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Chapter **11** Netwo

Reconfiguring Production and Logistics Networks under the Global E-commerce Environment

> Jin Young Hong Ha Neul Han

1. Introduction

The exponential growth of Internet users has led to the emergence of a new type of sale and purchase structure – cross-border e-commerce. E-commerce refers to buying and selling in virtual markets via the Internet. As there are no time constraints, spatial restrictions, or additional fixed costs incurred by the operation of physical stores, e-commerce expanded rapidly in major developed countries throughout the 1990s. The massive production of smartphones has enabled e-commerce to expand significantly in developing countries, as well.

In online marketplaces, consumers can have higher flexibility in making purchases and easily obtain information by their fingertips, ie. alternative products and prices offered by various suppliers. Suppliers also face no time constraints on their sales activities, nor do they require any physical space to display their products, so their distribution and advertising costs are lower. Such benefits have been highlighted in several studies. Brown and Goolsbee (2002) and Baye, Morgan, and Scholten (2005) found that by reducing the asymmetry in information and the cost of searching for information, e-commerce increases the efficiency of the market, ultimately bringing prices down. Goldmanis et al. (2010) concluded that e-commerce not only reduces market prices but also encourages competition amongst firms, thereby increasing economic efficiency and influencing the industrial structure.

To ensure the vitalisation of e-commerce, balanced development of infrastructure, social and institutional systems, and other logistics infrastructure are necessary. With the advent of mobile devices, including smartphones, the need for wired high-speed Internet networks in e-commerce has decreased drastically, and with the expansion of various mobile wallet payment solutions such as Alipay and Grab Pay, it has become possible to build low-cost electronic payment systems available even to those without a bank account. The spread of mobile devices has given developing countries a greater opportunity to share in the benefits of e-commerce. E-commerce vitalisation policies in developing countries should prioritise the institutional systems that help build trust between buyers and sellers.

E-commerce is characterised by non-face-to-face transactions, making it difficult for consumers and suppliers to immediately establish trust. It is therefore of utmost importance to confirm the identities of the parties to transactions; electronic authentication is key to ensuring the reliability of e-commerce. Customers also face security problems such as leaks of personal information, and because customers do not handle the product directly, company policies on exchange and refund are also a concern. To establish an institutional system to ensure credibility of purchases, countries should prioritise e-authentication, last-mile logistics, and consumer protection.

The implementation of the ASEAN Economic Community (AEC) Blueprint 2025 and the ASEAN Socio-Cultural Community (ASCC) Blueprint 2025 has been promoting the deepening and expansion of logistics networks that inter-regional links with ASEAN as well as those between the region and the global economy.

The logistics sector is complex because its activities include delivery, storage, warehousing, tracking, customs, and services. The nature of logistics services of a country depends on its development stage (ISEAS, 2018). Logistics infrastructure differs according to population, area of territory, size of foreign direct investment, amongst others. At the country level, infrastructure connectivity, efficiency, and service quality need to be significantly improved. Logistics also needs to be integrated regionally. But investments can overlap, giving rise to inefficiency. The biggest problem is meeting customers' demand and reducing delivery time and cost. Most ASEAN countries should, therefore, maintain competitive neutrality and a dynamic private sector, even if it means the government must intervene to establish the supply chain between consumers and sellers, and they should ensure reliable tracking, exchange, and refund. A well-managed, efficient, and effective supply chain capable of handling logistics can benefit business organisations directly and indirectly.

Redundant investments should, therefore, be avoided and logistics connections strengthened. The role of post offices, especially those that already have capable staff, vehicles, and information systems, has become more important. Many post offices worldwide have launched highly competitive e-business strategies. Combined, post offices all over the world are possibly the largest business-to-consumer (B2C) logistics fulfillment agents and operators.

Analyses in this chapter are mainly based on the data published by the International Postal Network (IPN), which is under the administration of the Universal Postal Union (UPU). Due to regulatory reporting requirements and the capabilities of automated data capturing technologies such as radio-frequency identification (RFID) tags, the records of individual postal items maintained by UPU represent a rich record of human activity, which reflects local, regional, and national economic activity and international economic relations. But this data does not provide trade data between countries, so we use United Nations International Trade Statistics data for Commodity Trade (UNCOMTRADE) data as a proxy for the postal cross-border e-commerce network.

The study also uses UPU data on the logistics performance of ASEAN post offices and analyses connectivity strategies to identify which e-logistics logistics trends are popular. Finally, we suggest a set of strategic e-commerce and logistic options, which are available to national postal authorities in ASEAN countries, except Singapore.

