

CHAPTER 5

The Current ASEAN–Japan Economic Partnership

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This chapter should be cited as:

Oikawa, K. and F. Iwasaki (2023), 'The Current ASEAN–Japan Economic Partnership', in Oikawa, K. and F. Iwasaki (eds.), *ASEAN–Japan Economic Partnership for a Sustainable and Resilient Future*. Jakarta: ERIA, pp.173–210.

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5.1 Introduction

This chapter aims to provide a comprehensive understanding of the current economic cooperation frameworks between the Association of Southeast Asian Nations (ASEAN) and Japan and their way forwards. First, the chapter provides a brief overview of the two ongoing economic cooperation programmes between ASEAN and Japan. Then, it explores the challenges that both face, highlighting steps necessary to achieve a sustainable and resilient future together. The discussion is centred around four key areas: (i) trade and investment, (ii) digital and innovative economy, (iii) sustainable development, and (iv) a professional workforce for the future.

5.2 Ongoing ASEAN–Japan Economic Cooperation Programmes

There are two ongoing economic cooperation programmes between ASEAN and Japan: (i) the renewed ASEAN–Japan 10-year strategic economic cooperation roadmap (Sisoulith, 2016), which was endorsed during the 22nd ASEAN Economic Ministers (AEM) and Government of Japan, Ministry of Economy, Trade and Investment (METI) Consultations on 6 August 2016;¹ and (ii) *ASEAN–Japan Economic Resilience Action Plan*, which was adopted at the Special AEM–METI Virtual Meeting on 29 July 2020 (AEM–METI, 2020).

¹The roadmap was endorsed as a revision of the original ASEAN–Japan 10-year strategic economic cooperation roadmap, which was endorsed at the 18th AEM–METI Consultations on 30 August 2012, in response to the ASEAN Economic Community Blueprint 2025 (ASEAN, 2015), which was adopted at the 27th ASEAN Summit on 27 November 2015.

The primary objective of the roadmap is the achievement of *ASEAN Economic Community Blueprint 2025* (ASEAN, 2015); Japan is supporting ASEAN to reach the roadmap's goals through investment and technical cooperation. The roadmap has three objectives: enhancing bilateral economic cooperation between each AMS and Japan, boosting economic integration of ASEAN, and enhancing cooperation for integrating ASEAN into the global economy.

The first objective comprises five pillars of ASEAN–Japan economic cooperation: human resources development, small and medium-sized enterprise (SME) development, Mekong industrial development, infrastructure development, and innovation and transfer of technology. Human resources development involves supporting ASEAN Member States (AMS) through various concrete measures, as Japanese companies are currently facing an imbalance of supply and demand in industrial human resources. SME development focusses on supporting ASEAN SMEs through knowledge sharing and capacity building. For Mekong industrial development, individual cooperation projects are being implemented based on the *Mekong Industrial Development Vision*, which was adopted at the 7th Mekong–Japan Economic Ministers' Meeting on 24 August 2015.² Note that this was succeeded by the *Mekong Industrial Development Vision 2.0*, which was endorsed at the 11th Mekong–Japan Economic Ministers' Meeting on 10 September 2019.³

Infrastructure development is essential for ASEAN economic development, and Japan is expanding its support for quality infrastructure there through the Partnership for Quality Infrastructure initiative, which was announced by Prime Minister Shinzo Abe at the 21st International Conference on the Future of Asia on 21 May 2015.⁴ Innovation and transfer of technology are also critical for ASEAN productivity growth and long-term competitiveness; ASEAN and Japan thus aim to

²The vision was formulated by METI, focussing on the Mekong region as both a production and consumer market. The 'Thailand–Plus–One' trend amongst Japanese companies led to the expansion of industrialisation into Cambodia, the Lao People's Democratic Republic (Lao PDR), and Myanmar. The vision promoted the concept of specialisation and collaboration to achieve regionally integrated, continuous development through mutual complementarity between countries, prioritising industries in which each country has strengths. The vision expected that the Mekong region – which is adjacent to China, India, and various AMS – would become the core of a value chain between Asia and the rest of the world (METI, 2015).

³ The new vision takes into account progress and changes since the implementation of the *Mekong Industrial Development Vision*. It aims to improve the quality of life in the Mekong region through innovation. Japan is focussing on areas in which it has expertise and/or advantages, while listening to the Mekong countries to achieve this vision. Upgrading existing industries, such as agriculture and manufacturing, and supporting micro and SMEs are prioritised; digital innovation and achievement of the Sustainable Development Goals are key elements in achieving resilient economic growth in the region (METI, 2019).

⁴ Quality infrastructure is initially expensive but cost-effective in the long run due to its durability, environmental friendliness, and disaster resilience. It also improves connectivity amongst Asian countries, creates job opportunities, enhances local skills, and improves people's lives (MOFA, MOF, METI, MLIT, 2015). The initiative stated that the Government of Japan will provide about \$110 billion for quality infrastructure in Asia over 5 years in collaboration with the Asian Development Bank (Izumi, 2017). The initiative was expanded to provide about \$200 billion for worldwide quality infrastructure investment from 2017 to 2021 in May 2016 (Izumi, 2017).

adapt to the Industry 4.0 through building human resources capacity, transferring technology, and utilising and protecting data.

The second objective details seven pillars of ASEAN economic integration, with a focus on Japan's involvement in supporting AMS in various sectors. The pillars include SME development, intellectual property, standardisation, customs, industry and services, trade facilitation, and energy. Japan is supporting ASEAN's emphasis on the development and promotion of micro and SMEs and is helping increase their competitiveness in regional production networks. In the area of intellectual property, ASEAN and Japan continue to deepen their cooperation through meetings and the approval of an action plan for patent examination, accession to international treaties, and application administration. Japan also supports standardisation activities and implementation of the *ASEAN Standards and Conformance Strategic Plan, 2016–2025* (ASEAN, 2016). Regarding customs, Japan provides technical cooperation programmes for AMS, focussed on streamlining and simplifying administrative and regulatory regimes. Japan also seeks to build networks with AMS to enhance their competitiveness in services and trade facilitation. Lastly, Japan supports ASEAN's efforts in achieving the *ASEAN Plan of Action for Energy Cooperation 2016–2025* Phase II, which aims to enhance energy connectivity and market integration in ASEAN for energy security, accessibility, affordability, and sustainability (ACE, 2020).

The third objective is to foster cooperation between ASEAN and Japan in promoting ASEAN integration into the global economy. This approach involves strengthening supply chains and connectivity and nurturing emerging industries such as the digital economy, services, SMEs, and health care. The private sector's input is key to this process. Furthermore, ASEAN and Japan aspire to establish the ASEAN–Japan Innovation Network, a business network aimed at developing emerging industries.

The *ASEAN–Japan Economic Resilience Action Plan* is consistent with the roadmap's underlying premise of Japan's capacity to contribute. The action plan was compiled at the beginning of the COVID-19 pandemic and covers the responses to the pandemic. It has three objectives: (i) sustaining the close economic ties between ASEAN and Japan, (ii) mitigating an adverse impact on the economy, and (iii) strengthening economic resilience.

The first objective aims to sustain the economic ties between ASEAN and Japan through various measures, including the full implementation and utilisation of the ASEAN–Japan Comprehensive Economic Partnership (AJCEP) agreement, enhancing industrial cooperation in sectors such as automotive and chemical, improving cooperation on intellectual property rights, and realising the *Mekong Industrial Development Vision 2.0*. The action plan also seeks to prevent the imposition of non-tariff measures that could restrict the trade of essential goods and disrupt regional supply chains by simplifying and streamlining non-tariff measures and facilitating the operation of existing ASEAN mutual recognition

arrangements. Additionally, the action plan provides capacity-building assistance to promote manufacturing; auxiliary industries; and services competitiveness, export competitiveness, and economic diversification in the region. Finally, it seeks to enhance ongoing projects that improve supply chain connectivity and promote trade facilitation and e-commerce by supporting the regional digital trade transformation occurring in ASEAN and implementing a digital strategy to protect businesses as they explore opportunities in digital trade and e-commerce there.

The second objective aims to mitigate the adverse impact of the COVID-19 pandemic on the ASEAN economy. The objective includes promoting the exchange of information and sharing best practices on economic policies with Japan; facilitating the smooth flow of essential products; enhancing support for businesses, particularly micro and SMEs and those of vulnerable groups affected by the pandemic; and promoting start-ups with digital technologies. Measures include establishing consultations for affected businesses, developing policy recommendations based on the analysis of the effect of economic measures and industrial policies, and providing financial support for businesses. It also aims to identify the specific digital technology needs of micro and SMEs, establish an innovation network for start-ups and investors, and promote digital transformation and Industry 4.0 in ASEAN.

The third objective aims to strengthen economic resilience by enhancing supply chain resilience, building capacity for emergency preparedness and response, strengthening networks to facilitate interactions of relevant stakeholders, and exploring public-private partnerships (PPPs) in strategic sectors. Programmes include financial support for strengthening overseas supply chains, capacity building for efficient factory management with Internet of Things (IoT) technologies, and technical cooperation programmes for industrial promotion and management innovation with new technologies such as IoT and artificial intelligence (AI). Cooperative frameworks are planned to build capacity for emergency preparedness and response for supply chains, and interactions amongst relevant stakeholders in the region are expected to be strengthened through various projects and workshops. PPPs are to be explored in strategic sectors such as the agri-food industry, health-related industries, and energy.

Both ongoing ASEAN-Japan cooperation programmes were developed based on Japan's technological and financial resources. However, ASEAN has transformed over the years; for example, although technological and income levels vary greatly amongst AMS, some may now be more advanced than Japan. Thus, towards the next stage of ASEAN-Japan economic cooperation, the mind-set surrounding the cooperation programmes needs to be adjusted. Today, only through collaboration – not only through Japan's technological and financial resources – will ASEAN and Japan achieve the sustainable economic development that they desire throughout the region.

