

Chapter 12

E-Commerce Development in the Lao PDR: Some Policy Concerns

Leeber Leebouapao, Phonesavanh Sitthideth, Keokhuanchay Douangpaseuth,
and Yuanita Suhud

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E-commerce Development in the Lao PDR: Some Policy Concerns

Leeber Leebouapao
Phonesavanh Sitthideth
Keokhuanchay Douangpaseuth
Yuanita Suhud

1. Introduction

The Lao People's Democratic Republic (Lao PDR) is a landlocked, least-developed, lower-middle-income country of about 6.7 million people, with a gross domestic product (GDP) per capita of US\$2,601 in 2017. In 2016, the government approved a long-term development vision to transform the Lao PDR into an upper-middle-income country and achieve the Sustainable Development Goals by 2030, one of which is to develop a science and technology bank. The 10-year development strategy for 2016–2025 focuses on, among others, industrialisation and modernisation. The 8th Five-Year Plan for 2016–2020 aims to lift the country out of its least-developed country status.

E-commerce plays a significant role in achieving these goals. The Ministry of Post and Telecommunications has declared e-commerce development as one of its strategic aims for 2016–2025. The Lao PDR will complete essential information and communications technology (ICT) infrastructure and draw up the legal documents to support e-commerce by 2025. The global wave of e-commerce has reached the country. The use of computers, mobile phones, and the Internet for e-commerce has become increasingly popular. Despite the potential benefits brought about by the new technology, the development of the digital economy needs support from the market and the regulatory system as well.

This chapter identifies some key challenges faced by the Lao PDR in promoting e-commerce, suggests policies to unlock the country's economic potential, reviews global e-commerce developments, and examines lessons learnt from successful countries, such as Japan. From a comparative perspective, it reviews the progress of digitalisation in the Lao PDR, examines the existing barriers, and proposes policy suggestions to overcome these difficulties.

2. Global E-commerce Development

2.1. Review of Global E-commerce Development

E-commerce includes selling and purchasing goods and services through electronic networks, which encompass a broad range of commercial activity, using web-based technologies. E-commerce provides services, including accounting, auditing, business law and ethics, computer science and management information systems, finance, marketing, and management. E-commerce helps increase productivity and create and maintain relationships with clients, distributors, suppliers, and strategic partners. E-commerce is generally considered to be the sales aspect of e-business. It also consists of the exchange of data to facilitate the financing and payment aspects of business transactions. This is an effective and efficient way of communicating within an organisation and one of the most effective and useful ways of conducting business. It is a market entry strategy where the company may or may not have a physical presence (Fraser, Fraser, and McDonald, 2000). According to Ducass and Kwadjane (2015), in an e-commerce eco-system, actors like digital platforms, logistics and distribution, and payment platforms will link up others, such as e-merchants, public authorities, manufacturers and buyers, and improve the efficiency of the business cycle.

The United Nations Conference on Trade and Development (UNCTAD) estimated that global e-commerce sales comprising business-to-business (B2B) and business-to-consumer (B2C) transactions amounted to US\$16.1 trillion in 2013. In 2014, 40% of 3 billion people participated online in e-commerce (World Customs Organization, 2014). Factors contributing to e-commerce growth include changes in information technology and connectivity, increasing sophistication of business models, and a supportive regulatory and legal environment in many countries.

Although the bulk of e-commerce transactions occurs in developed markets particularly the United States (US), the United Kingdom, and Japan, developing countries have started to catch up, led by China, which now has the largest B2C market in the world, surpassing the US. China's Alibaba Group has grown by 120% since 2013 and has 24,000 employees. Indonesia and India are expected to show the fastest growth in this market segment. The combined share of Asia and the Pacific in the world's B2C market is projected to further increase to 37% in 2018 from 28% in 2013 (E-Marketer, 2014).

