

Chapter 3

Indonesia on the Move: Improving Connectivity to Support E-commerce

Kalamullah Ramli

April 2020

This chapter should be cited as

Ramli, K. (2020), 'Indonesia on the Move: Improving Connectivity to Support E-commerce', in Chen, L. and F. Kimura (eds.), *E-commerce Connectivity in ASEAN*. Jakarta, Indonesia: Economic Research Institute for ASEAN and East Asia, pp.31-50.

Indonesia on the Move: Improving Connectivity to Support E-commerce

Kalamullah Ramli

1. Introduction

The development of the digital economy is an integral part of the United Nations' Sustainable Development Goals (SDGs). ASEAN economies pay strong attention to economic digitisation, as highlighted in the ASEAN Economic Community Blueprint 2025 and the ASEAN Socio-Cultural Community Blueprint 2015.

Indonesia is hampered by unevenly distributed infrastructure, especially logistics and information and communications technology (ICT) infrastructure, which worsens the price disparity of food, goods, and Internet access, particularly in remote regions such as eastern Indonesia.

This chapter shows how Indonesia is preparing to become a 'digital energy' as envisioned by President Joko Widodo. Comprehensive connectivity is a vital aspect of the digital economy. Indonesia's strategy to become a 'digital energy' includes, amongst others, developing ICT infrastructure, implementing a national logistics plan, establishing Internet governance to ensure the free flow of information, and encouraging the free flow of cash through financial technology or fintech.

This chapter also describes the country's problems, highlights the government's and other stakeholders' efforts to solve them, and recommends ways to improve the quality of rules and regulations in the ASEAN framework to improve the free flow of trade, information, and money. The recommendations consider fast-changing information technology and the growing trend to adopt new services and businesses.

2. National Vision and General Policy Environment for Development

In 2016, President Joko Widodo asserted his vision to make Indonesia ‘the digital energy of Asia’ (Mastel, 2016). The government then fast-tracked a digital-economy platform driven by micro, small, and medium-sized enterprises (MSMEs), which are the backbone of the economy. They make up 99% of all enterprises in Indonesia, have created 107.6 million jobs in Southeast Asia’s largest economy, and contribute 60.6% to the gross domestic product (GDP) (Indonesia Investments, 2016).

The government set up a well-defined and objective-driven strategy to accelerate digitisation of small and medium-sized enterprises (SMEs) by outlining the following milestones:

- i. Initiate a strategic plan focused on SMEs to encourage their participation in building the national economy.
- ii. Develop a roadmap of e-commerce synchronising 31 strategic initiatives across eight ministries to ensure that technopreneurship achieves about US\$130 billion in e-commerce transactions by 2020.
- iii. Establish friendly foreign direct investment policies to attract techno-based investment and strengthen the domestic base of venture capital.
- iv. Facilitate access to funding and enable digitisation of SMEs and rapid growth of quality start-ups through
 - a. subsidised soft loans (Kredit Usaha Rakyat) and
 - b. reformed venture capital regulations to incentivise greater capital seeding.
- v. Provide an attractive and easy exit strategy by deepening capital market liquidity for technology companies.
- vi. Adopt pro-innovation policies such as
 - a. the national programme to create 1,000 digital technopreneurs and
 - b. ‘safe harbour’ regulations to protect e-commerce players.

The government is also initiating policies to foster strong, sustainable, balanced, and inclusive growth. New measures include improving the national logistics system, channelling ultra-micro credit for micro and small businesses through non-bank financial institutions, and requiring that, under the 2017 State Budget Law, all regional administrations earmark at least 25% of their budget to build infrastructure.

The policy environment consists of issues or matters of concern to the public, the media, and/or influential pressure groups, which may influence the government’s decisions or

performance. The government faces existing rules and regulations, socio-economic factors, and other issues such as culture and national security.

Two regulations have sparked heated debate amongst stakeholders: Law 14 of 2008 on the freedom of information, and Government Regulation 82 of 2012 on localising data centres.

Regulations that may influence the free flow of trade and goods are Presidential Regulation 26 of 2012, the national logistics blueprint; Law 16 of 2009, taxation procedure; Law 36 of 2008, income tax; Law 42 of 2009, value-added tax; and Law 17 of 2016, customs procedure.

Other relevant regulations that may affect the free flow not only of information and but also of data are Law 44 of 2008, against pornography; Law 33 of 2009, business and services related to film and cinema; Law 28 of 2014, copyright; and Government Regulation 20 of 2017, control of import and export of goods resulting from intellectual property infringement, delivered through the Internet cloud. Law 9 of 1999, on consumer protection, impacts broader sectors, including trade, financial services, ICT services, and transportation and logistics.