5.3. Trade and Investment

ASEAN has been working to promote free trade within the region, and cross-border trade has resumed after a period of restrictions on the movement of goods and people due to the COVID-19 pandemic (ERIA, 2022). Global value chains in the East Asia Summit region have proven to be strong and resilient during the pandemic; indeed, ASEAN and Japan confirmed the importance of manufacturing as the core of the regional economy (Oikawa et al., 2021). Maintaining and strengthening competitive global value chains and international production networks are critical for the continued growth of the region after the pandemic. Widespread geopolitical uncertainties are underscoring the need to pursue further regional integration for stable and resilient regional growth; ASEAN and Japan should renew their initiatives to promote the trade agenda set by the Regional Comprehensive Economic Partnership (RCEP) agreement (ERIA, 2022). Improving trade connectivity was most recently addressed at the 25th ASEAN–Japan Summit along with deepening the ASEAN–Japan relationship (ASEAN, 2022a).

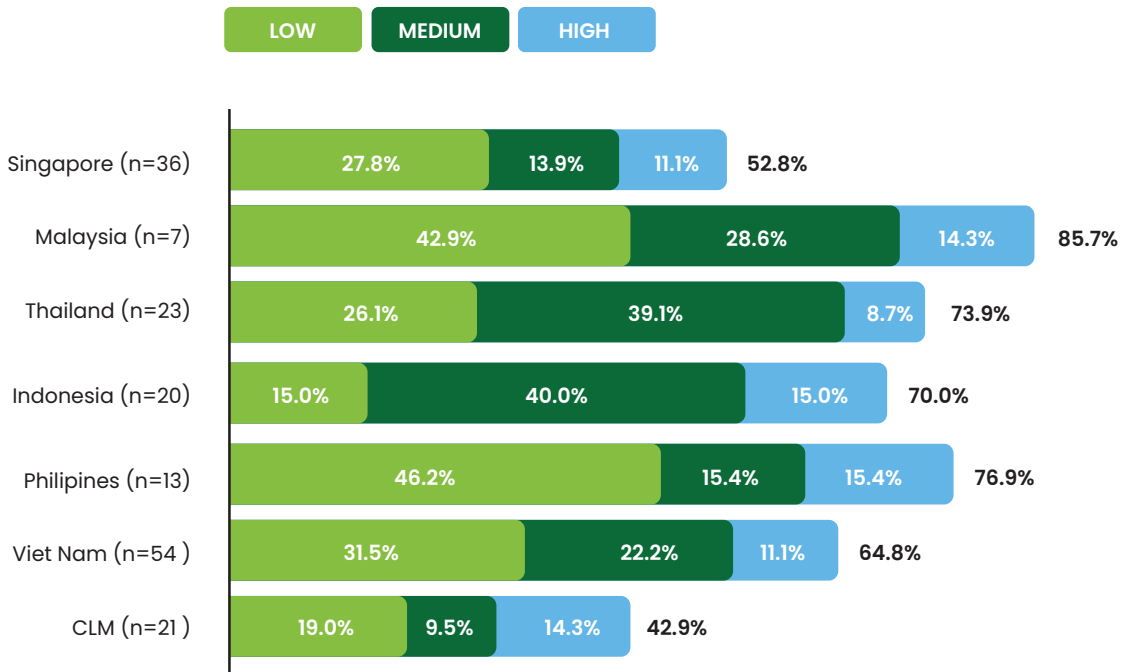
The regional trade environment can be improved to avoid customs clearances becoming bottlenecks for doing business in the region. By promoting trade liberalisation, businesses can trade more efficiently, which will then facilitate the distribution of ASEAN–Japanese products in the region. Improving supply chain resilience is also essential to ensure stable production activities in the region, especially in the event of disasters, pandemics, or other emerging issues (e.g. carbon neutrality and human rights). Japanese companies operating overseas have encouraged procurement reviews and multi-sourcing after the pandemic. Furthermore, a survey conducted with overseas Japanese companies showed that more than 60% operating global businesses are considering reorganising their supply chains soon (JETRO, 2022a).

Despite ASEAN's efforts to enhance connectivity within the region and beyond, the Chapter 2 survey revealed various trade challenges as follows.

5.3.1. Difficulties in Trading across Borders

More than 40% of companies in AMS could not determine which economic partnership agreements (EPAs) or free trade agreements (FTAs) would optimise their trade costs (Figure 5.1). The current system of EPAs and FTAs in ASEAN entails that companies determine which EPAs or FTAs are optimal and then declare their use, based on recommendations from internal or external experts. Multiple EPAs and FTAs are available, resulting in confusion.

Figure 5.1: Applying Favourable Tariffs through Economic Partnership Agreements or Free Trade Agreements



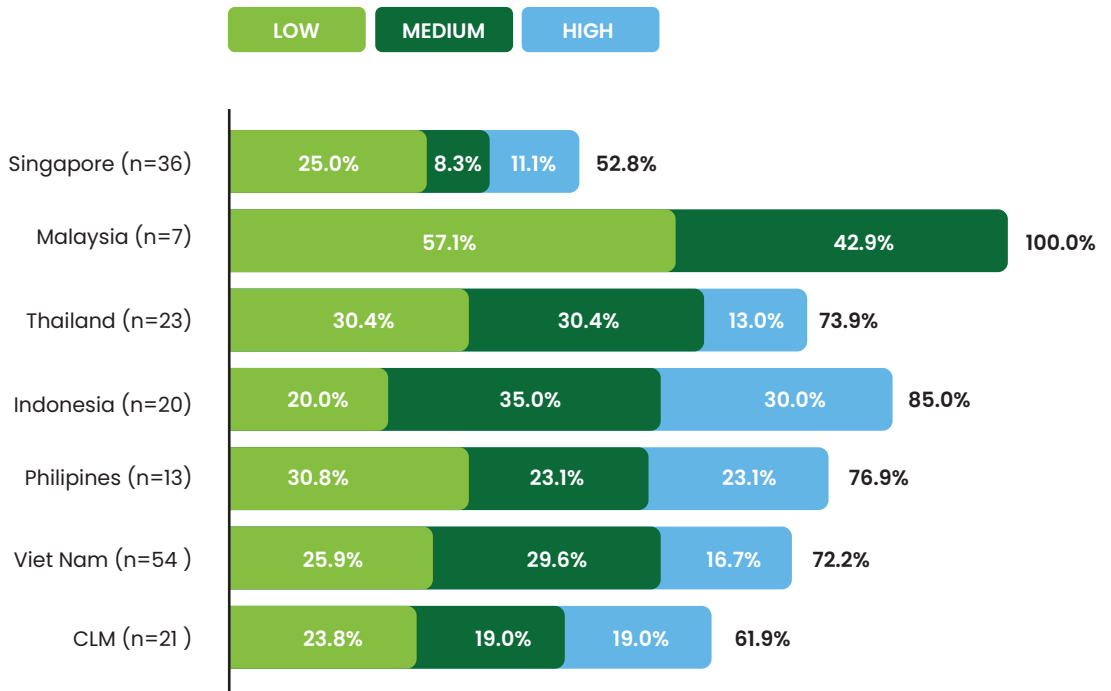
CLM = Cambodia, Lao People’s Democratic Republic, and Myanmar.

Notes: The figure shows the difficulty in trading across borders focussing on one of the answer options (i.e. ‘applying favourable tariffs with complex conditions of various EPAs and FTAs’) and its impact on respondents’ business profits at three levels – ‘low’, ‘medium’, and ‘high’ (excluding ‘never recognised as difficulties or issues’). Brunei Darussalam is excluded since no responses were obtained. The countries are in the order of gross national income per capita. (Chapter 2 Q8. Do you have difficulties or issues in trading across borders? If you have those, please select the impact of each on profits of your business as follows: (1) high, (2) medium, (3) low, and (4) never recognised as difficulties or issues.)

Source: Authors based on the data collected in the Chapter 2 survey.

All AMS – except for Singapore – strongly agreed that they have encountered unexpected costs due to the lack of customs operational standards on applying Harmonized System (HS) codes (Figure 5.2). The customs duty that a company enters on the form when declaring imports depends on the tariff rate specified for the HS code of the import. Based on the Chapter 2 survey interviews, however, the HS code determined at customs clearance sometimes differs from that entered by the company. The decision of which HS code to apply is ultimately under the discretion of the customs clearance staff.

Figure 5.2: Unexpected Costs Due to the Lack of Customs Operational Standards on Applying Harmonized System Codes



CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.

Notes: The figure shows the difficulty in trading across borders focussing on one of the answer options (i.e. 'unexpected cost due to the lack of customs' operational standards on apply HS codes') and its impact on respondents' business profits at three levels - 'low', 'medium' and 'high' (excluding 'never recognised as difficulties or issues'). Brunei Darussalam is excluded since no responses were obtained. The countries are in the order of gross national income per capita. (Chapter 2 Q8. Do you have difficulties or issues in trading across borders? If you have those, please select the impact of each on profits of your business as follows: (1) high, (2) medium, (3) low, and (4) never recognised as difficulties or issues.)

Source: Authors based on the data collected in the Chapter 2 survey.

Most AMS – except for Singapore – agreed that corruption or lack of compliance of customs offices with regulations are factors that make it difficult to identify trade costs (Figure 5.3).