2. Postal Electronic Services and Cross-border E-commerce

A country's postal e-services are provided in a designated operators directory or through agreements with third parties such as governments or business. We refer to postal electronic services as services delivered by post to end-customers through digital channels. UPU classifies postal e-service into e-post and e-government, e-finance and payment solutions, e-commerce, and support services. But some of these are integrated: for instance, an e-commerce service requires e-finance and payment service.

E-commerce services are the priority in postal product innovation plans (website integration and payment solutions, and online management of delivery options). E-commerce services consist of buying and selling products and services using information and communication technology (ICT), and processing and delivering items physically or electronically (Table 11.1).

Service	Description
Online philatelic and postal products shop	Customers can purchase philatelic and postal products through the postal website and have them delivered to a physical address
Online postal shopping portal (shopping mall)	Postal website or web portal showcasing goods from a variety of merchants. Merchants' websites are often integrated with the post's website.
Online customs declaration	Customers can provide the necessary information through the postal website to the relevant authority before importing or exporting an item.
Integration of postal web services with merchants' sites	Provides e-merchants with software tools such as application programming interfaces, to allow for the integration of the post's online shipping and tracking capabilities with their e-commerce applications.
Performance reports and analytics	The post provides e-merchants with customised performance reports (on returns, delays, delivery times, etc.) to help them manage costs, operations, and customer matters.
Virtual international address	The post provides an international physical address in another country to allow customers to easily purchase goods from that country's e-merchants, and have them forwarded through the post
Calculation of estimated total landed costs	Provides online shoppers with detailed information on all the costs associated with the delivery of documents/merchandise.
Online management of documents/ merchandise delivery options	Enables customers to notify the post electronically (e.g., via apps, Web, etc.) where document/merchandise items should be delivered (parcel locker, home, local retailer, etc.).

Table 11.1: Universal Postal Union Definitions of E-commerce Services

Source: Universal Postal Union (2015a).

Post office e-commerce services consists of eight areas but six ASEAN countries provide fewer than two services, and Viet Nam does not provide any of the services (Table 11.2) (UPU, 2015a). Even though the position of postal authorities in the new e-commerce environment might change, the post offices will remain in their traditional roles.

Table 11.2: Development of Postal E-commerce in ASEAN

Service	Cambodia	Indonesia	Singapore	Thailand	Viet Nam
Online philatelic and postal products shop	х	0	0	0	х
Online postal shopping portal (shopping mall)	Х	0	0	0	х
Online customs declaration	Х	х	0	х	Х
Integration of postal web services with merchants' sites	Х	Х	0	Х	х
Performance reports and analytics	Х	Х	Х	Х	Х
Virtual international address	х	х	х	х	х
Calculation of estimated total landed costs	Х	х	х	Х	х
Online management of documents/merchandise delivery options	х	Х	Х	х	х

Note: O = with service provided, X = without service provided. Source: Universal Postal Union (2015a).

2.1. The Size of Post Offices in ASEAN Countries

According to the UPU database, the country with the largest number of post office employees in ASEAN is Viet Nam (41,000), where the ratio of full-time and part-time staff is similar. Indonesia has 27,808 post office employees, most of whom are full-time, and Thailand has 25,029, all of whom are full-time (Figure 11.1).



Figure 11.1: Post Office Staff in ASEAN

Source: Universal Postal Union database.

Indonesia operates 55,511 permanent post offices, covering the whole country (Table 11.3).

	Area of Territory (km²)	Total Number of Permanent Offices	Average Area Covered by a Permanent oOffice (km²)
Malaysia	329,847	1,040	317.16
Indonesia	1,904,569	55,511	34.31
Philippines	300,000	1,309	229.18
Thailand	513,115	1,290	397.76
Viet Nam	331,689	3,022	109.76
Myanmar	676,578	1,381	489.92
Cambodia	181,035	83	2,181.15
Brunei Darussalam	5,765	23	250.65

Table 11.3: Average Coverage Area per Post Office

km² = square kilometre.

Source: Universal Postal Union database

Unexpectedly, economic, social, and technological shifts are reviving the relevance of post offices. A growing microbusiness community, an ageing population, isolation amongst older people as well as young people in rural areas, and the development of community-based approaches to public service reform are amongst the trends creating the need for community enterprise hubs. Other research suggests that post offices are present in nearly every community and are widely trusted; they can be used as business and communication hubs.

