




# Study on MSMEs Participation in the Digital Economy in ASEAN

Nurturing ASEAN MSMEs to Embrace Digital Adoption

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 **ERIA** Economic Research Institute for ASEAN and East Asia

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 **MITSUBISHI RESEARCH INSTITUTE, INC.**  
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Final Report

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# List of Abbreviations

ACCC	ASEAN Connectivity Coordinating Committee
ACCMSME	ASEAN Coordinating Committee on Micro, Small and Medium Enterprises
AIM	ASEAN ICT Masterplan
AITI	Authority for Info-communications Technology Industry of Brunei Darussalam
AMS	ASEAN Member States
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of South-East Asian Nations
AWS	Amazon Web Services
BDS	Business Development Services
BDT	Telecommunication Development Bureau (ITU)
BRTA	Bangladesh Road Transport Authority
CAGR	Compound annual growth rate
Cedefop	European Centre for the Development of Vocational Training
CRM	Customer Relationship Management
CTI	Computer Telephony Integration
DEPA	Digital Economy Promotion Agency, Thailand
DFTZ	Digital Free Trade Zone
DOST	Department of Science and Technology, Philippines
DT	Digital Technology (ies)
DTI	Department of Trade and Industry, Philippines
EKS	O. Elteto, P. Koves and B. Szulc method
EMB	Environmental Management Bureau, Philippines
EMS	Environmental Management System
EnMS	Energy Management System
ERIA	Economic Research Institute for ASEAN and East Asia
ERP	Enterprise Resources Planning
ETDA	Electronic Transactions Development Agency, Thailand
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HCD	Human Capital Development
IaaS	Infrastructure as a Service
IBA	Industry Business Academy, Brunei
ICT	Information and Communications Technology
IDP	Industry Digital Plan (Singapore)
IHL	Institutes of Higher Learning, Singapore



IMDA	Info-communications Media Development Authority, Singapore
IMS	Integrated Management System
ISMS	Information Security Management System
IT	Information Technology
ITC	Institute of Technology of Cambodia
ITU	International Telecommunication Union
JFC	Japan Finance Corporation
JICA	Japan International Cooperation Agency
KADIN	Indonesian Chamber of Commerce & Industry
KUR	Kredit Usaha Rakyat (Micro Credit Program) (Indonesia)
KURBE	KUR for exporting SMEs (Indonesia)
LAMIKRO	Laporan Akuntansi Usaha Mikro (Accounting Report for MSMEs) (Indonesia)
LLP	Limited Liability Partnership
MAMPU	Malaysian Administrative Modernisation and Management Planning Unit
MCMC	Malaysian Communications and Multimedia Commission
MDEC	Malaysia Digital Economy Corporation
MDES	Ministry of Digital Economy and Society, Thailand
METI	Ministry of Economy, Trade and Industry, Japan
MIH	Ministry of Industry and Handicraft, Cambodia
MSME	Micro, Small and Medium Enterprise
NGO	Non-Governmental Organization
NIA	National Innovation Agency, Thailand
NII	National Infocomm Infrastructure (Singapore)
NQF	National Qualifications Framework
NQS	National Qualification System
NSDP	National Strategic Development Plan (Cambodia)
OECD	Organisation for Economic Co-operation and Development
OSMEP	Office of SMEs Promotion, Thailand
PaaS	Platform as a Service
PEDP	Philippine Export Development Plan
PIKOM	Persatuan Industri Komputer dan Multimedia Malaysia (National ICT Association of Malaysia)
PLUT	Pusat Layanan Usaha Terpadu (Center of Integrated Services of SMEs and Cooperatives) (Indonesia)
POS	Point of Sale system
PSD	Public Service Department
PTTC	Philippine Trade Training Center
QMS	Quality Management System

RIPPLES	Regional Interactive Platform for Philippine Exporters
SaaS	Software as a Service
SEA	Southeast Asia
SME	Small and Medium Enterprise
SMEA	Small and Medium Enterprise Agency
SMS	Safety Management System
SNS	Social Networking Service
TRCSL	Telecommunications Regulatory Commission of Sri Lanka
TVET	Technical and Vocational Education and Training
UMFCCI	Union of Myanmar Federation of Chambers of Commerce and Industry
UNAPCICT	United Nations Asian and Pacific Training Centre for Information and Communication Technology for Development
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
US\$	United States Dollar

# Chapter 1

## Background and Objectives

As the Association of Southeast Asian Nations (ASEAN) advances to become the world's fourth largest economy by 2030,<sup>1</sup> it is undergoing a transition marked by a demographic shift to a younger population, a rising middle class, and rapid adoption of technology. With many 'mobile-first' markets in the region, ASEAN is expected to see rapid increase in the use of technology which would contribute to the growth of its digital economy by 6.4 times, from \$31 billion in 2015 to \$197 billion by 2025.<sup>2</sup> The digital economy, therefore, is a key factor driving the growth of the region's economy.<sup>3</sup>

Digitalisation<sup>4</sup> in ASEAN is facilitated by improvements in the digital infrastructure, especially a rapid rise in mobile broadband coverage. The mobile broadband penetration rates (per 100 people) in Singapore and Brunei Darussalam were at over 100% in 2016 and 2018 respectively, and those of Malaysia and Thailand were close to 100%. Meanwhile, Cambodia, Indonesia, the Philippines, Viet Nam, Myanmar, and Lao PDR are fast approaching 50%.<sup>5,6</sup>

The improvements in digital connectivity are attracting multiple digital platforms<sup>6</sup> to ASEAN. They regard ASEAN as a promising market and have plans to expand their presence in the region.<sup>7</sup>

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<sup>1</sup> Prime Minister's Office, Singapore (2018), PM Lee Hsien Loong at the 27th World Economic Forum on ASEAN in Hanoi, Viet Nam, 12 September. Retrieved from <https://www.pmo.gov.sg/newsroom/pm-lee-hsien-loong-27th-world-economic-forum-asean-hanoi-vietnam>

<sup>2</sup> Desjardins, J. (2018), Southeast Asia: An Emerging Market With Booming Digital Growth. Visual Capitalist. Retrieved from <http://www.visualcapitalist.com/southeast-asia-digital-growth-potential/>

<sup>3</sup> Annex: 9.1.1(1)1) Market Size will Expand

<sup>4</sup> 'Digitalisation' is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business.

<sup>5</sup> UNESCAP (2017), Broadband Connectivity in South East Asia. Paper presented at the Asia-Pacific Information Superhighway Steering Group Meeting and 7th Meeting of the Working Group on the Asian<sup>6</sup> Highway Network, Bangkok, 12--13 December.

<sup>6</sup> The figure for mobile penetration in Brunei Darussalam was obtained from: <https://www.aiti.gov.bn>

<sup>7</sup> Annex: 9.1.1(1)2) Emergence of Platformers

When promoting the development of the digital economy, ASEAN needs to ensure that micro, small, and medium-sized enterprises (MSMEs) are also able to function in the digital economy, for inclusive growth. MSMEs are undoubtedly the backbone of ASEAN's diverse and dynamic economy, accounting for 95%–99% of all business establishments and more than half of the total employment in all ASEAN Member States (AMS).

Despite the ubiquity of MSMEs and their significant contribution to employment, MSMEs only account for 30%–53% of gross domestic product (GDP) and 10%–30% of exports in AMS.<sup>8</sup> The gap is indicative of the huge potential and opportunities to be gained. This gap could be narrowed in a cost-effective manner through digitalisation given that the Internet and advancements in technology are rapidly driving down adoption costs. According to a recent study by Bain & Co, 75% of MSMEs in ASEAN see the opportunities from digital integration, but only 16% use digital technologies to their full potential.<sup>9</sup> Enabling more MSMEs to jump on the bandwagon and helping them use digital tools more effectively could contribute significantly to the economic development of ASEAN.

MSMEs are still lagging behind in terms of digitalisation compared to other key economic players such as large firms and companies based in urban areas. This suggests that there remain barriers to digitalisation for MSMEs. If these barriers are not properly addressed, MSMEs will be left behind and may see their businesses negatively impacted. This could in turn hinder the healthy growth of the ASEAN economy.<sup>10</sup> Supporting the digitalisation of MSMEs, especially those unfamiliar with digital technologies, is thus important.

This study seeks to gain a fundamental understanding of the status of the adoption of digital technology by MSMEs, the common digital tools used, and how deeply embedded digitalisation is in their business operations. Subsequently, the study explains the key challenges faced by MSMEs in their digitalisation process. It also examines current approaches adopted by existing digital platformers and AMS governments to support the adoption of digital technologies by MSMEs and assesses the overall effectiveness of such efforts. Finally, the study suggests possible policy programmes to effectively support MSMEs to overcome such challenges. It is important to understand the different challenges faced by MSMEs at different levels of digital adoption, and how these challenges differ across AMS.

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<sup>8</sup> ASEAN (2012), SME Developments in ASEAN (16 May). Retrieved from <http://asean.org/asean-economic-community/sectoral-bodies-under-the-purview-of-aem/micro-small-and-medium-enterprises/overview/>

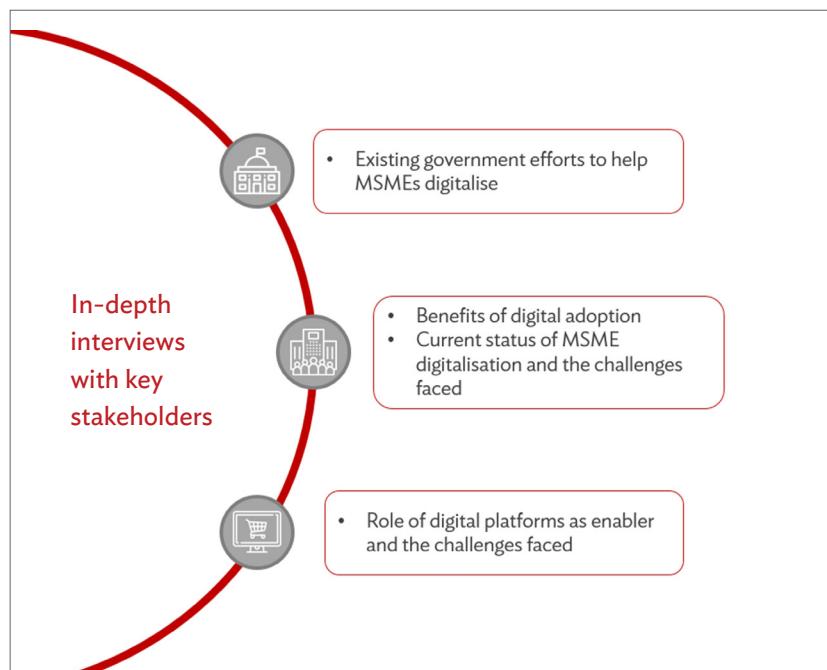
<sup>9</sup> Bain & Company (2018), 'Advancing Towards ASEAN Digital Integration'.

<sup>10</sup> Annex: 9.1.1(1)3) Digitalisation boosts MSMEs' revenues and national economy

## Chapter 2 Methodology

In-depth face-to-face interviews were conducted with selected MSMEs from a variety of sectors and at different levels of digital adoption across all 10 AMS. Apart from MSMEs, the study also engaged other key stakeholders, including government agencies relating to MSMEs and regional digital platforms, to gain an in-depth understanding of the entire ecosystem.

**Exhibit 2.0-1: Interviews Conducted Across AMS**



- Ten interviews were conducted with government agencies dealing with MSME matters, as recommended by ASEAN Connectivity Coordinating Committee (ACCC) and ASEAN Coordinating Committee on Micro, Small and Medium Enterprises (ACCMSME).
- The team interviewed 40 MSMEs recommended by the 10 government agencies dealing with MSME matters and local experts that applied digitalisation in some form in businesses.
- The team also interviewed five prominent digital platforms in key sectors of the digital economy in the region that closely collaborate with MSMEs, in the e-commerce, ride hailing, and food delivery industries.

Following the in-depth interviews, the team identified gaps and key challenges, based on which policy recommendations were formulated.




## Chapter 3

### Current State of MSME Digitalisation

According to a recent study conducted by Bain and Co., only 16% of MSMEs in ASEAN are truly digitalised.<sup>11</sup> Our interviews reveal similar trends. All digitalised MSMEs can be categorised into three levels: Basic, Intermediate, and Advanced.<sup>12</sup>

Fifty-six percent of the MSMEs interviewed are at the Basic level with minimal adoption of the digital technology, mostly to facilitate communication and operations. Thirty-four percent (the Intermediate level) use digital tools more meaningfully to aid sales and marketing. Only 10% of the MSMEs interviewed fall in the Advanced category, with sophisticated digitalisation applied in various aspects of their business.<sup>13</sup> Essentially, even amongst the minority of MSMEs that are digitalised, most do not utilise digital tools to their fullest potential (Exhibit 3.1-1).

**Exhibit 3.1-1: State of MSME Digitalisation**

	Level of Digitalisation	Digital Tools/Processes	% of Digitalisation
	Use of basic digital tools	Microsoft Office, email, WhatsApp, personal computers, mobile phones	<b>56%</b>
Basic			
	Online presence	Website, social media, e-commerce sites, tablets, printers	<b>34%</b>
Intermediate			
	Use of advanced digital tools, or digitalisation is part of the core business model	ERP, CRM, analytics, big data, automation, pure online business, scanners, bank card readers, central servers, imaging devices	<b>10%</b>
Advanced			

ERP = enterprise resource planning; CRM = customer relationship management.

Source: This Study (interview).

<sup>11</sup> Bain & Company (2018), 'Advancing Towards ASEAN Digital Integration'.

<sup>12</sup> Annex: 9.2.2(1)1)B. State of MSME Digitalisation.

<sup>13</sup> As for the classification, c.f. Annex: 9.2.2(1)1)B. State of MSME Digitalisation.

While a minimum level of use of digital technology was evident amongst 90% of MSMEs surveyed, very few can be considered truly digitalised. All MSMEs interviewed across the 10 AMS reported the use of personal computers and mobile phones for their business. However, the use of customised digital devices was rare or non-existent.

Similarly, the use of appropriate software for business was at a nascent stage. While all MSMEs used basic tools such as Microsoft Office and email, advanced software for accounting or operations management was hardly used.<sup>14</sup>

Digitalisation sometimes requires firms to make significant changes to their business processes. As management decisions within MSMEs are made largely by one or a few senior managers, improving their understanding of digital technologies and the opportunities these technologies open up is key to the digitalisation of MSMEs.

On the other hand, many MSMEs are familiar with social media like Facebook, Instagram, Twitter, WhatsApp, YouTube, and LINE, and some have their own website. According to research by Hootsuite, Southeast Asia has 305.9 million active social media users, which amounts to an internet penetration rate as high as 47% in 2017. Familiarity with Facebook for private purposes has led to high utilisation of Facebook Pages by MSMEs to establish an online presence. Social media platforms are a useful way to communicate with audiences, and a useful tool for providing customer services.

## Case Study

### Ma Te Sai, Lao PDR

Ma Te Sai is a social enterprise working with rural communities in Lao PDR to sell its handmade products through both its offline and online stores.

Apart from displaying organisation and product information on its independent website, Ma Te Sai also operates an official Facebook page for marketing purposes. The owner of the business shared that locals love Facebook and use it as an e-commerce platform.

Ma Te Sai's Facebook page has more than 1,700 followers who regularly receive marketing feeds on new products and special campaigns.



<sup>14</sup> Annex: 9.2.2(1)1)A. 'Progress of MSME Digitalisation'

According to data published by Statista,<sup>15</sup> WhatsApp had a penetration rate of 68% in Malaysia and 40% in Indonesia as of the third quarter of 2017. Similar to social media, messaging services have also transcended from personal use into business use for MSMEs – 74% of respondents surveyed use mobile-based messaging applications such as WhatsApp, Viber, and LINE. Messaging applications are used mostly as a tool to communicate internally amongst employees and in some cases with partners and customers.<sup>16</sup> Respondents suggested that social networking services (SNS) could be effectively used by governments to communicate with MSMEs.

Sixty-seven percent of respondents mentioned that the adoption of e-commerce was one of the biggest steps towards digitalisation their organisation had taken. With the rise of online shopping and online consumers across ASEAN, many MSMEs have adopted e-commerce as a channel for finding new customers and suppliers by developing their own websites and listing their offerings on e-commerce marketplaces such as Shopee, Lazada, Alibaba, and Amazon. Most of the MSMEs engaged in e-commerce still operate offline stores and digital sales remain a minor part of their business. Nonetheless, they recognise e-commerce as a potential engine of growth for their organisations. While most MSMEs still cater to a small and localised customer base (63% of the MSME respondents), the potential to reach a larger national and regional audience was acknowledged by the respondents. It suggests that e-commerce platforms have good access to various MSMEs and could potentially provide additional support for MSME digitalisation. Within e-commerce, the business-to-business (B2B) segment holds great growth opportunities due to its very limited adoption to-date and its high expected market potential, since in most countries, the B2B market is bigger than business to consumer (B2C).<sup>17</sup>

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<sup>15</sup> Statista (2018b), Share of population in selected countries who are active WhatsApp users as of 3rd quarter 2017. Retrieved from <https://www.statista.com/statistics/291540/mobile-internet-user-whatsapp/>

<sup>16</sup> Annex: 9.1.1(2) SNS, a Highly Effective Channel in AMS

<sup>17</sup> UNCTAD (2016), New initiative to help developing countries grasp \$22 trillion e-commerce opportunity (19 July). Retrieved from [http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1281&Sitemap\\_x0020\\_Taxonomy=Information](http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1281&Sitemap_x0020_Taxonomy=Information)



## Chapter 4

### MSMEs' Perspective: Benefits of Digitalisation

It is important to note that most MSMEs operate in a highly centralised manner with limited (and mostly localised) business vendors and customers. The outcome of the interviews indicates that an entrepreneur or only a few senior managers make almost all decisions, and there are typically no or few middle managers.<sup>18</sup> As senior management is usually preoccupied with multiple major business decisions, undertaking trials perceived as risky or time-consuming in the short-term (such as digitalisation) are often less of a priority than managing day-to-day operations.

**Exhibit 4.1-1: Benefits of Digitalisation as Perceived by MSMEs**



Source: This Study (interview).

On the whole, digitalisation has two types of benefits for MSMEs. One, it facilitates expansion of their businesses as it enables them to reach out to more customers and/or vendors.<sup>19</sup> Two, it improves or optimises operations, which translates to reduced costs.<sup>20</sup> <sup>21</sup> <sup>22</sup> The interview indicates that 72% of the MSME respondents in ASEAN are strongly interested in expanding their businesses while cost reductions due to improvement of productivity and operations are less of a priority. <sup>23</sup> <sup>24</sup> This accounts for the widespread adoption of social media by MSMEs, which serves as an effective platform for customer acquisition and communication. Therefore, policy programmes that support MSMEs'

<sup>18</sup> Annex: 9.2.2 Interview with MSMEs

<sup>19</sup> Annex: 9.2.3(1)1) Business Boost

<sup>20</sup> Annex: 9.2.3(1)2) Cost Reduction

<sup>21</sup> Annex: 9.1.1(1)3) Digitalisation Boosts MSMEs' Revenues and National Economy

<sup>22</sup> Annex: 9.1.1(3)1) Case Study: Digitalisation Boosted Business in All Industry Sectors (Japan)

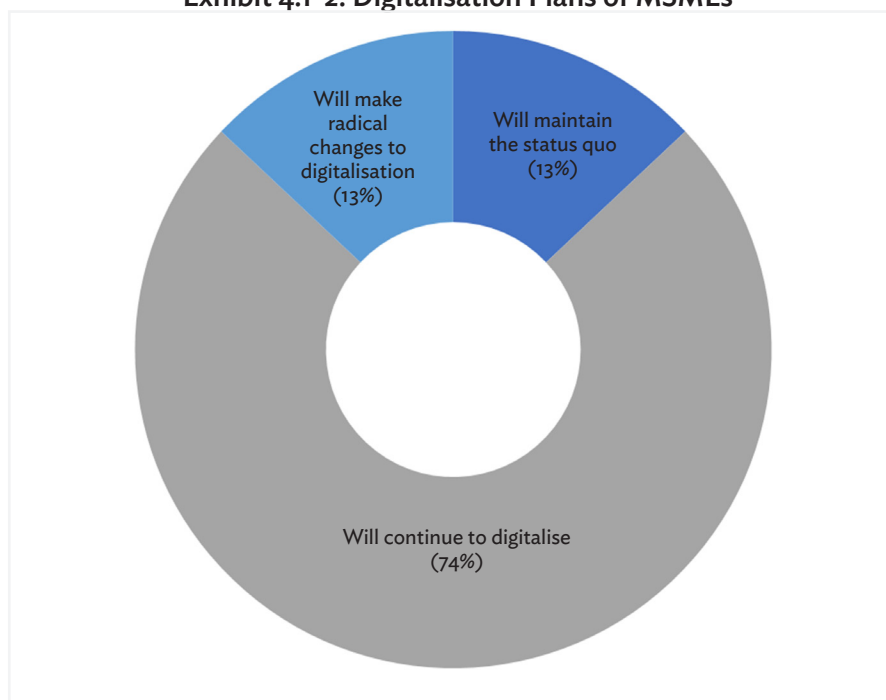
<sup>23</sup> Annex: 9.2.2(2)2)A. Benefits of Digitalisation

<sup>24</sup> Annex: 9.2.2(2)2)C. Futures Plans for Digitalisation

efforts to expand their customer base, such as on e-commerce would receive more attention from MSMEs in ASEAN. Their comparative lack of interest in improving productivity and operations could be a result of generally inexpensive and widely available labour in ASEAN. In fact, MSMEs interviewed from Singapore were more interested in controlling cost than MSMEs in other AMS.<sup>25</sup>

The study also found that 87% of the MSME respondents tended not to search widely for information on the web, which typically requires formal exchanges of emails in English. Rather, they rely on information from their business partners and friends in their local community.<sup>26</sup>

**Exhibit 4.1-2: Digitalisation Plans of MSMEs**



Source: This Study (interview).

Another key finding is that those MSMEs that have adopted some degree of digital technology will try to enhance digitalisation of their business. In fact, 74% of respondents indicated that they would continue their digitalisation efforts. This could potentially create a widening gap between MSMEs utilising technology, and those that are not. But it also suggests that if an opportunity to adopt digitalisation is provided through a relevant channel, MSMEs might readily take to digital technologies, as we observe in China with the adoption of fintech (Alipay and Wechat Pay) by MSMEs.

<sup>25</sup> Annex: 9.2.2(2)1A. Cost Consciousness

<sup>26</sup> Annex: 9.2.2(2)1B. Scarce Information for Digitalisation

## Chapter 5

# Role of Digital Platforms in Supporting MSME Digitalisation

Recent years have seen the rapid emergence of digital platforms in the region in industries such as transport, retail, travel, and services. These digital platforms lower the barriers to digitalisation for MSMEs by providing relatively mature and easy-to-manoeuvre digital ecosystems at a reasonable cost thanks to economies of scale. Most digital platforms do not require MSMEs to pay a large initial investment, but rather adopt profit-sharing models, which are more financially appealing to MSMEs.

MSMEs are usually an indispensable part of the business for digital platforms as they are at the core of the business philosophy of digital platforms: they make up the aggregated marketplaces that bring value to customers and partner MSMEs alike. Hence, digital platforms actively seek out potential opportunities to partner with MSMEs, have a strong motivation to promote MSME digitalisation, and play an important enabling role. In fact, the MSMEs interviewed currently working with digital platforms held favourable views on the partnerships.<sup>27</sup> Some of the key benefits of digital platforms are shown in Exhibit 5.1-1.

### Exhibit 5.1-1: Key Contributions by Digital Platformers



#### i. **Wider customer reach**

Digital platforms considerably improve the visibility of partner companies due to their access to a vast customer pool.

#### ii. **Cost reduction**

Partnering with digital platforms helps to reduce operation costs due to economies of scale and separation of functions digital platforms help to achieve. For instance, restaurants can deliver food through GoJek instead of hiring their own delivery team. E-commerce platforms relieve partners of the fuss of logistics and payments by providing these services at reasonable costs.

#### iii. **Opportunities for optimisation**

Digital platforms such as Foodpanda provide built-in analytics that helps partners understand sales patterns and potentially optimise their product offerings. Alibaba is planning to bring in cloud computing for its MSME partners to ensure that they can work with the latest systems and optimise their operations.

Source: This Study (interview).

<sup>27</sup> Annex: 9.2.2(1)1)C. MSMEs Using Digital Platform

Despite their different goals, digital platforms and governments share an interest in improving the rate of digitalisation of MSMEs. The two parties should work closely together, therefore, to understand the challenges faced by MSMEs by sharing data and providing support to address the challenges.