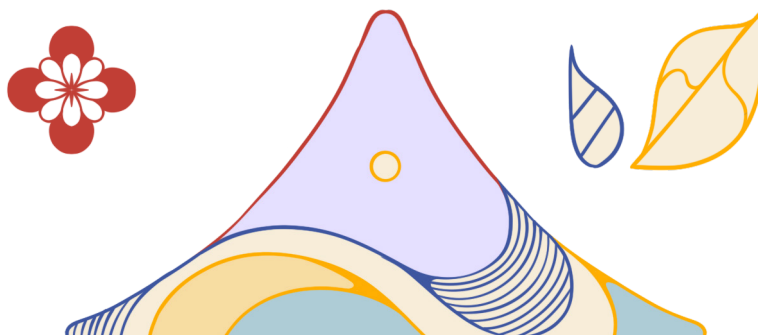
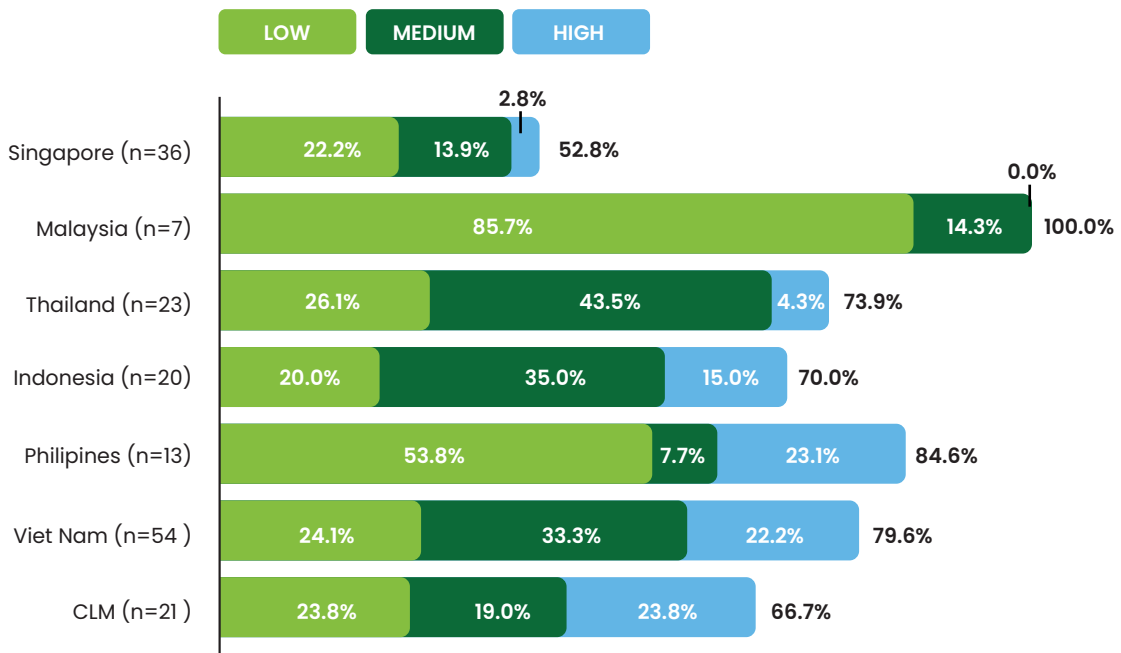


Figure 5.3: Corruption or Lack of Compliance of Customs Officers



CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.

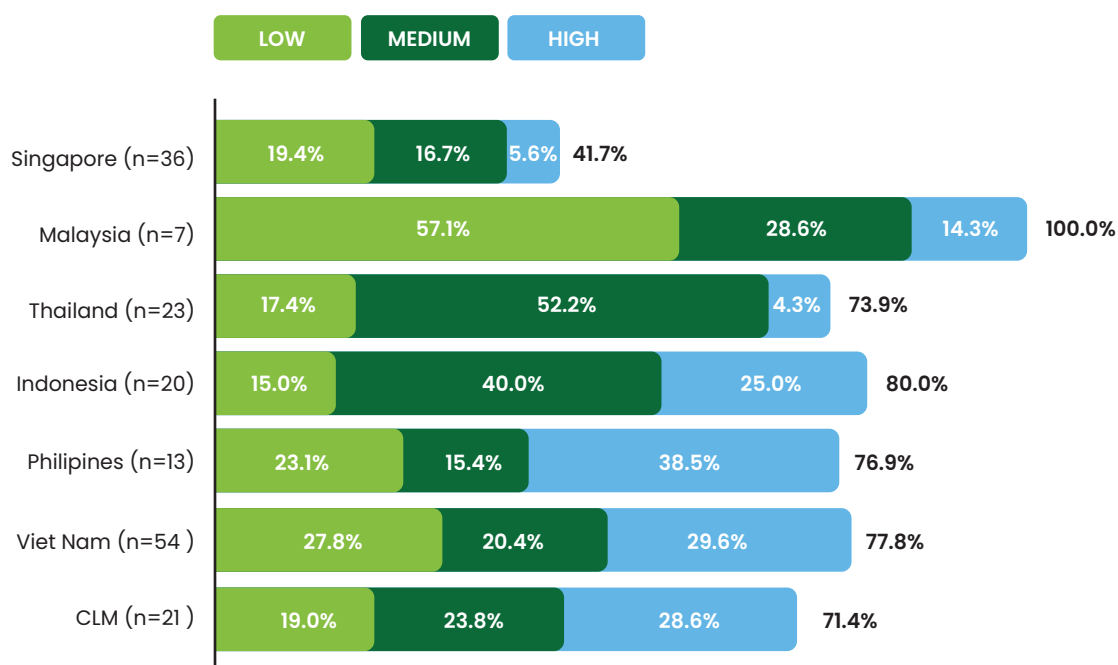
Notes: The figure shows the difficulty in trading across borders focussing on one of the answer options (i.e. 'corruption or lack of compliance of customs officers [e.g. facilitation payment]') and its impact on respondents' business profits at three levels – 'low', 'medium', and 'high' (excluding 'never recognised as difficulties or issues'). Brunei Darussalam is excluded since no responses were obtained. The countries are in the order of gross national income per capita. (Chapter 2 Q8. Do you have difficulties or issues in trading across borders? If you have those, please select the impact of each on profits of your business as follows: (1) high, (2) medium, (3) low, and (4) never recognised as difficulties or issues.)

Source: Authors based on the data collected in the Chapter 2 survey.

Companies in AMS – again, except for those in Singapore – felt that long lead times are a challenge for the smooth distribution of goods in the region (Figure 5.4). However, AMS have been working to build national single windows (NSWs), and their digitalisation is saving time. In addition, NSWs are connected by the ASEAN Single Window initiative, which was built on the initiative of public agencies in AMS with assistance from the United States (USAID, 2022).⁵

⁵ ASEAN, ASEAN Single Window, <https://asean.org/our-communities/economic-community/asean-single-window/>

Figure 5.4: Time-Consuming Manual or Onsite Procedures Due to Unclear or Unofficial Customs Procedures



CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.

Notes: The figure shows the difficulty in trading across borders focussing on one of the answer options (i.e. 'time-consuming manual or on-site procedures due to unclear or unofficial customs procedures') and its impact on respondents' business profits at three levels – 'low', 'medium', and 'high' (excluding 'never recognised as difficulties or issues'). Brunei Darussalam is excluded since no responses were obtained. The countries are in the order of gross national income per capita. (Chapter 2 Q8. Do you have difficulties or issues in trading across borders? If you have those, please select the impact of each on profits of your business as follows: (1) high, (2) medium, (3) low, and (4) never recognised as difficulties or issues.)

Although NSWs and the ASEAN Single Window are connected, many companies still point out the lack of necessary digitisation (Figure 5.5). Indeed, some trade procedures are still carried out manually, such as the issuance of certificates of origin.

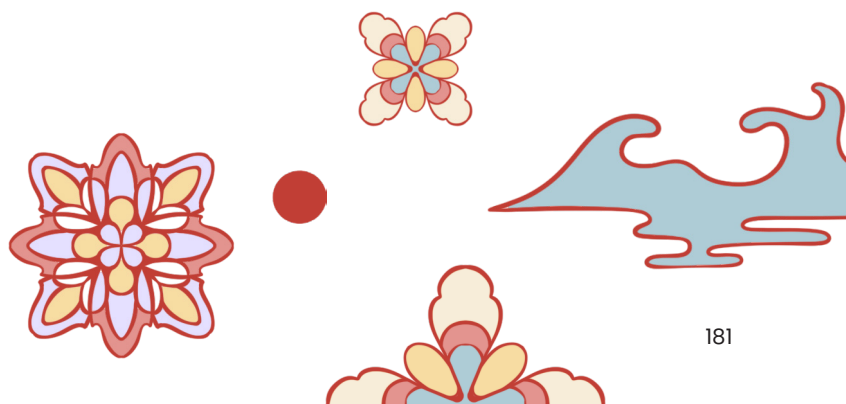
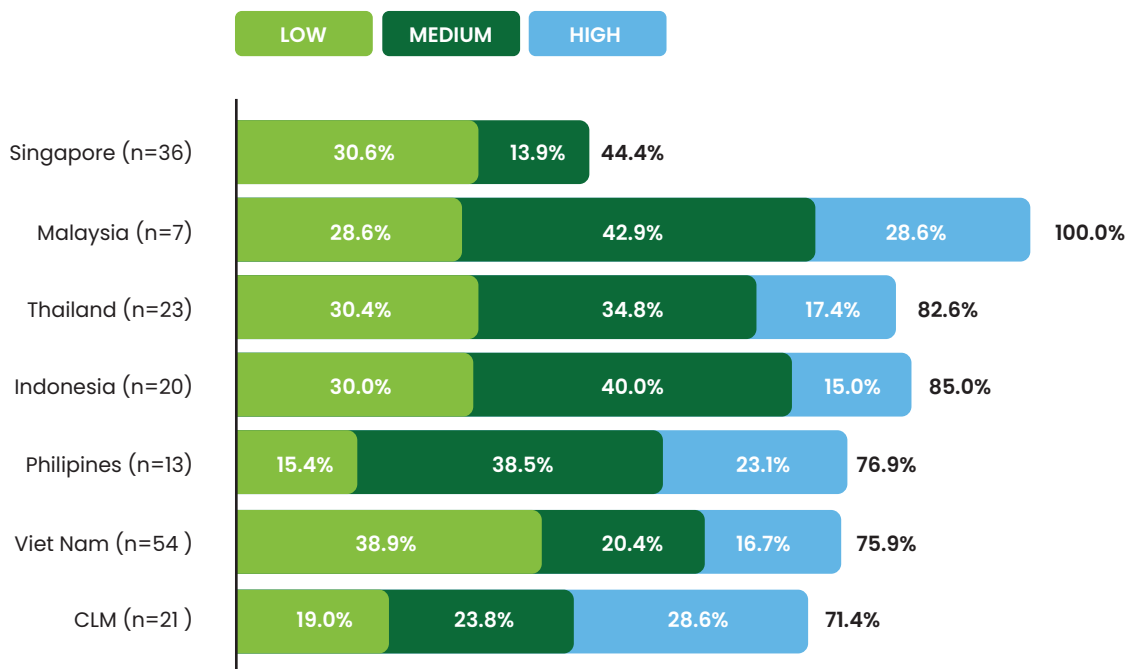