2.2. Performance of Post in E-commerce Logistics

Normally, e-commerce items are delivered as international parcels or sent as international express items.¹ In Brunei Darussalam, Myanmar, Thailand, and Malaysia, the ratio of delivery staff to total staff was close to half. In Viet Nam and Indonesia, the ratio is less than 10%, so it can be assumed that there is another delivery option (Figure 11.2).





Source: Calculated from Universal Postal Union database

Generally, universal service providers offer parcels and express services in addition to mail services. Many private firms provide parcel and express services, including global operators such as UPS, FedEx, DHL, and TNT, as well as many national and local operators. The fact that universal service providers offer parcel and express services in addition to mail services raises the question as to whether they can provide a combination of these services more efficiently than each service individually. If they can, this will have important implications for the economics of postal services. Generally, parcels and express items are taken by customers to post offices or collected from business premises rather than collected from post boxes. Few sorting offices have automatic parcel-sorting machines, so most sorting is done manually.

¹Parcel and express item delivery by Post Office are the same in that they are delivered as packages. However, international parcel delivery is cheaper and slower than express items delivery.

The parcels and express items, which indicate the cargo throughput of the post office, showed that the Philippines had the highest number of parcels treated with 780,000. Malaysia had 510,000 and Viet Nam 430,000 express items for international service (Figure 11.3).



Figure 11.3: Number of Express Items and Parcels for International Service Dispatch, 2016

Source: Calculated from Universal Postal Union database.

Indicators such as post-office size and logistics performance alone do not tell the whole story about the role the post office can play in e-commerce.

Large-scale world-quality parcel handling requires competitive postal authorities to manage more complex fulfilment and other difficulties. The future postal environment must embrace e-commerce and seriously consider profit-making strategies.

A key feature of the postal network is the sortation process. This is where cost efficiencies through mechanisation can most easily be achieved. There are several stages as the mail is consolidated and sorted into increasingly localised areas and eventually walk-sorted for final delivery. Whilst the focus of cost-reducing automation is on sortation, operators have also introduced machines that automate initial segregation (separation between different classes of mail), facing (ensuring all items are stacked in the same direction and orientation), and cancellation and culling (removing non-machinable items).

The use of automated sorting machines to replace manual sortation provides an opportunity to reduce costs (a manual sorter can generally sort around 2,000 items per hour, whereas

automatic sorting machines can achieve rates of more than 30,000 items per hour) and improve quality of service (error rates are generally much lower using automatic sorting machines than manual sortation). The relative benefits in terms of cost saving and quality of service improvement and the proportion of mail handled by automatic machinery depend on several factors.





The sorting centre is responsible for the core function of e-commerce – fulfilment.² Viet Nam has the most sorting centres - 710 (Figure 11.4).

3. Competitive Neutrality Frameworks

The most problematic aspect of the post office's entry into the logistics industry is competitive neutrality. There have been many discussions on competitive neutrality centred on the Organisation for Economic Co-operation and Development. The principles of competition law must be applied to the public sector as they are to the private sector. Because it is a discussion of competition neutrality that it is necessary to eliminate the benefits of public enterprises, if possible, because they can reduce competition in the market.

Can the post office's entry into the logistics industry be used to create a virtuous cycle of improving the market structure through competition neutrality?

In cross-border e-commerce logistics, competition is becoming more complex as not only large global companies such as DHL, FedEx, and UPS participate but also local logistics companies. When these new competitors in the private sector enter the business areas in

Source: Calculated from Universal Postal Union database

² Singpost's new regional fully automated e-commerce logistics hub can sort up to 100,000 parcels a day.

which the traditional national posting system used to be the sole, dominating provider, they appeal for fair competition with public enterprises. For example, the public enterprises receive preferential treatment for financing from the government and receive unseen benefits, such as being exempted from various regulations.



Figure 11.5: Competitive Convergence Patterns in

Source: Cope (2014).

Competitive neutrality frameworks create an environment where public and private companies compete. The legislative and administrative environment where public enterprises operate should be reviewed and it should be as consistent as possible with the environment where the private sector operates.

The competitive neutrality framework should aim to improve the transparency and accountability of public enterprises requiring them to disclose the cost of their activities in the same way that private enterprises do. Competitive neutrality aims to promote efficient competition by narrowing the advantage gap between public and private corporations.