Global telecommunications and ICT have been evolving rapidly, stimulating small and large e-businesses. The number of Internet users increased from 1.03 billion in 2005 to 2.02 billion

in 2010 and to 3.42 billion in 2016. Of these users, 48.4% were in Asia, 21.8% in North and South America, 19% in Europe, 9.8% in Africa, and 0.9% in the Pacific Islands. China had more than 721 million Internet users, followed by India (462 million) and the US (286 million). The Lao PDR was ranked at 128, with only 1 million users (15% of total population). (World Bank, 2018).

Increased broadband access accelerates economic growth, as evidenced by the close link between ICT diffusion and firm-level productivity (Qiang, Rossotto, and Kimura, 2009). Digitalisation created 6 million jobs globally and provided a US\$193-billion boost to world economic output in 2011 (WEF, 2013). By 2020, about 20% of all jobs will be contracted online (World Bank, 2013). Whilst changes in the labour market cause frictional unemployment, Internet access has helped small and medium-sized enterprises (SMEs) in eight developing countries create 3.2 jobs for every job lost (McKinsey Global Institute, 2011).

E-commerce lowers barriers to entry by eliminating the costs of having a physical storefront. It improves market access as it connects the supply to the demand side without physical limitations and certain transaction costs. Digital channels provide opportunities where distance to markets is a big barrier to trade. In the landlocked economies of Central Asia, e-commerce reduces trade costs by 60%. In India, only 9.6% of all firms engage in export, but 98% of them are online.

E-commerce helps local businesses access global value chains. It enables them to trade and to tap foreign suppliers, and to raise productivity through more efficient use of technology, heightened competition, and greater consumer choice. As firms expand, they create jobs.

2.2. E-commerce Lessons from Japan

Japan's e-commerce growth rate was ranked fourth in the world and the highest in Asia in 2012. Japan has a well-functioning and efficient e-commerce infrastructure and is highly competitive in e-services, with 73 Internet service companies. If e-commerce functions well, it will grow because it lowers the cost of Internet service and postal fees. Japan has not only a high rate of Internet usage for mobile phones but is also the world's most advanced mobile market and fastest Internet speed for mobile phones. Buyers and sellers can use this channel at any time.

Another factor that led to rapid expansion of e-commerce in Japan is its modern and efficient shipping system. Buyers can order and receive goods within one day. Private post offices have been increasing continually, lowering prices and increasing competition amongst service

providers who must guarantee on-time delivery. Creative and novel products are also strong points that attract buyers from around the world. Websites such as Tenso, From Japan, Amazon.co.jp, Mandarake, and Rakuten can ship products from Japan.

3. E-commerce Development in the Lao PDR

E-commerce and ICT have been developing rapidly over the last 10 years, but the lack of a full set of e-commerce laws and regulations keeps e-commerce in the realm of informal trade. E-commerce remains to be defined, managed, and promoted by a national policy, strategy, and regulatory framework.

3.1. Government Policy Framework for E-commerce

E-commerce is an important component of the Association of Southeast Asian Nations (ASEAN) Economic Community Blueprint 2025. Although it is still in the early stage of developing a national policy and regulatory framework for e-commerce, the Lao PDR has committed to implement the ASEAN Work Programme on Electronic Commerce 2017–2025. The government's effort emphasises (i) infrastructure, (ii) education and technology competency, (iii) consumer protection, (iv) modernising of the legal framework, (v) security of electronic transactions, (vi) competition, (vii) logistics, and (viii) an e-commerce framework.

3.1.1. *Vision 2030, the 10-Year Development Strategy (2016–2025), and the 8th National Socio-Economic Development Plan for 2016–2020*

The government development strategy has the following main goals:

- 1) Vision 2030 aims to transform the Lao PDR from a lower-middle-income to an upper-middle-income country and achieve the Sustainable Development Goals by 2030, one of which is to develop a science and technology bank.
- 2) The 10-Year Development Strategy (2016–2025) focuses on industrialisation and modernisation, including the development of e-commerce.
- 3) The 8th National Socio-Economic Development Plan for 2016–2020 aims to raise the country from its least-developed status.