Figure 5.5: Time-Consuming Manual or Onsite Procedures Due to Limited Scope of Electronic Services



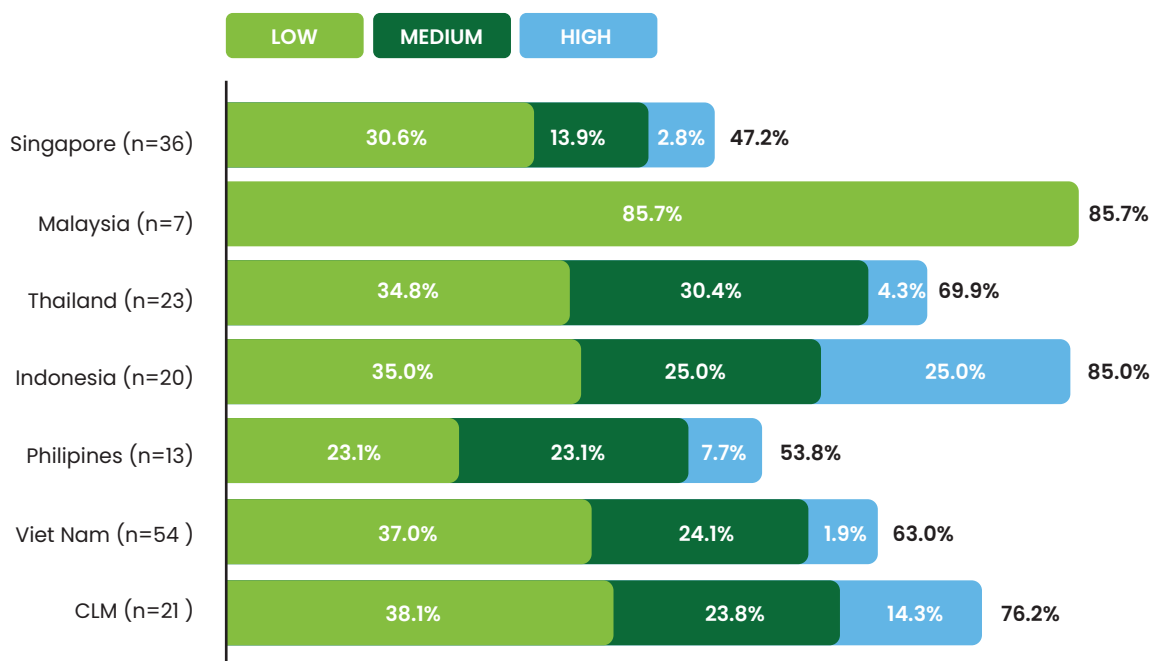
CLM = Cambodia, Lao People’s Democratic Republic, and Myanmar.

Notes: The figure shows the difficulty in trading across borders focussing on one of the answer options (i.e. ‘time-consuming manual or on-site procedures due to limited scope of electronic service [e.g. paperwork on procedures remains]’) and its impact on respondents’ business profits at three levels – ‘low’, ‘medium’, and ‘high’ (excluding ‘never recognised as difficulties or issues’). Brunei Darussalam is excluded since no responses were obtained. The countries are in the order of gross national income per capita. (Chapter 2 Q8. Do you have difficulties or issues in trading across borders? If you have those, please select the impact of each on profits of your business as follows: (1) high, (2) medium, (3) low, and (4) never recognised as difficulties or issues.)

Source: Authors based on the data collected in the Chapter 2 survey.

Although AMS do have their own NSWs, electronic issuance of certificates of origin does not occur throughout the region. As expressed in the Chapter 2 survey interviews, in some cases, a person must physically visit a customs office to obtain a copy of a certificate of origin.

Figure 5.6: Long Lead Time in Trading Due to Unconnected Electronic Services between Countries



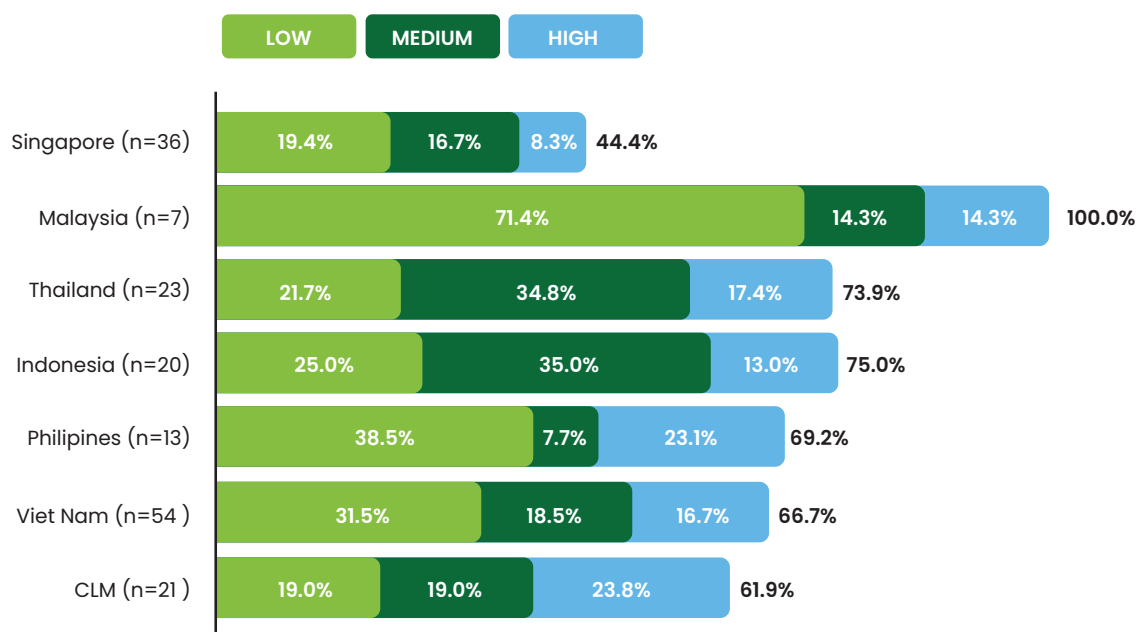
CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.

Notes: The figure shows the difficulty in trading across borders focussing on one of the answer options (i.e. 'long lead time in trading due to unconnected electronic services between countries') and its impact on respondents' business profits at three levels – 'low', 'medium', and 'high' (excluding 'never recognised as difficulties or issues'). The countries are in the order of gross national income per capita. (Chapter 2 Q8. Do you have difficulties or issues in trading across borders? If you have those, please select the impact of each on profits of your business as follows: (1) high, (2) medium, (3) low, and (4) never recognised as difficulties or issues.)

Source: Authors based on the data collected in the Chapter 2 survey.

Although JETRO (2020; 2022b) reported that the COVID-19 pandemic led to the advancement of multi-sourcing and diversification of supply chains, companies continue to face challenges regarding the risk of sudden closure of trade contact points (Figure 5.7). Such closures may occur for a variety of reasons, including the reduction of personnel in case of emergencies. The issue of closed contact points remains prevalent across many AMS.

Figure 5.7: Sudden Customs Shutdown in Disaster or Pandemic



CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.

Notes: The figure shows the difficulty in trading across borders focussing on one of the answer options (i.e. 'sudden customs shutdown in disaster or pandemic') and its impact on respondents' business profits at three levels – 'low', 'medium', and 'high' (excluding 'never recognised as difficulties or issues'). Brunei Darussalam is excluded since no responses were obtained. The countries are in the order of gross national income per capita. (Chapter 2 Q8. Do you have difficulties or issues in trading across borders? If you have those, please select the impact of each on profits of your business as follows: (1) high, (2) medium, (3) low, and (4) never recognised as difficulties or issues.) Source: Authors based on the data collected in the Chapter 2 survey.

5.3.2. Ineffective Trade Facilitation Agreement

As shown in Chapter 1, the RCEP is comprehensive in its coverage of a wide range of provisions on trade remedies, e-commerce, government procurement, general provisions and exceptions, institutional provisions, customs procedures and trade facilitation, trade in services, temporary movement of persons, investment, intellectual property, competition, as well as SMEs. The AJCEP, on the other hand, lacks systematic discussions on trade remedies, e-commerce, government procurement, and general provisions and exceptions, which has resulted in light commitments from participating countries (e.g. joint research, cooperation, exchange of information, or other forms of non-binding assistance). Its non-binding assistance includes that on customs procedures and trade facilitation (Chapter 2, Article 22); trade in services (Chapter 6); temporary movement of natural persons (Chapter 6); investment (Chapter 7); as well as intellectual property, competition, and SMEs (Chapter 8, Article 53).

Moreover, complicated and incomprehensive rules of origin have led to low utilisation rates and weak trade creation effects under the AJCEP. Slow and complicated customs procedures without sufficient trade facilitation further exacerbate this situation. Adoption of new technology, such as the application of information technology for customs procedures and trade facilitation, has also been slow.

The AJCEP uses outdated information, has outmoded provisions, and features a dated website. Moreover, there is a lack of provisions regarding critical areas such as e-commerce, the application of information technology, performance requirements, competition, ratchet mechanisms, and non-conforming measures. Another significant limitation is the absence of mechanisms for negotiations across chapters, which limits its effectiveness. For example, there are no mechanisms for negotiations between the investment and trade in services chapters. The AJCEP also lacks appropriate measures to address anti-competitive activities, ensure the confidentiality of information, and protect consumers. The lack of governmental bodies tasked with monitoring the progress of and facilitating the resolution of issues in the AJCEP represents another significant limitation.

5.3.3. Poor Cross-Border Data Flow

As expounded in Chapter 3, ASEAN and Japan have established competitive international production networks in the region. These networks have been achieved through the improvement of physical connectivity, including roads, bridges, and seaports, which has reduced the geographical distance to facilitate cross-border trade. To further strengthen the competitiveness of these international production networks, however, enhancing digital connectivity – which is a complement to physical connectivity – is imperative.

Enhancing digital connectivity goes beyond digital infrastructure, such as telecommunications. As outlined by Chen (2020), digital connectivity comprises four distinct factors: data connectivity, logistics to expedite the seamless flow of goods and services, financial connectivity to facilitate cash flow, and the seamless integration of cyberspace and physical parts of the e-commerce network. Failure to meet any of these factors will result in the economy being unable to fully exploit the benefits of the digital economy.