There might be concerns that digital platformers might set terms and conditions considered challenging and which MSMEs may perceive as predatory and discriminatory. It should be noted that one of the key features of digital technology is its relatively low 'switching costs'. This is not the case for traditional supply chains, especially in manufacturing industries, where MSMEs sometimes have just one or a few clients. Under such circumstances, their production system and services are 'locked in' with existing clients. If their clients are large firms with multiple transaction partners, the negotiating power of large firms becomes much stronger than that of MSMEs. However, low switching costs makes this problem less imperative for transactions between MSMEs and digital platformers.

To ensure that MSMEs can benefit from low switching costs, it is crucial to create an environment of healthy competition amongst digital platformers for their business transactions with MSMEs, so that MSMEs are able to select the option with the most preferential terms and conditions. Therefore, if a government finds that a digital platformer holds a dominant position in the market, it should consider strategies to create competition. Putting in place a regulatory framework that encourages healthy competition and discourages the abuse of dominance is one measure that could be considered. It should be noted that a policy of localisation of servers could work against MSMEs as it may create a less competitive environment for digital platformers. However, due consideration should be given to consumer rights.

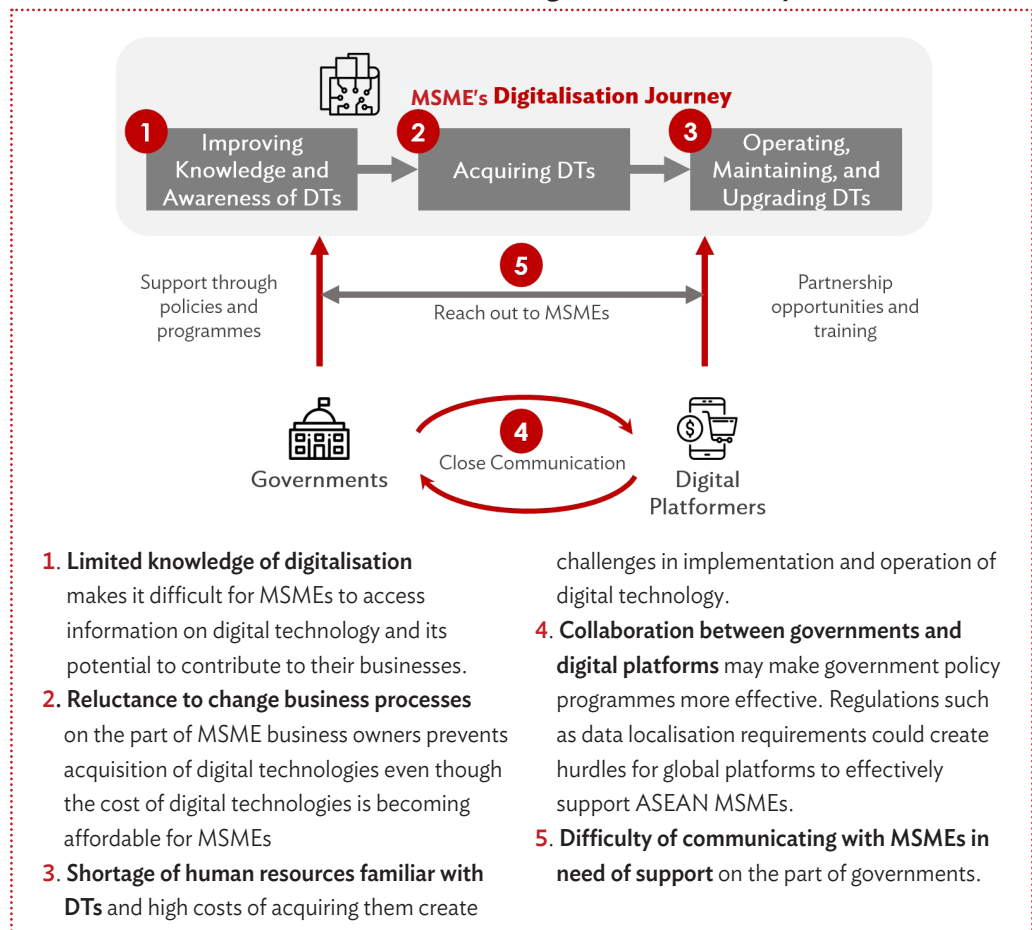
# Chapter 6

## Challenges to MSMEs in Embracing Digitalisation

Despite its benefits, digitalisation remains low and unequally distributed amongst MSMEs. This raises the question of what prevents MSMEs from going digital.

The study analysed the responses gathered from MSMEs and digital platforms interviewed. MSMEs at different stages of digitalisation offered their perspectives on the obstacles they encountered and the general challenges faced by the community. Through the framework of an ‘MSME’s Digitalisation Journey’, the study grouped the challenges into five categories – (1) Improving Knowledge and Awareness of Digital Technologies, (2) Acquiring Digital Technologies, (3) Operating, Maintaining, and Upgrading Digital Technologies, (4) Government–Digital Platforms Cooperation, and (5) Communication with MSMEs, as depicted in Exhibit 6.0-1.

**Exhibit 6.0-1: MSME’s Digitalisation Journey**



DTs = digital technologies.

## 6.1. Limited Knowledge of Digitalisation

Amongst the five categories of challenges highlighted by MSMEs, lack of knowledge and awareness of MSMEs about digital technology emerged as a stumbling block in taking the first step on their journey to digitalisation.<sup>28</sup> As illustrated in the previous chapter, to many owners and senior managers of MSMEs, digitalisation is a buzzword and it seems too complex, expensive, and distant from their businesses.<sup>29</sup> MSMEs are typically not very well aware about where to obtain useful information on digitalisation, as the sources are usually scattered and not easily accessible.

This problem of accessibility is partially due to language barriers, or the so-called ‘*Cross-Language Information Access*’ issue.<sup>30</sup> Most of the MSMEs surveyed, therefore, tended to rely on word-of-mouth for knowledge related to digitalisation, and there was no online source consistently referred to.

Low English proficiency<sup>31</sup> may also be a hurdle as more than 50% of all websites are in English<sup>32</sup> and localised content is limited, especially on digital tools for businesses. Most of the self-learning materials for digital tools are also only available in English.<sup>33</sup>

Improving access to proper information on digital technologies for owners and senior managers of MSMEs by making it available in local languages could make a big difference.

There should also be room to refine existing training and education programmes. Programmes that encourage peer learning and mentoring might be more effective, given MSMEs’ high reliance on word-of-mouth for digitalisation-related information acquisition.

Apart from listing support programmes and resources on government portals, channels such as SNS and industry organisations can be considered for the dissemination of information. Governments should also consider working with digital platforms that are in direct contact with MSMEs to impart knowledge on digitalisation.

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<sup>28</sup> Annex: 9.2.3(2)1 Limited Knowledge of Digitalisation

<sup>29</sup> UNESCO (2018), *Embracing the E-Commerce Revolution in Asia and the Pacific*. Asian Development Bank.

<sup>30</sup> Jones, G., et al. (2001), ‘A Framework for Cross-Language Information Access: Application to English and Japanese’, *Computers and the Humanities*, 35(4), pp. 371–388.

<sup>31</sup> EF Education First. *EF English Proficiency Index: Asia*. [cited 2018] Available from: <https://www.ef.edu/epi/regions/asia/>.

<sup>32</sup> W3Techs (2018), *Usage of content languages for websites*. [cited 13 Sept. 2018]; Available from: [https://w3techs.com/technologies/overview/content\\_language/all](https://w3techs.com/technologies/overview/content_language/all).

<sup>33</sup> Annex: 9.1.1(5)1 English Speaking Countries More Easily Go Digital

## 6.2. Reluctance to Change Business Processes

As discussed in Chapter 3, many MSME owners lack knowledge of the practical steps that need to be taken to adapt their business operations to digital technologies, despite a general awareness of the benefits digitalisation can bring. They tend to be resistant to adopting new technologies due to the perceived risks and the financial burden associated with it.<sup>34 35</sup> In fact, the costs of digital adoption (electronic products and information technology [IT] services) have declined dramatically over the last 2 decades.<sup>36</sup> The costs of broadband connection also show a downward trend, thanks in part to government efforts in providing affordable Internet.<sup>37</sup> It should also be pointed out that recently digital platforms have tended not to charge significant upfront payments, but instead adopt profit-sharing models or charge reasonable fees periodically. Thanks to the booming of cloud technologies, software as a service provides MSMEs that seek affordable and scalable digital solutions with another avenue to digitalisation.<sup>38</sup> Nowadays, initial investment is no longer a major roadblock on the way to achieving digitalisation.<sup>39</sup>

Many of the MSMEs interviewed mentioned that taking the first step to digitalise a part of the business is the most challenging, but once this has been accomplished, incremental improvements come more naturally and easily.<sup>40</sup> Hence, there is an urgent need for propagation of advice on how digitalisation can benefit MSMEs, which tools suit their needs and budget, and where they should seek support to kick-start the digitalisation process.

## 6.3. Shortage of Expertise on Digital Technologies

Other areas of concern will require mid- to long-term efforts to address, such as lack of expertise with digital technologies, not just in programming and digital solution provision, but a good understanding of the business context and information and communications technology (ICT) environment in AMS.<sup>41,42</sup> Without skilled human resource expertise,

<sup>34</sup> Annex: 9.1.1(5)2) Smaller Enterprises are Apparently Passive in Digitalisation [and the subsections following]

<sup>35</sup> Annex: 9.1.1(5)3) Case Study: Reasons for Not Using ICT (MSMEs in Japan)

<sup>36</sup> Annex: 9.1.1(5)4) Significant Drop in ICT Investment Costs

<sup>37</sup> Prado-Wagner, C. (2014), *Trends on Telecommunication/ICT Services Regulation and Costs and Tariff Policies*, in *ITU/BDT Regional Economic and Financial Forum of Telecommunications/ICT for Africa*. Brazzaville, Republic of Congo.

<sup>38</sup> Annex: 9.1.1(5)5) Case Study: Cheaper and Affordable Digital Technologies (Japan)

<sup>39</sup> Annex: 9.1.1(5)5) Case study: Cheaper and Affordable Digital Technologies (Japan)

<sup>40</sup> Annex: 9.2.2(2)2)B. Hurdles that Impede Digitalisation

<sup>41</sup> Tan, K. S. and J.T.H. Tang (2016), *Managing Skills Challenges in ASEAN-5*.

<sup>42</sup> World Bank (2018), *Preparing ICT Skills for Digital Economy: Indonesia within the ASEAN Context*.

implementation of digitalisation becomes a great challenge especially when MSMEs wish to move beyond basic adoption towards greater digital sophistication.<sup>43,44</sup> Similar arguments appear in several reports.<sup>45</sup> This makes it imperative that governments cultivate the next generation of ICT talents.

At present, hiring part-time or full-time IT professionals is not an option for most MSMEs looking to build their digital capabilities due to their relatively high labour costs especially outside city areas. To enable MSMEs to hire such IT professionals, abundant supplies of human resources at reasonable costs are needed. Coordinated efforts from governments, digital platformers, MSMEs, employees and training institutions are required to develop and raise the overall quality of the workforce in an ever-changing business environment.<sup>46</sup>

#### **6.4. Collaboration between Governments and Digital Platforms**

As explained in the previous section, digital platforms play a central role in promoting MSME digitalisation. Collaborating with them would make government policy programmes more effective and efficient.<sup>47,48,49</sup> On the other hand, governments regulate and set out directions for the development of digital-related sectors. Here, the possible costs of regulation of digital industries need to be recognised. For example, in some countries, businesses are not allowed to store public data outside the country and hence are required to establish local data centres.<sup>50</sup> Some of the biggest digital platforms in the region that were interviewed shared that such regulations increase costs,<sup>51</sup> which would eventually be passed on to customers or users, and to some extent hinder business operations.<sup>52</sup>

An unsafe online environment presents another key challenge for MSME digitalisation, as fraud, hacking, and intellectual property infringement are still rampant in some AMS.<sup>53</sup>

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<sup>43</sup> Annex: 9.2.3(2)3)A. MSMEs Cannot Go Digital without the Right Staffs

<sup>44</sup> Annex: 9.2.2(2)3) Shortage of Expertise on Digital Technologies

<sup>45</sup> UNAPCICT, & UNESCAP (2010), ICT Human Capacity Building for Development: UNAPCICT; TOT Academy (2015), ASEAN ICT Skills Upgrading and Development; and World Bank (2018), Preparing ICT Skills for Digital Economy: Indonesia within the ASEAN context.

<sup>46</sup> Annex: 9.1.1(5)6) Case Study: Upskill and reskill of ICT skills

<sup>47</sup> Annex: 9.2.1(1) Basic policies in Digitalisation

<sup>48</sup> Annex: 9.2.1(2) Human Resource Development

<sup>49</sup> Annex: 9.2.1(3) Business support

<sup>50</sup> Annex: 9.1.1(4) Role of Digital Platforms in Supporting MSME Digitalisation

<sup>51</sup> Annex: 9.2.3(2)4) Collaboration between Governments and Digital Platforms

<sup>52</sup> Oxford Economics (2017), Local Business Global Ambition: How the Internet is Fuelling SME Exports in Asia-Pacific. Retrieved from <https://www.oxfordeconomics.com/my-oxford/projects/367780>

<sup>53</sup> A.T. Kearney (2018), Cybersecurity in ASEAN: An Urgent Call to Action; ASEAN (2015), ASEAN ICT Masterplan 2015 Completion Report.



The risks of conducting online business are considerable, and customers and MSMEs alike still prefer offline transactions to protect their interests. Digital platforms and many MSMEs interviewed cited digital safety as a critical issue holding back MSMEs from starting or expanding digital businesses.<sup>54</sup>

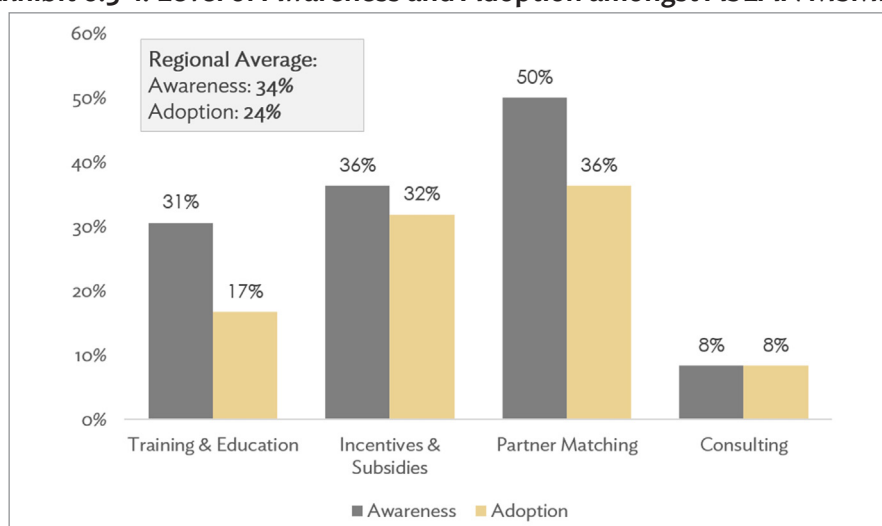
It is also important for governments to create an environment of healthy competition amongst digital platformers to prevent them from making unfair profits at the expense of MSMEs. Even if relatively low switching costs and low hurdles to business entrance in digital industries make the risk lower than for other types of transactions, governments need to pay attention to the terms of transactions between digital platformers and MSMEs.

## 6.5. The Difficulties in Engaging MSMEs

The study also found that although government agencies and associations interviewed recognised digitalisation as a priority and provided various support programmes for MSMEs, awareness amongst MSMEs about such programmes remains low.

To gauge the effectiveness of government programmes, the Study asked MSMEs about their awareness and adoption of government support policies in countries where such programmes are available. The results show that on average only 34% of the MSMEs interviewed are aware of local government initiatives to encourage MSME digital adoption. The average adoption rate stands at the lower level of 24% (Exhibit 6.5-1). Given that

**Exhibit 6.5-1: Level of Awareness and Adoption amongst ASEAN MSMEs**



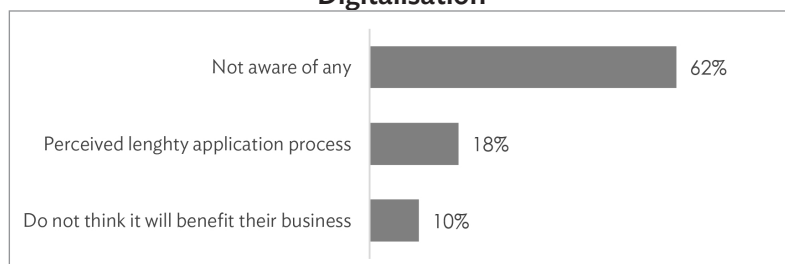
Source: This Study (interview).

<sup>54</sup> Oxford Economics (2017), Local Business Global Ambition: How the Internet is Fuelling SME Exports in Asia-Pacific. Retrieved from <https://www.oxfordeconomics.com/my-oxford/projects/367780>

the MSMEs interviewed were proposed by the respective governments, overall awareness about government support programmes amongst the general MSME population can be expected to be even lower.<sup>55</sup>

This means that despite the existence of supporting measures, most MSMEs (66% of the respondents) are not aware of such programmes and their usefulness for digitalisation. Of the MSMEs interviewed that did not make use of government support to adopt digital technologies, low awareness was most frequently cited as the reason.<sup>56</sup> (Exhibit 6.5-2).

**Exhibit 6.5-2: Reasons for Not Making Use of Government Support in Digitalisation**

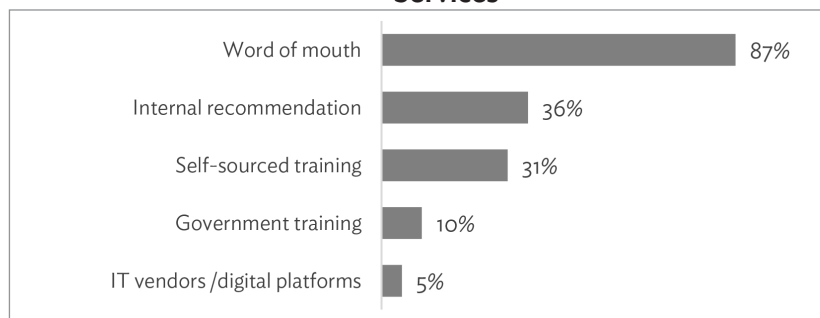


Source: This Study (interview).

Only 10% of MSMEs surveyed indicated that their knowledge and information about digitalisation was due to government efforts.<sup>57</sup> (Exhibit 6.5-3).

All AMSs have certain policies in place to support MSME digitalisation, with training and education at the top of the list. There is no doubt about the importance of training and education programmes. However, given that low awareness of policy programmes is one of the main reasons for the low rate of adoption of digital technologies by MSMEs, there should be additional efforts to improve awareness of these programmes amongst MSMEs.

**Exhibit 6.5-3: Sources of Information on Digitalisation and the Associated Tools/ Services**



Source: This Study (interview).

<sup>55</sup> Annex: 9.2.2(2)1C. Awareness of Government Policies is Not Very High

<sup>56</sup> Annex: 9.2.2(2)5A. Reasons for Not Using Government Programmes

<sup>57</sup> Annex: 9.2.2(2)1A. Scarce Information for Digitalisation (previously footnoted)

# Chapter 7

## Moving Forward: Policy Options to Propel MSME Adoption of Digitalisation

In the previous section, we divided the challenges faced by MSMEs in digitalisation into four categories. To support MSMEs' digitalisation journey, we examine possible policy options that would effectively addresses the challenges in the respective categories (Exhibit 7.0-1)

**Exhibit 7.0-1: Key Challenges and Policy Options**

Key Challenges	Policy Options
1 Limited knowledge of MSMEs about digital technologies	Increase content in local language and refine menu of support programmes
2 Reluctance to change business processes	Encourage MSMEs' digitalisation by providing initial support
3 Shortage of expertise on digital technologies	Upskill and reskill MSME workforce
4 Collaboration between governments and digital platformers	Develop collaborative framework with digital platformers
5 Difficulties in engaging MSMEs	Enhance both analogue and digital policy communication channels

### 7.1. Increase Content in Local Languages and Refine Menu of Support Programmes

The first step to support MSMEs' digitalisation is to deliver proper information on digital technologies and benefits to MSMEs. To provide up-to-date and varied content, the governments' best approach would be to partner with digital platformers. They are in direct contact with many MSMEs and they are knowledgeable about types of MSMEs that have successfully utilised their services to digitalise businesses operations.

A possible challenge is that most content is in English, which makes it difficult for local MSMEs to digest the information. Although it cannot be an immediate solution, improving

the English proficiency of MSME owners and senior managers would be an important step in promoting the digitalisation of MSMEs.

At the same time, development of local content, be it original or translated from English, is beneficial both for MSMEs and their local customers.<sup>58</sup>

Another option is to support translation by automation. Although the technology is improving rapidly thanks to the development of artificial Intelligence, ASEAN could further encourage the efforts of digital giants in this field and possibly solicit donors to support the process, especially for less widely-spoken languages such as Khmer, Lao, and Burmese. It is also important to develop policy programmes that can attract the attention of MSMEs interested in expanding their customer base and wishing to improve their operations.

As MSMEs in ASEAN are most interested in increasing sales through digitalisation, attracting the attention of MSMEs through e-commerce related programmes and then providing information on a variety of services<sup>59</sup> to relatively advanced MSMEs may be a more effective approach.

## **7.2. Encourage MSMEs' Digitalisation by Providing Initial Support**

Financial considerations are increasingly becoming a less crucial factor for MSMEs' acquisition of digital technology. On the other hand, respective AMS, especially the less developed AMS, still need to improve their digital infrastructures, as digital connectivity is rapidly improving and starting to become more accessible to MSMEs in ASEAN. Under such circumstances, overcoming the conservative mindset of owners and senior managers of MSMEs is increasingly more important.

However, providing financial support to MSMEs that are considering embracing digital technologies can be an effective way to encourage them to move forward if it is properly designed. Even if the subscription fee for digital services is becoming less financially burdensome, providing financial support at the initial phase of adoption could be an effective tool to encourage MSMEs to adopt new technologies. The governments can effectively partner with digital platformers to provide additional support for MSMEs.

One example is the use of peer-to-peer (P2P) lending in financing small businesses. Similar to the way e-commerce platforms are facilitating online retailing, P2P platforms

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<sup>58</sup> Malisuwan, S., D. Milindavanij, and J. Sivaraks (2016), 'Analysis of ICT Development in ASEAN Countries', *International Journal of Advanced Research in Management*, 7(2), pp. 1-10.

<sup>59</sup> Annex: Exhibit 9.2-4 Type of Digital Technology Adoption

offer an online marketplace to link up individual borrowers with individual lenders directly so that businesses or individuals can borrow at more favourable terms, and investors can invest at a higher rate of return, creating a win-win situation.

P2P platforms provide faster, easier, cheaper, and more flexible solutions to meet MSMEs' needs and facilitate their borrowing.

- With proper credit rating and their background verified, getting a P2P loan could be a matter of only a few hours for MSMEs; whereas traditional methods normally need multiple documents, and take weeks or months.
- As long as the borrower's credit rating is good enough to make repayment likely, P2P borrowing does not require collateral.
- MSMEs can communicate directly with investors, making the information delivery more pertinent and more accurate, and giving it multiple chances to obtain funding.
- P2P loans are generally more transparent and without hidden charges.

Although P2P lending offers a lot of promise for financing MSMEs and results in greater financial inclusion, rules and regulation to prevent illegal operations and manage risk are needed. Typically, P2P lending is subject to platform risks, such as fraud, insolvency, and platform collapse, in addition to other risks arising from the market, performance, or liquidity. To protect borrowers and lenders, it is necessary for governments to establish rules of market entry and regulate the behaviour of platforms. In the long term, this will help sustain the growth of the market and facilitate MSMEs' access to P2P funding to support their digital transformation.

### **Case Study**

#### **Malaysia – regulating P2P financing to narrow the financing gap in MSMEs**

Amongst all of the AMS, Malaysia was the first one to regulate the P2P market. In April 2016, the Securities Commission Malaysia (SC) officially announced the Malaysian P2P Financing regulatory framework, in addition to the release of the facilitative regulatory framework for Equity Crowdfunding (ECF) a year earlier. This has been read by the market as part of the government's 'big push' to increase MSMEs' access to credit to further unlock their growth potential, which in turn affects the development of the Malaysian economy.

According to the framework, P2P operators are required to (i) register with SC as Registered Market Operators; (ii) have a minimum paid-up capital of MYR5 million (approximately US\$120,000); (iii) conduct risk assessment and adopt a transparent risk-scoring system; (iv) set up trust accounts with a licensed institution to hold invested funds and repayments to investors; (v) ensure the trust account is Shariah compliant and appoint a Shariah advisor when appropriate; and (vi) disclose information on the platform. The related information

includes (i) risk scoring mechanism, methodology, and parameters adopted by the P2P platform, (ii) default criteria and measures applied to issuers, (iii) statistics on late payment or default rate of issuers, (iv) other information relating to the issuers, and (v) solutions in case the P2P platform is unable to continue its operations. In the latest revision of the Guidelines on Recognized Markets (SC-GL/6-2015(R3-2019)), Chapter 14 sets out in detail the additional requirements relating to Peer-to-Peer Financing Platforms.