The government will also develop essential ICT infrastructure and draw up the legal documents to support e-commerce by 2025.

3.1.2. Laws and Regulations on E-commerce

The government passed the Consumer Protection Law in 2010, the Law on Telecommunications in 2011, and a law on electronic transactions in 2012, paving the way for e-commerce growth. The government also enacted the Law on Prevention and Combating of Cyber Crime in 2016 and a law on national payment system in 2017, providing much-needed digital financial services (DFS) regulations. A regulatory framework to enable interbank payments is being developed. There is still no law on privacy and protection of consumers online. The government is concerned about potential revenue losses, particularly from sales on Facebook and Instagram, due to the absence of e-commerce regulations.

3.1.3. E-commerce Platform

The government is encouraging the development of an e-commerce platform to improve access of SMEs to Asian and international markets. An online trade website, Plaosme, specialising in Lao PDR goods, is now fully operational; it is a trade platform for online and offline businesses and provides investment opportunities. Plaosme is an initiative of the Ministry of Commerce and Industry and the Lao PDR National Chamber of Commerce and Industry and is operated and managed by Barterfli Holdings. It was created with support from a US\$562,000 loan from the Asian Development Bank to promote SMEs and improve access to ASEAN markets (UNCTAD, 2018b; Plaosme, 2019).

Plaosme has the following key objectives:

- 1) Encourage and facilitate trade and investment between Lao PDR SMEs and ASEAN.
- 2) Actively help SMEs export within and beyond ASEAN.
- 3) Create a conducive and transparent regional trading environment in ASEAN and encourage the use of ASEAN Free Trade Area (AFTA) and related free trade agreements (FTAs).
- 4) Equip SMEs with the tools and resources that will enable them to compete internationally. Plaosme will help SMEs, including microenterprises, get the support and services needed to enhance their export success and to help the Lao PDR become active in the ASEAN Economic Community. Plaosme has three components:
 - a) a connection portal to help SMEs connect seamlessly;
 - b) online-enabling tools to help SMEs know if their products are covered by an FTA, how to qualify to use an FTA, and how to receive marketing support; and
 - c) hands-on support to provide training and marketing assistance to SMEs that do not know how to get started.

E-commerce Connectivity in ASEAN

Through Plaosme, SMEs can find business partners, buyers, and sellers from the 118 companies registered with the portal and offering more than 413 products and services (Yap, 2018).

One online company reveals that its primary reason for engaging in e-commerce is the low cost of building an online store and the opportunity to sell products at a low price. The store's main products are spare parts, luggage, clothing, information technology equipment, and others that customers order. The company can also order products from other websites, mainly Alibaba.com and Taobao.com. The company advertises through Facebook; about 70% of its customers buy retail. Products are transported through shipment agencies or companies. Customers in the capital, Vientiane, pick up their orders but customers in the provinces can have their orders delivered by bus or plane. The company offers payment by bank transfer, online payment (BCEL One), amongst others. The challenges facing e-commerce companies are (i) delay in delivery, (ii) inconvenience in payment as some customers do not have a bank account and cannot transfer money, and (iii) customers who cannot be contacted because most have no written purchase contract. Some customers fail to pick up the products, so the company needs to sell them at a low price.

3.1.4. E-government Action Plan

A basic building block of e-commerce development is a comprehensive e-government action plan. On this front, the Lao PDR government, through the Ministry of Post and Telecommunications (MPT), has developed ICT policies and programmes as well as e-government initiatives, which support the 7th and 8th National Socio-Economic Development Plan, to promote administrative and civil service reform and support infrastructure development (Table 12.1).

