

Key Messages:

- ASEAN could be part of the world's epicentre of e-commerce by 2023.
- In ASEAN, the general quality of regional Internet infrastructure looks satisfactory compared with that of the world average. However, the development of ICT-related infrastructure, either between or within countries, is uneven.
- ASEAN needs a region-wide digital-friendly ecosystem to facilitate digital transformation in the region to create the opportunity to realise the potential of fast growth.
- Above all, improving digital connectivity to support e-commerce is a priority.
- Not only the establishment of logistics facilities is needed but also services development, which is key to improving the efficiency of regional distribution networks.
- E-payment systems that support efficiency and convenience are desirable. They can be either complementary to or independent of the traditional banking and financial architecture.

Improving Digital Connectivity: Policy Priority for ASEAN Digital Transformation

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This brief proposes a policy framework for digital connectivity to support the development of e-commerce. Using this analytical framework for the Association of Southeast Asian Nations (ASEAN) economies, the brief suggests improving digital connectivity as a policy priority for ASEAN digital transformation. This calls for a region-wide institutional effort on

- (i) digital related infrastructure in both the physical world and cyberspace,*
- (ii) rules and regulations to ensure a dynamic and competitive online marketplace,*
- (iii) connectivity-derived services to generate more value added, and*
- (iv) collaboration on the governance of the digital economy.*

Improving Digital Connectivity is Necessary for E-commerce Development

Digital connectivity is essential for the digital-friendly ecosystem that will facilitate digital transformation which will affect not only e-commerce but also countries' overall economic performance. Southeast and East Asia together have the world's fastest-growing online market with an existing Internet user-base of over 360 million users and an overall market size of US\$72 billion in 2018. E-commerce is the most dynamic sector in the region. In the next 5–10 years, the regional e-commerce market is projected to grow at an average rate of 25%–35% per year. In 2019, the Internet economy, including e-commerce, online media, online travelling, and ride hailing, represented a market with gross merchandise value exceeding US\$100 billion (Google and Temasek, 2019).

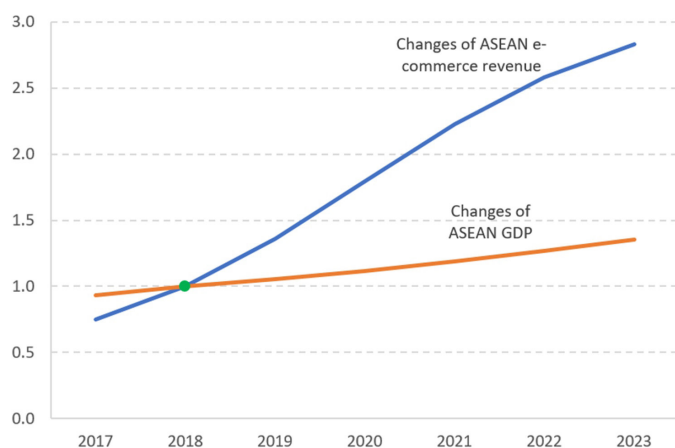
Figure 1 shows that from 2018 to 2023, the annual growth rate of e-commerce revenue in ASEAN is projected to be four times as much as that of the regional gross domestic product. To realise the potential fast growth, the region needs to develop a digital-friendly ecosystem to facilitate digital transformation. Above all, improving connectivity to support e-commerce is a priority.

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Indeed, improving digital connectivity will affect not only e-commerce but also nations' overall economic performance, and therefore has deep implications for ASEAN development. This is because the development of information technology (IT) and communications technology (CT) not only has the potential to enhance existing globalisation through international trade and global value chains (GVCs), but also leads to a new person-wise pattern of international division of labour ('third unbundling').¹

Figure 1 : The Growth of E-Commerce Revenue and GDP



ASEAN = Association of Southeast Asian Nations, GDP = gross domestic product. Source: Chen (2020), Figure 2.1.