The framework also lists the conditions issuers must meet to borrow in the P2P market: (i) no personal loan, (ii) funding to be used for local businesses, (iii) annual rate of financing less than 18%, (iv) no concurrent hosting on multiple P2P platforms for same purposes, (v) no cap on funding sought, (vi) no

oversubscription, and (vii) true and accurate information disclosure. In addition, issuers will be allowed to keep an amount raised on a P2P lending platform that is below the initial target, provided the pooled funds add up to at least 80% of the target amount.

As for investors, retail investors are 'strongly encouraged' to limit P2P investment exposure to MYR50,000 at any time.

In 2016, the government recognised six registered P2P financing platform operators. By mid-2019, ECF and P2P had collectively raised more than MYR432 million (about US\$103 million) for over 1,200 MSMEs, according to SC. In May 2019, five new P2P operators were recognised by the government, increasing the total number of registered P2P lending platforms to eleven.

Other AMS, such as Singapore, Indonesia, Thailand, and Viet Nam, have been regulating the P2P lending market as well. Given that the P2P financing market is growing at 50% per year, governments' regulation of and partnership with P2P platforms will have a deep impact on the development of MSMEs.

### **7.3. Upskill and Reskill MSME Workforce**

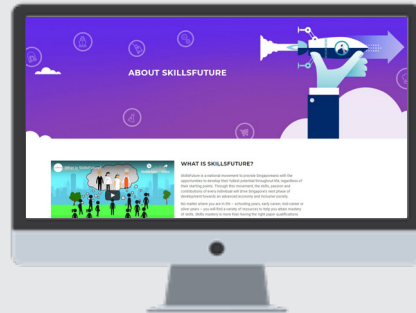
Shortage of expertise on digital technology is amongst the key challenges identified in the study. Unfortunately, there is no easy way to meet this challenge. AMS need to strengthen their vocational training systems to train more people who are familiar with digital technology.

Therefore, it is important for ASEAN to keep sharing best practices and learn from each other to properly address this challenge. The 'SkillsFuture Series', an initiative run by the Government of Singapore, is a good example.

## Case Study

### Singapore – SkillsFuture

'SkillsFuture' is a national movement launched by the Government of Singapore to provide its citizens with the opportunities to develop themselves to their fullest potential throughout their lives, regardless of their starting points. Through this movement, the skills, passion, and contributions of every individual will drive Singapore's next phase of development towards an advanced economy and inclusive society. As part of the national 'SkillsFuture' movement, the Government has rolled out the 'SkillsFuture Series' in collaboration with the Institutes of Higher Learning (IHLs). The 'SkillsFuture Series' comprises a list of modular, industry-relevant courses that seek to equip working adults with specific skillsets to meet changing job demands in emerging areas, enabling them to stay relevant and competitive in the future. The initiative focused on eight areas: (i) data analytics, (ii) finance, (iii) tech-enabled services, (iv) digital media, (v) cyber security, (vi) entrepreneurship, (vii) advanced manufacturing, and



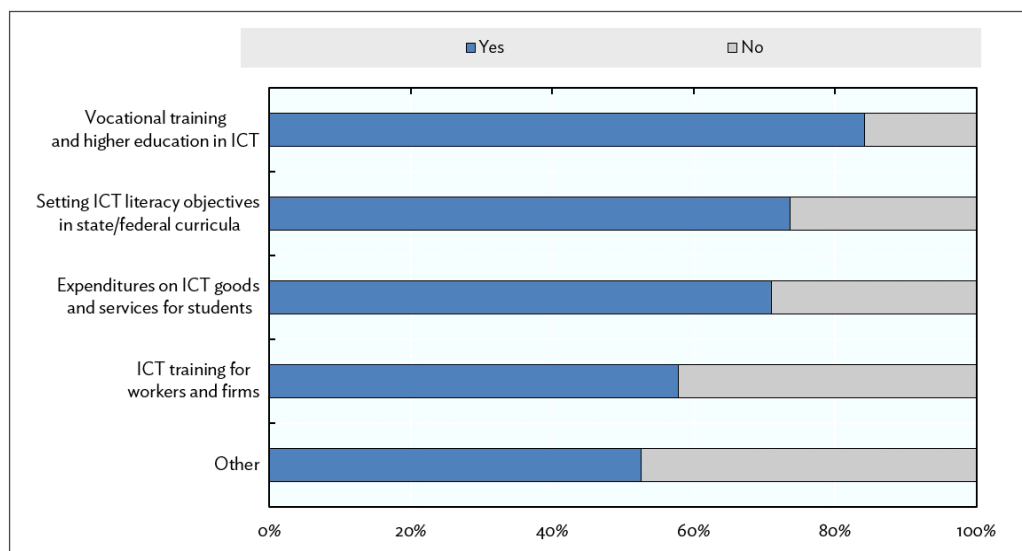
(viii) urban solutions. Besides the SkillsFuture Series, the Government of Singapore has also rolled out the 'SkillsFuture for Digital Workplace'. This programme helps all Singaporean adults, including those planning to return to the workforce, understand emerging technologies and how they impact work, interpret and use data, and adopt a positive mindset for change, innovation, and resilience. For example, participants of this programme will learn how to apply frequently used mobile apps in their daily life and perform basic cyber security actions such as setting up passwords to protect data and information.

Another example is an inter-ministerial collaboration in Indonesia, where Ministry of Education and Culture (MoEC), Ministry of Research, Technology and Higher Education (MoRTHE), Ministry of Manpower (MoM), and Ministry of Communication and Informatics (Kominfo) are jointly building an ICT skills development framework.<sup>60</sup> The Indonesian framework is also based on a TVET–NQS system, and recurrent education is a one of the strategies adopted. In fact, harmonisation of TVET is an ongoing endeavour in ASEAN.<sup>61,62</sup>

For reference, nearly 60% of Organisation for Economic Co-operation and Development members and partner countries support ICT training for workers (Exhibit 7.3-1).

Keeping the workforce up to date in terms of digital skills is the foundation for MSME digitalisation. Comparing the training programmes and IT education of respective AMS may create an opportunity for ASEAN as a whole to improve its human resource expertise on ICT.

**Exhibit 7.3-1: Policies to Improve ICT Skills**



Source: OECD (2017), *OECD Digital Economy Outlook 2017*. Organisation for Economic Co-operation and Development.

<sup>60</sup> World Bank (2018), *Preparing ICT Skills for Digital Economy: Indonesia within the ASEAN Context*.

<sup>61</sup> ASEAN Secretariat (2016), *Master Plan on ASEAN Connectivity 2025*. ASEAN.

*‘Initiative 14: Establish New Vocational Training Programmes and Common Qualifications across ASEAN Member States, in accordance with National Circumstances of each ASEAN Member State.’*

<sup>62</sup> Cedefop (2017), *Global Inventory of Regional and National Qualifications Frameworks*. Volume II: National and Regional Cases. European Centre for the Development of Vocational Training.



## 7.4. Develop Collaborative Framework with Digital Platformers

To collaborate with digital platformers effectively and efficiently, it could be useful to create a framework under which ASEAN and AMS can communicate with major digital platformers in the region.

As explained above, digital platformers are becoming primary digital service providers for MSMEs. They have expertise and are keen to improve the digital capability of MSMEs, which would in turn be instrumental in expanding their business base. At the same time, platformers have not always been successful when they reach out to local MSMEs especially in non-native English speaking countries. Governments and digital platformers can complement each other to promote MSMEs' digitalisation effectively.

The framework can be used by governments not only to propose various ideas to digital platformers, but also to understand and address their concerns. For example, data localisation policy has been introduced in some AMS.<sup>63</sup> Given the active role of global and regional digital platforms in MSME digitalisation in ASEAN, policymakers in ASEAN may need to further communicate to them how the regulation can be modified to allow them to support local MSMEs while addressing social concerns.<sup>64</sup> At the same time, digital platformers should continue to uphold their commitments on data protection and privacy for consumers. Working closely with digital platforms, ASEAN and the governments of AMS should further strengthen current efforts.

## 7.5. Enhance Both Analogue and Digital Policy Communication Channels

Governments should consider both digital and analogue outreach measures. The outcome of the interviews indicates that using SNS is an effective way to communicate with MSMEs that are familiar with digitalisation.<sup>65</sup> But to reach out to the majority of ASEAN MSMEs, which still mainly obtain business information from their existing business partners and local business circles (87% of respondents<sup>66</sup>), governments would need to use traditional means of communication effectively. Partnering with local governments and business associations, which are closer to MSMEs than central governments, could be an effective approach. Some digital giants are already trying to establish local channels to communicate with MSMEs. For example, Bukalapak, one of the leading e-commerce companies in

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<sup>63</sup> Annex: 9.2.2(2)4) Collaboration between Governments and Digital Platformers

<sup>64</sup> Annex: 9.2.2(3) Requests for Government Agency related to MSME

<sup>65</sup> Annex: 9.2.2(1)1)A. Progress of MSME Digitalisation (Previously footnoted)

<sup>66</sup> Annex: 9.2.2(2)1)B. Scarce Information for Digitalisation (Previously footnoted)

Indonesia, is deploying hundreds of agents to cover important cities and suburban areas to physically communicate and collaborate with local MSMEs. ASEAN governments can support such moves by digital vendors. Local IT vendors would be another possible channel. A 2018 Japanese white paper on small and medium-sized enterprises revealed that even in Japan, the majority of MSMEs rely on local IT vendors when trying to obtain information on digital technologies, rather than looking for information on the Internet including that provided by digital platformers or major IT vendors.<sup>67</sup> Creating networks of local IT vendors to let them convey information on various policy programmes for MSME digitalisation could be an effective policy measure.<sup>68</sup>

## Case Study

### IT Adoption Promotion Grant Program, Japan

The 'IT Adoption Promotion Grant Program' run by the Ministry of Economy, Trade and Industry, Japan (METI) serves as a good illustration of government support in helping MSMEs kick-start digitalisation.

A business owner (Client) can search for registered and qualified ICT vendors, consultants, or providers (Supporter) which have been approved by the authority on the programme website. Apart from that, companies can also browse for suitable ICT tools that fit their businesses. If the Client managed to match with vendors successfully, the authority will disburse the grant directly to the Client.



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<sup>67</sup> Annex: 9.1.1(6)1) Mentors Wanted

<sup>68</sup> Annex: 9.1.1(6)2) Case Study: The IT Adoption Promotion Program (Japan)

## Chapter 8

### Conclusion

There is no doubt that promoting digitalisation of MSMEs is necessary to drive inclusive growth in ASEAN. Digital connections are becoming faster, wider, and less expensive in ASEAN. Various digital platformers see ASEAN as a promising market and have expressed interest in expanding their businesses in the region. These improvements have enabled the gradual formation of the digital ecosystem for MSMEs in ASEAN.

However, not all MSMEs are able to adopt digital technologies without support from governments and digital platformers. The senior management of MSMEs are mostly occupied with hectic daily operations. They are not likely to adopt new business measures to improve their operations if they are uncertain about the benefits of adopting digital technologies and if they are unable to identify the most appropriate digital technologies for their businesses. The presence of such barriers might explain the low level of MSME digitalisation in ASEAN. Once the initial barrier has been overcome, however, further digitalisation becomes much easier for MSMEs. Therefore, it is important for the governments to establish programmes that can attract the attention of MSMEs that are not familiar with digital technologies and encourage them to take the first step forward. For governments, local and traditional business networks are important channels to communicate with 'un-digitalised' MSMEs that rely on traditional sources for information.

Digital platformers are actively engaging MSMEs to support them in digitalisation, as MSMEs are their key partners and play an important role in driving business expansion. Partnering with digital platformers to develop digitalisation support programmes for MSMEs could create a win-win situation for MSMEs, governments, and digital platformers. However, governments need to continue to promote healthy competition amongst digital platformers and foster a conducive ecosystem for MSMEs to thrive in.

The next step for ASEAN to promote digitalisation of MSMEs could be setting up a dialogue with major digital platformers in the region. To collaborate with digital platformers, governments need to understand not only their services but also the bottlenecks that prevent them from reaching out to local MSMEs. It is also important to consider a regulatory framework that promotes healthy competition amongst digital platformers. To deliver information on digital technologies and government support programmes to local MSMEs, governments need to tap on traditional, local business networks and local governments. Combining these efforts with existing programmes on ICT human resource development could effectively improve the rate of digitalisation of MSMEs in the region.

# Chapter 9

## Annex

### 9.1. Annex 1: Literature Survey

The results of the initial review of the existing literature were collated into six themes in the previous chapters: (1) Background and Objectives, (2) Current State of MSME Digitalisation, (3) MSMEs’ Perspective: Benefits of Digitalisation, (4) Role of Digital Platforms in Supporting MSME Digitalisation, (5) Challenges to MSMEs in Embracing Digitalisation, and (6) Moving Forward: Policy Options to Propel MSME Adoption of Digitalisation.

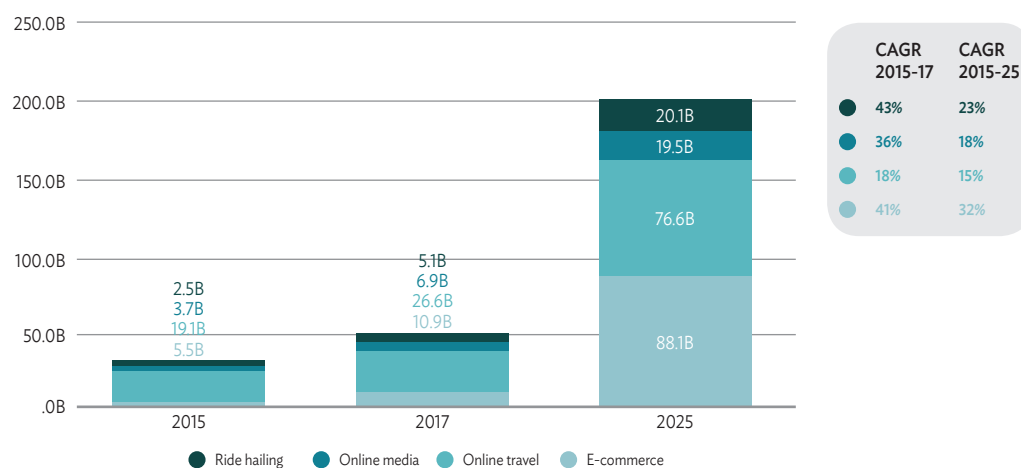
#### 9.1.1 Thematic Collation

##### (1) Background and Objectives

###### 1) Market Size Will Expand

The market sizes of ride-hailing, online gaming, online travel and retail (e-commerce) increased by 43%, 36%, 18%, and 41%, respectively, in the recent two years (2015–2017) and are projected to keep growing at a high compound annual growth rate (CAGR) (Exhibit 9.1-1).

**Exhibit 9.1-1: Market Size of the Internet Economy in Southeast Asia (US\$ billion)**

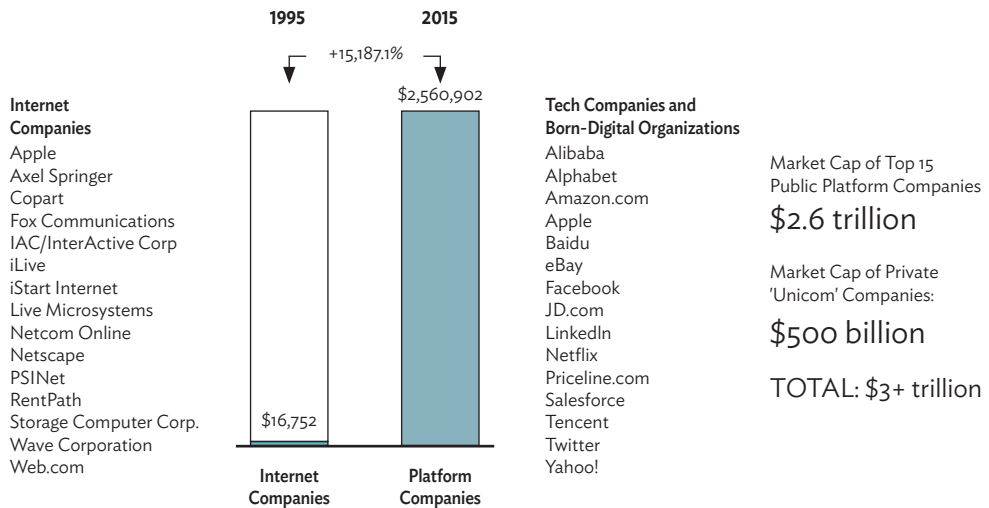


Source: Google and TEMASEK (2017), e-Economy SEA Spotlight 2017.

## 2) Emergence of Platformers

Platform companies, or 'platformers', have come to corner the market. In 1995, the total market capitalisation of Internet companies was US\$17 billion, and in 2015, the market value of platformers was US\$2,560 billion, a 15,187% increase in 20 years (Exhibit 9.1-2).

**Exhibit 9.1-2: Market Cap Valuations – Internet versus Platform Companies**



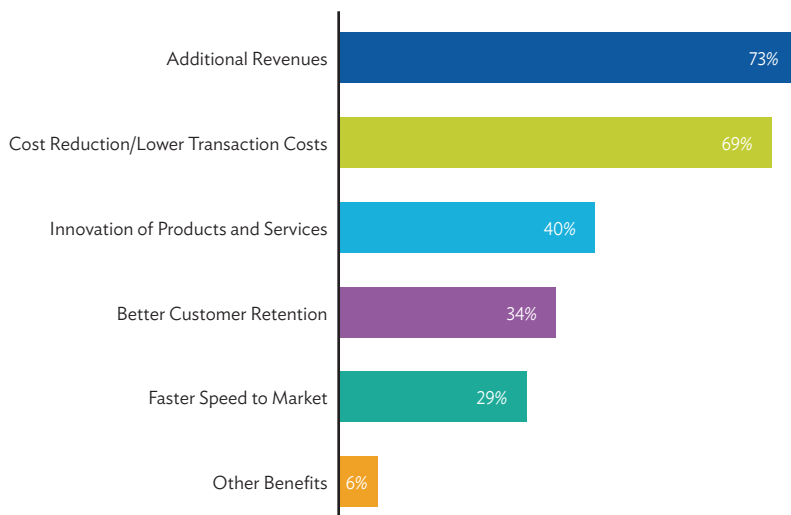
Source: Accenture (2016a), *Accenture Technology Vision 2016*.

## 3) Digitalisation Boosts the Revenue of Micro, Small, and Medium Enterprises and the National Economy

A survey of the digital platform reported that 73% of small and medium enterprises (SMEs) from China have experienced additional revenues and 69% have been successful in reducing cost by exploiting digital platform services. Moreover, the innovation of products and services, better customer retention, and the faster speed to market were the top five benefits in the survey (Exhibit 9.1-3).

The growth effect of digitalisation on gross domestic product (GDP) is evident in emerging, developing, and developed economies alike, but slightly larger in the emerging economies, implying the ‘leapfrogging effects’ of digitalisation<sup>69,70</sup> (Exhibit 9.1-4, regression line with smaller/flatter slope).

**Exhibit 9.1-3: Platform Effect on Revenue and Costs of China’s SMEs**



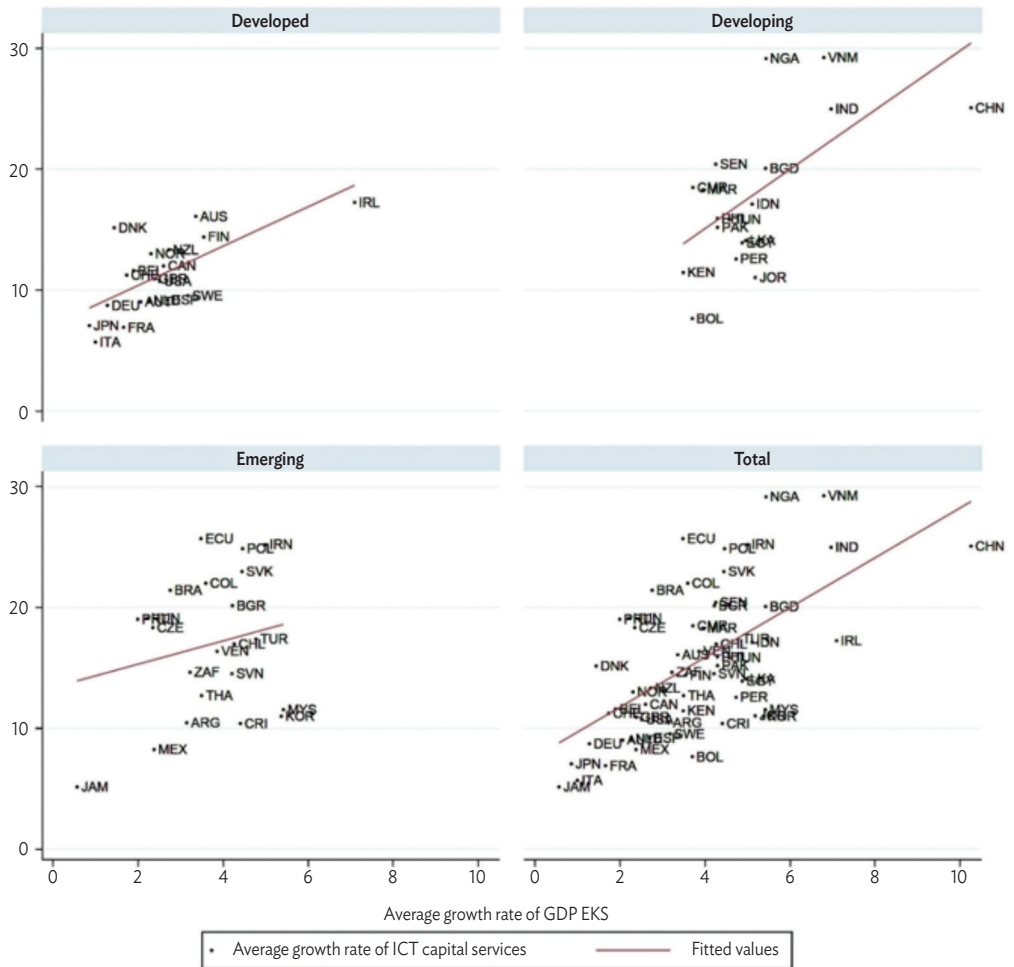
Original source: Accenture Platform Survey, 2016.

Source: Accenture (2016b), *Five Ways to Win with Digital Platforms*.

<sup>69</sup> Niebel, T. (2014), ICT and Economic Growth – Comparing Developing, Emerging and Developed Countries.

<sup>70</sup> Maaref, S. (2013), Positioning of ICTs in Economic Models in Developing Countries. Paper presented at the ITU-D Workshop on New Trends for building and Financing Broadband: Policies & Economics, Manama, Bahrain.

## Exhibit 9.1-4: Growth Effects of Information and Communication Technology on GDP



Note: Developed > 23000 of 2013 US\$ GDP per Capita, Developing < 6500 of 2013 US\$ GDP per Capita in Year 1995

EKS = O. Elteto, P. Koves and B. Szulc method<sup>71</sup>, GDP = gross domestic product, ICT = information and communication technology.

Source: Niebel, T. (2014), ICT and Economic Growth – Comparing Developing, Emerging and Developed Countries.

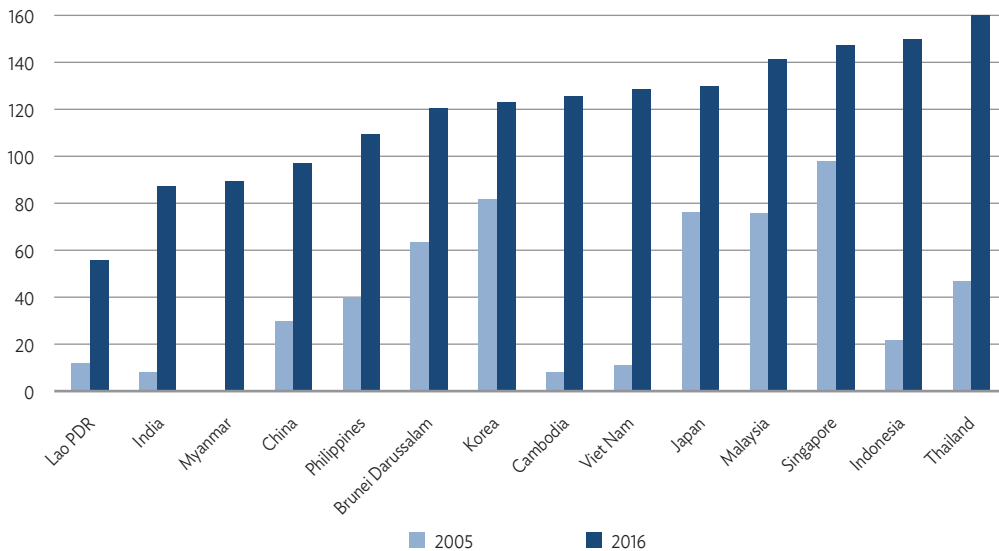
<sup>71</sup> United Nations Statistics Division. (May 1, 2015). Handbook of The International Comparison Programme. Retrieved from [https://unstats.un.org/unsd/methods/icp/ipc5\\_hm.htm](https://unstats.un.org/unsd/methods/icp/ipc5_hm.htm)

## (2) Current State of MSME Digitalisation

### 1) Degree of Digitalisation

Although the level of Internet penetration in ASEAN Member States (AMS) varies, its growth is skyrocketing (Exhibit 9.1.5). The soaring growth of mobile subscription in AMS will definitely boost the digitalisation of MSMEs and their customers.