Table 12.1: Stages of E-government Action Plan

Stage1: Present stage (2013–2015)	Focus on G2G applications (maintain and stage (2013–2015) rebuild applications established under previous E-government Action Plan).
Stage 2: Interaction stage (2016–2018)	Integrate government data into a single service; initiate G2B service applications
Stage 3: Transaction stage (2019–2020)	Fully computerise the administration system and e-services, especially e-commerce by government officers; initiate G2B service applications

G2B = government-to-business, G2G = government-to-government.
Source: E-Government Development Plan (2013–2020), 2014.

The E-government Action Plan (2013–2020) has the following scope (Table 12.2):

- 1) Establish an e-government service centre consisting of a national e-government centre at the Ministry of Post and Telecommunications and establish an e-government office in each ministry and provincial office.
- 2) Build the national e-government infrastructure.
- 3) Develop e-government applications (for e-commerce, e-revenue, e-banking, government cross-sectoral information sharing, e-health, ICT for the blind).
- 4) Deploy an e-governance system throughout the country for human resource development.
- 5) Develop e-government procedures, laws, and regulations.
- 6) Develop and define the national standards, especially for data exchange and security concerns.

Table 12.2: E-government Action Plan Targets

	Area of territory (km ²)	Total Number of Permanent Offices	Average Area Covered by a Permanent Office (km ²)
End-users	Central government (2,000)	Provincial government officers and business people (10,000)	National government officers (10,000) and Lao PDR citizens (25,000)
Regulations	G2G	G2B	G2C
Data	Online government publications, information in standalone mode	Integration with government data	Advanced integrated government data
Applications	G2G: online document management, employee management, work permit, workflow, inventory	G2B: online registration services, customs declaration and quarantine, online market, and online procurement	G2C: online learning, e-citizen and passport and travel documentation
Teleconference	Central government	Provincial government	Nationwide government

G2B = government-to-business, G2C = government-to-consumer, G2G = government-to-government.
Source: E-government Development Plan, 2013–2020 (2014)..

3.2. Recent E-commerce Development Performance

Two general proxies often used to provide an overview of e-commerce development are the UNCTAD B2C E-commerce Index and the International Telecommunication Union (ITU) ICT Development Index (IDI) (Table 12.3). The 2018 UNCTAD B2C E-commerce Index lists the Lao PDR in 98th place out of 151 countries surveyed, whereas in the 2017 ITU IDI the country scores 139th out of 176 participating countries. The B2C E-commerce Index consists of four indicators: (i) account ownership at a financial institution or a mobile-money-service provider, (ii) individuals using the Internet, (iii) secure Internet servers, and (iv) Postal Reliability Index. Meanwhile, the ITU IDI comprises 11 indicators that measure key aspects of access, use, and skills of the ICT.

E-commerce Connectivity in ASEAN

The overall performance of the Lao PDR in the 2017 ITU IDI hints at a more promising future. The country managed to climb up to 139th place from 144th in 2016, running behind India and Myanmar which ranked at 134 and 135, respectively (Table 12.3). In the 2018 B2C E-commerce Index, the Lao PDR fared incredibly well in postal reliability despite scoring rather low in the other three indicators. The country successfully obtained 85 marks out of 100 in postal reliability, surpassing China (61), India (54), and even Malaysia (80) which ranks fifth in the top 10 developing economies list (UNCTAD, 2018a). This serves as a strong impetus for the Lao PDR to strengthen its postal system whilst improving the performance of the other three indicators to better develop the country's e-commerce readiness.

Table 12.3: IT Development Ranking in Selected Countries in Asia

Country	ITU IDI Ranking	Total Number of Permanent Offices
Brunei Darussalam	53	-
Cambodia	128	118
Indonesia	111	90
Lao PDR	139	98
Malaysia	63	34
Myanmar	135	125
Philippines	101	92
Singapore	18	2
Thailand	78	43
Viet Nam	108	69
China	80	63
India	134	80

IDI = ICT Development Index, IT = information technology, ITU = International Telecommunication Union.
Source: ITU (2017), UNCTAD (2018).