Of these four factors, data connectivity is the most crucial – yet challenging – component in the region. A state where data flow freely – with trust – can be considered a state where data are well-connected. Another formidable obstacle is thus establishing rules that facilitate the free flow of data with trust (Chen, 2021). Governing data flows is a fundamental issue that must be addressed to achieve the goal of free and trustworthy data flow. Within the region, there is no shared stance on regulating cross-border data flow, and various AMS are progressing at different rates in terms of domestic rules setting (Chen, 2020).

5.3.4. The Way Forward

Although ASEAN has been striving to enhance regional connectivity in trading, companies are still facing various challenges, including high uncertainty in trading costs and trade lead times, as well as the risk of supply chain disruption due to sudden customs closure. To address these issues, ASEAN has implemented the ASEAN Single Window to increase the digitalisation scope of trading procedures, such as the issuance of certificates of origin and bills of lading. Moreover, private-sector trading platforms can be leveraged to further expand digitalisation by connecting with NSWs. Such ongoing initiatives in the region, such as TradeWaltz in Japan, are expected to improve the efficiency of trade operations, accelerating trading procedures and enhancing their efficiency. Collaborating with such trading platforms also can offer companies information on EPAs or FTAs to facilitate decision-making and on supply chain management functions by providing available stock information.

Due to the COVID-19 pandemic, companies operating in ASEAN have made some progress in supply chain resilience, as seen in a study conducted by ERIA (2022a). A mechanism is needed, however, to ensure that these companies can procure necessary components at the necessary time. Such a ‘fast-track’ mechanism would help companies obtain these supplies more quickly – not only in an emergency but also in normal times. For example, for certain industries where customs clearance normally takes a substantial period of time, imports and exports can be permitted within a short period of time for specific purposes. Such initiatives could support innovation activities in today's fast-changing business environment as well; they do, however, require careful multilateral considerations with AMS and Japan.

As discussed in Chapter 3, the complexity of supply chains today is influenced by three main trends: the increasing diversity of consumers and technological advancements in the industry, rise in supply chain risks, and emergence of new social values. These factors require the development of innovative models to address customer preferences, technological advancements, and risks such as global pandemics and economic disputes. Furthermore, environmental regulations, human rights measures, and climate change all impact business activities, and achieving carbon neutrality will shape future supply chains. To meet these requirements, companies in the region must comply with green procurement standards, regulate chemicals in products, and provide human rights protections.



Supply chain models need to evolve to address these changes, including by adopting new technologies, creating more transparent and responsible practices, and developing data-sharing partnerships across the supply chain. Companies also need to be agile to adapt to these trends and challenges to maintain their competitive edge.

Digitalising trading procedures can minimise corruption in customs offices by reducing manual or on-site procedures, lessening opportunities for human intervention.

The AJCEP should be upgraded to promote trade and investment between ASEAN and Japan. First, the AJCEP should expand its coverage to include provisions covered by the RCEP to enhance regional production networks and to improve competitiveness. Second, the AJCEP should be upgraded to expedite the development of trade in services and investment by including provisions on e-commerce, application of information technology, performance requirements, competition, ratchet mechanisms, and non-conforming measures. Lastly, establishing the AJCEP Secretariat can provide institutional support to enforce rules and to monitor implementation to ensure the effective functioning of the agreement, given the complexity of creating a single, continent-wide market for goods, services, and investment. An upgraded AJCEP is necessary to address the challenges faced by the current AJCEP and to promote a digital transformation in ASEAN and Japan by effectively and efficiently utilising digital technology in trade liberalisation and facilitation.

Indeed, the Bandar Seri Begawan Roadmap (BSBR), which was endorsed at the 53rd ASEAN Economic Ministers' Meeting in 2021, aims to leverage ongoing digital transformation in ASEAN by highlighting key actions from existing initiatives. It articulates a strong commitment to transforming the region into a leading digital economy and to prioritise actions that include harnessing technology to jumpstart the economy, simplifying business processes, promoting access to digital applications, enhancing the protection of intellectual property rights, capacitating people on digital technologies, and improving cross-sectoral cooperation and coordination (ASEAN, 2021a).

While many components of the BSBR are composed of pre-existing ASEAN digital initiatives, the BSBR also includes a provision for the study and adoption of an ASEAN digital economy framework agreement, which would be legally binding. Its implementation represents a significant opportunity to establish common data governance rules amongst AMS. Japan is also actively cooperating with ASEAN to enhance the agreement through the sharing of information and knowledge. The ASEAN digital economy framework agreement can also be incorporated into the AJCEP in the future.

5.4. Digital and Innovative Economy

5.4.1. Strengths of ASEAN and Japan

The aftermath of the COVID-19 pandemic necessitates a shift in the creation of businesses within the ASEAN–Japan region. Certainly, the advent of Industry 4.0 and its concomitant economic growth require new industrial structures and a response to digital technology. As a crucial driver for further economic advancement, innovation activities that employ digital technology can be instrumental.

The integration of digital technology engenders the potential for disruptive innovation by combining new business models, advanced technologies, and significant investment in research and development. Digital technology in innovation facilitates business expansion by securing users in their economy through first-mover advantages, economies of scale, and network effects. This phenomenon sometimes results in winner-takes-all advantages, as seen with the global expansion of mega-ventures such as platform-based businesses from the United States and China, including Google, Amazon, and Alibaba (Oikawa, 2022). Existing platform-based businesses do possess first-mover advantages, but businesses in late-industrialised countries that enter the market at a later stage can still reap benefits (Oikawa, 2022).

Innovation is defined as the deployment of technologies in the economy (Oikawa, 2022). Innovation in late-industrialised countries is often the deployment of the technological knowledge accumulated in advanced countries. Latecomers in late-industrialised countries must thus possess an understanding of local needs and foster a culture of entrepreneurship to compete effectively; they also need not accumulate technological knowledge from scratch. Deploying cutting-edge technologies in late-industrialised countries may facilitate rapid progress, a phenomenon often referred to as leapfrogging. AMS are particularly well placed to take advantage of a leapfrogging effect, given their abundant potential for innovation and development. Businesses operating in these countries should focus on identifying and capitalising on their unique advantages rather than being weighed down by perceived disadvantages.

ASEAN–Japan should strive to promote collaborative innovation by leveraging their unique strengths. ASEAN's primary strength is its abundant potential markets in which digital technologies can address various social needs. Therefore, innovation activities in ASEAN may be characterised as driven by social issues, with the aim of enhancing daily or business-related convenience by transitioning existing offline lifestyle-related services to online platforms. This trend is exemplified by the growing popularity of digital life-related services such as e-commerce, which witnessed further expansion across ASEAN in the wake of the COVID-19 pandemic. Notably, the emergence of platforms such as Grab (Singapore), Gojek (Indonesia), and Sea (Singapore) is indicative of this phenomenon. This trend can also be

attributed to the underdeveloped hard infrastructure and life-related services in ASEAN, in contrast to the United States, China, and Europe (IMD, 2022).⁶ According to Garcia (2022), a total of 50 ‘unicorn’ companies – that is, start-ups valued at over \$1 billion – have emerged within ASEAN.

The second strength of ASEAN is its high digital penetration. The digital divide in terms of age and location has been a well-known challenge for ASEAN, but significant strides have occurred in closing the gaps (Yoshikawa and Anbumozhi, 2022). All AMS – except the Lao People’s Democratic Republic (Lao PDR) and Myanmar – have internet penetration rates exceeding 70% (Tobing, 2022). Additionally, Vasey (2022) highlighted the extensive ownership of smartphones in AMS, which has fuelled the growth of online shopping and delivery services, especially amongst the younger generation.

The third strength of ASEAN is its high economic growth potential. ASEAN has undergone a transformation from a vast production market that was once considered the world’s factory to a colossal consumer market. ASEAN is projected to become the world’s fourth-largest economy by 2030 (Lee, 2022). This growth potential is supported by the abundant population of the region, especially amongst the younger generation. Its youth, coupled with a high level of digital literacy, is expected to drive innovations in ASEAN–Japan to tap into a larger market of ASEAN and Japan with a huge consumer base. Accordingly, the region also has the potential to evolve into an innovation hub (ASEAN, 2022b), and Singapore has taken the lead in attracting foreign enterprises to establish innovation centres there (Bateman, 2022).

Japan also possesses certain strengths that it can leverage to foster future innovation collaborations with ASEAN. Its primary strength is its high technological capabilities. Japan possesses advanced product development capabilities, particularly in the manufacturing industry, exemplified by its automobile industry. Its innovation performance is noteworthy, ranking 13 amongst 132 economies in terms of innovation (WIPO, 2021).⁷

The second strength of Japan is its industries that are fortified by extensive supply chains. These supply chains encompass the production of primary and finished products, as well as a wide range of upstream and downstream production lines and supporting industries.

⁶ Singapore ranks 3rd in the world on the World Competitiveness Ranking, with Malaysia 32nd and Thailand 33rd. The indicators include information and communication technology infrastructure (IMD, 2022).

⁷ In AMS, Singapore ranked 8th, Malaysia followed at 36th, and Thailand followed at 43rd (WIPO, 2021).

They present opportunities for collaborative product and services development across various industries within the ASEAN region.

Japan's third strength is its high level of trust from ASEAN, which has been corroborated by a survey conducted by the ASEAN–Japan Business Council, ASEAN Business Advisory Council, and Japan External Trade Organization in 2022 (JETRO, 2022c). The survey revealed that 90% of respondents in ASEAN perceived Japanese businesses as dependable partners. Against this backdrop, the 25th ASEAN–Japan Summit held in 2022 resulted in the agreement to reinforce their collaboration and partnership. It is anticipated that Japan's trustworthiness within the ASEAN market will facilitate sustained engagement and cooperation amongst stakeholders and companies in both markets (ASEAN, 2022a).

5.4.2. Challenges in the Collaboration between ASEAN and Japan

The ASEAN–Japan partnership has also been addressing innovation activities to some extent, employing a framework of cooperation to drive joint research through private–public–academia collaborations and related initiatives between Japanese and ASEAN companies, including start-ups. The regulation and rules governing innovation activities in ASEAN–Japan, however, must be established to foster collaboration. It is imperative that the applicable regulations in each country function efficiently while providing foreign firms access to the market to participate in innovation activities from the global market.