**Exhibit 9.1-5: Mobile Cellular Subscriptions per 100 Inhabitants**



Lao PDR = Lao People's Democratic Republic.

Original source: OECD, based on ITU (2017), 'Percentage of individuals using the Internet', World Telecommunication/ICT Indicators (database), [www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx](http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx) (accessed 13 July 2017).

Source: OECD (2017), *Opportunities and Policy Challenges of Digitalization in Southeast Asia*.

Note: Non-ASEAN countries are for comparisons with major markets.

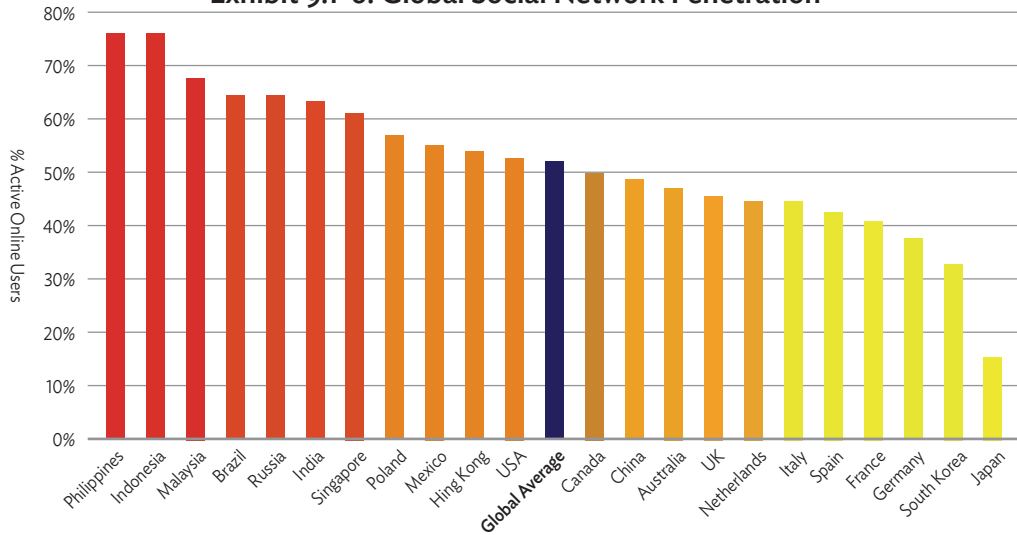
### 2) Social Networking Services, a Highly Effective Channel in AMS

Social Networking Services (SNS) have spread rapidly, and the number of SNS users reached 2.6 billion in 2018.<sup>72</sup> It is noteworthy that the rates of active online users are considerably above the global average in the Philippines, Indonesia, Malaysia, and Singapore (Exhibit 9.1-6). SNS is expected to be a highly effective channel for communicating with MSMEs in AMS.

<sup>72</sup> Statista (2018a), Number of social media users worldwide from 2010 to 2021. Retrieved from <https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/>



**Exhibit 9.1-6: Global Social Network Penetration**



Source: Alegre, A.G. (2014), *Social Media: Challenge or Opportunity for Governance? In ITU-ASEAN Forum on Social Media*. Jakarta.

Note: Non-ASEAN countries are for comparisons.

### (3) MSMEs' Perspective: Benefits of Digitalisation

#### 1) Case Study: Digitalisation Boosted Business in All Industry Sectors (Japan)

The trends on digitalisation of MSMEs in Japan is not unique to Japan, and the lessons learnt are highly informative for ASEAN countries. Exhibit 9.1-7 depicts the relationship between business performance and digitalisation for Japanese SMEs. Across all industries, sales were augmented with digitalisation, and this was also true for the recurring profit margins.

### (4) Role of Digital Platforms in Supporting MSME Digitalisation

#### 1) Adverse Effects of Data Localisation Mandate

Data localisation laws, which require certain data collected in a country to be physically stored inside the country, are on the rise,<sup>73,74</sup> While the key intent of such legislation is to protect data privacy, the ICT industry is against the legislation as it claims that the regulations are far less effective than expected, while the adverse effects are huge.<sup>75,76</sup>

<sup>73</sup> Bowman, C. (2017), Data Localization Laws: An Emerging Global Trend. JURIST. Retrieved from <https://www.jurist.org/commentary/2017/01/Courtney-Bowman-data-localization/>

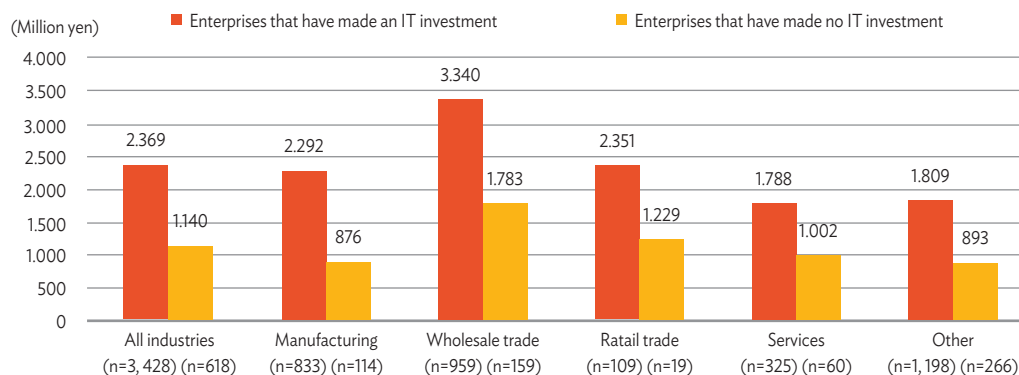
<sup>74</sup> Servers.global (2016), Meeting the Challenge of Data Localization Laws. Servers.global. Retrieved from <https://www.servers.global/meeting-the-challenge-of-data-localization-laws/>

<sup>75</sup> Shiffman, N. and J. Ben-Avie (2018), Data Localization: Bad for Users, Business, and Security. Open Policy & Advocacy, Mozilla Foundation. Retrieved from <https://blog.mozilla.org/netpolicy/2018/06/22/data-localization-india/>

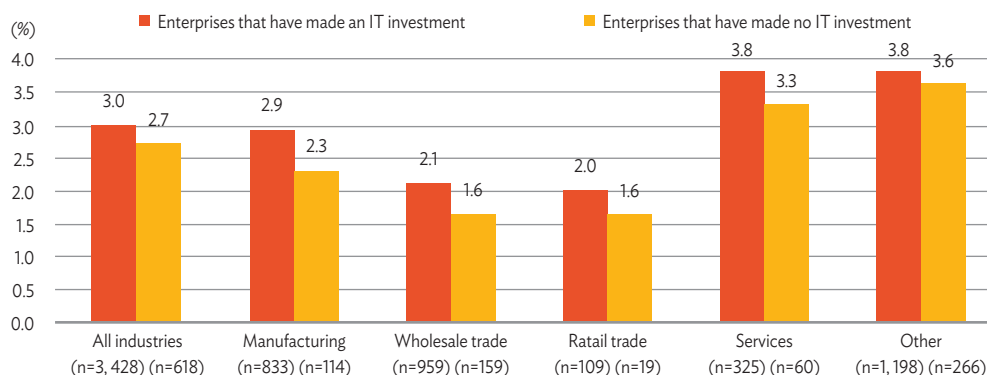
<sup>76</sup> Panday, J. (2017), Rising Demands for Data Localization a Response to Weak Data Protection Mechanisms. Electronic Frontier Foundation. Retrieved from <https://www.eff.org/deeplinks/2017/08/rising-demands-data-localization-response-weak-data-protection-mechanisms>

## Exhibit 9.1-7: Relationship between Business Performance and the Presence/Absence of Information Technology Investment, by Industry

### (1) Sales of enterprises that have/have not made an IT investment



### (2) Recurring profit margin of enterprises that have/have not made an IT investment



IT = information technology.

Notes: (1) Figures were categorised based on whether or not enterprises invested in IT. (2) Figures shown are the averages of sales and the recurring profit margins for the three years from 2012 to 2014.

Original source: Teikoku Databank (2015), Questionnaire on Small and Medium Enterprises' Growth and Investment Activities (December 2015), commissioned by the SME Agency.

Source: The Small and Medium Enterprise Agency (2016), *White Paper on Small and Medium Enterprises in Japan*. Ministry of Economy, Trade and Industry of Japan.

Major platformers including Amazon, Google, and Microsoft are strongly against the restriction.<sup>77,78</sup> Thus, overly restrictive regulations might stunt the growth of digitalisation of MSMEs.

<sup>77</sup> Yu, R. (2017), More U.S. Companies Push Back on Foreign Must-store-data-here Rule. USA TODAY. Retrieved from <https://www.usatoday.com/story/money/2017/08/12/more-u-s-companies-push-back-foreign-must-store-data-here-rule/558702001/>

<sup>78</sup> Kalra, A. and A. Shah (2018), US Tech Giants Plan to Fight India's Data Localisation Plans. REUTERS. Retrieved from <https://uk.reuters.com/article/uk-india-data-localisation-exclusive/exclusive-u-s-tech-giants-plan-to-fight-indias-data-localisation-plans-idUKKBN1L30CN/>

## 2) Regulations that Can Hinder the Activities of Digital Platformers

The legal environment is crucial for digitalisation. As shown in Exhibit 9.1-8, while development of relevant legislation is ongoing in AMS, the privacy-related legislation is lagging.<sup>79</sup> (Exhibit 9.1-8).

Some regulations (such as those related to additional e-commerce taxes, weaknesses in cybersecurity, and data localisation) may potentially hinder the activity of digital platformers.

**Exhibit 9.1-8: Development of E-Commerce Legislation in ASEAN**

Status	Electronic Transactions	Privacy	Cybercrime	Consumer Protection	Content Regulation	Domain Names
Enacted	90%	30%	80%	60%	70%	80%
Partial	10%	30%	10%	30%	20%	20%
None	-	40%	10%	10%	10%	-

Source: Deloitte & Touche LLP (2016), Advancing the ASEAN Economic Community.

## 3) Arduous Procedures in Cross-border Businesses

Customs procedures are complicated and time-consuming in some AMS (Exhibit 9.1-9). This might result in adverse effects on cross-border businesses and, thus, impede successful e-businesses that may otherwise be able to operate without borders.

**Exhibit 9.1-9: Procedures and Time Required for Customs Clearance**

Economy	Documents (number)		Documentary (hours)		Border (hours)	
	Export	Import	Export	Import	Export	Import
Brunei Darussalam	5	5	155	132	117	48
Cambodia	8	9	132	132	48	8
Indonesia	4	8	61	119	53	99
Lao PDR	10	10	216	216	12	14
Malaysia	4	4	10	10	45	69
Myanmar	8	8	144	48	142	230
Philippines	6	7	72	96	42	72
Singapore	3	3	2	3	10	33
Thailand	5	5	11	4	51	50
Viet Nam	5	8	50	76	55	56
(1) Average	5.8	6.7	85.3	83.6	57.5	67.9
(2) Japan	3	5	2.4	3.4	22.6	39.6

Documents: Number of documents, as of 2015.

Documentary: Time (hours) required for documentary compliance, as of 2019.

Border: Time (hours) required for border compliance, as of 2018.

Source: Prepared by Mitsubishi Research Institute, Inc., based on World Bank, 2017, *Ease of Doing Business 2018*.

<sup>79</sup> Deloitte & Touche LLP (2016), Advancing the ASEAN Economic Community.

4) Sudden Changes in Regulations Hinder the Activity of Digital Platformers  
 Regulatory risks, such as sudden changes in regulations, are major risks for businesses and markets.<sup>80</sup> This is especially true for ICT-enabled businesses.

For example, Uber, a ride-hailing service, suffers from unpredictable regulations in several countries.<sup>81,82,83</sup> Such regulatory risks undoubtedly cause adverse effects on digitalisation. EY lists ‘lack of regulatory certainty on new market structures’ (i.e. regulatory risk) as number two in its ranking of the ‘top 10 risks in telecommunications’<sup>84</sup> (Exhibit 9.1-10).

**Exhibit 9.1-10: Assessment of Operator Risk Mitigation Strategies**

		Mitigating strategy maturity	Mitigating strategy as leadership priority	Likelihood of risk increasing in 2016	
1	Failure to realize new roles in evolving industry ecosystems				
2	Lack of regulatory certainty of new market structures				
3	Ignoring new imperatives in privacy and security				
4	Failure to improve organizational agility				
5	Lack of data integrity to drive growth and efficiency				
6	Insufficient performance measurement to drive execution				
7	Failure to understand what customers value				
8	Inability to extract value from network assets				
9	Poorly defined inorganic growth agenda				
10	Failure to adopt new routes to innovation				
Key	High				Low

Source: EY (2016), Top 10 Risks in Telecommunications Revisited: Mitigating Threats to Operators.

<sup>80</sup> OECD (2017c), Private Infrastructure Investment: Availability of Risk Mitigation Instruments in ASEAN Member States.

<sup>81</sup> The Star ONLINE (2014), Indonesian Capital Threatens to Ban Uber Car App. Retrieved from <https://www.thestar.com.my/tech/tech-news/2014/08/20/indonesian-capital-threatens-to-ban-uber-car-app/>

<sup>82</sup> bdnews24.com (2016), Uber Taxi Services in Dhaka Illegal: BRTA. Retrieved from <https://bdnews24.com/bangladesh/2016/11/25/uber-taxi-services-in-dhaka-illegal-brta>

<sup>83</sup> REUTERS (2018), Uber to Suspend Service in Greece after New Legislation. REUTERS. Retrieved from <https://www.reuters.com/article/us-uber-greece/uber-to-suspend-service-in-greece-after-new-legislation-idUSKCN1HC0U0>

<sup>84</sup> EY (2016), Top 10 Risks in Telecommunications Revisited: Mitigating Threats to Operators.

**Exhibit 9.1-11: Priority Ranking of Policy Objectives for Digital Development**

Policy objectives	2017	Next 3–5 years	National digital strategy objectives
	Ranking	Expected change	Number of countries
Strengthening e-government services	1	Same	21
Further developing telecommunication infrastructure	2	↓3	22
Promoting ICT-related skills and competencies	3	Same	16
Strengthening security	4	↑2	18
Enhancing access to data, including PSI and OGD	5	↑1	6
Encouraging the adoption of ICT by businesses and small and medium-sized enterprises in particular	6	↓1	3
Encouraging ICT adoption in specific sectors, e.g. healthcare, education	7	↑1	3
Strengthening privacy	8	Same	5
Strengthening digital identities	9	Same	2
Promoting the ICT sector, including its internationalisation	10	Same	2
Promoting e-commerce across the economy	11	↓1	5
Tackling global challenges, e.g. Internet governance, climate change	12	↑1	1
Strengthening consumer protection	13	↓1	0
Advancing e-inclusion, e.g. of elderly and disadvantaged groups	14	↑1	4
Preserving Internet openness	15	Same	4
Additional objectives of national digital strategies			
Fostering science, innovation, and entrepreneurship			16
Ensuring access to the Internet, services, and information			12
Developing digital content and culture			10
Increasing the use of digital technologies			10
Developing a sound regulatory approach for digital environments			3

ICT = information and communication technology, OGD = open government data, PSI = public sector information.

Note: Both the current ranking and the expected changes over the next three to five years should be considered with caution, given a weak differentiation among the indicated priorities.

Source: OECD (2017a), OECD Digital Economy Outlook 2017.

A priority ranking of policy objectives based on responses from 35 countries<sup>85</sup> in an OECD survey<sup>86</sup> gave consistently high priority to (1) strengthening e-government services, (2) further developing telecommunication infrastructure, (3) promoting ICT-related skills and competencies, and (4) strengthening security.

<sup>85</sup> Australia, Austria, Belgium, Brazil, Canada, Chile, China, Colombia, Costa Rica, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Japan, Republic of Korea, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, Norway, Poland, Portugal, the Russian Federation, Slovenia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom

<sup>86</sup> OECD (2016), 2016 OECD Digital Economy Outlook (DEO) Policy Questionnaire.

The following were suggested as the main challenges to achieving the policy objectives for digital development: (1) awareness, implementation, and enforcement, (2) coordination, including multi-stakeholder, multilateral, and multi-level governance coordination, and (3) skills, training, and education (Exhibit 9.1-12).

### Exhibit 9.1-12: Main Challenges to Achieving Policy Objectives for Digital Developments

Main challenges in 2017		Main challenges over the next 3–5 years
<b>Awareness, implementation, enforcement</b>	<b>1</b>	<b>Awareness, implementation, enforcement</b>
<b>Skills, training, education</b>	<b>2</b>	<b>Coordination, including multi-stakeholder, multilateral and multi-level governance coordination</b>
<b>Coordination, including multi-stakeholder, multilateral and multi-level governance coordination</b>	<b>3</b>	<b>Skills, training, education</b>
Policy design and measures	4	Public investment or funding
Laws or regulation	5	Technical, including standards and interoperability
Technical, including standards and interoperability	6	Trust, including privacy, security, consumer protection
ICT adoption, business digitalisation, innovation	7	Laws and regulation
Public investment or funding	8	Policy design and measures
Private investment or access to finance	9	ICT adoption, business digitalisation, innovation
Trust, including privacy, security, consumer protection	10	Private investment or access to finance

Note: This table presents a ranking of the most frequently mentioned challenges to achieving the policy objectives listed in Exhibit 9.1-11.

The ranking is based on information from 31 countries with 344 observations for 2017 and 286 observations for the next years.

Source: OECD (2017a), OECD Digital Economy Outlook 2017.

#### (5) Challenges to MSMEs in Embracing Digitalisation

##### 1) English Speaking Countries More Easily Go Digital

By and large, English is not the primary language in AMS (Exhibit 9.1-13), however information available on the Internet is mostly provided in English (Exhibit 9.1-14). Obviously, this reduces access to information that is indispensable for digitalisation in AMS.<sup>87</sup> To address the problem, there are two different approaches: (1) localisation of web content, and (2) upgrading English skills.

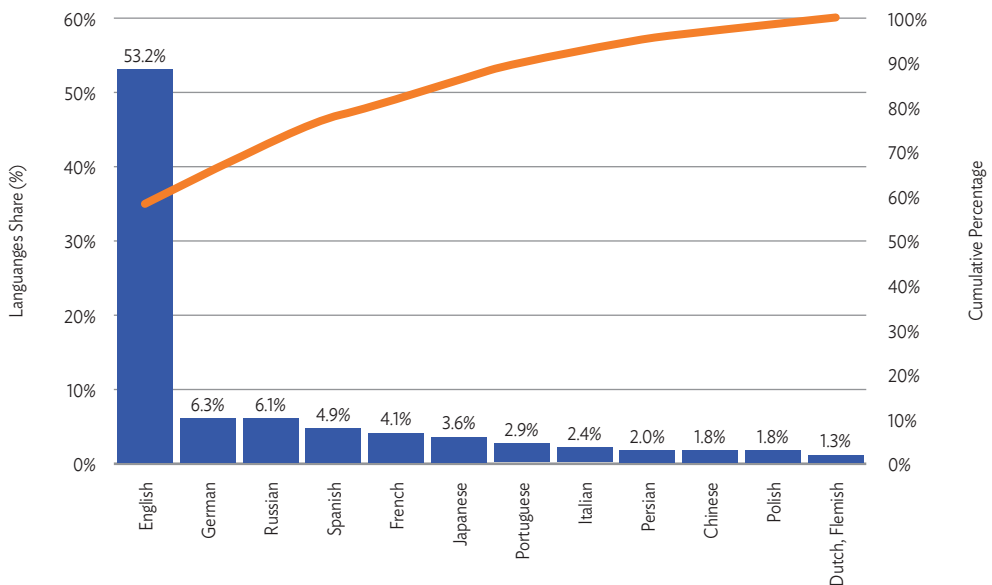
<sup>87</sup> Malisuwan, S., D. Milindavanij, and J. Sivaraks (2016), Analysis of ICT Development in ASEAN Countries. *International Journal of Advanced Research in Management*, 7(2): 1–10..

### Exhibit 9.1-13: Languages Used in ASEAN Member States

Member State	Language
Brunei Darussalam	Malay (Bahasa Melayu) (official), English, Chinese dialects
Cambodia	Khmer (official) 96.3%, other 3.7% (2008 est.)
Indonesia	Bahasa Indonesia (official, modified form of Malay), English, Dutch, local dialects (of which the most widely spoken is Javanese) Note: more than 700 languages are used in Indonesia
Lao PDR	Lao (official), French, English, various ethnic languages
Malaysia	Bahasa Malaysia (official), English, Chinese (Cantonese, Mandarin, Hokkien, Hakka, Hainan, Foochow), Tamil, Telugu, Malayalam, Panjabi, Thai Note: Malaysia has 134 living languages – 112 indigenous languages and 22 non-indigenous languages. In East Malaysia, there are several indigenous languages; the most widely spoken are Iban and Kadazan.
Myanmar	Burmese (official) Note: minority ethnic groups use their own languages
Philippines	Filipino (official; based on Tagalog) and English (official); eight major dialects – Tagalog, Cebuano, Ilocano, Hiligaynon or Ilonggo, Bicol, Waray, Pampango, and Pangasinan
Singapore	English (official) 36.9%, Mandarin (official) 34.9%, other Chinese dialects (includes Hokkien, Cantonese, Teochew) 12.2%, Malay (official) 10.7%, Tamil (official) 3.3%, other 2% Note: data represent the language most frequently spoken at home (2015 est.)
Thailand	Thai (official) 90.7%, Burmese 1.3%, other 8% Note: English is a secondary language of the elite (2010 est.)
Viet Nam	Vietnamese (official), English (increasingly favoured as a second language), some French, Chinese, and Khmer, mountain area languages (Mon-Khmer and Malayo-Polynesian)

Source: Prepared by Mitsubishi Research Institute, Inc., based on Central Intelligence Agency, United States, 2018, Languages, World Factbook

### Exhibit 9.1-14: Languages for Website Content (as of September 2018)



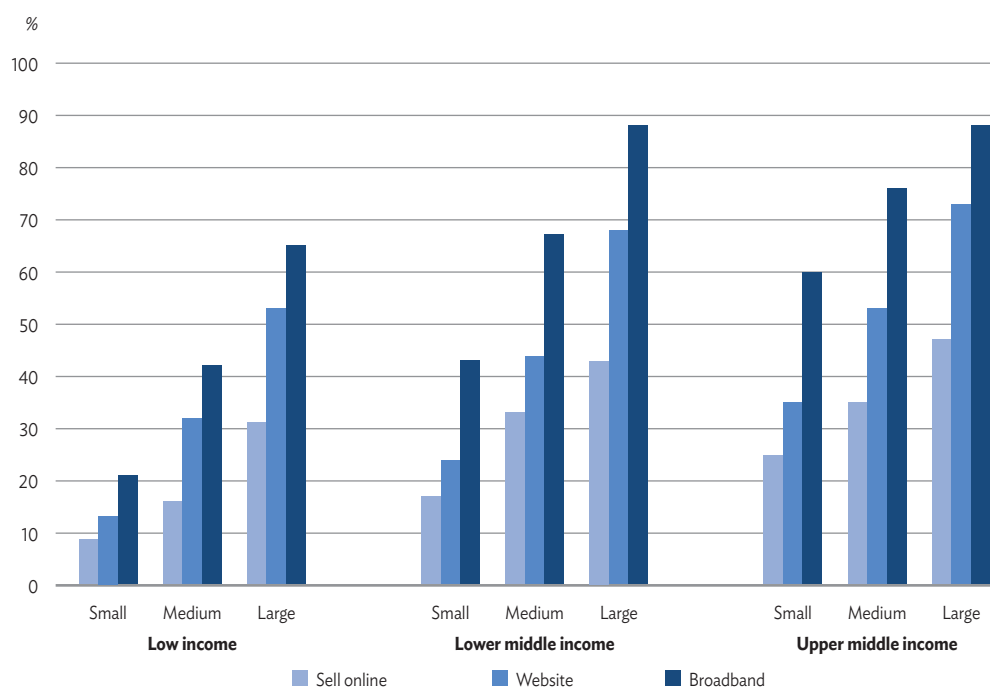
Source: Prepared by Mitsubishi Research Institute, Inc., based on W3Techs, 2018, Usage of Content Languages for Websites.