Policy Support for Improving ASEAN Digital Connectivity

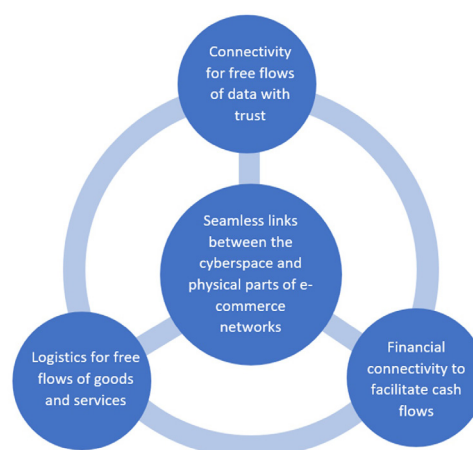
Digital connectivity is a broad topic and in the context of supporting economic development, it should take into consideration not only data connectivity, but also: logistics to facilitate free flows of goods and services, connectivity to facilitate cash flows, and seamless links between cyberspace and the physical parts of e-commerce networks. Figure 2 illustrates the relationship between the three elements that make up digital connectivity: free data flows with trust, logistics, and cash flows. How efficiently they intersect with one other depends on seamless links between the cyberspace and physical networks, which then determines the overall quality of digital connectivity for e-commerce.

Connectivity for Free Flows of Data with Trust

This element is made up of two parts: (1) physical infrastructure which is the basic requirement for connectivity and (2) trust, which is the basic requirement for free flow of data with trust.

¹ Baldwin (2016) explained the economic logic of the way digitalisation could lead to the new pattern of globalisation; Kimura (2018) illustrated how this would create new strategies for national development; and Kimura and Chen (2018) showed how digitalisation could expand the policy space allowing policymakers to adopt diversified strategies to promote economic development.

Figure 2 : A Policy Framework of Digital Connectivity



Source: Chen (2020), Figure 2.3.

(a) **Physical Infrastructure:** Overall, ASEAN's Internet infrastructure looks satisfactory when compared to the world average. However, the development of ICT-related infrastructure is uneven with large development gaps between and within countries. Typically, five factors should be considered in improving data-related infrastructure: (i) network coverage, (ii) speed of Internet connection, (iii) affordability, (iv) contents, and (v) cybersecurity.

- i. Coverage: Network coverage, measured by Internet penetration, is very uneven, ranging from 81% in Singapore to 22% in Lao PDR, meaning that a large number of people in ASEAN are without Internet activity. Development of 4G networks and access to electricity are still critical issues, especially in the CLM countries (Cambodia, Lao PDR, and Myanmar).
- ii. Speed: The average Internet connection speeds also range widely in ASEAN where fixed-line connections in Singapore are on average 15 to 16 times faster than in Myanmar.
- iii. Affordability: Poorer people are spending much larger percentages of their income on data.
- iv. Content and Services: How well the Internet can attract users depends on the information and services it can provide. In general, there is no significant variance between ASEAN countries except that some ASEAN members have highly developed fintech and e-health while others do not. This discrepancy is reflected in the online environment. The CLM countries also lag behind in terms of e-commerce and e-government.

v. Security: The unbalanced development in cybersecurity hinders free flows of data with trust and increases the cost and risk of doing business online.

(b) **Trust:** Free flow of data with trust is the cornerstone of a digital economy.

Regarding ASEAN data governance, the policy regime is underdeveloped and fragmented across countries; and a fundamental problem is that the logic underlying the economic justification of policies is not well established. So far, ASEAN countries have no common position on regulating cross-border data flows and some are far more advanced in domestic rule-setting. Indonesia, Malaysia, the Philippines, and Singapore have recently passed new laws; Thailand is considering such rules; and Brunei Darussalam and the CLM countries have no personal data protection laws or regulations. Because of the differences of the 10 ASEAN Member States' positions and paces in the related rule settings, the 2018 ASEAN Agreement on E-commerce had to leave room for member states to develop their own frameworks to regulate the use of computing facilities and ensure the safety of communications.

Reaching consensus on data governance to facilitate ASEAN digital connectivity is difficult, but not impossible. With reference to the policy regime on free trade, Kimura et al. (2019) proposed a policy framework composed of five 'pillars' of policy instruments, as illustrated in Figure 3. This sheds new light on international collaboration on rule setting to promote free flow of data with trust.