In general, the principle of competitive neutrality should not be uniformly applied to all public enterprises. But it is necessary to select public enterprises that need to realise the principle of competitive neutrality in accordance with certain criteria (Step 1) judging the competition neutrality (step 2). Then, if one violates certain competitive neutrality, it needs to be corrected. Australia, which applies the competitive neutrality principle most stringently, follows the following criteria: (1) whether it is necessary for users to pay fees and prices for goods and services provided by public institutions, (2) whether there are actual or potential competitors in the field, and (3) whether prices and supply of goods and services are provided by public agencies and whether independent decision-making is possible. Competitive

neutrality should also consider the cost-benefit of applying competitive neutrality to the business.

Table 11.4 shows several types of E-commerce business models in the market. Singapore has privatised the post office to make its logistics more competitive and has investing huge national funds in massive logistics infrastructure.

E-commerce Business Model	Description
Business-to-business (B2B)	Companies doing business with companies
Business-to-consumer (B2C)	Companies selling merchandise and services to consumers
Business-to-employee (B2E)	Companies selling merchandise and services to employees
Consumer-to-consumer (C2C)	Individuals selling merchandise and services to individuals
Business-to-government (B2G)	Companies offering services to government, such as in public e-procurement
Government-to-business (G2B)	Government offering services to businesses
Government-to-citizen (G2C)	Government offering services to citizens
Government-to-government (G2G)	Government institutions offering services to other government institutions

Table 11.4: Types of E-commerce Business Models by Relationship

Source: Universal Postal Union (2015b).

Table 11.5: Logistics Demand by Relationship

Relation	Demand	Parcel Profile	Delivery	Sellers	Consumers	Distribution	Negotiation
B2B	Regular	Grouped items	Non-express	One	Known	Concentrated	Flexible pricing Case-by-case Negotiations are common
B2C		Small packages	Express and non-express		Unknown	Diffuse	Non-flexible
B2E			Express		Known	Concentrated	pricing
C2C	Irregular		Express and non-express	Many	Unknown	Diffuse	Flexible pricing Online auctions and face-to-face negotiations are optional
B2G	Regular					Concentrated	Non-flexible pricing usually decided by e-procurement
G2B			_	One	Known	D:"	
G2C			Express			Diffuse	Non-flexible
G2G		Grouped items	Non-express				Concentrated

Note: Please refer to Table 11.5 for the list of abbreviations.

Source: Universal Postal Union (2015b).

Each type of relationship demands different logistics That is important to provide a clear vision of opportunities and competitive advantages are, as well as to find strategies enhancing the Post's competitive in cross-border e-commerce. Another benefit is that it can reduce resource waste by preventing redundant investment between the public sector and private companies.

4. Enhancing Connectivity Strategies of Post Offices in Cross-border E-commerce

4.1. Last-mile Logistics

Last-mile logistics is the movement of goods form a transport hub to the final delivery destination, which is typically a personal residence. The focus of last-mile logistics is to deliver items to the end user as fast as possible.

Traditional transport methods such as UPS, FedEx, and USPS are not successful in all regions, and retailers are beginning to search for alternatives. To accommodate faster shipping times, changing regulations, and infrastructure limitations, retailers and their transport partners have started to look for alternatives, including click-to-collect locations, local regional carriers, drones, and many more.

By focusing on last-mile delivery alternatives, retailers can provide and guarantee exceptional service levels to their customers and adapt to the growing cross-border e-commerce environment.

With the rise of e-commerce, consumer preferences have moved more and more to the centre of attention in the formerly business-oriented parcel delivery market. Large e-commerce players have identified last-mile services as a key differentiator in a competitive market. The variety of delivery options and the perceived quality of the delivery service are major decision criteria for online customers and directly impact e-commerce players' success. Most retailers and vendors are working hard to provide their customers with the best experience possible, especially by improving delivery times.

However, it is extremely costly to offer delivery within a specified time or on the same day in rural areas due to the large distances. But post offices with sufficient vehicles and employees could offer delivery at the right time and at the right place. In recent years, most post offices have been forced to change because of competition from the private sector. Like private companies, post offices can reduce costs and increase efficiency and customer satisfaction by using new technology such as drones and autonomous ground vehicles (AGVs) (Figure 11.6).

Drones have turned out to be surprisingly cost-competitive in rural areas, at only 10% more costly than the modern delivery model (McKinsey & Company, 2016). With their higher speeds, they are even better suited for same-day delivery of smaller items. Drones may be the only solution to offer fast delivery services in rural areas because fulfilment centres are simply too far away from recipients.