3.2.1. Development of ICT Systems

The provision of quality ICT systems is fundamental to ensure the infrastructure needed for e-commerce is sufficient. In the Lao PDR, the majority of ICT users (96%) who access the Internet via mobile devices highly favour mobile broadband. This is also evidenced in the proportion of mobile phone subscriptions per 100 inhabitants that reached a staggering 51.8%, eclipsing that of the fixed-broadband subscriptions that stood at only 0.4% (Table 12.4). To a lot of individual users and private companies, the limited availability and high price of fixed-broadband Internet is a massive disincentive that stirs them away from using the service (UNCTAD, 2018b).

Table 12.4: Internet Access in the Lao PDR, 2017

Population	6.7 million
Households	1.2 million
Fixed-telephone subscriptions per 100 inhabitants	17.7
Mobile-cellular subscriptions per 100 inhabitants	51.8
Fixed (wired)-broadband subscriptions per 100 inhabitants	0.4
Mobile-broadband subscriptions per 100 inhabitants	13.9
Households with a computer (%)	12.3
Households with Internet access at home (%)	11.7
Individual using the Internet (%)	24.8
Internet users who go online through mobile phone devices (%)	96

Source: UNCTAD (2018b).

As of 2017, there were seven ICT companies, five of which were major players in the market where the government held some shares, albeit small. Mobile broadband has seen the most extensive growth, with 91% and 65% of Laotians having been able to access 2G and 3G networks, respectively. Meanwhile, the 4G network has covered 13% of the country, accessible in some central parts of Vientiane and other major provinces despite some instability in terms of speed (UNCTAD, 2018b; World Bank, 2018).

To improve the provision of quality ICT systems, a supportive regulatory environment is indispensable. A master plan that clearly outlines the targets for different time frames or milestones (short, medium, and long term) will enable the government to better monitor their progress whilst allowing some flexibility in policy adoption. Some short-term strategies such as price control, for example, might work for a short period to help the mobile broadband market to grow. However, such a policy may not be sustainable in the long run as it can act as a disincentive for new investment and innovation.

3.2.2. *Payment Methods for E-commerce*

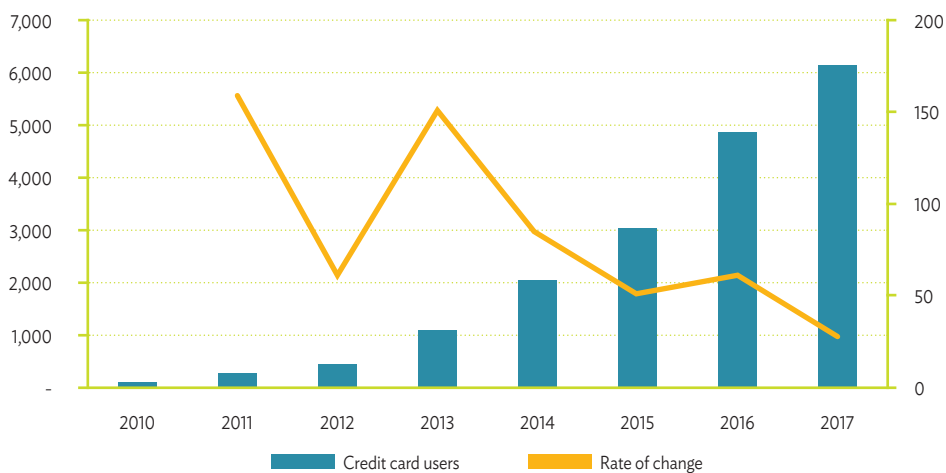
Payment methods for e-commerce have been identified as the most important technical assistance essential to foster the adoption of e-commerce in the Lao PDR (UNCTAD, 2018b). There are two general routes for the country to establish secure, reliable, efficient, and affordable payment methods for e-commerce to enhance Laotians' experience while transacting online. These two routes are interlaced, and accomplishing one necessitates improving the other. The first is to increase account ownership among the unbanked population, and the other is to develop DFS involving the public and the private sectors.