Figure 3 : Policy Regime on Free flow of Data with Trust



Source: Kimura et al. (2019).

Logistics are Critical for Free Flow of Goods and Services

While e-commerce allows people to trade online, it still needs logistics to deliver goods or services. Good logistics can save costs on doing business online and offline. This means additional efforts to improve both physical connectivity and trade-supporting services are needed. Indeed, the issue of logistics has been the bottleneck of economic development in emerging Asia. It is critical to improve logistics and avoid creating a digital divide.

ASEAN countries need to pay more attention to the development of infrastructure-related services. This has particular implications for e-commerce where the role of services is vital to both physical and cyber connectivity to support e-commerce. Improving services is at least as important as building infrastructure in many aspects – from speed and accuracy to transparency and reliability. As for e-commerce, service efficiency will save trade costs, increase credibility and reliability, and therefore promote online business activities.

Without Financial Connectivity, E-Commerce Cannot Thrive

In 2018, digital payments in ASEAN reached US\$73 billion. The size is expected to double by 2023. For e-commerce to succeed, there must be an online means of payment for goods and services, regardless of whether the money transactions are conducted online or offline. Currently, various payment solutions for online business co-exist in the Asian market, such as cash on delivery, prepaid, credit cards, debit cards, e-banking, mobile payment, smartcard, e-wallets, etc. By 2023, about two-thirds of all users will make digital payments.

However, in ASEAN there are wide gaps between countries' readiness to adopt and use e-payment systems, due mainly to differences in regulatory and policy environments and of innovative products and services. Ensuring a strong future for e-commerce must address several interrelated challenges with e-payment systems including security, privacy, creditability, reliability, and efficiency. Building and maintaining e-payment systems is a resource-intensive project, which could be a challenge for countries whose domestic banking and financial sectors are still at the early stages of development. Moreover, difficulties in mindset changes and policy resistance could also be obstacles to digital adoption. Policy efforts at the regional level, such as establishing industrial standards and harmonising regulations, could help the industry realise economy of and support its development (Chen, 2019; Kimura et al., 2019).

Conclusion: Integrating Connectivity is Critical for a Functioning Digital Ecosystem

Extra effort is needed to streamline connections between networks of different countries and coordinate the interactions amongst the three functioning networks (information, logistics, and cash flows) cited above. Seamless links between the virtual and physical parts are vital to the functioning of the whole digital ecosystem of the economy. The establishment of international rules and regulations will enhance the market drivers and strengthen such connectivity.

The region needs substantial efforts on (i) rules and regulations to support digital connectivity, (ii) policy action plans to let new technologies and business models serve for inclusiveness, and (iii) the combination of countries' national strategies and regional cooperation. This calls for multilayer cooperation, including public-private partnership, inter-institutional cooperation, sub-regional cooperation, and coordination amongst different government departments.

Policy Recommendations

1. **Increase supply of public goods to improve connectivity infrastructure.** The public sector should lead in building infrastructure, but the private sector's involvement will be equally important to ensure the financial sustainability of projects. All related policy instruments will apply including public-private partnerships, intergovernmental cooperation, foreign investment, and so on.
2. **Collaborate on regional rule-setting for digital connectivity,** with priority to supporting free flow of data with trust. The related regulations will cover traditional trade issues as well as new issues including cross-border information flow, privacy protection, data localisation, and source codes disclosure.
3. **Establish a digital-friendly environment that ensures free movement and accuracy of information;** fairness in access to information; protection of consumers and producers; security of payments, free trade and investment, and thus fair competition.

4. **Promote value-added services to increase the quality of connectivity,** in terms of speed, accuracy, transparency, reliability, and security. In particular, there are needs for institutional efforts to advance service sector liberalisation and support the digital inclusion of micro, small, and medium-sized enterprises.
5. **Prioritise new technologies that can improve smartphone economy and Internet financial innovation,** especially new apps that support the growing 'M-commerce' (e-commerce based on smartphones and related devices).

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