The safeguarding of intellectual property rights is also vital to innovation activities, as it impacts the business environment for firms operating overseas. The status of intellectual property protection throughout ASEAN and Japan varies, with Singapore and Japan having the most advanced intellectual property protection. Some AMS still need to accede to international intellectual property treaties.

In addition, some existing domestic regulations preclude the demonstration or launch of products or services, even if the technology or business model is innovative. This situation is particularly evident when using cutting-edge technology in business and specific industries due to regulatory barriers. Therefore, it is crucial to establish a flexible innovation environment that protects users while promoting innovation activities within ASEAN and Japan.

To realise innovative economies and societies, ASEAN requires innovation hubs where entrepreneurial people gather. Smart cities have the potential to play a crucial role in achieving this objective by driving innovation and improving the quality of life in urban areas. For smart cities to be successful and sustainable, they must prioritise the needs and wants of their residents. Therefore, citizen-centric smart cities, which prioritise resident-focussed urban development, are essential. However, discussed in Chapter 3, while the global trend in smart cities is moving towards a people-driven approach that highlights democratic, inclusive, and

resident-centred urban development, ASEAN has generally favoured technology-led urban development.

5.4.3. The Way Forward

Considering the relatively limited resources available to ASEAN and Japan when compared to larger innovation markets such as the United States and China, ASEAN–Japan cooperation should focus on cultivating innovation that leverages the unique strengths of both sides. Specifically, ASEAN has demonstrated a capacity for creating digital services that address social issues, while Japan boasts high technological capabilities.

To encourage regional cooperation for innovation, regulatory frameworks related to innovation activities should be implemented. One such initiative could be the establishment of a unified patent system in ASEAN–Japan to enable companies in the region to register patents more easily, thereby promoting innovation. Moreover, regulatory sandboxes should be expanded within the region, allowing specific industry and technology areas to conduct demonstrations under certain conditions. This could be accomplished by keeping the application window open for businesses, without establishing a defined application time. It may be beneficial to include financial support and business incentives, such as governmental assistance for market deployment of innovative services. These initiatives can be implemented in specific industries or technology areas with high demand.

As smart cities involve utilising residents' data, including personal health data, such data must be handled securely and protected. However, regulations on personal data protection may pose a barrier to demonstrating cybersecurity efforts by collaborating with stakeholders who handle personal data in a smart city. To address this issue, certain demonstration projects can be accepted under certain conditions to ensure that data are handled correctly and that convenient services are created while still maintaining data privacy.

As the global trend moves towards people-driven smart cities, it is vital to focus on democratic, inclusive, and resident-centred urban development in Asia. Japan is leading the way in this area, prioritising not only liveability but also the well-being of a diverse range of people through its Society 5.0 concept, a human-centred and 'super-smart' society that balances economic advancement with social problem-solving.⁸ While cities in ASEAN face challenges such as insufficient response to digitalisation and a need for basic infrastructure development, they possess unique people-centred social characteristics that make citizen-driven city planning an attractive prospect.

⁸ Government of Japan, Cabinet Office, Society 5.0, https://www8.cao.go.jp/cstp/english/society5_0/index.html

5.5. Sustainable Future

The issue of sustainability has become a concern for both ASEAN and Japan given the prevalence of disasters, such as earthquakes, prolonged rains, and floods, in the region. ERIA (2022) forecasted that climate change may cause a significant reduction of up to 6% in ASEAN's gross domestic product by 2050. AMS such as Indonesia, Malaysia, and the Philippines, which have limited domestic resources, may find it challenging to mitigate and to adapt to the impacts of global warming.

As ASEAN and Japan aspire to strengthen their relationship, they must consider sustainability as one of the main topics of concern for the world. It is essential to develop a mutually beneficial approach that balances economic development and sustainability challenges. In the wake of the COVID-19 pandemic, prioritising sustainability over economic development is not feasible, particularly for less-developed AMS. Thus, ASEAN–Japan cooperation should align with the international sustainability agenda while sustaining economic development.

5.5.1. Carbon Neutrality and Circular Economy

As ASEAN and Japan are signatories to the Paris Agreement, they are actively pursuing low-carbon energy to achieve carbon neutrality, as emphasised in the Glasgow Climate Pact. *The Framework for Circular Economy for the ASEAN Economic Community* (ASEAN, 2021) identifies efficient resources management as a key priority. Anbumozhi and Kojima (2022) described a circular economy as an industrial process and business model that seeks to minimise waste and pollution while maximising the use of natural resources. They argued that optimising resources through the 3Rs – reduce, reuse, and recycle – is crucial.

The transition to a circular economy presents a unique opportunity for fast-growing AMS economies to achieve sustainable and inclusive economic growth. However, the readiness, technology, and know-how to implement circular economy initiatives vary amongst AMS. Anbumozhi, Ramanathan, and Wyes (2020) highlighted that Singapore has set ambitious targets of recycling 60% of household waste by 2025 and achieving a recycling rate of 70% by 2030, while the Philippines has committed to achieving a waste conversion rate of at least 25% by 2025.

The classification and proper management of resources is a crucial first step in promoting the reuse of resources. It is essential to establish a systematic process to collect waste, process it into recycled products, and distribute recyclable materials to achieve a circular flow of resources. This requires collaboration amongst governments, industries, and communities to develop and to implement effective circular economy policies and strategies.

ASEAN–Japan faces the challenge of balancing the need for a stable domestic power supply and energy transition while considering the varying levels of

economic growth and domestic energy resources encountered throughout the region. As mentioned previously, the region's economic expansion, especially in less-developed nations, is expected to make ASEAN–Japan the fourth-largest economy in the world by 2030, resulting in a surge in energy demand. According to Handayani et al. (2022), ASEAN's energy demand is projected to triple its 2020 level by 2050, with Indonesia and Viet Nam accounting for 58% of this demand. Additionally, fossil fuels are predicted to continue to dominate the energy supply in 2040, accounting for about 70% of the total energy supply (Suwanto, Ienanto, Suryadi, 2021).

However, AMS have committed to participate in international efforts to decarbonise the global economy. All are signatories to the United Nations Framework Convention on Climate Change and the Paris Agreement, and they have submitted their national determined contributions to reduce greenhouse gas emissions. Several AMS have also pledged to achieve net-zero carbon emissions by 2050, such as Cambodia, Indonesia, the Lao PDR, Singapore, Thailand, and Viet Nam. Each AMS has developed a master plan to address climate change and to achieve its nationally determined contribution.

A cleaner energy transition in ASEAN–Japan is crucial to meet global decarbonisation goals. Yet due to the high demand for electricity in the region, an immediate shift to cleaner energy sources faces challenges. Fossil fuel-fired power generation that is highly energy-efficient and relatively inexpensive remains a significant source of electricity production, especially since demand is growing (Handayani et al., 2021). Thus, a well-balanced mix of fossil fuel-fired power generation and cleaner energy is necessary to meet the domestic electricity demand. Wahyono, Ienanto, and Suryadi (2021) suggested that promoting the transition to cleaner energy should occur through a combination of clean and fossil fuel-fired energy sources, gradually increasing the weight of clean energy over time. However, the heterogeneous technological and knowledge capabilities across AMS pose a challenge in advancing decarbonisation activities (ACE, 2020).

To achieve carbon neutrality by 2050, Japan announced a pledge to have net-zero greenhouse gas emissions by 2050.⁹ The country aims to support the adoption of innovative green technologies through increased international cooperation as well.

5.5.2. Food and Agriculture

In recent years, the food and agriculture sector has undergone digital transformation (Kozono, 2022). Digitalisation in this sector has the potential to offer various benefits, including economic advantages through increased productivity,

⁹ Government of Japan, METI, Japan's Roadmap to 'Beyond-Zero' Carbon, https://www.meti.go.jp/english/policy/energy_environment/global_warming/roadmap/index.html

cost-effectiveness, and market opportunities; social and cultural benefits through inclusive communication; and environmental benefits through optimisation of resources. However, the ASEAN food and agriculture sector faces several challenges in adopting these digital technologies. The potential for digitalised food and agricultural production is limited by the lack of knowledge and skills amongst users, limited internet access for farmers in rural areas, high start-up costs for procuring digital equipment, high maintenance and data analysis costs, and the need to explore smart farming in various sub-sectors. Similarly, the potential for a digitalised food supply chain and finance is limited by ad-hoc approaches to digital marketing, insufficient resources to comply with traceability requirements, the need for training on maintaining field records, non-harmonised standards for traceability, and the need to ensure product origin and quality while preventing commercial fraud.

The prevalence of undernourishment and moderate or severe food insecurity in the ASEAN total population has been steadily improving over the last 2 decades (Kozono, 2020).¹⁰ Yet due to the COVID-19 pandemic, food security has deteriorated in several South-East and East Asian countries.

5.5.3. Inclusive Health Care

As discussed in Chapter 3, ASEAN faces several challenges in its health care sector. First, there are foundational elements missing, such as internet access and modernised payment systems. An insufficient health care workforce remains a critical issue that impedes the effective provision of health care services.

Second, financing is a major concern, including medicine reimbursement, health care commodity procurement, and health care worker salaries. Sustainable and efficient financing models are needed to maximise resources, which must be communicated effectively to the population. Third, health care itself needs to evolve, with a focus on improving health literacy and well-being initiatives, which requires a whole-of-government approach. Overcoming the inequities in accessing quality health care in rural and low-income areas is crucial as well. Fourth, achieving universal health coverage (UHC) requires a stable, long-term vision and leadership that remains committed to the cause despite political uncertainties. Finally, the private sector should support governments in achieving UHC through PPPs, which necessitate collaboration and transparency throughout the implementation of key programmes.

¹⁰ The prevalence of undernourishment is an estimate of the population whose habitual food consumption does not provide the required dietary energy levels for a healthy and active life. The prevalence of moderate or severe food insecurity in the total population is an internationally comparable estimate of the proportion of the population facing difficulties in accessing food.