Figure 11.6: Identified Delivery Models of Drones and Autonomous Ground Vehicles

roughly eight drones is a reasonable assumption.

Drones. Autonomous aircrafts, e.g., copters or vertically Autonomous ground vehicles (AGVs) with lockers. starting planes, carry parcels (up to 15 kg) to their AGVs deliver parcels without any human intervention. destination along the most direct route and at relatively Customers are notified of the exact arrival time. Upon high average speed. Like droids and AGVs, they too need arrival at their door, customers are asked to pick up the to be supervised. We believe that one supervisor per parcel from the specified locker mounted on the van or truck - picture a mobile parcel locker. Granted, such vehicles would need to be supervised. We assume that a central supervisor could manage roughly eight to ten AGVs.

Source: Mckinsey&Company (2016).

If drones in rural areas prove feasible, they will be a major delivery model in urban areas, too. Like drones, AGVs with parcel lockers will have a high degree of automation and asset intensity. Autonomous vehicles, including drones, will deliver close to 100% of B2C, G2C, and C2C, and 80% of all items. But unlike drones, AGVs are most efficient in urban areas due to related infrastructure.

In ASEAN countries, last-mile services are often still in their infancy because they re-quire large investments in IT and technology. But Malaysia and Indonesia are catching up fast to Singapore, and in some ways may have already overtaken Europe and Japan.

4.2. Regional Logistics Hub as Gateway

A case study is an in-depth study of specific phenomenon rather than a sweeping statistical survey. It is used to narrow down a broad field of research into one easily researchable topic. We have been analysis for two major trends that regional logistics hub and business center.

Logistics is the combination of material, information, and financial flows. A regional logistics hub focuses on the material and information flows that meet customer demand such as order fulfilment and minimum delivery costs and time. The hub requires a large space for warehousing and advanced skills in handling numberless goods. A regional logistics hub often means the same thing as a distribution centre or logistics centre. Products may come from hundreds of suppliers and be delivered to thousands of customers. The purpose of the logistics hub is to improve the supply chain and even save on total costs. Proper warehouse management in the logistics hub will also enable fast delivery lead times and raise the level of customer service.

Country	Location	Administrator	Name	Area	Completion Year	Sorting Capacity (hour)
Singapore	Greenwich	Singpost	Regional E-commerce Logistics Hub	51,375 m²	2016	100,000 parcel / day
Malaysia	KLIA Aeropolis	Alibaba Malaysia Post	E-commerce Logistic Hub	5,260,000 m²	2022	-
Myanmar	Thilawa Special Economic Zone	Yusen Logistics (Japan)	-	5,000 m²	2017	-
Japan	Narita International Airport Kansai International Airport	DHL FedEx	DHL Competence Centre North Pacific Regional Hub	200,000 m² 25,000 m²	2017 2014	9,000 pieces
Republic of Korea	Incheon International Airport	Korea Post KCS	Regional E-commerce Logistics Hub	35,830 m² 35,885 m²	2007 2016	30,000 pieces

Table 11.6: Comparison of E-commerce Logistics Hubs

Source: Homepages of Alibaba, Korea Post, DHL, FedEx.

Market characteristics vary by region or country, postponement strategies are used to meet customer needs.³ One of the traditional corporate management strategies is that if there is no difference between quality and function due to the global standardisation, the company establishes production facilities in the region where economies of scale lead to the lowest production costs. In recent years, however, more foreign companies chose to send the semi-finished goods to local logistics centres to produce final products there to maximize benefits from different time points and characteristics of each market. And this is why global distribution centres (GDC) are established in various areas in ASEAN.

³ Postponement strategy refers to the production and processing of goods at the local airport of the consumer or near the airport.

GDCs will mainly use the airport logistics complexes due to the importance of air transport networks that can respond to customer needs promptly. Since GDCs must engage in production, manufacturing, distribution, and processing, they will contribute to the local economy by procuring facilities and the workforce.

The Malaysian government announced on 4 June 2015 a plan to set up an e-commerce hub in collaboration with Alibaba to develop the Electronic World Trade Platform promoted by Jack Ma, the chairperson of Alibaba Group. Alibaba's logistics platform Cainiao and its e-commerce website Lazada plan to lead other Alibaba subsidiaries and affiliates to develop a regional e-commerce and logistics hub near the Kuala Lumpur International Airport. The Malaysian e-commerce logistics hub is the biggest in the world. Alibaba and the Malaysian government see the first overseas e-hub as empowering small and medium-sized enterprises as well as the younger generation. (Figure 11.6).