3. ICT Connectivity

The Organisation for Economic Co-operation and Development (OECD) (Atkinson, 2015) stated, 'The free flow of information and data is not only a condition for information and knowledge exchange, but a vital condition for the globally distributed data ecosystem as it enables access to global value chains and markets'. Therefore, ensuring ICT connectivity throughout the country is crucial to support the free flow of information locally and regionally. More importantly, ICT connectivity is a key enabling element and the backbone of the digital economy. Presidential Decree number 96 of 2014 on the Indonesia Broadband Plan (IBP [Rencana Pitalebar Indonesia]) is a strategic plan to develop broadband connection across the archipelago by 2019. ICT connectivity is critical for the country's competitive edge.

Broadband connectivity is developed using the integrated broadband ecosystem approach, which starts from infrastructure and goes on to services, content, manufacturing, and capacity building. The IBP also underlines the distribution of responsibility amongst government, the private sector, and communities. The IBP had two main goals by 2019: improve the Internet's speed and coverage and reduce service fees.

The IBP targets bringing broadband infrastructure to up to 30% of the total population and up to 71% of urban households, with a maximum speed of 20 Mbps. In rural areas, the plan aims

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to reach up to 6% of the population and 49% of households, with a maximum speed of 10 Mbps (Thayyiba, 2015; Bappenas, 2014). The Palapa Ring Project is an important part of the IBP as the ring aims to complete fibre-optic backbone connectivity to all districts.

3.1. Palapa Ring Project

The ambitious project, designed to reach all of the main islands and districts, consists of seven smaller interlocking fibre-optic rings in Sumatra, Java, Kalimantan, Nusa Tenggara, Papua, Sulawesi, and Maluku.

The project represents a big step towards a public-private partnership (PPP) in telecommunications. In 2016, it was included amongst the government's national priority projects, marked by a cooperation agreement signed by the Ministry of Finance and the Ministry of Communication and Information Technology.

The project is expected to play an important role in connecting the unconnected in Indonesia by 2019. It will deliver inexpensive high-speed connectivity to all 514 districts, facilitating better competition for new entrants, especially in remote areas. In 2015, only 74% of all districts could access the fibre-optic network (Tayyiba, 2015).

3.2. Funding Providers and Developers

Indonesia Infrastructure Finance (IIF) provides rupiah loans to the Palapa Ring Project. IIF expands lending to domestic projects, strengthening their credit ratings and arranging financial products for public-private partnerships. The private financing company released Re1.5 trillion (US\$109.5 million) in June 2016. In 2011–2015, 21% of IIF funding or Re5.5 trillion (US\$401.5 million) was lent to telecommunication projects.

The private sector is increasingly interested in the project because of its solid financial banking. The project covers three regions (west, central, east) and has been completed and inaugurated by President Joko Widodo in late 2019.

The tender of Palapa Ring West, released by the Ministry of Communication and Information Technology in March 2016, comprises all of Riau and Riau islands of Sumatra and was won by the Palapa Ring consortium. It is led by Mora Telematika Indonesia (Moratelindo) and submarine-cable layer Ketrosden Triasmitra. The fibre optic was completed in mid-2019 and stretches about 2,000 km .

Bank Mandiri signed off on Re875 billion (US\$63.9 million) for Palapa Ring West on July 2016, making clear that the government banking sector supported the deal. The contract

is unique because the Re1.7 trillion (US\$124.1 million) concession will be remunerated based on the availability scheme. Based on PMK No. 260/2016, the Availability Payment Scheme is defined as ‘periodical payment made by Minister/ Head of Agency/ Head of Local Area to the Implementing Enterprise for Infrastructure Services delivery based on the quality and/or criteria as decided in PPP Agreement’. In Indonesia, the Availability Payment Scheme is applied to projects that are not ‘financially self-sustainable’, thus the support from government and/or the government contracting agency is essential to increase the project attractiveness for the private sector.

The consortium passes on fees charged for access to the fibre-optic connection and receives guarantee payments from the government during the concession as long as the consortium executes the project as agreed.

Under the same scheme, the state-owned LEN Telekomunikasi Indonesia was awarded the second development package, valued at Re4 trillion (US\$292 million). LEN Telekomunikasi is a consortium composed of fibre-optic deployer Sufia Technologies, investment firm Teknologi Reset Global Investama, shipping company Bina Nusantara Perks, and IT service provider Multi Control Nusantara. The consortium is obligated to connect 17 cities in Kalimantan, Sulawesi, and Maluku Utara with around 2,700 km of land and subsea fibre-optic cable. LEN Telekomunikasi was awarded the project 5 days after the Palapa Ring West tender was approved.

