA had developed international trade into dual circulation and had utilized international trade cooperation agreements as a mechanism for developing products and services. Furthermore, the study found that the development approach for Thai logistics needed to be expedited, including e-fulfillment services and the development towards green logistics. This research was, nevertheless, a qualitative study with data obtained from observations and in-depth interviews. Therefore, to be confident in applying the research results to further develop both the direction of e-commerce in SEA and the development approach of Thai logistics which must be accelerated, further studies should be conducted using other research methods such as quantitative methods, to further validate the results of this study.

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