4.3. Business Centres for Training and Service

A notable trend in cross-border e-commerce is the development of business centres for training and service. DHL's centre of excellence refers to a facility that performs a specific role in global operation activities. Established as a supply centre of excellence in Singapore in 2007, it launched a new facility as a global centre of excellence in 2015. It works at improving customer satisfaction by setting and driving quality standards within the DHL global network.

These facilities are not traditional logistics facilities, but in the rapidly changing cross-border e-commerce market, logistics cannot become competitive simply through physical facilities or equipment. On 7 March 2018, DHL announced the establishment of another global centre, in Iskandar, Malaysia. Malaysia's first Global Center of Excellence will offer supply chain consultation services and help businesses design logistics solutions (DHL, 2018). It will also serve as a bridge between companies and major stakeholders, then boost its value in the cross-border e-commerce hub as well as the logistics hub facility.

The new centre will connect companies with key stakeholders within Iskandar and help it become the hub for not just Asia but also for global markets. DHL says that the region's logistics ambitions will be enhanced by the new centre as workshops and networking sessions will be set up for companies and industry professionals to collaborate and share ideas and best practices. According to, Datuk Ir. Khairil Anwar Ahmad, President and CEO for Iskandar Investment Berhad, the Global Center of Excellence first it will be a strong base of logistics solutions and talent that provide vital trade connectivity between its core industries and overseas markets; and second, it will play a strategic role in creating the job opportunities and export growth (DHL, 2018).





ha = hectare, KLIA = Kuala Lumpur International Airport. Source: Wong, J. (2017), 'Bright start for KLIA Aeropolis'.

In general, the GDC and logistics companies' business centres are the convergence sites that facilitate international cargo distribution and therefore make global supply chains more competitive via increasing added value of the content rather than just restructuring the channels.

5. Conclusion

The research on post offices' e-commerce strategies started a long time ago. In the Delphi survey, experts selected the e-marketplace as a strategy for post offices, but the emergence of strong private competitors such as Amazon and e-Bay rendered the strategy ineffective. We propose a strategy to strengthen the connectivity of ASEAN and make logistics more competitive.

The establishment of a postal e-commerce service is the most significant strategy for enhancing connectivity across all sectors (B2C, B2B, B2G, G2C, G2B, etc.). This study will contribute to accentuating postal e-commerce service in ASEAN as enhancing connectivity and international logistics analysis. The study will improve our understanding of the emerging ASEAN trade network configuration and will generate empirical evidence to shape policy direction and business strategies to expand trade, stimulate growth, and improve logistics capacity. This study will develop research on postal e-commerce, centred on ASEAN, to help governments, industry, and academia shape e-commerce policies and economic strategies in a bid to promote sustainable development and resource cooperation between countries.

This chapter demonstrated most critical and prominent factors that can have severe impacts on the efficiency and effectiveness of enhancing connectivity of the ASEAN countries. Analysis results showed several aspects of each post office for cross-border ecommerce which can give a better understanding to key performance criteria as the base for the main process.

Since transportation, distribution, and last-mile service have a great impact on efficiency, they should be specifically considered to identify the root causes of inefficiencies and to successfully implement logistics processes.

Also key to enhancing ASEAN connectivity is support for e-commerce in rural areas. Before the collision between the post offices and DHL and FedEx, the priority is to strengthen connectivity and improve the basic infrastructure. The post office serves as a gateway and way of personal authentication in rural areas, where it is difficult to access the Internet. In India, which will be the most populous country in the near future, private companies are not seeking to enter rural areas due to high logistics costs and lack of infrastructure for distribution and delivery. However, post offices are in rural areas of every region and provide users with easy access to the Internet through public Wi-Fi and consultation services such as digital authentication and settlement. Post offices can handle all tasks, including receipt and return of goods, even leasing warehouses, facilities, or offices to private companies and serving as a bridge to provide high-quality services for private companies whilst generating revenue.

The postal model is a way to expand rural connectivity and markets without conflict between private and public services. Even in countries with well-established cross-border e-commerce, there are needs to improve the capacity and efficiency of services that the traditional posting system can provide, i.e. via establishing logistic hubs. The ASEAN e-commerce market is expected to grow steadily along with populations and economies. The market will not grow if only private enterprises enter the big cities. The increasing density of the logistics network, including the post office, will enable the continuous growth of the e-commerce market by connecting everyone in the region with companies and allowing them to enter the e-commerce market.

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