Palapa Ring East, which will connect Nusa Tenggara Timur, Maluku, Papua Barat, and Papua, is the most challenging. The winner of the tender, announced in July 2016, is a consortium of Moratelindo–IBS Smart Telecom. The business entity is Palapa Timur Telematika. Due to geographic circumstances, the project will take the most time to map the most efficient route. About 80% of the new cable has to be installed offshore because, unlike in west Indonesia, the area has little onshore fibre backbone.

The central and eastern sections are considered more important than the western part for evenly distributing ICT access and alleviating poverty. The central and eastern sections, particularly the far eastern part, have the lowest Internet penetration and highest poverty rates. Better Internet connection could solve problems such as poor healthcare and education. Establishing ICT infrastructure could lead to improved local governance.

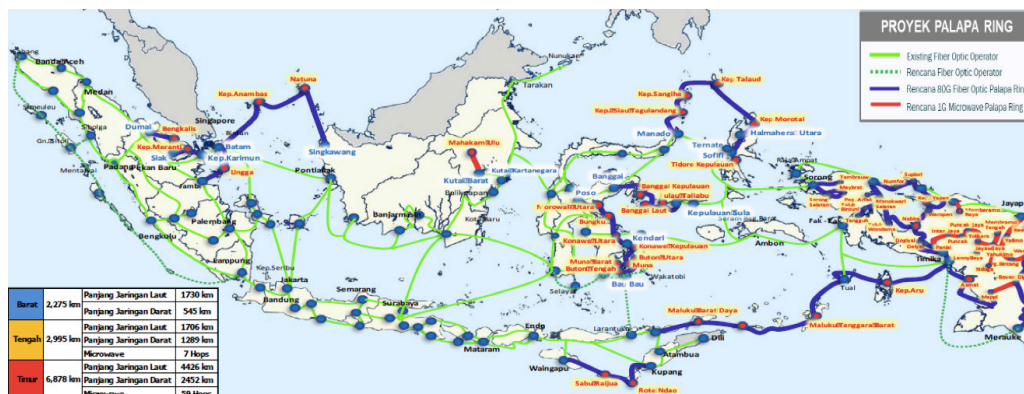
3.3. Deployment Progress

The central section of the Palapa Ring was 75.74% completed by the first quarter of 2018 and reached 99% in November 2018 (Hutabarat, 2018). The eastern section, however, is just 80% complete, so it will be difficult to complete it before the second quarter of 2019.

In the meantime, the western part of the Palapa Ring has been 100% deployed. The Palapa Ring Project deployment is depicted in Figure 3.1.

The IBP encourages better use of capital assets. Some strategies for infrastructure efficiency include sharing passive infrastructure, open access, and greater multimodal access (for fibre, frequency spectrum, and satellite).

Figure 3.1: Palapa Ring Project Deployment in 2018



Source: BAKTI (2018).

4. Free Flow of Goods

The explosive growth of e-commerce and expansion of intra-regional markets favour the logistics industry. However, logistics costs in Indonesia are extremely high, comprising 24% of GDP (GBGIndonesia, 2016). In Malaysia, however, they comprise only 8%, and even less in Singapore.

The government has intensified infrastructure development and regulation and bureaucratic reform to lower transportation and logistics costs, which are 2.5 times higher than in other countries due to illegal levies and prolonged processes, amongst other reasons. The government has promised to solve the chronic logistics and maritime problems through regulatory reform and heavy investment in infrastructure. The target is to reduce logistics costs to around 19% of GDP by 2024.

Improving logistics will support inclusive and strong growth. Making logistics more effective and efficient will help reduce inequality amongst regions and increase trade competitiveness.

4.1. Logistics Issues

In archipelagic Indonesia, logistics are of the utmost importance and represent one-fourth of the economy (World Bank, 2018). The sea can be either a cohesive factor or a cause of fragmentation and isolation. Logistics are crucial for reliable, cost-effective delivery of products.

Clearance and cargo release at ports, for example, are obstructed because of, for example:

- i. sluggish service and permit processing by ministries and agencies involved in import and export activities;
- ii. numerous ministry and agency requirements, which result in inefficiency; and
- iii. unsystematic and fragmented risk management at ministries and agencies.

4.1.1. *Extreme Administrative Inefficiencies*

Logistics problems are due mainly to large inefficiencies. Transport, inventory, and warehousing costs are much higher (25% of manufacturing sales) than in Thailand (15%) or Malaysia (13%) (World Bank, 2016). Inventory expenses are even higher due to the unreliable and unpredictable logistics chain. For example, shipping a container from Shanghai to Jakarta is cheaper than from Jakarta to Padang in West Sumatra, even though the distance between Shanghai and Jakarta is six times longer than between Padang and Jakarta (Winosa, 2017). Around two-thirds of manufacturers in Indonesia manage in-house, not outsourced, logistics, which indicates the lack of trust in local logistics service providers (World Bank, 2016).