## 2) Smaller Enterprises Are Apparently Passive in Digitalisation

Broadband penetration, website usage, and e-commerce can be used as mileposts for digital adoption. Exhibit 9.1-15 illustrates how digitalisation goes in this order regardless of the economy.

It is worth noticing that the smaller the firm, the lower the digitalisation. This tendency is observed in all economies, implying the existence of common challenges in the digitalisation journey.

**Exhibit 9.1-15: Comparison of Use of Internet by Larger Firms and Small Firms**



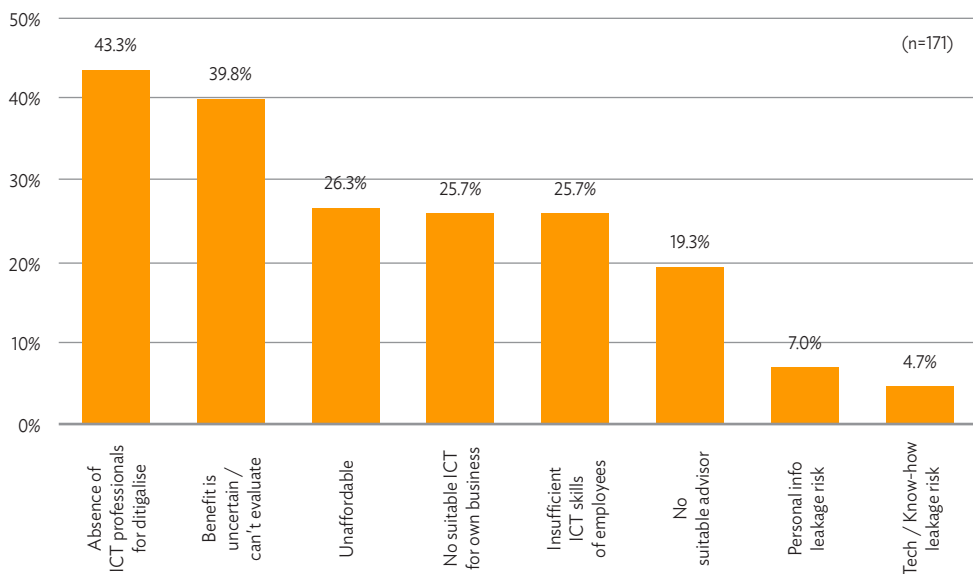
Original source: Hussain, S. (2015), *When Do Firms in Developing Countries Adopt New Digital Technologies?*  
Source: OECD (2017b), *Opportunities and Policy Challenges of Digitalization in Southeast Asia*.



### 3) Case Study: Reasons for Not Using ICT (MSMEs in Japan)

The following are reasons why MSMEs would not want to invest in ICT. About 40% of respondents mentioned the absence of ICT professionals for deployment in their companies and not knowing or not being able to evaluate the effects of ICT deployment as the main reasons. In addition, about 25% of MSMEs said that ICT investment was unaffordable, it did not match their business, and employees had insufficient ICT skills.

**Exhibit 9.1-16: Reasons for Not Using ICT (MSMEs in Japan)**



ICT = information and communications technology.

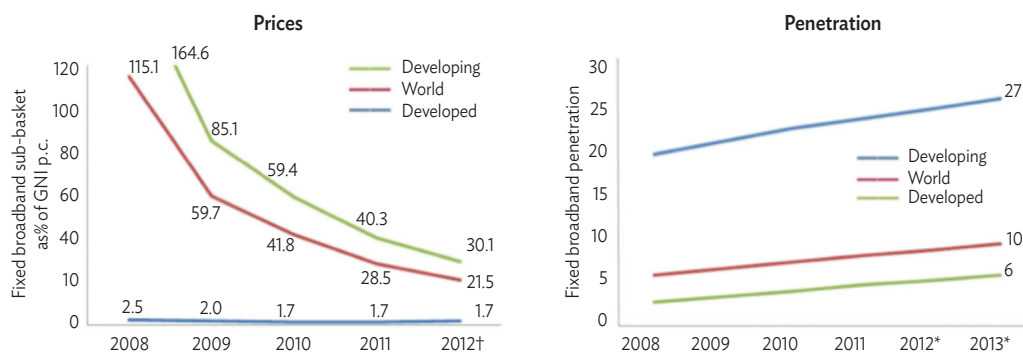
Original source: Teikoku Databank, Ltd. (2015), Questionnaire on Small and Medium Enterprises' Growth and Investment Activities, commissioned by the SME Agency.

Source: Small and Medium Enterprise Agency, Japan (2018), *2018 White Paper on Small and Medium Enterprises in Japan*.

#### 4) Significant Drop in ICT Investment Costs

ICT costs have declined significantly over the decades<sup>88,89,90,91</sup> (Exhibit 9.1-17 and Exhibit 9.1 -18). However, MSMEs are less proactive towards ICT than larger enterprises. This may be due to the mindset of business owners, as discussed above.

**Exhibit 9.1-17: Trend in Fixed-broadband Prices (2008-2012)**



GNI = gross national income.

Note: Simple averages. †Preliminary result. \*Estimate

Original source: World Telecommunication/ICT Indicators Database, ITU.

Source: Prado-Wagner, C. (2014), *Trends on Telecommunication/ICT Services Regulation and Costs and Tariff Policies*.

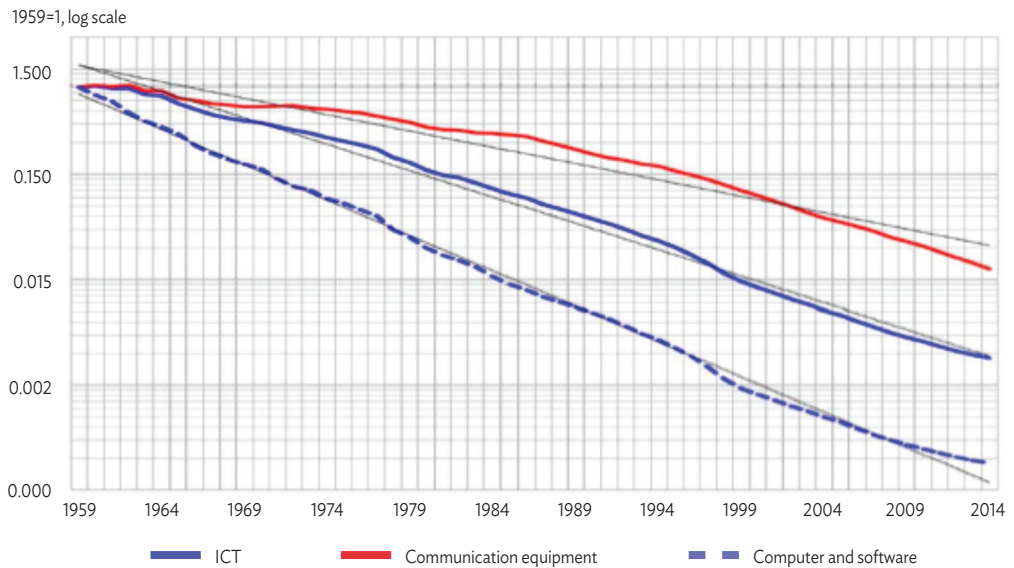
<sup>88</sup> Prado-Wagner, C. (2014), *Trends on Telecommunication/ICT Services Regulation and Costs and Tariff Policies*. Paper presented at the ITU/BDT Regional Economic and Financial Forum of Telecommunications/ICT for Africa, Brazzaville, Republic of Congo.

<sup>89</sup> Rosoff, M. (2015), *Every Type of Tech Product Has Gotten Cheaper over the Last Two Decades – Except for One. Business Insider*. Retrieved from <http://uk.businessinsider.com/historical-price-trends-for-tech-products-2015-10>

<sup>90</sup> Byrne, D. and C. Corrado (2016), *ICT Asset Prices: Marshaling Evidence into New Measures*. Economics Program Working Paper Series.

<sup>91</sup> Byrne, D. and C. Corrado (2017), *ICT Prices and ICT Services: What Do They Tell Us about Productivity and Technology?*

**Exhibit 9.1-18: Real ICT Investment Prices (1959=1)**



ICT = information and communication technology.

Source: Byrne, D. and Corrado, C. (2017), ICT Prices and ICT Services: What Do They Tell Us about Productivity and Technology?

### 5) Case Study: Cheaper and Affordable Digital Technologies (Japan)

By adopting digital technologies (DTs), an MSME can enhance its productivity considerably.

However, some top management or owners of MSMEs perceive the adoption of DTs as requiring significant investment or costs.

These misunderstandings can be eliminated by providing appropriate information with case studies. Through the emergence of cloud services, including 'Software as a Service' (SaaS), 'Platform as a Service' (PaaS), and 'Infrastructure as a Service' (IaaS), the picture has changed completely. Office 365, Google App Engine, and Amazon Web Services are good examples of these respective services.

## Examples of Affordable Digital Technologies

A Japanese MSME, Busyu Kogyo Co., Ltd. (Tokyo) developed and offers a cloud-based integrated management system (IMS)<sup>92</sup> service for small and medium-sized manufacturers. To reduce costs, they employed AWS as a PaaS and exploit an ordinary smartphone equipped with a built-in three-axis accelerometer for IoT machine monitoring.

For IoT machine monitoring, Busyu distributes a mobile app with basic functions for light users or evaluation, and advanced users can subscribe to paid services (detailed analysis, etc.) at relatively modest costs (initial payment and monthly fee are around US\$900 and US\$90, respectively as of 2018).

In this way, client MSMEs can enjoy a cutting-edge service with reasonable initial and running costs.

**Exhibit 9.1-19: Cloud Service Models**

Service	Description
SaaS	<b>Software as a Service</b> <ul style="list-style-type: none"><li>• Ability to use application software packages on someone else's infrastructure, e.g. Google's Gmail or CRM from Salesforce.com.</li></ul>
PaaS	<b>Platform as a Service</b> <ul style="list-style-type: none"><li>• Platform hosted in third-party infrastructure, which provides all resources and facilities.</li><li>• Generally used for application development environments to quickly build, test, and release software products.</li><li>• This is the fastest growing cloud model as of today due to increasing demand for mass-scale smartphone application developments.</li></ul>
IaaS	<b>Infrastructure as a Service</b> <ul style="list-style-type: none"><li>• The provision of hardware (computing, storage, and networking) required to run customer applications.</li></ul>

Source: Perera, S. (2015), *What Cloud Computing Means in Real Life*. Paper presented at the ITU TRCSL Symposium on Cloud Computing, Colombo, Sri Lanka.

## 6) Case Study: Upskill and Reskill of ICT Skills

The main challenge faced by the Association of Southeast Asian Nations-5 (ASEAN-5) is that the ICT skills of graduates do not meet the ICT industry's requirements. In addition, each country is expected to have a shortage of ICT workers in the coming years. Although ASEAN-5 has many ICT graduates, only small numbers can meet the industry requirements (Exhibit 9.1-20).

<sup>92</sup> An IMS is an integrated system composed of two or more management systems, such as an environmental management system (EMS), and energy management system (EnMS), an information security management system (ISMS), a quality management system (QMS), or a safety management system (SMS).

## Exhibit 9.1-20: ICT Skills in Demand: Case Studies of Skills in ASEAN-5

Country	Skill Challenges	Skill Shortage
Indonesia	ICT graduates' skillsets often fall short of what the industry requires.	<ul style="list-style-type: none"> <li>Projected shortage of 9 million skilled and semi-skilled ICT workers in 2015–2030.</li> </ul>
Malaysia	Lack of industry-ready graduates.	<ul style="list-style-type: none"> <li>10% of the new entrants to the ICT industry are employable; 90% require substantial training before they are work-ready. (PIKOM, 2014).</li> <li>The demand for ICT graduates (such as computer science, information technology, and software engineering) rose from 7,121 in 2010 to 13,300 in 2014; the supply of graduates decreased from 8,237 to 8,000 during the same period (MDEC, 2015).</li> <li>There was a shortage of close to 10,000 ICT professionals at various levels in 2016.</li> </ul>
Philippines	ICT graduates lacking relevant ICT skills, soft skills, English proficiency, numerical competence, verbal and report writing skills, familiarity with different business models and terms, industry-specific knowledge, and processes codes and terms.	<ul style="list-style-type: none"> <li>Needs at least 200,000 graduates every year as ICT workers.</li> <li>Shortfall of 150,000 every year.</li> <li>High attrition rate of up to 60%–70%.</li> </ul>
Singapore	The current ICT workforce stands at 189,400 in 2017 spread across all sectors within the economy, with increasing demand for tech specialists who now account for the majority of ICT job roles. Tech specialist skillsets can include for example higher end emerging tech areas such as in AI, cyber security, IOT, and cloud computing.	<ul style="list-style-type: none"> <li>Enterprises across the economy have projected hiring expectations of about 28,000 ICT professionals in the next 3 years from 2018 to 2020.</li> </ul>
Thailand	ICT graduates lack basic skills like coding or a strong foundation in core subjects, such as advanced mathematics.	<ul style="list-style-type: none"> <li>90% of the 20,000 ICT graduates each year are unable to meet the basic qualifications for companies.</li> <li>The industry needs 6,000–7,000 workers annually, which translates to a skills shortage of 4,000 to 5,000 a year.</li> </ul>

ICT = information and communications technology.

Original source: Tan, K.S. and J.T.H. Tang (2016), *Managing Skills Challenges in ASEAN-5*.

Source: World Bank (2018), *Preparing ICT Skills for Digital Economy: Indonesia within the ASEAN Context*.

### Human Capital Development

Recognised as one of the most crucial measures for digitalisation, human capital development (HCD) is listed in the Strategic Thrust of the ASEAN ICT Masterplan (AIM) 2015<sup>93</sup> and AIM 2020<sup>94</sup>, and the Technical and Vocational Education and Training–National Qualifications Framework system of AMS.<sup>95</sup> For instance, The Malaysian Public Sector ICT Strategic Plan 2016–2020<sup>96</sup> places substantial emphasis on the HCD of ICT.

<sup>93</sup> ASEAN (2011), *ASEAN ICT Masterplan 2015*.

<sup>94</sup> ASEAN (2015), *ASEAN ICT Masterplan 2020*.

<sup>95</sup> Cedefop (2017), *Global Inventory of Regional and National Qualifications Frameworks 2017 (Volume II: National and Regional Cases)*: European Centre for the Development of Vocational Training.

<sup>96</sup> Malaysian Administrative Modernisation and Management Planning Unit (2016), *The Malaysian Public Sector ICT Strategic Plan 2016–2020*.

Meanwhile, the importance of consulting services for decision makers, usually senior management of MSMEs, is ignored. The Oxford Economics magazine points out that ‘small business owners are not always experts in the internet’<sup>97</sup>.

### Exhibit 9.1-21: Strategic Thrust of the ASEAN ICT Masterplan

AIM 2015	AIM 2020
1. Economic transformation	1. Economic development and transformation
2. People empowerment and engagement	2. People integration and empowerment through ICT
3. Innovation	3. Innovation
4. Infrastructure development	4. ICT infrastructure development
<b>5. Human capital development</b>	<b>5. Human capital development</b>
6. Bridging the digital divide	6. ICT in the ASEAN single market
	7. New media and content
	8. Information security and assurance

AIM = ASEAN ICT Masterplan, ASEAN = Association of Southeast Asian Nations, ICT = information and communications technology.

Source: ASEAN (2011), *ASEAN ICT Masterplan 2015*. ASEAN (2015), *ASEAN ICT Masterplan 2020*.

### Exhibit 9.1-22 Development and Retention of ICT Talent in the Public Sector (Malaysia)

S2 Develop and Retain ICT Talent in Public Sector		LEAD AGENCY	2016	2017	2018	2019	2020
<b>P1. Enhance Public Sector ICT career advancement program</b>	i. Develop ICT Career Advancement Plan	PSD MAMPU	■				
	ii. Review circular that describes the work/job scope of ICT Service	PSD MAMPU	■				
<b>P2. Enhance Public Sector ICT competency program</b>	i. Develop ICT Competency Development Roadmap	PSD MAMPU INTAN	■				
	ii. Implement the ICT Competency Development Roadmap	PSD INTAN	■	■	■	■	■
	iii. Engage Strategic collaboration with public and private institutions of higher learning as well as the industry	PSD MAMPU INTAN	■	■	■	■	■
	iv. Develop and implement Excellent ICT Personnel program	PSD MAMPU INTAN	■	■	■	■	■
<b>P3. Strengthen Public Sector ICT expertise and professionalism</b>	i. Review the governance structure and mechanism for recognition of ICT expertise in Public Sector	PSD MAMPU	■				
	ii. Study requirements for new areas of ICT expertise	PSD MAMPU	■				
	iii. Obtain professional recognition for all ICT personnel	INTAN PSD MAMPU	■	■	■	■	■
	iv. Establish policies and guidelines as well as mechanism for the provision of incentives for ICT experts in the Public Sector	PSD MAMPU	■				

ICT = information and communications technology, MAMPU = Malaysian Administrative Modernisation and Management Planning Unit, PSD = Public Service Department.

Source: Malaysian Administrative Modernisation and Management Planning Unit (2016), *The Malaysian Public Sector ICT Strategic Plan 2016–2020*.

<sup>97</sup> Oxford Economics (2017), *Local Business Global Ambition: How the Internet is Fuelling SME Exports in Asia-Pacific*.

## (6) Moving Forward: Policy Options to Propel MSME Adoption of Digitalisation

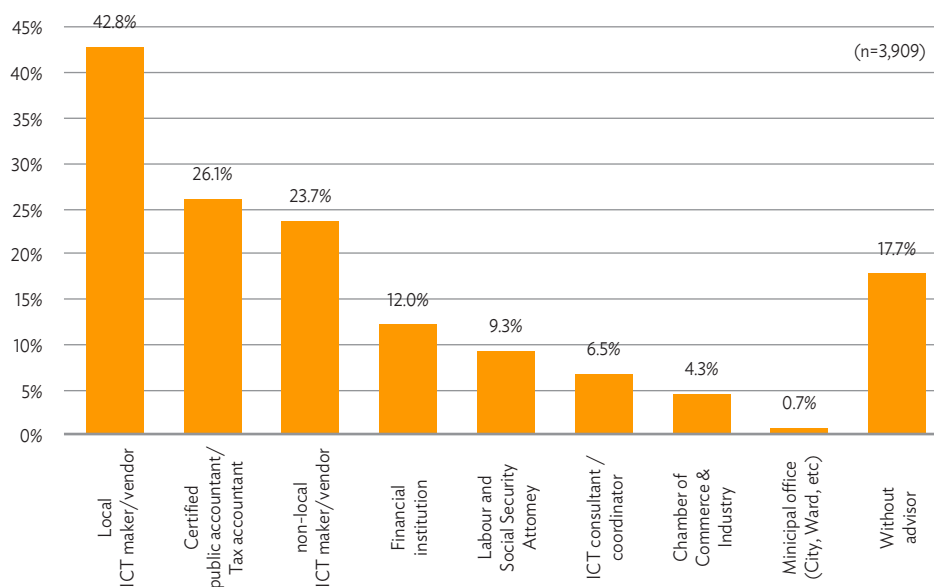
### 1) Mentors Wanted

When MSMEs do not know the effects of IT investments, they need advisors to consult. About 43% of MSMEs look for local IT makers or vendors, while about 25% of MSMEs look for certified public accountants or tax accountants and non-local ICT makers or vendors as advisors.

### 2) Case Study: The IT Adoption Promotion Program (Japan)

The Small and Medium Enterprise Agency (SMEA), under the Ministry of Economy, Trade and Industry, Japan (METI), implements several policy instruments, including subsidies, grants, and tax breaks to promote the digitalisation of MSMEs (Exhibit 9.1-24). Business owners can easily access to these support tools on web pages like the 'IT Adoption Promotion Grant Program'.<sup>98</sup>

**Exhibit 9.1-23: Consultants for ICT Deployment**



ICT = information and communications technology.

Original source: Mitsubishi UFJ Research and Consulting Co., Ltd. (2017).

Source: Small and Medium Enterprise Agency, Japan (2018), *2018 White Paper on Small and Medium Enterprises in Japan*.

<sup>98</sup> <https://translate.google.com/translate?hl=en&sl=ja&tl=en&u=https%3A%2F%2Fwww.it-hojo.jp>

A business owner (client) can search for registered ICT vendors or providers (supporters),<sup>99</sup> which are qualified and approved by the relevant authority on the web page and find an appropriate supporter. ICT tools that fit the business can be found in the same way.<sup>100</sup>

The supporter will then apply for the grant on behalf of the client and the grant is directly paid to the client.

### Exhibit 9.1-24: ICT Promotion Measures for MSMEs in Japan, FY 2016

Measure	Description
1. Support programme for introducing IT to increase the productivity of services, etc.	To strengthen the management capabilities of SMEs, etc. support was provided for the introduction of IT tools and apps that contribute to increasing efficiency in back-office operations and enhancing added-value for acquiring new customers, in combination with measures related to increasing SME productivity.
2. Support programme for the improvement of management capabilities and the development of IT infrastructure	A survey was conducted on sharing electronic data among SMEs beyond the bounds of industries, and a consultation meeting was held to introduce best practices in strengthening management capabilities by utilising IT.
3. IT utilisation promotion fund	The JFC provided loans to SMEs to promote the utilisation of IT that would contribute to increasing their productivity.

IT = information technology, JFC = Japan Finance Corporation (a public corporation wholly owned by the Japanese government), SME = small and medium enterprise.

Source: Small and Medium Enterprise Agency, Japan (2017a), *2017 White Paper on Small and Medium Enterprises in Japan*.

<sup>99</sup> <https://translate.google.com/translate?hl=en&sl=ja&tl=en&u=https%3A%2F%2Fit-hojo.secure.force.com%2FshiensearchH29>

<sup>100</sup> [https://translate.google.com/translate?sl=ja&tl=en&js=y&prev=\\_t&hl=en&ie=UTF-8&u=http%3A%2F%2Fit-hojo.force.com%2FproductsearchH29](https://translate.google.com/translate?sl=ja&tl=en&js=y&prev=_t&hl=en&ie=UTF-8&u=http%3A%2F%2Fit-hojo.force.com%2FproductsearchH29)



## 9.2. Annex 2: Summary of Interviews

### 9.2.1 Interview with Government Agencies

We conducted face-to-face interviews with 14 officials at relevant government agencies of 10 AMS to ascertain the current situation of policies regarding the digitalisation of MSMEs. The list of the government agencies interviewed is shown in Exhibit 9.2-1, and a summary of the interviews can be found in ‘9.2.1(4) Summary’.

The results of the interviews were categorised into three themes: (1) basic policies in digitalisation, (2) human resource development, and (3) business support, as reported in the following sub-sections.

**Exhibit 9.2-1: List of Government Agencies Interviewed**

Country	Government Agency
Brunei Darussalam	Digital Ministry of Energy (Energy and Manpower) and Industry (MEMI)
Cambodia	Ministry of Industry and Handicraft
Indonesia	Ministry of Cooperatives and Small, Medium Enterprises
Lao PDR	Ministry of Industry and Commerce
Malaysia	SME Corp
Myanmar	Ministry of Industry
Philippines	Export Marketing Bureau
Singapore	Enterprise Singapore & Info-communications Media Development Authority
Thailand	Office of SMEs Promotion
Viet Nam	Ministry of Planning and Investment

Source: This Study (interview).

#### (1) Basic Policies in Digitalisation

##### 1) Brunei Darussalam

- The Digital Government Strategy 2015-2020 is driven by *Wawasan 2035*, in which by 2035, Brunei Darussalam will be recognised everywhere for: the accomplishments of its well-educated people, the quality of life, and the dynamic, sustainable economy.

Information Technology is an enabler for the Nation to achieve *Wawasan 2035*. Our mission and focus areas are based on the *Wawasan 2035* goals, and the programmes aligned to support the activities of the nation in working towards these goals.

To realise the vision and to achieve the mission, six focus areas have been identified:

### 1. Service Innovation

With an increasingly sophisticated and dynamic society, government agencies must develop new and innovative ways to deliver services to citizens and businesses with greater transparency and accountability.

### 2. Security

Following on from the previous strategic plan 2009-2014, security will remain a key focus area. The Government needs to maintain situational awareness of its digital assets and environment at all times. Adequate measures will be taken to minimise risks and increase capabilities to respond to cyber-incidents effectively.

### 3. Capability and Mind-set

People will always remain the key that will lead to the successful implementation of any technology. It is essential to foster a forward-thinking mind set and collaborative culture. This will help to increase the speed of adopting new systems, the rate of utilising systems, and the proficiency of government officials.