E-commerce Connectivity in ASEAN

Increasing the number of account ownerships would entail addressing some of the fundamental barriers that cause the prevailing low rate of formal banking and credit or debit card use. The first barrier relates to the society's strong preference for cash-only transactions. This goes with the second constraint revolving around the current DFS services that are inefficient and expensive. Interbank money transfers, for example, require many days to complete and are quite costly – enough to deter people from using the services and make them stay content with cash-based dealings (UNCTAD, 2018b).

Any attempt to alter the society's penchant for cash-only transactions might call for a concerted whole-of-government approach. This is because the preference for cash payments is prevalent across various transactions, including payroll disbursement in the public sector (UNCTAD, 2018b). The majority of Laotians are also inclined to keep their money at home. This might partially explain the persistent low level of account ownership in the country. According to the 2017 Global Findex database, the proportion of adults with a bank account in the Lao PDR stood at only 29%, considerably below the average level of the East Asia and the Pacific at 71% (World Bank, 2017).

Figure 12.1: Credit Card Users



Source: Banking Supervision Department (2018), The Bank of the Lao PDR.

The use of credit and debit cards also remains low, albeit with some upward movements following the growing trend of the middle-class traveling overseas and using debit or credit cards (Figure 12.1). In 2018, 42 banks were operating in the Lao PDR – a surge in number from only 12 banks listed in 2006 (World Bank, 2019). Yet, fewer than half of these banks were providing international financial services such as Visa and MasterCard, limiting the means of financial transactions for Laotians especially when paying overseas. Hence, an

overall improvement of the country's financial regulations becomes a necessity since an unequivocal regulatory framework is needed not only for traditional banking services (e.g. savings, withdrawals, and loans) but also for the DFS.

Developing the DFS is the second route towards providing secure, reliable, efficient, and affordable payment methods for e-commerce. Albeit it is still in the early stages, the government has taken necessary steps including appointing the the Bank of the Lao PDR (BOL) as the lead agency responsible for ensuring consultation and coordination on DFS development, as well as convening the DFS working group meetings (MAFIPP, 2015). In 2015, BOL issued draft guidelines for DFS providers of both banks and non-banks. The guidelines were meant to provide a legal structure for financial service providers and payment service providers on developing digital financial products for the Lao PDR's market (UNCTAD, 2018b).

A successful example of the DFS is offered by the Lao PDR's major commercial bank, Banque pour le Commerce Exterieur Lao Public (BCEL). BCEL's DFS products come in the form of Internet banking and a mobile application. The Internet banking, known as the i-Bank, provides individual customers with a 24/7 access to their accounts for them to carry out different transactions, such as bill and tax payments as well as funds transfer to ID cardholders, and other domestic and international banks (BCEL, 2019a). The mobile application or BCEL One offers services similar to that of the i-Bank including fund transfers and bill payments (e.g. electricity and water). The application is available for installation on desktops or personal computers and mobile devices operating on Android and iOS (BCEL, 2019b). As the DFS ecosystem evolves towards maturity, more commercial banks and non-bank actors are expected to introduce DFS services into the market.

3.2.3. *Logistics Infrastructure and Connectivity*

Hard and soft infrastructure is fundamental to facilitating physical and economic connectivity and allowing domestic and cross-border trade, including e-commerce, to flourish.

The Government of the Lao PDR has exerted substantial efforts to develop domestic infrastructure by allocating 35%–50% of its total investment to the transport infrastructure (MPWT, 2010). Road transport plays an important role and accounts for nearly 80% of the total transport in the country. Meanwhile, river and air transport make up only 18% and 2%, respectively. The effort to improve connectivity materialises in the expansion of road network where the total length has increased from 39,585 kilometres (km) in 2010 to 51,597 km in 2014 (Nolintha, 2019).