The logistics chain in Indonesia could be modelled by Figure 3.2. It is divided into three sectors: the port sector, the logistics sector, and the trading sector. First, goods are shipped by producers to port. The shipment is handled by a logistics service provider. If the sender is from a foreign country, upon the arrival, the imported materials must be off-loaded at the port to be verified as conforming to Indonesian regulations. No fewer than 12 ministries and agencies and multiple inspections might be involved in this phase. When the products are cleared, trucks take the containers to warehouses from which the consignment to the final goal is arranged. A third-party logistics service provider may arrange delivery.

Those inefficient port procedures cause delays in trade facilitation that hurt manufacturing productivity, both internationally and within Indonesia.

4.1.2. *Poor Port Infrastructure*

Poor port infrastructure across the country also weakens the country's competitiveness, as confirmed by detailed research on 18 ports throughout Indonesia by the World Bank (World Bank, 2018). Under-investment in port infrastructure is mainly caused by the vague roles of the port operator and the port landlord, creating uncertainty as to who should lead the infrastructure development.

4.1.3. *Lack of Competition in Logistics Service*

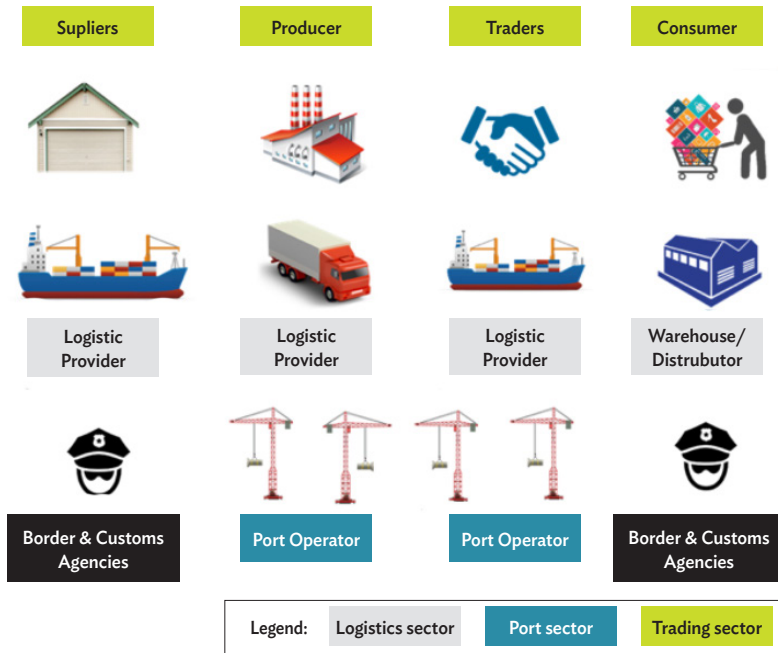
Another obstacle in developing the logistics sector is the lack of competition. Amongst 44 countries surveyed by the OECD (World Bank, 2018), Indonesia is the most restrictive one. Restrictions include burdensome licensing specifications, restrictions on location of operations, barriers on minimum capital qualifications, and limits on foreign ownership as reflected in the negative investment list.

4.1.4. *Burdensome Regulations*

Burdensome regulatory specifications and inefficient methods further weaken the trade-processing link in the logistics chain. In Doing Business 'Trading Across Borders' (World Bank, 2018), Indonesia ranked far behind most Southeast Asian comparators – 105 amongst 189 economies. The document filing process for imports takes 144 hours in Indonesia compared to only 10 hours in Malaysia and 4 hours in Thailand, resulting in Indonesia's low world ranking in the World Bank's Logistics Performance Index (LPI). With respect to some indicators, however, such as international shipments, Indonesia leaves behind other neighbours such as Thailand, Viet Nam, the Philippines, and Cambodia, ranking 71 amongst 160 countries.

At the core of the country's logistics problems are inefficient port procedures, uncompetitive logistics services, and rambling trade procedures. Ports are often a bottleneck mostly because of defective infrastructure, even though other factors such as burdensome trade processing and investment regulations and low labour productivity play a role, too.

Figure 3.2: A Model of Logistics Chain in Indonesia



Source: Author.

4.2. National Logistics Blueprint (Sislognas)

The national logistics system is important to ensure the effective and efficient flow of goods and to improve competitiveness. Indonesia’s vision for its national logistics system is ‘locally integrated and globally connected’.