5.5.4. Sustainable Tourism

The tourism industry is important in ASEAN because it contributes to the region's economic growth, creates job opportunities, promotes cultural exchange, and supports local communities and conservation efforts. Tourism needs a sustainability point of view to ensure that activities do not harm the environment, culture, and local communities and to ensure long-term economic growth and benefits.

As discussed in Chapter 3, the *ASEAN Economic Community Blueprint 2025* aims to make South-East Asia a region of unique and sustainable tourism destinations. Recently, the *ASEAN Framework on Sustainable Tourism Development in the Post COVID-19 Era* was launched, outlining five key pillars to maximise efforts to rebuild the ASEAN tourism sector: sustainable economic growth; social inclusiveness and poverty reduction; resource efficiency and environmental protection; cultural values and heritage; and mutual understanding, peace, and security (ASEAN, 2023). Strategic priorities for each pillar include sustainable tourism policies, quality job creation, low-carbon resource usage, cultural tourism promotion, and crisis preparedness planning.

5.5.5. Closing the Digital Divide

The significance of closing the digital divide¹¹ amongst micro and SMEs is widely acknowledged as necessary for inclusive and sustainable growth. *The Comprehensive Asia Development Plan 3.0 (CADP 3.0): Towards Integrated, Innovative, Inclusive, and Sustainable Economy* also highlights the importance of closing the digital divide to realise inclusive growth in Asia (ERIA, 2022).

ERIA is currently undertaking a survey on the digital divide in response to a request made by the ASEAN Secretariat, following Japan's proposal to investigate means of narrowing the digital gap amongst micro and SMEs in the ASEAN region (Hun, 2022). This proposal was presented at the 24th AEM Plus Three Consultation on 13 September 2021. Although the survey is ongoing, noteworthy findings have emerged from interviews conducted with digital solutions providers from companies operating within ASEAN, as well as those from digital solution providers from China, Japan, and Korea that have a presence in ASEAN. Furthermore, input from micro and SMEs and AMS governments has also been solicited.

¹¹ The term 'digital divide' emerged in the literature around 2000 and was subsequently defined by OECD (2001) as a disparity in the opportunities for individuals, households, businesses, and geographic areas at varying levels of socio-economic status to access and utilise information and communication technology (ICT) for a diverse range of activities. In essence, the digital divide pertains to the gaps in both ICT access and usage. Dewan and Riggins (2005) emphasised the sequential nature of access and usage, positing that the digital divide engenders two distinct effects: first-order effects that relate to disparities in access to ICT, and second-order effects that pertain to inequalities in the capacity to use ICT amongst those who have already secured access. Access to ICT represents a fundamental prerequisite for its effective use.

The first finding suggests that insufficient internet infrastructure and supportive services persist in more rural and lower-income AMS. A pronounced disparity in ICT infrastructure between urban and rural areas is evident, with this gap being most pronounced in lower-income AMS. The availability of ICT infrastructure is a critical precondition for enabling micro and SME digitalisation and facilitating digital transformation, thus underscoring the need to address this existing infrastructure gap.¹²

The second finding is linked to the financial constraints experienced by micro and SMEs in the region. Micro and SMEs are encountering challenges in recruiting proficient ICT personnel, primarily owing to their inability to offer competitive salaries. Furthermore, lower-income AMS do not provide adequate financial support to micro and SMEs.¹³

The third finding highlights the presence of a significant ICT skills gap between lower- and higher-income AMS, as well as between urban and rural areas. This gap stems from factors affecting both the business and consumer sides of the digital divide. On the business side, as previously stated, micro and SMEs frequently encounter challenges in recruiting skilled ICT experts due to their inability to offer competitive salaries or attractive career paths. On the consumer side, individuals residing in lower-income countries or rural areas tend to lack access to digital tools or the necessary training to effectively utilise them. Consequently, companies often face obstacles in reaching out to these populations through digital tools.

The fifth finding highlights a critical issue where many micro and SMEs face a lack of business knowledge, which hinders their ability to articulate their issues and requirements to providers clearly. This makes it challenging for providers to offer effective solutions. The finding underscores that merely addressing deficiencies in ICT knowledge may not be sufficient; addressing gaps in both ICT and business knowledge also may be necessary. Additionally, micro and SME owners are typically responsible for making decisions regarding ICT investments. Hence, supporting them in comprehending the benefits of ICT is crucial.

The last finding suggests that cybersecurity risks are not a significant barrier for micro and SMEs to adopt digital tools, as they do not perceive it as a priority. While

¹² The issue of access to digital technologies is intertwined with the challenge of ICT infrastructure. The utilisation of digital technologies is contingent upon a company's capacity to modify its business processes and models. Queiroz and Wamba (2022) highlighted several impediments to digital transformation, such as resistance to change, communication breakdowns, resource constraints, unrealistic cost projections, legacy systems, insufficient top management support, inadequate workforce skills, lack of commitment, deficient collaboration, and absence of a coherent vision. These barriers suggest that to achieve a successful digital transformation, management and employees across different hierarchical levels must actively engage in the change process and leverage the full range of internal and external resources at their disposal.

¹³ In this context, cloud computing services can offer a practical solution, enabling them to access advanced digital technology without having to make significant investments. These services, which are often provided by third-party platforms at reasonable prices, have proven especially beneficial in facilitating e-commerce during the COVID-19 pandemic.

some acknowledge the importance of cybersecurity, a significant number do not view themselves as the primary targets of cyberattacks. Additionally, even if they perceive the risk, they prioritise investing their budget in sales and marketing functions to achieve prompt returns. However, it is worth noting that cybersecurity risks will continue to grow with time, and ignoring them can have detrimental consequences.

5.5.6. The Way Forward

ASEAN and Japan must prioritise the transition to clean energy to meet global decarbonisation goals. A well-balanced mix of fossil fuel-fired power generation and clean energy is necessary to meet domestic electricity demand and to move towards the goal of carbon neutrality. To achieve this, ASEAN's initiatives to enhance energy connectivity should continue to be promoted within the context of the current ASEAN Power Grid initiative. Japan, with limited energy resources and a history of experiencing large-scale power outages due to disasters, can refer to ASEAN's technologies and know-how in this regard. Furthermore, the introduction of carbon pricing should be promoted to establish a single and connected market in the future. The EU's single market initiative can serve as a reference. ASEAN and Japan may consider the EU Carbon Border Adjustment Mechanism as an advanced effort from a long-term perspective.

In terms of the circular economy, establishing a sizable market in the region is necessary to establish a framework for the circulation of resources. As a future vision for ASEAN–Japan cooperation, expanding the distribution market for recycled products to the entire ASEAN–Japan region is desirable. The establishment of a large cross-national distribution market will provide an incentive for companies and other stakeholders to enter the economy.

To achieve resource circulation within the region, Japan can support some AMS to establish rules on handling waste by leveraging its historical efforts over the decades. Recycling certification bodies can also be established throughout the region to develop the market, with reference to EU certification bodies. As in the case of the EU, other sustainability initiatives such as peer-to-peer tools can serve as a mechanism to advance regional initiatives. AMS and Japan can review or provide input on laws, programmes, and systems based on the experience of certain personnel in the region that others may not have yet encountered.

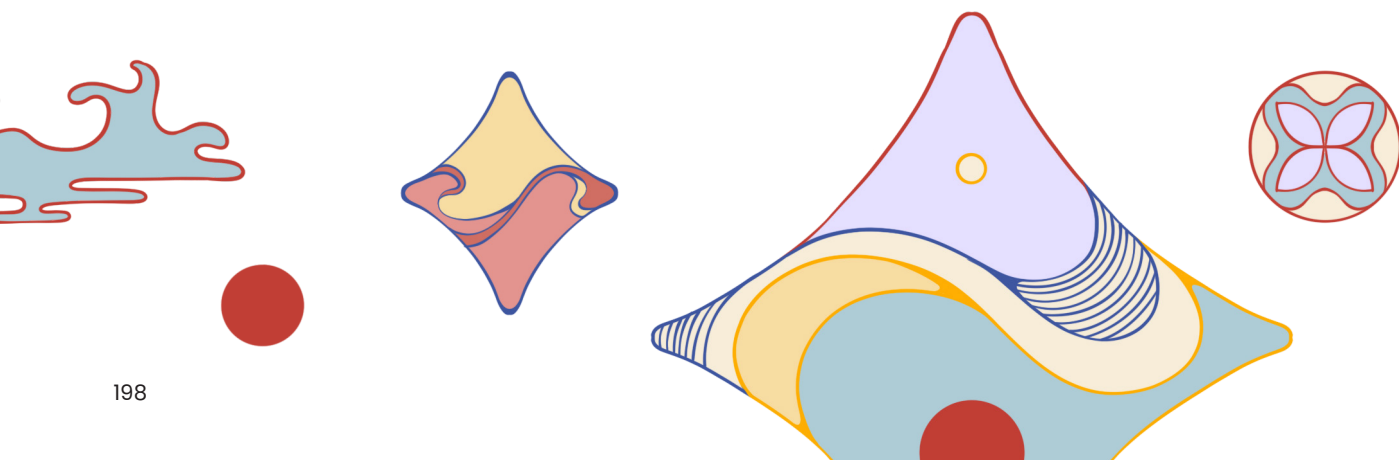
To enhance the productivity of the food and agriculture sector in ASEAN, collaborative efforts between ASEAN and Japan are needed to develop and to disseminate innovative technologies for resilient and sustainable food and agriculture systems. Human resources development for officials and stakeholders engaged in activities towards realising resilient and sustainable agriculture is also essential.

To overcome the challenges in food insecurity, it is necessary to expand the range of emergency food reserve schemes through collaboration. The recent occurrence of external shocks, such as the COVID-19 pandemic and the escalation of geopolitical tensions, have had a profound negative impact on food security globally and regionally. In this context, the ASEAN Plus Three Emergency Rice Reserve (APTERR) can play a pivotal role in ensuring regional food security during short-term crises, particularly in relation to rice supply. The possibility of expanding its scope beyond rice to include other key crops warrants careful consideration and discussion.