E-commerce Connectivity in ASEAN

In the context of cross-border trade, the Lao PDR is geographically endowed with opportunities that come from being surrounded by several countries. It is situated at the centre of the Lower Greater Mekong Subregion (GMS) and shares borders with all other GMS countries. This can potentially create seamless connectivity crucial for fostering e-commerce development, as well as enabling the country to become the hub of trade, transport, finance, and tourism in the GMS.

Several initiatives aimed at connecting all GMS countries have been rolled out since the early 1990s. In 1992, the six GMS countries – Cambodia, China, the Lao PDR, Myanmar, Thailand, and Viet Nam – came together to establish the very first initiative with the assistance from the Asian Development Bank. The initiative, the GMS programme, supports the implementation of high-priority subregional projects, including the development of three major economic corridors that would link networks of roads, rails, and ports of the six countries.

The three major GMS economic corridors can strategically connect the Lao PDR to seaports via the (i) North–South Economic Corridor passing through China, Myanmar, the Lao PDR, Thailand, and Viet Nam; (ii) East–West Economic Corridor passing through Myanmar, Thailand, the Lao PDR, and Viet Nam; and (iii) Southern Economic Corridor passing through Myanmar, Thailand, Cambodia, the Lao PDR, and Viet Nam (ADB, 2016).

Currently, the Lao PDR's involvement in the two closest corridors (the East–West Economic Corridor and the North–South Economic Corridor) remains limited and the capital city (Vientiane) is not yet part of any economic corridor. There are several possibilities for the Lao PDR to increase its participation in the GMS economic corridors. One feasible undertaking is to strengthen two routes where cross-border trade is found the largest. The first route connects Boten (Lao PDR) with Mohan (China), while the other route connects Vientiane (Lao PDR) with Nong Khai (Thailand). The two cities in the latter route are not yet part of any GMS economic corridor. Therefore, integrating the two cities into the economic corridors can help intensify the route's ongoing cross-border trade including e-commerce.

The aforementioned two trade routes connect cities relatively adjacent to each other. Some other cross-border routes serve trade flows between cities at a much greater distance. Two examples of primary trade routes linking faraway cities include the one that is part of the North–South Economic Corridor and connects Kunming (China) to Bangkok (Thailand) via the Lao PDR; the other serves trade flows between Bangkok (Thailand) and Vientiane (Lao PDR).

Another promising opportunity for the Lao PDR comes from its involvement in China's Belt and Road Initiative, particularly in the development of the Kunming–Vientiane (K–V) railway. The railway project is part of the six-country Pan-Asia railway network development; the financing arrangement is being managed through a joint venture with a 70%/30% ownership between China and the Lao PDR. Set for completion by the end of 2021, the route will allow direct transport from Kunming (China) to Bangkok (Thailand) and Singapore via Vientiane (Lao PDR) (Morris, 2019). This will further facilitate efficient cross-border trade and transport between the Lao PDR and its surrounding neighbours.

As part of the supportive infrastructure for e-commerce, the postal system of the country plays an instrumental role in goods delivery by offering services that cover all provinces, districts, and villages. The performance of The Lao PDR's postal reliability in the 2017 ITU IDI is impressive (see section 3.3) considering the country's mountainous terrain and irregular addressing system. This provides a sound foundation on which domestic and cross-border e-commerce can rely.

Today, six companies provide postal services. These are the state-owned Lao Postal and the following five privately owned businesses: NT Lao Logistics Service Company, LCT Company, PT Air Cargo Company, OCS Lao Company Limited, and Express Laos Sole Company. Since the majority of e-commerce transactions between buyers and sellers take place on online social media platforms (e.g. Facebook, Instagram, WhatsApp, Line, and WeChat), these companies employ a rather similar business model. They develop websites or social media accounts to reach out to their prospective customers and cater to their needs. To better serve growing customers' needs of both domestic and international markets, delivery companies will need to be able to integrate online payment processes, packaging, and delivery into the chain of their services.