The National Logistics Blueprint (Sislognas) is designed to actualise the long-term economic vision for 2025 to reach a per capita GDP of US\$14,250–US\$15,500: ‘self-sufficient, advanced, just, and prosperous Indonesia’. Sislognas takes into account existing national, regional, and global logistics, as well as logistics business best practices in developed countries.

The national logistics system is a framework to develop an IT-enabled, effective, efficient, and integrated logistics system based on synchronised, integrated, collaborative stakeholders, and on an effective organisational system. The system is expected to be supported by adequate and reliable infrastructure. The framework aims to ensure the flow of goods (commodities) under the paradigm of ‘ship follows trade’. However, due to Indonesia’s vast geographic span, causing limited access to remote areas, the ‘ship promotes trade’ paradigm is also introduced by the blueprint.

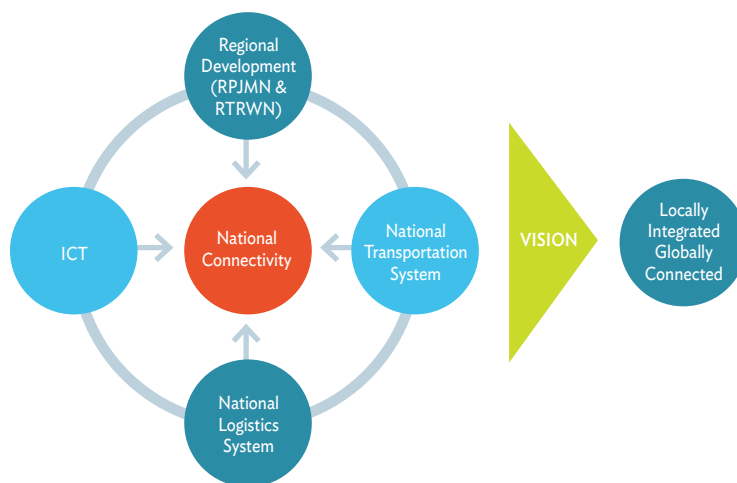
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The National Logistics Blueprint has two missions. The first is to support effective and efficient flow of goods to fulfil public basic needs and to improve national competitiveness in domestic, regional, and global markets. The second is to create national logistics nodes, especially in remote and less connected regions, and to build connectivity between regions, islands, and international hub ports through a multi-stakeholder approach. Figure 3.3 shows Indonesia's National Connectivity Framework.

To accelerate the mission's achievement, the government has carried out policies and actions to (1) ensure the smooth flow of goods and service delivery in the region and (2) improve the competitiveness of logistics service providers.

The policy has been in force since 2017, improving the regional supply-chain mechanism for goods and services, and relaxing the minimum capital requirement for logistics service providers.

Figure 3.3: Indonesia's National Connectivity Framework



Source: Bahagia, Sandee, and Meeuws (2013); Master Plan for the Acceleration and Expansion of Economic Development of Indonesia (MP3EI).

Excessive prices, especially in more distant, less connected regions where poverty is more concentrated, could be reduced by efficient logistics. Decreasing prices in remote regions like eastern Indonesia could reduce poverty.

Indonesia's supply chain faces many obstacles, which are being overcome by

- i. improving ports' governance and operations,
- ii. facilitating a competitive business environment for logistics service providers, and
- iii. making trade mechanisms more efficient and transparent

4.3. Economic Policy Packages to Improve Logistics Efficiency and Promote Investment

The government endeavoured to cut logistics costs by launching the 15th economic policy package in June 2017. It focused on (1) strengthening the function of transportation insurance, (2) compressing costs for logistics service providers, (3) reinforcing the authority of the Indonesia National Single Window (INSW), and (4) lowering the number of banned and restricted goods.

The insurance sector is included because insurance companies are involved in shipping of goods, in the shipyard business, and in ship maintenance. The package is also intended to reduce costs for cargo licences, transport services, and investment in the port business. Amongst ways to reduce logistics service costs is to cut back costs of shipping agencies, freight forwarding, loading and unloading services, and port management.

4.3.1. *Efficiency of Logistics Bureaucracy*

Port inefficiencies and poor port connectivity make many basic goods twice as expensive in eastern Indonesia as in Java. Consumers have no choice but bear the higher costs. Abbreviating long dwelling times and simplifying bureaucratic systems can help ports and businesses run more effectively and efficiently.

Amongst the policies to improve logistics efficiency are the following:

- a. Presidential Regulation 76 of 2014 established a dedicated agency to enhance INSW services; to deal with electronic customs clearance documents, permits, and other related export–import documents; and simplify national logistics and procedures. All ministries and agencies are involved.
- b. The 11th economic package, issued in 2016, provides for Indonesia Single Risk Management (ISRM) to accelerate the flow of goods in ports. It was targeted for full implementation by all ministries and agencies that deal with import and/or export permits, to bolster Indonesia’s compliance with the Trade Facilitation Agreement of the World Trade Organization to 70% by the end of 2017.
- c. The INSW and the ISRM also aim to support the 3.5-day port dwelling time.