### 4. Enterprise Information Management

With today's knowledge driven economy, information is a fundamental building block that can advance a nation. It is critical that the government manages the explosive growth of data by structuring, describing, and governing information assets that can then be used to generate insights that aid decision-making.

### 5. Optimisation

To keep pace with the rapid development of technology, the government has been implementing various IT systems and platforms. Moving forward, the government needs to optimise the use of these digital assets to ensure effectiveness, minimise redundancy, and maximise value for money.

### 6. Collaboration and Integration

Government agencies are required to work together to face an increasingly complex environment. This requires a whole-of-government approach to enhance the collaboration between government agencies and to integrate government business processes.

- The 'National Broadband Policy 2014-2017' introduced in 2014 was jointly drafted by the Ministry of Communications (now known as the Ministry of Transport and Info-communications) and the Authority for Info-communications Technology of Brunei Darussalam (AITI). The main objective of the Broadband Policy was to bridge the

digital divide in Brunei Darussalam by ensuring the whole population will be provided with broadband connections at competitive prices and in accordance with industry standards.

This was the first recognised digital platform in the country triggering several initiatives for expanding the nation's digital infrastructure. In the future, efforts will be increased to improve accessibility and affordability.

- The 'National ICT White Paper 2018-2020' aims to provide a strong foundation for the nation towards achieving its long-term ICT vision. It will further strengthen existing ICT programmes, identify key performance indicators, recommend strategies and prioritise programmes to meet the strategic goals identified by *Wawasan 2035*. The three strategic outcomes identified are: A vibrant economy powered by ICT, ICT-Smart Citizens, and A Connected and Efficient Nation.

## 2) Cambodia

- National Strategic Development Plan (NSDP) 2014-2018 (Draft 2019-2023)
- Industrial Development Policy led by the Ministry of Industry and Handicraft (MIH), 2015-2025, focusing on the high-tech sector and SMEs.
- The MIH is the leading agency in developing the SME Promotion Policy to encourage innovation and technology adoption
- The MIH is also a leading agency in SME Development Policy, a 5-year plan focusing on e-commerce and social media platforms.

## 3) Indonesia

Economy Policy Package XIV aims to make Indonesia the biggest digital economy in Southeast Asia by 2020.

Important relevant policies or regulations in place are as follows:

- *Undang-Undang Informasi Dan Transaksi Elektronik Tahun 2008* (Information and Electronic Transaction Act 2008) is in place to tackle cybercrime in Indonesia.
- Ministry of Transportation Decree No. 108, 2017, related to online ride-sharing (*Peraturan Menteri Perhubungan Nomor 108 Tahun 2017 tentang Penyelenggaraan Angkutan Orang dengan Kendaraan Bermotor Umum Tidak Dalam Trayek*).
- The Ministry of Communication and Informatics has a programme named *Pitalebar*. This programme serves to encourage innovation, the emergence of new goods and services, and new business models, and increase competitiveness and economy flexibility.

• *Pitalebar* priority agendas are:

1. *Pitalebar* Infrastructure Development, including 4G services
2. Telecommunication industry efficiency
3. Encouraging the increase in telecommunication devices in Indonesia
4. Computer Telephony Integration (CTI)
5. Decreasing the circulation of illegal devices.

#### 4) Lao PDR

In the context of digitalisation, the following three infrastructure development projects are important:

- National Internet Gateway Project (2008)
- National Telecommunication Transmission Network (2011)
- Satellite Project (2012)

In Lao PDR, regulations on e-commerce do not exist and remain in the initial stages of drafting. Currently, Lao PDR is developing and improving its legislative system to make preparations for e-commerce as well as the digital economy in the near future.

#### 5) Malaysia

Digital/IT infrastructure is mostly covered by the Malaysian Communications and Multimedia Commission. The commission aims to improve broadband, speed, hardware, and infrastructure, especially in rural areas where ICT infrastructure remains underdeveloped.

At the end of 2017, the Communications and Multimedia Blueprint 2018–2025 was launched, with six strategic imperatives outlined to guide the sector on its transformation journey. The six thrusts are:

- Connecting people
- Strengthening trust
- Intensifying engagement
- Accelerating innovation
- Catalysing creativity
- Empowering talent

The blueprint was designed to position the communications and multimedia sector for sustainable growth and broader technological advancement.

#### 6) Myanmar

In Myanmar, businesses are increasingly aware of the importance of staying relevant in the digital era. To support the growth of the digital sector, the government is fram-

ing regulations by following the footsteps of other ASEAN countries who already have robust relevant regulations in place.

From the government side, the Digital Economy Development Committee under the Ministry of Planning and Finance has set a vision, missions, goals, strategy, and action plans for the digital economy for MSMEs including digital infrastructure. The SME Development department will implement the action plans.

In terms of ICT infrastructure, Myanmar is planning to migrate to 5G from 4G.

## 7) Philippines

Under the E-commerce Roadmap 2016–2020, launched by the Department of Trade and Industry (DTI), improving the supply chain and ICT infrastructure are identified as among the key areas.

The need for reliable and up-to-date infrastructure is considered critical in order to promote the widespread adoption of e-commerce in the country. A fast, reliable, and affordable Internet service that is accessible by citizens even in the rural areas is a basic requirement that the government needs to address. Other areas addressed under the infrastructure section include systems and applications that support e-commerce, such as e-banking, e-payments, and logistics, including the provision of an online dispute resolution system to address consumer complaints. This highlights the need to address the tax system to make it easier for online sellers and freelancers to comply with the tax regulations of the government.

## 8) Singapore

Singapore continues to make strategic investments to address projected needs of the Digital Economy. The digital economy Framework for Action released in May 2018 guides these efforts through three strategic priorities -

1. Accelerate – Digitalising industries: To digitalise every industry and every business, raising productivity and efficiencies to grow the economy
2. Compete – Integrating Ecosystems: To sharpen Singapore’s competitive edge by supporting companies to leverage digital technology
3. Transform – Industrialising Digital: To transform the Infocomm Media industry to become a key growth driver of Singapore’s digital economy.

## 9) Thailand

The Thai government aimed to upgrade the national basic digital infrastructure in 2016, including bringing Internet broadband to reach 30,000 villages (accounting for 40% of the 70,000 villages in Thailand). At the same time, Thailand is also enlisting private sector help to construct a national data centre to support the development

of the digital economy, improve access to international gateways, and boost national broadband access.

### 10) Viet Nam

Under the Prime Minister's Decision in 2010, the plans for infrastructure include the following:

1. To proceed with the construction of a national network safety technical centre
2. To research and develop the national information safety assessment and examination system; an online crime warning, detection, prevention and combat system; and a system for the certification and confidentiality of government information systems
3. To intensify the training of information safety experts for government agencies and national key information systems.
4. Law No. 86/2015/QH13 – law on network information security

This law provides regulations on network information security activities; the rights and duties of agencies, organisations, and individuals in securing network information security; civil cryptography; technical standards and norms of network information security; business in information security; human development for network information security; and state management of network information security.

## (2) Human Resource Development

### 1) Brunei

A high-level masterplan on ICT manpower was drafted in line with the National Vision or Brunei's *Wawasan 2035*.

The desired outcomes of this masterplan are:

- ICT as an attractive career option for Bruneians
- Highly skilled ICT professionals with industry-relevant competencies
- A vibrant Bruneian ICT industry as a source of employment

The ICT Manpower Masterplan lists multiple awareness and educational programmes designed to:

- Attract Bruneians to ICT careers
- Develop 'industry-ready' ICT graduates
- Deepen the existing ICT talent pool
- Create opportunities for ICT employment

There are several programmes in place that support the development of human resources in Brunei Darussalam.

- **Tech Kids Camp:** Enables young students to experience ICT in a tangible and fun way. The camp allows students to work in teams to develop an educational game

using a simple programming tool such as Scratch. The students embrace the importance of STEM learning: Science, Technology, Engineering and Mathematics by producing an ICT project in the form of an educational game centred on the STEM theme.

- **Hobbyist Development Programme:** To encourage a strong community of ICT enthusiasts in different fields, e.g.: coding, gaming, and software applications. This initiative proposes to have a different area of interest every year. In 2017, the programme targeted developing the knowledge of coding. The target audiences are secondary school students and teachers. The hobbyist development programme consists of development workshops and a competition which the participants create an application using the skills they learnt from the workshops.
- **ICT Savviness Program:** 'Program Celik ICT' also known as ICT Savviness Program is an initiative by AITI to promote digital literacy and ICT Savviness amongst the general public. It aims to provide understanding to the benefits of using ICT in their daily lives, encourages the usage to improve work productivity and generate interest in the ICT industry. The program encourages all participants to continue to learn and use ICT to improve their ability to promote and market products in all the districts and internationally.

## 2) Cambodia

The MIH collaborates with the SME Academy Centre in providing free online training courses to SMEs who wish to learn online.

The MIH also plans to sign a memorandum of understanding (MoU) with the Institute of Technology of Cambodia (ITC) to enhance innovation and production technology, especially in the Foods Processing Sector.

Foreign companies or business development agencies, such as the Japan International Cooperation Agency (JICA), sometimes propose cooperation with the MIH to give training to SMEs in Cambodia.

## 3) Indonesia

Important relevant policies in place are:

*Undang-Undang Republik Indonesia Nomor 18 Tahun 2002 tentang Sistem Nasional Penelitian, Pengembangan, dan Penerapan Ilmu Pengetahuan dan Teknologi* (Indonesia Act No. 18, 2002, related to the National System of Researching, Developing, and Implementing Science and Technology.)

*Peraturan Pemerintah Republik Indonesia Nomor 6 Tahun 1959 Tentang Pendirian Institut Teknologi* (Government Decree of Indonesia No. 6, 1959, related to the Establishment of the Institute of Technology).

*Gerakan Kewirausahaan* is a government programme designed to increase the number of entrepreneurs in Indonesia. The programme was launched in 2011 and involves educational activities such as seminars and training for entrepreneurs to understand how to conduct business, especially with the aid of digital tools.

#### 4) Lao PDR

Under the National ICT Policy, several projects were put in place to improve digital skill enhancement in the Lao PDR:

- E-education project, to establish computer laboratories in 50 schools and provide free Internet access to more than 500 schools
- Lao PDR localisation project
- Rural community telecentre project

Important examples in digital skill promotion provided by the respondents:

The Ministry of Science and Technology organised an ICT fair to exhibit the latest technologies for creating more awareness amongst entrepreneurs and ordinary citizens.

The Ministry of Education and Sports has recently established a division dedicated to the commercialisation of academic papers. The division also serves to assist students to become entrepreneurs after they have completed their studies and encourage technology adoption in the process.

The Department of SME Promotion under the Ministry of Industry and Commerce has developed a curriculum in collaboration with ASEAN to match students and SMEs for internship programmes. The purpose is to familiarise students with digital tools, such as barcode and inventory management systems so that they can apply the knowledge after graduation.

#### 5) Malaysia

Malaysia has policies for improving digital skills, especially to help the B40 (those with a low-income level) to adopt the digital tools to become entrepreneurs.

Such programmes include *eUsahawan* and *eRezeki* under the Malaysia Digital Economy Corporation (MDEC). *eUsahawan* aims to develop entrepreneurship through providing education on ways to utilise online platforms to conduct business. *eRezeki* is an online job portal where people can apply and submit tasks that can be completed online, such as designing apps. The initiative helps Malaysians get jobs both domestically and from overseas.

Another relevant policy is the National E-commerce Strategic Roadmap, one of the



six thrusts of the blueprint. The programme aims to train 35,000 SMEs by 2018 to adopt e-commerce and list their products on online marketplaces. There are 31 strategic partners involved, with major partners including Lazada, 11 Street, Lelong, and Shopee. SMEs can choose which strategic partners to work with. As of now, around 30,000 SMEs have been trained since the launch of the programme 2 years ago.

Another key programme in place is the Go e-commerce online platform co-established by MDEC and the SME Corporation, Malaysia (SME Corp). It serves as an active learning platform and hub that acts as a comprehensive guide for all SMEs who are keen to explore and build their businesses via e-commerce. The aim of Go e-commerce is to enable and empower SMEs to channel or diversify their businesses digitally. The platform is a one-stop centre for guiding SMEs in their e-commerce adoption journey. It provides an assessment tool to estimate how ready the SMEs are in adopting e-commerce and exporting. The portal also provides e-commerce training materials, laws and regulations references, and guidelines.

## **6) Myanmar**

In Myanmar's context, the language barrier precedes the lack of digital skills, as businesses need to know English to do e-commerce for B2B transactions on sites such as Alibaba.com. Hence, it is important to improve the English education in the country to facilitate cross-border e-commerce trading.

On the digital skills side, the government is actively organising workshops and training sessions to give exposure to students and businesses and equip them with the entrepreneurial skills and lessons needed for today's digital economy.

The government also provides basic IT training for SMEs. For instance, in Nyaung Oo, the government has digitalisation training programmes especially for hospitality players, as the district is famous for tourism. The training includes how to list their traditional handicrafts online and how to advertise their homestays or hotels online. Myanmar also has its own website for SMEs, which is connected to the ASEAN SME Service Centre portal. People can access the training materials through the portal.

## **7) Philippines**

Under the e-commerce roadmap, intellectual capital is one of the key pillars for driving e-commerce growth in the Philippines. This fosters appropriate skills and training, from technology and linguistics to entrepreneurship.

Training is being increasingly incorporated into SME-related events, such as in the SME Week by the Philippine Trade Training Center. Topics include 'Doing Business in

E-marketplaces', which educate SMEs on using the Internet to promote their products. During the SME Week, MSMEs are encouraged to sign up for the government-sponsored e-commerce platform, Shopinas.

The Department of Science and Technology (DOST) also covers digital adoption as part of its mentorship for MSMEs. Under this programme, the department helps MSMEs to set up e-commerce stores.

## 8) Singapore

Singapore has important digital skills programmes in place to equip the workforce with the necessary knowledge in going digital:

- Student programmes (e.g. the Code for Fun Enrichment Programme and Lab on Wheels)
- TechSkills Accelerator (TeSA), a SkillsFuture initiative that is a tripartite collaboration between the government, industry, and the National Trades Union Congress (NTUC), to build and develop a skilled Information and Communications Technology (ICT) workforce for the Singapore economy, and to enhance employability outcomes for individuals. The key thrusts of TeSA include a skills framework for ICT, train and place programmes, and integrated career services.
- SkillsFuture for Digital Workplace, which equips Singaporeans with the mindset for change, innovation and resilience, and basic digital skills to prepare themselves for the future economy.
- The Digital Maker Programme aims to nurture a new generation of digital creators and makers by introducing simple-to-use and open-ended technology.

## 9) Thailand

At the end of 2016, the Digital Economy Promotion Agency (DEPA) planned to spend ฿50 million on digital entrepreneur projects that cover 4,000 communities in 10 major provinces to provide training courses. The projects encourage the use of enterprise software (especially local software to help develop the ICT sector) to manage accounting and inventory systems.<sup>101</sup>

## 10) Viet Nam

Policies related to promoting digital and IT skills are also covered under the master plan for making Viet Nam an ICT country by 2020.

Specifically, the policy aims for 80% of ICT graduate students to be professionally

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<sup>101</sup> Bangkok Post (2016), Sipa Becomes Depa as It Takes on Broader Role, <https://www.bangkokpost.com/tech/local-news/1166417/sipa-becomes-depa-as-it-takes-on-broader-role>

qualified and have a good command of foreign languages for participation in international labour markets. The total labour in the information technology industry will reach 1 million, including personnel working in the country and personnel as guest workers. The rate of Internet users will reach over 70% of the population.

Specific tasks to be carried out include: prioritising resource allocation, enhancing the physical foundations for key IT training and research institutes, and improving IT training and English education for the general society.

### (3) Business Support

#### 1) Brunei

There are plans in line with *Wawasan 2035* for diversifying the economy beyond oil and gas businesses and encouraging the development of MSMEs. This includes providing start-ups with capacity-building training in digital skills, which would focus on human resources and finance management tools for running businesses.

The Digital Nation Division (DND) was previously formed at the Ministry of Energy (Energy and Manpower) and Industry (MEMI) which was a relatively new entity that is more focused on guiding MSMEs towards digitalisation. Active coordination is currently on-going between several Ministries, involving the Prime Ministers' Office, Ministry of Energy (Energy & Manpower) & Industry (MEMI), and the Ministry of Transport and Infocommunications (MTIC) in areas including digital economy and digitalisation. Overall, the different ministries of the government currently have their ICT departments and have implemented ICT initiatives that are specific to their roles.

The **Local Business Development (LBD)** Policy Framework for the ICT industry in Brunei Darussalam for all government ICT projects was implemented on 1<sup>st</sup> March 2017. The framework sets out the local content requirements for ICT companies participating in the government's ICT projects. The objective is to maximise local content through greater participation of a capable local ICT workforce. The ultimate goal is to achieve the development of local skills, technology transfer, as well as use of local manpower and local products and services specifically related to the development of local Intellectual Properties (IP).

All local ICT companies participating in the government ICT projects and all the Project Managers of the government ministries and agencies executing their respective e-government and ICT projects are required with comply to this policy framework. The framework provides business support for the small ICT businesses to participate in Government ICT tenders.

## 2) Cambodia

Under the Department of SMEs of the MIH, the Office of SME Consultation provides free consultation services to SMEs on registration and compliance and for starting up business. Both local and foreign enterprises have access to the service.

Overall, the MIH plays a key role in facilitating MSME policy development. However, support is currently being provided only at the policy level. There is no technical working group yet, so in the near future, the Department of SMEs of the MIH will propose establishing a technical working group on MSMEs for specific sectors.

## 3) Indonesia

The overarching policy in support of e-commerce in Indonesia is the presidential decree No. 74, 2017, on the e-commerce roadmap 2017–2019. The roadmap has several programmes that cover aspects including financing, taxes, consumer protection, talent development, communication infrastructure, logistics, cybersecurity, and management. The programmes involve nearly 27 ministry agencies in Indonesia, which play different roles in helping MSMEs digitise in the country.

The Ministry of Cooperatives and Small, Medium Enterprises has the role of educating and facilitating MSMEs to develop their businesses. Other government agencies, such as the Ministry of Communication and Informatics, have the duty of establishing digital information to be used by MSMEs.

The Ministry of Cooperatives and SMEs is collaborating with the Ministry of Communication and Informatics and digital platformers, such as Tokopedia, to assist MSMEs in entering the digital market place.

The Ministry of Cooperatives and SMEs also has a programme aiming to improve the financial support for SMEs. This includes the provision of micro credit of US\$12 billion in 2018, subsidised interest rates, and government-guaranteed loans. Some currently available sources of financing include Kredit Usaha Rakyat (KUR, Micro Credit Program) as a business loan, Ultra Micro Credit, KURBE (KUR for exporting SMEs), and the Revolving Fund Reduction of SMEs Tax from 1% to 0.5% (MSME non-digital).

The Ministry of Cooperatives and SMEs has a programme to improve SMEs' productivity through the use of technology, product standardisation, digitalisation, and trade promotion. There is a Center of Integrated Services of SMEs and Cooperatives (PLUT) for integrated business development services, product standards facilitation, and the use of e-commerce.

The Ministry of Communication and Informatics has launched an application called LAMIKRO (Accounting Report for MSMEs). This is used for administrative needs, such as accounting.

#### 4) Lao PDR

The Department of SME Promotion organises ICT training and seminars for SMEs by inviting experts from the United States to educate participants on topics such as e-commerce and e-payments.

In addition, the Department of SME Promotion will establish technology funds in collaboration with the Ministry of Science and Technology to support the development of production tools and equipment and the use of digital systems amongst enterprises. A budget of US\$150 million will be allocated to the initiative, which will help cover 50% of the digital system installation costs for participating enterprises. The initial focus will be on promoting electronic food ordering systems in restaurants.

Currently, the Department of Foreign Trade Policy under the Ministry of Industry and Commerce is drafting a decree on online trading to promote and properly manage the emerging sector.

#### 5) Malaysia

Crucial relevant supportive policies are as follows:

- Communication and Multimedia Act 1998
- Personal Data Protection Act 2010
- National E-commerce Strategic Roadmap
- The Roadmap aims to develop Malaysia's e-commerce sector, double Malaysia's e-commerce growth rate, and reach a GDP contribution of RM 211 billion by 2020.

The programme target is to train 35,000 SMEs to become e-commerce viable, and they expect 30,000 SMEs to successfully adopt e-commerce.

Other than policies and initiatives, SME Corp established the Digital Free Trade Zone (DFTZ) last November. Currently, there are about 1,997 SMEs onboard ready to export to the world via Alibaba. They want to penetrate the Chinese market selling mostly food products.

#### 6) Myanmar

Businesses including MSMEs can access consultation services through the ASEAN SME service centre. Currently, there are 150 people from MSMEs connected to the portal. More consultation services and other services to support the digitalisation of MSMEs will be slowly added.

Some other indirect measures include the potential opening up of the retail sector to foreign direct investment (FDI). This will potentially drive e-commerce growth in the country and indirectly benefit MSMEs going digital in the retail sector.

The government offers policy dialogues with stakeholders to lead to the smooth adoption of digital technology. The changes will not be instantaneous as the country is still trying to build better infrastructure.

## 7) Philippines

Negosyo Centers were set up to promote the ease of doing business and facilitate access to services for MSMEs. The Department of Trade and Industry (DTI) significantly expanded and strengthened its support and services to the growing number of MSMEs nationwide, tripling the number of Negosyo Centers established across the country from 144 in 2015 to 447 in 2016.<sup>102</sup>

The e-commerce Roadmap's main objective is to contribute 25% to the Philippines' GDP by 2020 (from 10% in 2015 based on estimates made by iMetrics Asia Pacific Corporation). The country's MSMEs, which make up 99.6% of Philippine enterprises, will largely benefit from this initiative. By participating and engaging in e-commerce programs and projects, Philippine MSMEs can become globally competitive. The Road Map aims to have 100,000 MSMEs doing e-commerce by 2020.<sup>103</sup>

Last year, the Embassy of the Philippines was able to send two participants to the Digital Champion in Singapore in cooperation with the assistance of the Asia Pacific MSME Trade Coalition.

Under the EMB (Environmental Management Bureau), the Qbo program was launched to assist tech start-ups. This is a private-public partnership programme by the IDEAspace Foundation (via their Accelerator Program), DOST, and the JP Morgan Foundation. They give free seminars and mentorship. Most importantly, they act as a hub where start-ups can get assistance from the government and private sector and explore opportunities and resources as a community. As the name Qbo (a play on words on the Filipino word Kubo, which is a local type of dwelling in the Philippines) suggests, it capitalises on the culture of Bayanihan, or helping everyone in the community.

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<sup>102</sup> Department of Trade and Industry, DTI Triples Number Of Negosyo Centers Nationwide to 447, <https://www.dti.gov.ph/media/latest-news/10054-dti-triples-number-of-negosyo-centers-nationwide-to-448>

<sup>103</sup> Department of Trade and Industry, DTI Launches Ph E-commerce Roadmap 2016-2020, <https://www.dti.gov.ph/e-commerce/84-main-content/eco-news/9464-dti-launches-ph-e-commerce-roadmap-2016-2020>

DTI also co-hosted the APEC Policy Dialogue on MSME Marketplace and O2O Forum in November 2016. This was part of the government's efforts to encourage MSMEs to invest in innovation and take advantage of the opportunities in the digital economy.<sup>104</sup>

Apart from Shopinas, another e-commerce platform that has been set up by government agencies is Tradeline Philippines. It helps exporting companies connect with possible buyers via its platform. DTI-EMB's main ICT tool, Tradeline, in providing its stakeholders with an integrated export information system that will provide regular trade statistics reports, market and product information, supplier and buyer databases, and other trade-related information to its valued stakeholders through the web.

An example is the Regional Interactive Platform for Philippine Exporters Plus (RIPPLES PLUS). RIPPLES aims to develop 1,000 tech-enabled companies in the five years to 2022, under the key and emerging sectors of the Philippine Export Development Plan (PEDP). Part of the training and support it provides is ensuring that the MSMEs under RIPPLES are tech-enabled.

## 8) Singapore

The SMEs Go Digital Programme, launched in 2017, is a key initiative led by the Infocommunications Media Development Authority (IMDA) to help SMEs use digital technologies, build stronger digital capabilities and seize opportunities for growth in the digital economy.