The development of hard infrastructure combined with soft infrastructure will enable the country to develop its domestic and cross-border e-commerce. In addition to the government's policy approach to e-commerce (see section 3.2), the Lao PDR and the other GMS countries have set up a single comprehensive legal instrument, the Greater Mekong Subregion Cross-Border Transport Agreement (GMS-CBTA). This transport agreement is expected to promote a hassle-free movement of vehicles, people, and goods by reducing non-physical barriers, such as harmonisation of health inspection and recognition of driving licences to eliminate the number of intermediary stops, hence, reducing the amount of time spent in crossing borders (GMS-CBTA, 2019).

The Lao PDR expects that active participation in this regional trade and transport agreement will give the needed momentum to improve domestic trade regulations and increase the country's international trade value. This will subsequently lead to a reduction in the number of export–import procedures and expedite trade, making the country internationally competitive and simultaneously attractive to more foreign investment – an environment desirable to encourage and support e-commerce's growth.

On the domestic front, establishing solid infrastructure will propel the country closer to achieving the objective of the National Socio-Economic Development Plan, the 10-Year Development Strategy, and Vision 2030 (see section 3.2.1). Specifically, this will help the Lao PDR boost its economic growth that has accelerated at the rate of nearly 8% over the past 10 years (World Bank, 2019). It will also help the country improve its trade openness by increasing the trade-to-GDP ratio, which grew by 53% in 2014 to 64% in 2015, to 70% by 2020.

4. Conclusion

Digital economic policies will open opportunities for many businesses, but entry into the digital society also presents challenges for traditional businesses, including a workforce lacking digital skills and the need to adapt to change. Policymakers and entrepreneurs face barriers, including:

- 1) Online-business legislation, such as laws covering data protection and cybercrime, is insufficient, which discourages foreign investors.
- 2) Technology development and transfer are slow and hamper companies' competitiveness.
- 3) Internet access is still limited and expensive.
- 4) The postal system does not have an efficient data collection system for households, which impedes delivery of goods.
- 5) The transport system is limited and expensive.
- 6) Online payment systems are insecure.

In order to improve the country's international competitiveness, a priority is to construct affordable high-speed Internet access and enable consumers to use applications via mobile phone. A secure e-payment system, fast and reliable postal service, and reasonable delivery prices are all needed to reduce SMEs' transaction costs. Internet access, however, is mostly by mobile phone, and access to high-speed Internet is still limited to Vientiane. Using the Internet to buy and sell is still not well understood and the inability to communicate in English

makes online trading difficult. Trade via Facebook, WhatsApp, Line, and other means is becoming popular, especially amongst young people, but such transactions are highly risky.

In short, some key obstacles of developing e-commerce in the Lao PDR, which urgently need to be solved, are (i) goods delivery is usually hand to hand, especially in large cities; (ii) the system of national postal system does not function well; and (iii) most users are still use cash on delivery for payment rather than banking transition. The following policy interventions will help improve digital connectivity in the country:

- 1) Speed up the improvement and development of an e-commerce policy and regulatory framework. E-commerce is booming but remains informal.
- 2) Prepare short- and medium-term e-commerce work programmes that are consistent with the ASEAN Economic Community Blueprint 2025, particularly the ASEAN Work Programme on Electronic Commerce 2017–2025.
- 3) Improve e-commerce infrastructure. In particular, make the Internet system more effective, faster, and cheaper than neighbouring countries', and accessible to all. Upgrade the logistics system to meet international standards. Improve the database system for producers and consumers to facilitate delivery of goods and services.
- 4) Encourage the use of e-money instead of cash.
- 5) Build the capacity and strengthen the technological skills of the Lao PDR workers, including by cooperating with the private sector to provide training expertise.

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