4.3.2. *Dwelling Time Reduction*

The dwelling time is measured from when the container is unloaded until it leaves the gates of the container terminal. Indonesian seaports had an extremely long cargo dwelling time due to inefficiencies, poor infrastructure, and illegal levies that led to steep logistics costs. In the country’s main seaport, Tanjung Priok, which handles over two-thirds of Indonesia’s

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international trade, for example, the dwelling time was twice as long as in Malaysia and five times longer than in Singapore. Other Indonesian ports take much longer to shift containers in and out of the port.

From the start of his administration, President Joko Widodo has demanded that the dwelling time be reduced to around 2 days, especially in major seaports such as Tanjung Priok in Jakarta, Tanjung Perak in Surabaya, and Belawan in Medan.

The dwelling time in Tanjung Priok has been significantly reduced to 3.2 days, from 6–7 days in 2014, but it has not reached the 2-day goal. The dwelling time in Belawan (7–8 days) and Tanjung Perak (8 days) must be cut, too.

The government targets decreasing the dwelling time to 2 days, including 12 hours for pre-clearance, 1 day for customs clearance, and the rest for post-customs clearance. Amongst the ways to cut the dwelling time are operating seaports for 24 hours, deploying more personnel, and simplifying licensing.

4.3.3. *Other Efforts*

President Widodo repeats his instructions to integrate operations, reduce the dwelling time, and eradicate illegal levies. He has commanded the Indonesian Port Corporation (Pelindo II) to speed up efforts to increase port capacity. He has ordered the National Police Chief to examine any possible illegal levies at the North Sumatra port. The Transportation Ministry has asked that containers be moved out of the three main seaports.

5. Regulation to Support E-commerce

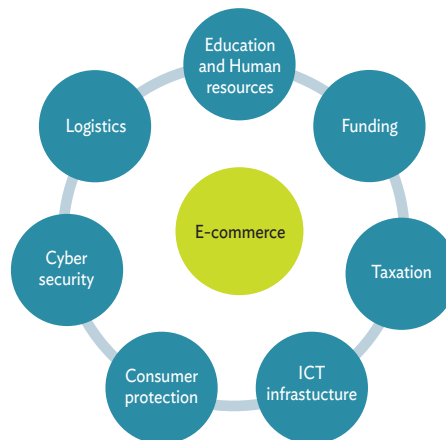
Indonesia has been developing e-commerce governance for the last 7 years (Rumata and Sastrosubroto, 2017). The Ministry of Trade issued Law 7 of 2014 on trade, requiring e-commerce service providers to provide relevant data or information, including detailed descriptions of products and qualifications of merchants; details of payment information; and delivery procedures (articles 65 and 66). For the system and infrastructure, the law refers to the Law No. 19 of 2016 on the Amendment to Law No. 11 of 2008 on Electronic Information and Transactions.

Presidential Regulation 74 of 2017 on the e-commerce roadmap for 2017–2019, guides government agencies in supporting and accelerating the development of e-commerce, and instructs the central, local, and regional governments to develop sector policies and programmes.

The roadmap consists of eight key interrelated areas (Figure 3.4): funding, taxation, customer protection, education and human resources, telecommunications infrastructure, logistics, cybersecurity, and coordination. These key areas are further divided into 26 programmes that have been carried out by government stakeholders from 2017 to 2019. Coordination is performed by a steering and management committee formed to make sure sectors move in the direction stated by the roadmap, to monitor progress, and to tackle inter-sectoral issues.

E-commerce is Internet-based selling and buying of goods and services delivered either online or offline. Goods can be tangible or digital. In the ASEAN Agreement on E-commerce discussion, customs duties are critical – how digital goods or goods transmitted by electronic means are not being taxed.

Figure 3.4: Eight Key Interrelated Areas of Indonesia’s E-commerce Roadmap



Source: The author. Based on Adhiarna (2017).

The world trade trend is shifting from conventional, physical goods to digital things that are transmitted electronically, including films, music, entertainment, games, software, applications, data, and designs.

At the Eleventh World Trade Organization’s Ministerial Conference held in December 2017 in Buenos Aires, Argentina, Indonesia requested that it be allowed to tax digital goods in order to:

- i. level the playing field for MSMEs,
- ii. provide more opportunities for latecomers to enter the competition,
- iii. avoid unrecorded transactions that may cause miscalculation of the balance of trade and potential state revenues, and
- iv. prevent e-commerce from being misused for crime.