SMEs Go Digital comprises the following key elements:

- Industry Digital Plans: SMEs can refer to the sector specific Industry Digital Plans (IDP) that provide step-by-step advice on the digital solutions and digital skills required for their employees for each stage of their growth. As of 31 March 2019, Industry Digital Plans (IDPs) for seven sectors – Food Services, Logistics, Retail, Wholesale Trade, Environmental Services, Security and Media – have been released,
- Pre-Approved Digital solutions: SMEs can take up and implement pre-approved digital solutions that meet their business needs, and receive funding support.
- Project Management Services: SMEs can tap a ready pool of project managers to help them implement their digital solutions
- Sector projects: SMEs can participate in sector pilot projects led by industry leaders to enjoy new growth.
- Start Digital Pack: Newly incorporated SMEs can get a head start in going digital by

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<sup>104</sup> Department of Trade and Industry, DTI Urges MSMEs to Invest in Innovation, <https://www.dti.gov.ph/about/updates/9965-dti-urges-msmes-to-invest-in-innovation>

taking a Start Digital pack from Start Digital partners. It is made up of foundational digital solutions in the following five categories: Accounting, Human Resources Management & Payroll, Digital Marketing, Digital Transactions, and Cybersecurity.

- Digital consultancy: SMEs who need assistance can contact their nearest SME Centre (located island wide) for advice on the pre-approved solutions that may be suitable for them. Business Advisors at the SME Centres will refer SMEs more advanced digital needs such as data analytics and cybersecurity to Consultants at the SME Digital Tech Hub.

## 9) Thailand

Thailand 4.0 ties in with Industry 4.0 by involving automation, robotics, artificial intelligence (AI) and cutting-edge technology. The Thai government has tried to issue new policies and grant more budget to the relevant agencies to invest in research and development activities.

## 10) Viet Nam

The specific tasks to support the efficient application of IT in state agencies, enterprises, and society under the Master Plan include:

1. To continue realising programmes and plans on the application of information technology in state agencies and enterprises under the Prime Minister's Decision No. 43/2008/QD-TTg, No. 48/2009/QD-TTg, No. 1605) QD-TTg of 27 August 2010 and No. 191/2005/QD-TTg.
2. To proceed with the application of IT in state agencies, ensuring smooth direction and administration from the central government to urban districts, rural districts, communes, and wards nationwide.
3. To realise programmes, schemes, projects, and policies for accelerated investment in the application and development of IT in enterprises.
4. To realise schemes and projects for heightening the capability and application of IT for people of all strata in society and establishing a Vietnamese social network.

## (4) Summary: Current ICT-related Policies in AMS

The current ICT-related policies in AMS are summarised in Exhibit 9.2-2.



## Exhibit 9.2-2: Selected ICT Policies in ASEAN Member States

Country	Basic Policies in Digitalisation	Human Resource Development	Business Support
Brunei Darussalam	Digital Government Strategy 2015 – 2020 ICT White Paper 2016 – 2020 National Broadband Policy 2014 – 2017	ICT Manpower Master Plan	—
Cambodia	National Strategic Development Plan Industrial Development Policy SME Promotion Policy SME Development Policy	Free online training courses for SMEs	Free consultation services
Indonesia	Economy Policy Package XIV Information and Electronic Transaction Act, 2018 Ministry of Transportation Decree No. 108, 2017 <i>Pitalebar</i>	Indonesia Act No. 18 Government Decree of Indonesia No. 6, 1959	President Decree No. 74 Business loans Micro credit Revolving fund reduction for SME tax Centre of Integrated Services of SMEs and Cooperatives Accounting report for MSMEs
Lao PDR	—	—	Personal information protection Business Development Services Network Business Service Centre Trade Portal Platform for SMEs Services Portal ASEAN framework ASEAN SME Service Centre
Malaysia	Communication and multimedia blueprint 2018–2020	<i>eUsahawan, eRezeki</i> National E-commerce Strategic Roadmap Go E-commerce online platform	Communication and Multimedia Act 1998 Personal Data Protection Act 2010 National E-commerce Strategic Roadmap
Myanmar	Digital Economy Development Committee Retail market policies with the Union of Myanmar Federation of Chambers of Commerce and Industry	English ICT education Workshops Training sessions	Consultation through the ASEAN SME Service Centre
Philippines	Negosyo Center (roadshows) to promote digital participation RA 10175 – creation of Cybercrime Investigating Coordination Unit and Computer Emergency Response Team RA 10173 – Data Privacy Act The E-commerce Roadmap 2016–2020, etc.	Department of Science and Technology covers digital participation as part of its mentorship for MSMEs Incorporation of training into SME-related events, such as SME Week by the Philippine Trade Training Center	Qbo program to assist tech start-ups
Singapore	Smart Nation Strategic National Projects, Digital Economy Framework for Action, Infocomm Media Sector Industry Transformation Map	Student programmes, TechSkills Accelerator, SkillsFuture Series, SkillsFuture for Digital Workplace, Skills Framework for ICT, Skills Framework for Media, Digital Maker Programme	SMEs Go Digital programme, the Financial Sector Technology and Innovation Scheme, financial assistance schemes (Enterprise Singapore)
Thailand	Thailand 4.0 scheme (Ministry of Digital Economy and Society), Office of SMEs Promotion (OSMEP), Electronic Transactions Development Agency, National Innovation Agency	Digital entrepreneur projects involving 4,000 communities in 10 major provinces with 300 centres nationwide	Thailand 4.0 scheme, DEPA promotes the development of digital-related activities and directory website, OSMEP supports and encourages SME to use innovation and promote digitalisation
Viet Nam	Law on Information Technology (2006), Law on Telecommunications (2009), Law on Electronic Transactions (2005), Law on Radio Frequency (2009), Decision No. 1755/QĐ-TTg of 22 September 2010, Master Plan on E-commerce, Law on Technology Transfer enacted in 2006 and revised in 2017, main legal documents that control Internet resource management in Viet Nam, Law No. 86/2015/QH13, Decision No. 1563/QĐ-TTg	The Master Plan of making Viet Nam an ICT country by 2020, Law on Information Technology 2006 – articles 34, 42, 64, 69, 74	The Prime Minister's Decision No. 43/2008/QĐ-TTg, No. 48/2009/QĐ-TTg, No. 1605/QĐ-TTg, No. 191/2005/QĐ-TTg, Resolution No. 41/NQ-CP –, Law No. 04/2017/QH14

ICT = information and communications technology, MSME = micro, small, and medium enterprise, SME = small and medium enterprise.

## 9.2.2 Interview with MSMEs

We conducted face-to-face interviews with business owners and senior managers of MSMEs to determine their current status of digitisation and the challenges they face and to learn their opinions. The industry profile of MSMEs interviewed is shown in Exhibit 9.2-3.

In those companies interviewed, the business decisions were mostly made by the business owners or a few senior managers.

**Exhibit 9.2-3: Industry Profile of MSMEs Interviewed**

Company	Merchandise	Primary Activity	ISIC* <sup>1</sup>	Cross-border Business
SALE01	Promotion of handicrafts	Wholesale	46	✓
SALE02	Fashion	Retail	47	
SALE03	Cosmetics	Retail	47	
SALE04	Local handicrafts	Retail	47	
SALE05	Local agricultural products	Retail	47	
SALE06	Local agricultural products	Retail	47	
SALE07	Local agricultural products	Retail	47	
SALE08	Flat bread	Retail	47	
SALE09	Pastries	Retail	47	
SALE10	Cosmetics	Retail	47	
SALE11	Medical equipment	Retail	47	
SALE12	Local agricultural products	Retail	47	
SALE13	Local agricultural products	Retail	47	
SALE14	Cosmetics	Retail	47	✓
SALE15	Fashion	Retail	47	✓
SALE16	Local food products	Retail	47	✓
SALE17	Promotion of handicrafts	Retail	47	✓
SALE18	Mobile phone accessories	Retail	47	✓
SALE19	Cosmetics	Retail	47	✓
SALE20	Rubber products	Retail	47	✓
SALE21	Groceries	Retail	47	✓
SALE22	Fashion	Retail	47	✓
SALE23	Promotion of handicrafts	Retail	47	
FOOD01	Food and beverages	Food and beverages	56	
FOOD02	Food and beverages	Food and beverages	56	✓
FOOD03	Food and beverages	Food and beverages	56	✓
FOOD04	Food and beverages	Food and beverages	56	✓
FOOD05	Food and beverages	Food and beverages	56	
FOOD06	Food and beverages	Food and beverages	56	
SPRT01	Retail logistics	Business support activities	82	
SPRT02	Retail logistics	Business support activities	82	
SPRT03	QR code service	Business support activities	82	
SPRT04	Platformer* <sup>2</sup>	Business support activities	82	✓
SPRT05	Event industry	Business support activities	82	
MFGRO1	Cast metal	Manufacturing	25	
MFGRO2	Cosmetics	Manufacturing	25	
MISCO1	Media	Publishing	58	
MISCO2	Interior design	Professional activities	74	✓
MISCO3	Education	Education	85	
MISCO4	Promotion of fine art	Creative activities	90	

\*<sup>1</sup> ISIC = Division code of ISIC Rev.4 (UNDESA, 2007).

\*<sup>2</sup> SPRT04 is a small sized platformer.

Source: This Study (interviews).

## (1) Current Situation of ICT Adoption

### 1) Digital Technology Adopted by the Respondent Companies

#### A. Progress of MSME Digitalisation

The types of digital technology adopted by the respondent companies (Q2<sup>105</sup>) are shown in Exhibit 9.2-4. For convenience, we classified digital technologies into three categories: basic technologies (basic software<sup>106</sup> and communication tools<sup>107</sup>), intermediate technologies (social media, website, e-commerce, e-payments, and use of the digital platform), and advanced technologies (advanced software,<sup>108</sup> apps,<sup>109</sup> analytics, and automation<sup>110</sup>).

Basic software, such as Word, Excel, etc., was used in all companies interviewed, and advanced software (such as enterprise resource planning software, customer relationship management software, point-of-sale systems, and customised software, etc.) followed.

In contrast, data analysis technology (analytics), represented by business intelligence (BI), seemed to be in an early stage of deployment in the MSMEs interviewed. The use of the digital platform was moderately disseminated to the sample group, implying that it is in a transition stage from the early majority to the late majority.

It is worthwhile noting that 90% of the companies interviewed (36 companies out of 40) made full use of SNS. This implies that SNS is an effective way of communicating with MSMEs that are familiar with digitalisation.

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<sup>105</sup> 'Q number' refers to the question number of the interview survey, unless otherwise stated.

<sup>106</sup> Office suite (Word, Excel, or such kinds of software).

<sup>107</sup> WhatsApp, email, etc.

<sup>108</sup> Enterprise resource planning, customer relationship management, point-of-sale, and customised software, etc.

<sup>109</sup> Website applications or mobile applications.

<sup>110</sup> Chatbots (automated conversation programmes).

**Exhibit 9.2-4: Type of Digital Technology Adoption**

Company	Basic DT		Intermediate DT					Advanced DT				
	Basic software*1	Communication tools*2	Social media	Websites	E-commerce		E-payments	Use of the digital platform	Advanced software*3	Apps*4	Analytics	Automation*5
					Seller	Buyer						
	100%	75%	90%	73%	65%	23%	55%	48%	65%	25%	15%	10%
SALE01	✓	✓	✓	✓				✓				
SALE02	✓	✓	✓		✓			✓				
SALE03	✓	✓	✓	✓	✓							✓
SALE04	✓	✓	✓	✓					✓	✓		
SALE05	✓	✓	✓	✓	✓				✓			
SALE06	✓	✓	✓	✓	✓				✓			
SALE07	✓	✓	✓						✓			
SALE08	✓		✓	✓	✓			✓				✓
SALE09	✓		✓	✓	✓	✓		✓	✓			
SALE10	✓		✓	✓		✓		✓	✓			
SALE11	✓	✓			✓				✓			
SALE12	✓		✓	✓	✓			✓		✓		
SALE13	✓	✓	✓	✓	✓							
SALE14	✓	✓	✓	✓	✓	✓		✓		✓		✓
SALE15	✓	✓	✓	✓	✓			✓		✓		✓
SALE16	✓		✓	✓	✓			✓				
SALE17	✓	✓	✓						✓	✓		
SALE18	✓	✓	✓	✓	✓	✓		✓		✓		
SALE19	✓	✓	✓	✓	✓	✓		✓				
SALE20	✓		✓	✓	✓	✓		✓				
SALE21	✓		✓	✓	✓	✓		✓				
SALE22	✓	✓	✓	✓	✓						✓	
SALE23	✓	✓	✓		✓					✓		
FOOD01	✓	✓	✓	✓					✓			
FOOD02	✓	✓	✓		✓				✓			
FOOD03	✓	✓	✓	✓	✓			✓				
FOOD04	✓				✓					✓		
FOOD05	✓		✓						✓			
FOOD06	✓	✓	✓	✓				✓		✓	✓	
SPRT01	✓	✓	✓	✓					✓			
SPRT02	✓								✓			
SPRT03	✓	✓	✓	✓				✓				
SPRT04	✓	✓	✓	✓	✓			✓		✓		
SPRT05	✓	✓	✓		✓			✓		✓		
MFGR01	✓	✓		✓				✓		✓		
MFGR02	✓	✓	✓	✓					✓		✓	
MISCO1	✓	✓	✓	✓	✓	✓		✓				
MISCO2	✓	✓	✓	✓		✓		✓				
MISCO3	✓	✓	✓		✓			✓				
MISCO4	✓	✓	✓	✓					✓		✓	

DT = digital technology.

\*1) Basic software: Office suite (Word, Excel, etc.)

\*2) Communication tools: WhatsApp, email, etc.

\*3) Advanced software: enterprise resource planning, customer relationship management, point of sale, customised software, etc.

\*4) Apps: Website applications or mobile applications.

\*5) Automation: Chatbots (automated conversation programmes).

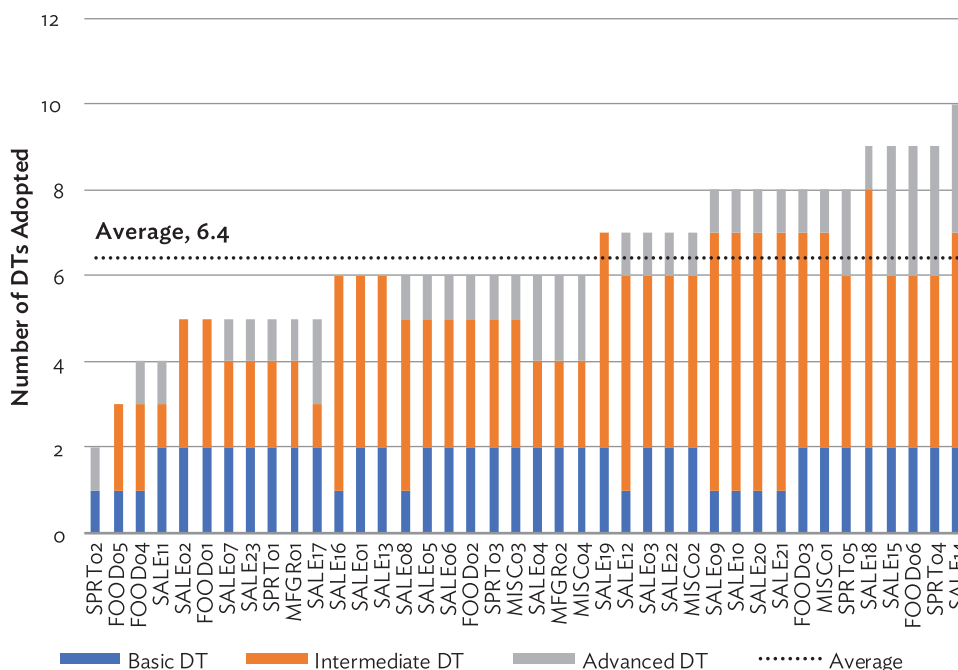
Source: This Study (interviews).

## B. State of MSME Digitalisation

Exhibit 9.2-5 depicts the results shown in the previous Exhibit (Exhibit 9.2-4). The number of digital technologies adopted ranged from 2 to 10, with an average (arithmetic mean) of 6.4. The Exhibit illustrates a general trend of digitalisation in which the adoption of intermediate and advanced technologies stack above basic technology adoption.

The number of MSMEs in the basic stage (average value of 6.4 or below), intermediate stage (7 or 8), and advanced stage (9 and 10) were 23 (58%), 12 (30%), and 5 (12%), respectively<sup>111</sup>. It can be interpreted that MSMEs in AMS are in a transitional stage and approaching a critical point for digitalisation.

**Exhibit 9.2-5: State of MSME Digitalisation**



DT = digital technology.  
Source: This Study (interviews).

<sup>111</sup> Figures have been updated with supplemental data after the Executive Summary (where figures were 56%, 34%, and 10%) had been finalized.

## C. MSMEs Using the Digital Platform

As shown in Exhibit 9.2-4, almost half of the subject companies (18 out of 40) were already using the digital platform. In general, they were satisfied with their partnerships with platformers. The following comments well illustrate the situation:

- ‘We will expand partnerships with e-commerce players from both local and foreign platforms’ (SALE01).
- ‘SMEs can sell their products by use NGO platforms, such as Bekraf and KADIN [Indonesian Chamber of Commerce and Industry], so MSMEs only focus on their main business and do not need to invest in digitalisation costs’ (SALE16).
- ‘We have a good platform where SMEs can sell their products’ (SALE21).
- ‘Currently, depending on how sustainable and successful the business can be, a platform where clients or sponsors can select a standard events package is desirable to us’ (MISCO4).

### (2) Challenges in Digitalisation

#### 1) Limited Knowledge of MSMEs about Digital Technologies

##### A. Cost Consciousness

There were no managers who are indifferent to costs, however some managers were more conscious about controlling costs:

- ‘SaaS software has the same functionality and you just have to pay a per month/user price, which might end up costing more in the long run but given the speed of evolving software, this is less of a concern’ (SPRT02).
- ‘Capability Development Grant recipient that received monetary incentives helped to defray some of the costs’ (SPRT02).

##### B. Scarce Information for Digitalisation

The interviewees answered that they obtained information regarding ICT mainly by word of mouth or from research within the industry or from company personnel (also word of mouth, in a broad sense). Private training/engagement, government training, and being approached by digital platformers followed (Exhibit 9.2-6, Q2.5).

Four companies out of 40 (around 10%) mentioned government training as an information source.

### Exhibit 9.2-6: Source of Information Regarding ICT

Company	Word of Mouth	Internal Recommendation	Self-sourced Training	Government Training	IT Vendors/ Digital Platformers
	85%	35%	30%	10%	8%
SALEo1	✓	✓	✓		
SALEo2	✓		✓		
SALEo3	✓	✓			
SALEo4	✓		✓		
SALEo5	✓		✓		
SALEo6		✓	✓		
SALEo7	✓	✓			
SALEo8	✓			✓	
SALEo9	✓	✓			
SALE10	✓	✓			
SALE11	✓				
SALE12	✓				
SALE13	✓				
SALE14	✓		✓		
SALE15	✓	✓		✓	
SALE16		✓	✓		
SALE17	✓				
SALE18			✓	✓	
SALE19	✓		✓		
SALE20	✓				✓
SALE21	✓			✓	
SALE22	✓	✓			
SALE23	✓				
FOODo1	✓				
FOODo2	✓				✓
FOODo3			✓		
FOODo4	✓				
FOODo5	✓				
FOODo6					✓
SPRT01	✓				
SPRT02	✓				
SPRT03	✓	✓			
SPRT04	✓				
SPRT05		✓			
MFGR01	✓		✓		
MFGR02	✓				
MISC01	✓	✓			
MISC02	✓	✓			
MISC03	✓	✓	✓		
MISC04	✓				

Source: This Study (interviews).

Figures have been updated with supplemental data after the Executive Summary (where figures were 87%, 36%, 31%, 10%, and 5%) had been finalized.

### C. Awareness of Government Policies is Not Very High

For the MSMEs interviewed, their awareness of government policies was not very high (Q2.8).

We classified the subject companies into three states of awareness of government policies: high, mid, and low. Although categorised on an arbitrary scale, one can observe a tendency that they were not very aware of government policies (Exhibit 9.2-7).

**Exhibit 9.2-7: Awareness of Government Policies**

Degree of Awareness	Company	Share
High	SALEo8, SALE21, FOODo4, SPRT03	10%
Mid	SALEo1, SALEo3, SALEo4, SALEo6, SALEo9, SALE1o, SALE11, SALE15, SALE16, SALE17, SALE18, SALE19, SALE2o, SALE23, SPRT01, SPRT02, SPRT05, MFGRo1, MISC01, MISC03	50%
Low	SALEo2, SALEo5, SALEo7, SALE12, SALE13, SALE14, SALE22, FOODo1, FOODo2, FOODo3, FOODo5, FOODo6, SPRT04, MFGRo2, MISC02, MISC04	40%

Source: This Study (interviews).

As discussed in Section 6.5 (The Difficulties in Engaging MSMEs) although the government agencies and associations interviewed recognised digitalisation as a priority and provided various support programmes for MSMEs, awareness amongst MSMEs about such programmes remains low.

To quantify the ‘level of awareness and adoption amongst ASEAN MSMEs’ (Exhibit 6.5-1 in Section 6.5), answers indicating awareness of government support were tallied and scores ranging from 1 (10% of MSMEs were aware) to 10 (100% of MSMEs were aware) were given (Exhibit 9.2-8).



### Exhibit 9.2-8: Scoring of Awareness

Country	Government Agency
If 10% of MSMEs were aware	1
If 20% of MSMEs were aware	2
If 30% of MSMEs were aware	3
If 40% of MSMEs were aware	4
If 50% of MSMEs were aware	5
If 60% of MSMEs were aware	6
If 70% of MSMEs were aware	7
If 80% of MSMEs were aware	8
If 90% of MSMEs were aware	9
If 100% of MSMEs were aware	10

Source: This Study.

#### **D. Bottlenecks**

The subject companies recognised the following as regulatory hurdles (Q3.1, Exhibit 9.2-9): (1) the lack of incentivised policies and high government taxes, (2) the lack of clear government guidelines, education programmes, and initiatives, (3) cybersecurity/intellectual property protection, (4) industry-specific government regulations in local markets (e.g. online censorship, local/export policies), (5) difficulties in cross-border trade, and (6) data localisation.

### Exhibit 9.2-9: Bottlenecks

Company	Lack of incentivised policies and high government taxes	Lack of clear government guideline, education programmes, and initiatives	Cybersecurity / Intellectual property protection	Industry-specific government regulations in local markets (e.g. online censorship) local/export policies)	Difficulties in cross-border trade	Data localisation
	50%	43%	28%	23%	20%	5%
SALE01						
SALE02	✓		✓		✓	
SALE03		✓	✓	✓		
SALE04				✓		
SALE05		✓				✓
SALE06		✓				
SALE07	✓	✓			✓	
SALE08						
SALE09	✓					
SALE10	✓	✓		✓		
SALE11	✓	✓				
SALE12	✓		✓			
SALE13			✓			
SALE14	✓		✓		✓	
SALE15						✓
SALE16	✓					
SALE17	✓	✓		✓	✓	
SALE18		✓				
SALE19	✓	✓				
SALE20	✓	✓				
SALE21			✓	✓		
SALE22		✓	✓			
SALE23					✓	
FOOD01		✓				
FOOD02	✓					
FOOD03						
FOOD04					✓	
FOOD05						
FOOD06						
SPRT01						
SPRT02	✓	✓		✓		
SPRT03		✓				
SPRT04	✓		✓		✓	
SPRT05						
MFGR01	✓		✓			
MFGR02	✓	✓				
MISC01	✓	✓		✓		
MISC02	✓		✓	✓		
MISC03	✓	✓	✓			
MISC04	✓			✓	✓	

Source: Interview survey.

## 2) Reluctance to Change Business Processes

### A. Benefits of Digitalisation

The subject companies acknowledged the benefits of digital adoption (Q4.1, Q11.5), such as better marketing and increased sales, streamlined operations, cost reductions, brand awareness, and more information for better decision-making, customer service, and reaching international customers (Exhibit 9.2-10).

### B. Hurdles that Impede Digitalisation

The interviewees named the following as hurdles that impede digitalisation (Exhibit 9.2-11): (1) lack of efficient, reliable, and low-cost logistics and infrastructure, (2) inertia, resistance to change, and the rigid mindset of consumers and enterprises, (3) e-payments (lack of variety, too high costs, and difficulties in overseas remittances), (4) lack of stable and fast Internet connections and limited coverage, (5) lack of IT, programming, and application support, (6) lack of human resources/people with necessary skills, (7) expensive Internet costs, and (8) lack of legal service support for business (e.g. forming contracts).

**Exhibit 9.2-10: Benefits of Digital Adoption**

Company	Wider customer reach and better marketing	Ease of business operations	Cost reductions	Higher brand awareness	Empowering information-based decision-making	Better customer service	Enabling overseas sales
	75%	53%	43%	43%	28%	18%	10%
SALE01	✓		✓	✓			
SALE02	✓	✓	✓				
SALE03	✓	✓	✓	✓			
SALE04	✓			✓			
SALE05	✓	✓		✓			
SALE06	✓	✓	✓	✓	✓	✓	
SALE07	✓		✓				
SALE08	✓						
SALE09	✓			✓			✓
SALE10	✓			✓			
SALE11		✓	✓		✓	✓	
SALE12	✓						
SALE13	✓	✓					
SALE14	✓	✓	✓	✓	✓	✓	
SALE15	✓	✓	✓	✓	✓	✓	✓
SALE16	✓		✓				
SALE17	✓			✓			
SALE18		✓					
SALE19		✓					
SALE20		✓	✓				✓
SALE21	✓			✓			
SALE22	✓	✓	✓		✓		
SALE23			✓				
FOOD01	✓			✓			
FOOD02	✓	✓	✓		✓	✓	
FOOD03	✓			✓			✓
FOOD04	✓				✓		
FOOD05	✓						
FOOD06	✓	✓		✓		✓	
SPRT01		✓			✓	✓	
SPRT02		✓					
SPRT03	✓	✓					
SPRT04		✓	✓				
SPRT05	✓	✓	✓		✓		
MFGRO1		✓	✓				
MFGRO2	✓			✓			
MISCO1	✓			✓	✓		
MISCO2		✓	✓		✓		
MISCO3	✓						
MISCO4	✓			✓			

Source: This Study (interviews).

**Exhibit 9.2-11: Hurdles Impeding MSMEs' Digitalisation**

Company	Lack of efficient, reliable, and low-cost logistics and infrastructure	Inertia, resistance to change, and the rigid mindset of consumers and enterprises	E-payments (lack of variety, too high costs, difficulties in overseas remittances)	Lack of stable and fast Internet connections and limited coverage	Lack of IT, programming, and application support	Lack of human resources/people with necessary skills	Internet too expensive	Lack of legal service support for business (e.g. forming contracts)
	48%	33%	30%	28%	23%	20%	13%	3%
SALE01	✓			✓	✓			
SALE02	✓	✓						
SALE03			✓	✓			✓	
SALE04	✓		✓				✓	
SALE05		✓		✓				
SALE06	✓	✓						
SALE07		✓						✓
SALE08	✓					✓		
SALE09			✓					
SALE10	✓							
SALE11						✓		
SALE12	✓							
SALE13	✓							
SALE14	✓	✓	✓		✓			
SALE15	✓	✓		✓			✓	
SALE16	✓			✓	✓			
SALE17			✓					
SALE18	✓	✓	✓		✓	✓		
SALE19								
SALE20		✓		✓			✓	
SALE21				✓	✓			
SALE22		✓	✓		✓			
SALE23	✓	✓	✓			✓		
FOOD01				✓				
FOOD02								
FOOD03	✓			✓				
FOOD04						✓		
FOOD05	✓		✓					
FOOD06				✓				
SPRT01			✓					
SPRT02						✓		
SPRT03		✓						
SPRT04	✓							
SPRT05			✓	✓	✓		✓	
MFGR01		✓				✓		
MFGR02		✓				✓		
MISC01	✓		✓					
MISC02	✓				✓			
MISC03								
MISC04	✓				✓			

Source: This Study (interviews).

## C. Futures Plans for Digitalisation

The interview survey indicates that most MSMEs in ASEAN are strongly interested in expanding their businesses, while paying less attention to the improvement of productivity and operations. (Q4.1)

**Exhibit 9.2-12: Futures Plans for Digitalisation**

Category	Company	Share
Will make radical changes to digitalisation	SALEo6, FOODo4, SPRTo3, SPRTo4, MISC03	13%
Will continue to digitalise	SALEo1, SALEo2, SALEo3, SALEo4, SALEo5, SALEo7, SALEo8, SALEo9, SALE10, SALE11, SALE12, SALE13, SALE15, SALE16, SALE18, SALE20, SALE21, SALE22, FOODo1, FOODo2, FOODo3, FOODo5, FOODo6, SPRT01, SPRT02, SPRT05, MFGR01, MFGR02, MISC01, MISC04	74%
Will maintain the status quo	SALE14, SALE17, SALE19, SALE23, MISC02	13%

Source: This Study (interviews).

### 3) Shortage of Expertise on Digital Technologies

On the shortage of expertise on digital technologies, the subject companies made the following comments:

- The lack of a digitally skilled workforce is a significant obstacle for our business. We need more digitally savvy workers to run our business (SALE11, SALE20, FOODo4, SPRT02).
- Upskilling the existing workforce with digital skills is an important strategy to digitalising the business (SALE15, SPRT02).
- Government support, such as education and training or grant and subsidy programmes for transforming existing employees into a digitally skilled workforce are highly appreciated and needed (SALE11, SALE18).

### 4) Collaboration between Governments and Digital Platformers

For collaboration between governments and digital platformers, the following comments were made:

- Overly restrictive regulations and cumbersome procedures on communication, electronic payments, and data localisation, etc. might impede digitally enabled businesses (SALE15, MISC01, MISC02).

- Electronic payments are a key factor for successful e-commerce, and they should be supported and endorsed (SALEo8, SALEo9, FOODo1, SPRTo1, MISC01).
- Affordable digital platforms reachable from MSMEs are wanted (SALEo9, SALE21).

## 5) Difficulty of Reaching Out to MSMEs in Need of Support

### A. Reasons for Not Using Government Programmes

While the subject companies recognised the merits of digitalisation, some companies still did not use government programmes (Q2.7). The reasons were: not being aware of any programmes or there being no suitable programmes, the belief that the programmes are not helpful to them, long application processes/bureaucracy, and applications being too tough or technical problems (Exhibit 9.2-13).

For the difficulty of reaching out to MSMEs in need of support, which was remarked on in the main text, the following comments were made by the subject companies:

- ‘Lots of trial and error was involved in our digital adoption’ (FOODo4).
- ‘We usually attend certain events to update our knowledge of new technologies and look for suitable software’ (SALE11).
- ‘Consultation with external vendors and website developers’ (SALE10).
- ‘I did not know that DTI has a free platform and free training’ (SALEo9).

## 6) Enhance Both Analogue and Digital Policy Communication Channels

Amongst the several government support or policy measures, many respondents appreciated a ‘supportive ecosystem/environment’, an indirect benefit (Exhibit 9.2-14).

### Exhibit 9.2-13: Reasons for Not Using Government Programmes

Company	Not aware of any/No suitable programmes	Perceived lengthy application process	Do not think they will benefit their business
	62%	18%	10%
SALE01	√		
SALE02	√		
SALE03	√		
SALE04	√		
SALE05	√		
SALE06		√	√
SALE07	√		
SALE08			
SALE09			
SALE10			
SALE11			
SALE12	√		
SALE13	√		
SALE14	√		
SALE15			
SALE16	√		
SALE17	√		
SALE18	√		
SALE19	√		
SALE20	√		
SALE21			
SALE22	√		√
SALE23			√
FOOD01	√		
FOOD02	√		
FOOD03	√		
FOOD04			
FOOD05	√		
SPRT01	√		
SPRT02		√	
SPRT03		√	
SPRT04		√	√
SPRT05	√	√	
MFGR01		√	
MFGR02			
MISC01	√		
MISC02	√	√	
MISC03	√		
MISC04			

Source: This Study (interviews).



**Exhibit 9.2-14: Benefits from Government Support/Policies on Digital Adoption**

Company	Indirect Benefit	Direct Benefit		
	Supportive ecosystem/ environment	Monetary (grants, subsidies, vouchers)	Training	Partner matching/ exposure
	28%	23%	20%	20%
SALEo1				
SALEo2				
SALEo3		√		
SALEo4	√			√
SALEo5	√			
SALEo6				
SALEo7				
SALEo8	√		√	√
SALEo9	√		√	
SALE10		√		
SALE11	√	√		
SALE12				
SALE13				
SALE14	√			
SALE15			√	
SALE16	√			√
SALE17				√
SALE18			√	
SALE19				
SALE20	√			
SALE21	√		√	√
SALE22				
SALE23				√
FOODo1				
FOODo2				
FOODo3				
FOODo4	√	√	√	√
FOODo5	√		√	
SPRTo1				
SPRTo2		√		
SPRTo3		√		
SPRTo4		√	√	
SPRTo5				
MFGRo1				
MFGRo2		√		
MISCO1				
MISCO2				√
MISCO3				
MISCO4		√		

Source: This Study (interviews).

### 9.2.3 Interviews with Platformers

We conducted eight face-to-face interviews with platformers to determine the current situation in digitisation and the challenges they face and to learn their opinions. Three out of eight interviewees spoke off-the-record. Therefore, the list of on-the-record platformers interviewed is shown in Exhibit 9.2-15.

**Exhibit 9.2-15: List of Platformers Interviewed**

Country	Government Agency
Platformer A	Motorcycle ride-hailing, transportation, logistics, mobile payments, food delivery, etc.
Platformer B	E-commerce platform (B2C, shopping site)
Platformer C	Mobile food delivery platform
Platformer D	Ride-hailing (four and two wheelers)
Platformer E	E-commerce platform (B2B2C and B2C)

B2C = business to consumer, B2B2C = business to business to consumer.

Source: Interview survey.

#### (1) Current State of MSMEs

##### 1) Business Boost

###### A. Wider Customer Reach

MSMEs in AMS are expanding their customer base by using digital platforms. According to Platformer A, 76% of MSMEs in the food industry in AMS did not offer delivery services before, but the delivery services programmes provided by the platformers have enabled them to cater their foods more easily without hiring their own delivery driver. The interviewee remarked that their program is the largest in scale outside China, with 125,000 merchants registered.

###### B. Revenue Increase

Revenue increases were reported by most partner MSMEs in the food industry. As an example, a partner restaurant that serves curry successfully opened a second shop in a different location thanks to increased revenue from delivery sales (Platformer C).

###### C. Gateway to the Global Market for MSMEs

At the same time, digital platformers are establishing services that help MSMEs to broaden the consumer base in the same region. Platformer B is making efforts to offer platform services that help MSMEs sell local products to other regions and even overseas.

To develop a broader customer base for MSMEs in AMS, the platformer collaborates with foreign platformers in the country. For instance, an e-commerce digital platformer in AMS collaborates with a counterpart platformer in China to sell ASEAN products to China.

## 2) Cost Reduction

### A. Logistic Costs

Quite a few digital platformers pointed out that MSMEs' costs have fallen after joining partnerships with the platformers. Most of the digital platformers interviewed referred to reduced logistic costs as a main cost reduction for MSMEs. According to Platformer A, who provides delivery services for the food industry, approximately 30% of the MSMEs reported cost reductions after they joined the partnership with the platformer.

### B. Shipping Costs

Platformer B offers a free shipping programme for MSMEs that agreed to a profit-sharing agreement. The agreement cuts the shipping costs for buyers in remote locations.

### C. Physical Store Costs

Platformer E maintained that e-commerce programmes drastically reduce costs in setting up physical stores. In general, setting up physical stores requires vast investment and, thus, a higher break-even point. However, setting up an online store takes far less time to break-even.

### D. Commission Charges

As competition amongst digital platformers is getting fiercer, some platformers are offering zero-commission deals to MSMEs. Platformer E is one of those platformers that does not charge a commission fee. Therefore, MSMEs can enjoy cutting-edge platform services at reasonable costs.

## (2) Challenges Related to MSME

### 1) Limited Knowledge of Digitalisation

#### A. Raising Awareness

Digital platformers unanimously see MSMEs' limited knowledge of digitalisation as a big hindrance and believe that effective measures should be taken to address the situation.

In line with this notion, Platformer B runs roadshows in 11 cities in Indonesia to help familiarise MSMEs with digitalisation. The main purpose of this campaign is to provide understanding and training on how to utilise the online marketplace for MSMEs' business.

In the roadshows, the digital platformer conducts seminars and education forums about the e-commerce industry and the digital ecosystem. These give MSMEs knowledge of digitalisation and make them aware of the benefits of 'going digital'. The platformer plans to expand the campaign to other cities with the large potential of the e-commerce market.

### **B. Advocacy for MSMEs' Digitalisation**

Platformer B ran an advocacy campaign in collaboration with government agencies, chambers of commerce, a distinguished company, a commercial bank, and a telecommunication company.

The programme package included a full introduction to e-commerce training, easier business registration and financial support through loan financing, and exclusive merchant accounts. The programme effectively helped MSMEs to get started.

## **2) Reluctance to Change Business Processes**

### **A. Autonomous Digitalisation After the First Step**

Based on the experiences of the platformers interviewed, it is apparent that once an MSME makes the first step toward digitalisation, it will take the initiative to deepen digitalisation. This observation implies that MSMEs' aversion to change or digitalisation is like an 'activation energy barrier' of a chemical reaction, and, thus, once the 'reaction' starts, MSMEs will go further without much motivation from others.

### **B. Financial Burden in Digitalisation**

As discussed, some digital platformers do not charge commission under certain conditions. Thus, there is a downward trend of financial burden in digitalisation.

### **C. Online Security**

For all the platformers interviewed, the security of data transactions (of privacy data, payment data, etc.) is of crucial concern, and so they invest significant

efforts to reduce the risks. Online transaction security is a key issue not only for MSMEs but also for their customers.

As such, these platformers are proactively applying cutting-edge security measures to their systems and keeping them up to date.

#### **D. Digital Platform – Fintech Alliance**

To provide an integrated financial payment ecosystem for MSMEs, Platformer A acquired fintech companies. The planned ecosystem comprises electronic payment processing and microfinance services.

### **3) Shortage of Expertise on Digital Technologies**

#### **A. MSMEs Cannot Go Digital without the Right Staff**

Platformer B put emphasis on the importance of the right staff with the right ICT skills for the digitalisation of an MSME. The interviewee revealed that they observed many MSMEs that gave up digital adoption because of a lack of human resources to run the system.

### **4) Collaboration between Governments and Digital Platformers**

#### **A. Data Localisation**

Platformer B mentioned that the data localisation law, which mandates certain data be stored within the country, could be a possible barrier for MSMEs for digital adoption.

#### **B. Transaction Limit for E-payments**

Platformer D pointed out that if a cap on the maximum amount for mobile payments or e-payments is too strict, it might potentially hinder digital adoption. This is especially true for B2B users, as their transaction volume is usually high.

#### **C. An Example of Government–Platformer Collaboration**

Platformer B, together with other companies in banking, telecommunications, and logistics, collaborates with a government agency in a programme aiming to promote MSMEs' engagement with e-commerce. The programme is running successfully.

### (3) Requests for a Government Agency Related to MSMEs

#### 1) Increase Content in Local Languages and Refine the Menus of Support Programmes

##### A. Fast and Robust Internet Infrastructure

Platformers B and D repeated the crucial role of fast and robust internet infrastructure as the foundation of digitalisation.

#### 2) Encourage MSMEs' Digitalisation by Providing Initial Support

##### A. Make the Digitalisation Benefits Known among MSMEs

Platformers D and E maintained that education for MSMEs is highly important for making them aware of the substantial benefits of digital adoption.

Platformer D noted that the government should educate MSMEs further on the potential benefits associated with digitisation and give them more advice on the kinds of solutions in the market that suit their business needs.

##### B. Need for a One-stop Service for Digital Entrepreneurs

Platformer E emphasised the necessity of setting up government agencies that encourage MSMEs' digitalisation by providing multidisciplinary support, such as partner matching, mentoring, technical and legal support (as procedures are extremely cumbersome in some countries), etc. The interviewee envisaged a one-stop service for digitalisation.

#### 3) Upgrade the Digital Skills of the MSME Workforce

##### A. Key Success Factor: A Digitally Savvy Workforce

Platformer A considered technological readiness as the first and most dominant factor in MSMEs' digitalisation and noted that the upgrading of the digital skills of the workforce is of high importance.

##### B. MSMEs Face a Digital Workforce Shortage

Platformer B noticed that MSMEs often face challenges, especially in terms of capacity building, access to capital and alternative funding, access to technology, global market access, and regional and global link integration.

##### C. Capacity Building by Governments

To secure human resources familiar with digital technology in the long term, Platformer C suggested that governments needed to develop education policies or technical and vocational education and training (TVET) policies emphasising on the digital economy.

#### **D. Education for MSME Owners**

Platformer A also noted that governments and e-commerce companies should take active steps to educate MSME owners about leveraging technologies for their benefit, especially in e-commerce, etc.

### **4) Develop Collaboration Frameworks with Digital Platformers**

#### **A. An Example of Government–Platformer Collaboration**

As mentioned previously, Platformer B and other private sector companies have collaborated with government agencies to support the digitalisation of MSMEs.

#### **B. Regulatory Barriers**

Platformers highlighted that the government should remove the barriers that hinder digitalisation, as discussed in the previous sections.

### **5) Enhance Both Analogue and Digital Policy Communication Channels**

#### **A. Lack of Easy Access to Information for Digitalisation**

The digital platformers pointed out that the lack of easy access to information and knowledge hinders MSMEs from digital adoption. These obstacles make the whole process time-consuming and difficult. This means that governments need to communicate more efficiently in helping MSMEs to digitalise.

#### **B. Traditional Communication Channels through Government Agencies**

Digital platformers noted that through analogue communication channels, governments can help MSMEs to go digital. For example, they can set up government agencies that help MSMEs digitalise by providing partner matching, mentoring, and consolidated regulation compliance resources. Other than just setting up government agencies, the digital platformers highlighted the lack of a one-stop government agency in helping MSMEs to take advantage of the digital transformation opportunity. This one-stop government agency could consolidate all the relevant documents, materials, and guidance required for an e-commerce business to help MSMEs in digital adoption. For example, to get through customs in Indonesia, one must know to contact the right person for efficient clearing.

# Chapter 10

## Appendix

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## 10.2. Questionnaires

The questionnaires used in the interviews with the platformers, government agencies, and MSMEs are shown in Exhibit 10.2-3, Exhibit 10.2-1, and Exhibit 10.2-2, respectively.

### 10.2.1 Questionnaire for Government Agencies

**Exhibit 10.2-1: Questionnaire for Government Agencies**

Question No.	Question
<b>Q1</b>	<b>Current government policies and regulations on MSME digital adoption</b>
Q1.1	Policies related to digital Infrastructure
Q1.2	Policies related to digital skills
Q1.3	Policies related to business support
Q1.4	Other measures that your organisation is providing to promote MSME digital adoption
<b>Q2</b>	<b>Policies which might be barriers for MSME digital adoption</b>
<b>Q3</b>	<b>Trend and level of development of digital economy in your country</b>
Q3.1	Expansion of the digital economy in your country
Q3.2	Major players in the digital economy in your country
Q3.3	Major industrial organisation directly related to the digital economy
<b>Q4</b>	<b>Level of MSME digital adoption in your country</b>
Q4.1	Recommendation of MSMEs to be interviewed
Q4.2	Level of MSME involvement in your country and industrial sectors of MSMEs
Q4.3	How MSMEs are benefitting from digital adoption
Q4.4	Challenges to supporting MSME digital adoption
<b>Q5</b>	<b>Good practices of MSMEs and digital platformers, latest case is appreciated (cases where government policy played a significant role in MSME digital adoption)</b>

## 10.2.2 Questionnaire for MSMEs

**Exhibit 10.2-2: Questionnaire for MSMEs**

Question No.	Question
<b>Q1.</b>	<b>About your company</b>
Q1.1	Field of business/industry sector
Q1.2	Company's approximate annual revenue (global and local)
Q1.3	Company's approximate annual net operating profit (global and local)
Q1.4	Number of employees (global and local)
Q1.5	Scale of your business (number of users/customers)
Q1.6	Company's approximate annual investment in software (US\$)
Q1.7	Company's approximate annual investment in hardware (US\$)
Q1.8	Company's approximate annual investment in other ICT (networks, etc.)
Q1.9	Please describe your business model in a diagram**
<b>Q2.</b>	<b>About digital adoption for your business</b>
Q2.1	What kind of digitalisation activities does your company adopt?
Q2.2	What are the benefits associated with the digitalisation activities mentioned above?
Q2.3	What kind of applications/software do you use?
Q2.4	What kind of hardware do you use?
Q2.5	How do you get to know the software/hardware?
Q2.6	What does your company do to build your own digital capabilities and/or seek partners for improving your digital adoption?
Q2.7	How does your company benefit from government support/policies related to digital adoption?
Q2.8	How does your company learn about digital platformers (e.g. e-commerce marketplace like Lazada or Shopee) and government support related to digital adoption?
Q2.9	Do you know any good practices/unique practices in digitalisation that other MSMEs implement in the region?
<b>Q3.</b>	<b>About the business environment</b>
Q3.1	What are the regulatory hurdles or policies that hinder MSMEs like you to go digital?
Q3.2	What kind of policies do you think would promote MSMEs' digital adoption in your country?
Q4.	About your future business
Q4.1	How do you plan to utilise digital technologies in your future business?
Q4.2	What do you think needs to be improved to meet the digital transformation opportunity?
Q4.3	What do you expect from policy makers to make your future business plans successful?
<b>Q5.</b>	<b>What support/programmes have you received on MSME digital adoption (including technical and financial access, information support) from each of the following groups?</b>
Q5.1	Government
Q5.2	Private sectors
Q5.3	Other institutions

Question No.	Question
<b>Q6.</b>	<b>If your business is not utilising any support for digitalisation (as mentioned in Q5 above), the reason is because:</b>
<b>Q7.</b>	<b>What challenges/barriers do you face in doing e-commerce and cross-border e-commerce? (including e-payments, electronic transactions, online security, intellectual property, cybercrime, consumer protection, logistics and trade issues)</b>
<b>Q8.</b>	<b>Do you utilise third parties (such as digital platformers) for orders, sales, and marketing? What are the platforms you use, and approximately what is the percentage of revenue generated by this channel?</b>
<b>Q9.</b>	<b>Online portals including government and non-government portals:</b>
Q9.1	a. Are you aware of these portals?
Q9.2	b. Do you use the portals? What for?
Q9.3	c. What do you like and/or dislike about the portals?
<b>Q10.</b>	<b>For e-commerce buyers:</b>
Q1.1	Have you tried to use e-commerce also to buy?
Q1.2	Why did you stop buying?
Q1.3	Why do you use e-commerce to buy supplies/materials?
Q1.4	Where are your online suppliers located?
Q1.5	When placing orders online, which platform do you use? (e-commerce platform, supplier's website, manual input)
Q1.6	What kind of payment method do you use? (online credit/debit card, third-party payment service, e.g. PayPal, bank account transfer, EDI)
Q1.7	How are your products delivered?
Q1.8	Are you interested in expanding purchases outside of your country? (cross-border e-commerce)
Q10.9	What barriers do you think hamper cross border e-commerce procurement?
<b>Q11.</b>	<b>For e-commerce sellers:</b>
Q11.1	Have you tried to use e-commerce also to sell?
Q11.10	How are your products shipped?
Q11.11	Are you interested in expanding sales outside of your country (cross-border e-commerce)
Q11.12	What barriers do you think hamper cross border e-commerce selling?
Q11.2	Why did you stop selling?
Q11.3	How much annual revenue do you generate by online channels? (%)
Q11.4	Is your business considered online-only?
Q11.5	How does selling products online benefit the business?
Q11.6	Where do your orders come from?
Q11.7	What fraction of your online sales are made locally, nationally, and regionals (breakdown geographically)?
Q11.8	Which online platforms give orders to your business (e-commerce platforms, own website/app, non-contracted third party, social media, others)?
Q11.9	How does your business receive payments for your online orders (online credit/debit card, third-party payment service, e.g. PayPal, bank account transfer, EDI, cash on delivery, others)?

Question No.	Question
<b>Q12.</b>	<b>On-the record or off-the record?</b>
Q12.1	Can we include details of your company in the report to the ACCC and ACCMSME (ASEAN committees)? Please rest assured that the report will not be published.

### 10.2.3 Questionnaire for Platformers

#### Exhibit 10.2-3: Questionnaire for Platformers

Question No.	Question
<b>Q1</b>	<b>About your company</b>
Q1.1	Field of business
Q1.2	Company's approximate annual revenue
Q1.3	Number of employees
Q1.4	Scale of business
<b>Q2</b>	<b>About your business</b>
Q2.1	Please describe your business model in a diagram
Q2.2	Main value/services/products that you offer to MSMEs in ASEAN
Q2.3	Examples of good practices/ unique practices of MSMEs found on your platform
Q2.4	Recommendation of MSMEs to be interviewed in ASEAN
<b>Q3</b>	<b>About the business environment</b>
Q3.1	Regulatory obstacles or policies which may hinder MSMEs from digital adoption in your country?
Q3.2	Regulatory obstacles or policies which may hinder MSMEs from digital adoption in other ASEAN countries?
Q3.3	What needs to be improved for MSMEs take advantage of the digital transformation opportunity in your country?
Q3.4	What needs to be improved for MSMEs take advantage of the digital transformation opportunity in your country, and the rest of the ASEAN countries?
Q3.5	Other mechanism or measures that you think would promote MSME's digital adoption in the region?
<b>Q4</b>	<b>About your future business</b>
Q4.1	Future activities/ services planned related to MSMEs business
Q4.2	What you expect from policymakers to make your future business plans successful