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At the regional level, Indonesia also encourages ASEAN to promote fair online and offline trade and proposes that electronically purchased goods be subject to taxes and import duties.

If digital goods such as films, music, and software apps transmitted electronically are not subject to import duties and taxes as conventional or physical goods are, then a government could be regarded as treating trade partners unequally. This would create further asymmetrical and imbalanced competition between digital industries in developed countries and newly established digital MSMEs in developing countries. The playing field should be levelled between conventional and digital businesses, and between large, well-established multinational companies and small, new enterprises.

Regulators and policymakers should regularly review, adjust, and prepare for disruption from ICT. They need to maintain competition and ensure that the financial and ICT regulatory frameworks are suitable, whilst fulfilling social development goals. Competition benefits customers, results in competitiveness, and prevents efficient investment from being ruined by poor infrastructure.

At the Global Symposium for Regulators, the International Telecommunication Union recommended 10 characteristics of an agile and flexible regulatory framework (ITU, 2015)

- i. Charts a strategic direction.
- ii. Enhances market competitiveness.
- iii. Partners with industry.
- iv. Provides a sound framework for contractual services.
- v. Has multiple channels for redress.
- vi. Provides high-quality service and consumer experience.
- vii. Protects consumer privacy and data.
- viii. Empowers consumers.
- ix. Respects consumers' right to information.
- x. Redefines the role of regulators.

These ultimate goals will be to generate joint effort to accelerate the pace of (1) levelling the playing field; (2) protecting consumer privacy, data, and public interests; and (3) advancing society socio-economically and technologically.

First, there are needs to level the playing field for the digital economy. Regulations should encourage sustainable competition by opening markets in network industries and levelling the playing field by ensuring non-discrimination, access, and price regulation. Industry players should ensure transparency and accountability in business practices.

In principle, regulators will take responsibility is to make sure that information about services and products is timely, accurate, clear, transparent, and comparable to encourage rational decision-making. Regulations related to consumers must be practical and enforceable. Consumers have the right to receive regularly and consistently updated information. They should also be able to have more details about the service to receive, including the availability and quality of service, and how the prices (of service) are calculated. Moreover, in the free market, regulation should assure new entrants that they can compete on a level playing field.

Second, protecting consumer privacy, data, and interests deserves more attention. Governments should guarantee citizens' security at all levels by improving ICT and universal-access policies, as well as consumer protection legislation, cybersecurity, and cybercrime legislation. Governments should also ensure online protection of children, high quality of service, and electromagnetic exposure limits.

When necessary, regulators should redefine consumer rights and interests to include access to public information privacy, the right to file a complaint, personal data protection and confidentiality, and the right to opt out of features and services. Service providers should receive the same level of treatment regarding the storage and transmission of information because it is related to the enforcement of consumer protection laws.

On the one side, industry players must safeguard consumers' rights by protecting personal data, battling ambiguous as well as unfair mass advertising and spam, and protecting children online. Codes of practice for service and goods providers should be strengthened to ensure that content, promotion, and procedures comply with consumer protection regulations.

On the other side, customers should have not only the right to complain, but also to seek remedies. Demand is increasing for transparency in online contracts and their form and procedures (e.g., user identification, order confirmation, cancellation, termination). Complaint-handling methods that encourage consumers to first seek help from service providers can draw their attention to consumers' needs, rights, and responsibilities.

Moreover, users should be able to decide about the degree to which their data can be accessed by others and how third parties may use it. Service and goods providers, especially social media providers, should provide more transparent methods of data processing. They should obtain customers' consent through opt-in before sharing data and provide users with the option to make their communications public or private.

Generally speaking, legal and regulatory frameworks must be open, forward-looking, neutral, and adjustable so that users can benefit from emerging new technologies and innovative

services, including disruptive business practices. It is desirable that regulators are increasingly partnering with market players to advocate for consumers' rights so they can make decisions based on evidence and technical expertise, to continuously nurture market competitiveness, and socio-economic development.

It is therefore crucial to rethink the regulators' mandate to respond to the dynamic digital environment. On the one hand, regulators need to ensure that customers will benefit from dynamic markets without being constrained by outdated regulations. On the other hand, they need to keep in mind that markets are progressively interconnected and ensure that regulations encourage competition.

6. Policy Recommendations

As stated in Law No. 12 of 2011, on the establishment of laws and regulations, the hierarchy of legislation, from top to bottom, is as follows:

- i. 1945 Constitution (Undang-Undang Dasar 1945 or UUD'45)
- ii. Laws (undang-undang or UU) and government regulations in lieu of laws (peraturan pemerintah pengganti undang-undang or perpu)
- iii. Government regulations (peraturan pemerintah or PP)
- iv. Presidential regulations (peraturan presiden or perpres)
- v. Regional regulations (peraturan daerah or perda)

There are also presidential instructions (instruksi presiden or inpres), ministerial regulations (peraturan menteri or permen), ministerial decrees (keputusan menteri or kepmen), and circulation letters (surat edaran), which sometimes conflict with each other.

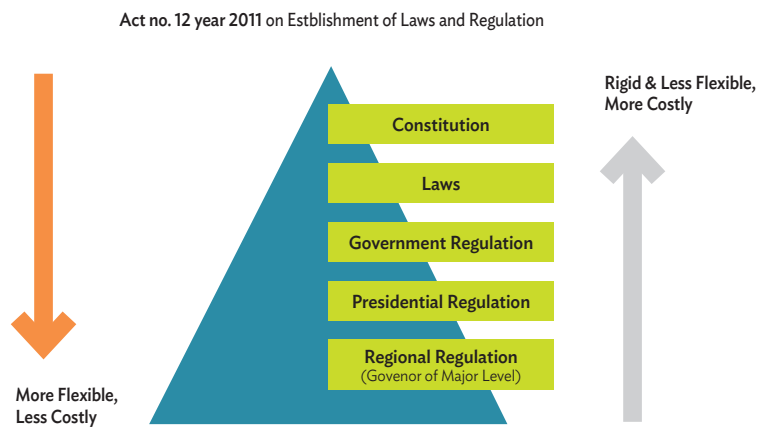
The higher the level of legislation, the harder it is to revise it. For example, to revise a law, the government must propose the change to the parliament or vice versa. The revision undergoes a lengthy bureaucratic internal process and a long discussion between government and parliament. It takes at least 3 years to complete one process cycle. The same process applies to a new law and usually takes 5 years. If the government and parliament fail to agree on a revised or new law within 5 years, the process is reset to zero for the next government and parliament, which are selected every 5 years.

A government regulation is less complicated to revise than a law but still needs close coordination between ministries and agencies. Coordination within government is a luxury because of the clash of egos, so it takes at least 2 years to revise a government regulation.

The lower the level of legislation, the simpler it is to modify it. Issuing or revising a ministerial regulation, for example, involves only the ministry and stakeholders. Figure 3.5 shows the relationship between legislation hierarchy, scope of legislation, and level of difficulty to develop or modify legislation.

Looking forward, there is a need for further policy effort to establish and complete an agile and flexible regulatory framework to support digital economy in Indonesia, mainly from the following three aspects.

Figure 3.5: Hierarchy, Scope of Content, and Flexibility of Indonesia Legislation



Source: Author, based on Act no. 12 year 2011 and own experience.

6.1. Limiting the Scope of Law to Basic Principles

Some basic principles related to public services are public and consumer protection (including data ownership), fair competition, general taxes, and related issues. More detailed technical rules such as licensing management and business entry requirements should be pushed to lower-level legislation.

6.2. Use the Lowest-level Legislation Possible to Ensure Agility and Flexibility

Due to fast-changing technology and social development, including the emergence of new types of business and public service, government regulation should be pushed to the lowest level of legislation as possible. The ministerial regulation is an option because the ministry is the closest to certain technology issues, and the regulation reduces the need to coordinate with other ministries and agencies. The governor or mayor-level regulation is a good option for local issues related to the unique character of a region, district, or city.

6.3. Segregate the Authority of Central Government and Local Government Regulations

The central government should allow local governments to manage their own issues. This would enable each level of government to exercise constitutionally assigned legislative and executive responsibilities according to specific local conditions. Local issues are in some cases not similar to national ones. With hundreds of districts, no one solution fits all problems: Indonesia has diverse issues and potentially variable solutions.

7. Conclusion

Companies in Indonesia have just embarked on their journey to e-commerce. A dynamic competition policy and a tough law regime levelling the playing field are therefore crucial. E-commerce is creating a dynamic market and brings not only opportunities but also challenges, including anti-competitive habits that might restrain innovation and business growth. In the long term, innovative businesses will be rewarded by the market, and the e-commerce playing field is expected to be levelled across national boundaries and expanded to the ASEAN Economic Community.

Established players might use customer data – a valuable source of market power – to obstruct the entry and expansion of newcomers. MSMEs have been sluggish in adopting e-commerce and a more supportive atmosphere is needed to push them.

The government should start building a more agile and flexible regulatory framework to encourage the growth of new entrepreneurs and technology-intensive ventures. These digital enterprises could form a strong backbone for the future digital economy. The country should transform from a natural resource-based economy into an innovation-driven one, where comprehensive connectivity – locally, regionally, and globally – provides the robust foundation for that transformation.

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