To improve health care coverage rates of the population in ASEAN, ASEAN and Japan need to prioritise UHC opportunities in AMS, while maintaining administrative efficiencies and preparing for mandatory premium contributions. This can be achieved by exploring alternative and more sustainable financing arrangements, leveraging best practices from abroad and beyond health care. Public-private-academia collaborations should also be embraced, allowing stakeholders to work together to tackle non-communicable as well as infectious disease challenges. Furthermore, consolidated health care data flows across ASEAN need to be built, allowing stakeholders to work together. To develop the health care workforce, a long-term strategy needs to be developed, including cross-border, while also digitalising patient-facing and back-office infrastructure.

By highlighting community-based and people-centred tourism, ASEAN can achieve sustainable economic growth, particularly at the local level and in rural areas, while also promoting and preserving the environment and its cultural heritage. Additionally, Japan can share its experience with ASEAN in promoting tourism development in the aftermath of disasters, reducing vulnerability to disasters, and measuring sustainable tourism. Finally, Japan's experience in establishing appropriate governance structures and monitoring mechanisms to support sustainable tourism development should be shared with ASEAN.

To ensure that sustainable tourism is explicitly incorporated into ASEAN's agendas, an action plan for the ASEAN Framework on Sustainable Tourism Development in the Post COVID-19 Era must be developed. This plan should analyse how tourism sectors can integrate sustainable initiatives into their agendas and identify appropriate modalities for cooperation. Comprehensive planning and adequate resources are necessary for effective implementation.



To address the digital divide amongst micro and SMEs, it is imperative to recognise that beyond the improvement of ICT infrastructure and financial resources, securing a workforce with both ICT skills and fundamental business knowledge is necessary. Governments should provide training on business knowledge to micro and SMEs, and ICT providers should collaborate with governments to support the digitalisation of micro and SMEs. ASEAN–Japan cooperation should also consider ways to enhance the knowledge of micro and SMEs to enable their adaptation to the digital economy. Finally, it is essential to nurture ICT experts who are knowledgeable about manufacturing, as most ICT professionals prefer working in services sectors such as ICT solutions, banking, and e-commerce platforms.

5.6. Building a Professional Workforce for the Future

5.6.1. Challenges in the Current Workforce

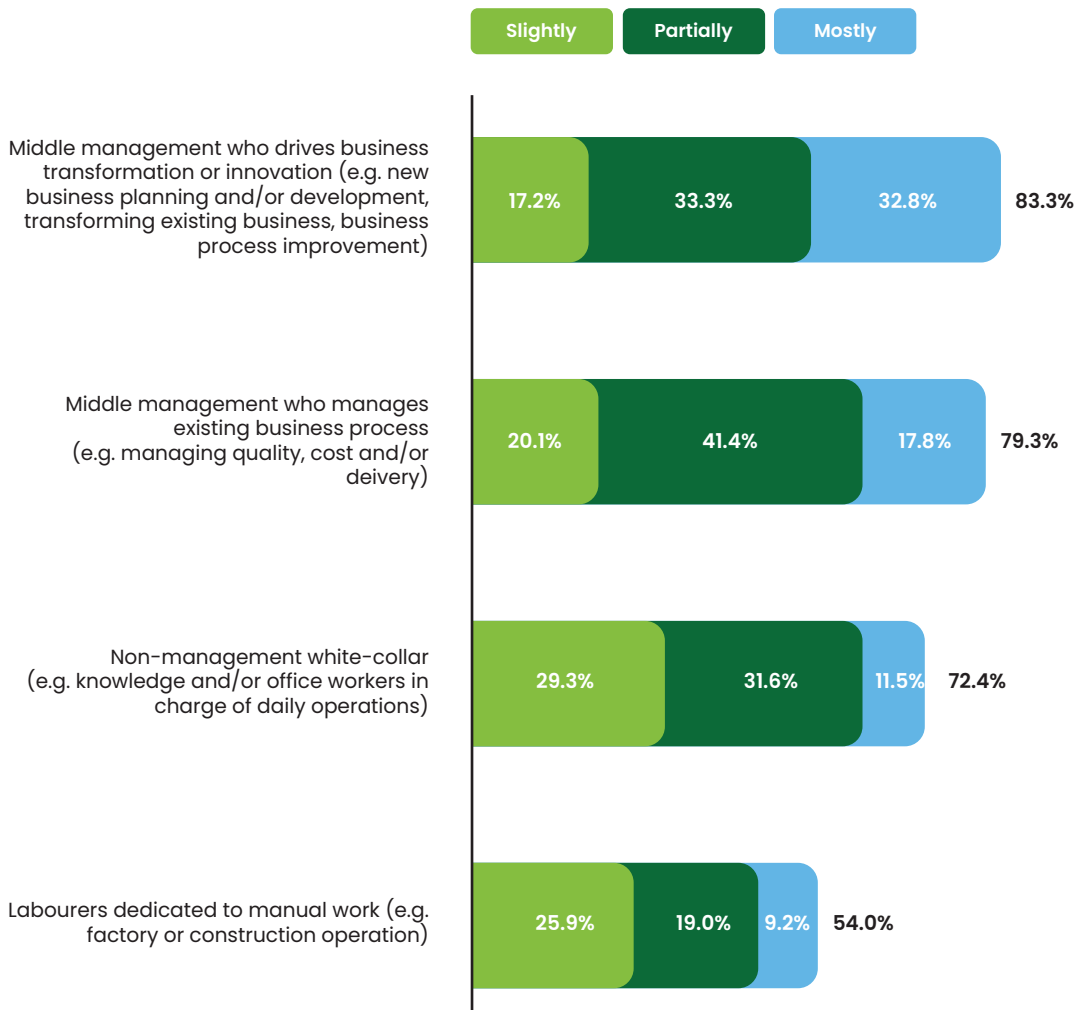
The onset of Industry 4.0, coupled with the swift development and adoption of new technologies in various sectors, has led to rapid changes in the business environment. To sustain the growth of the ASEAN–Japan economy, it is essential to ensure that the necessary human resources for the Industry 4.0 era are adequately generated and supplied to the region. This will prevent human resources bottlenecks from impeding medium- to long-term business growth for enterprises in the region. Achieving this objective entails improving the intraregional human resources mobility system, with an emphasis on advanced labour.

The Chapter 2 survey revealed that despite progress made in recent years, AMS face a dearth of middle management competencies that are vital for achieving sustainable business expansion over the medium to long term; a misalignment between the skills demanded by companies and the educational curriculum and materials provided to students; a lack of inclusive education as a means to expand the talent pool; and restricted mobility of highly skilled human resources, which poses a barrier to efficient talent allocation across the region.

According to ERIA (2019), blue-collar workers remain abundant in ASEAN. However, the emergence of Industry 4.0, with its emphasis on automating and streamlining simple tasks, is estimated to significantly reduce the need for these workers in the future (OECD, 2021). As factories increasingly adopt robotics, AI, big data, and other advanced technologies, this trend is expected to accelerate. This structural shift will be a major factor shaping the ASEAN market, where manufacturing has traditionally played a central role (ERIA, 2022). Blue-collar workers must thus develop unique value propositions that cannot be easily replicated by automation and cultivate problem-solving skills through appropriate mechanisms (Yue et al., 2019). Consequently, the significance of white-collar workers who can work independently, as well as middle managers who oversee automated blue-collar work, will increase.

A shortage of such highly skilled human resources within the region was identified in the Chapter 2 survey. Respondents have a greater need for white-collar human resources (Figure 5.8). Notably, respondents designated the category of middle management responsible for driving business transformation or innovation as highly problematic.

Figure 5.8: Types of Human Resources Insufficient to Achieve Business Growth

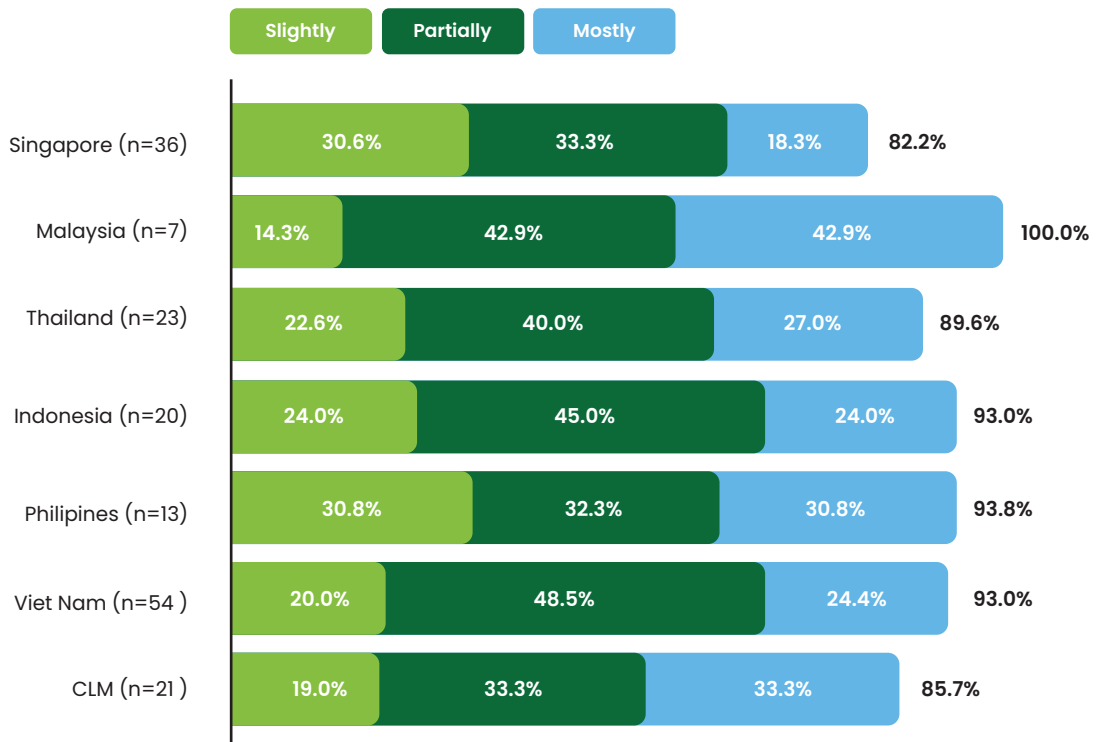


Notes: Excludes 'never recognised the lack'. (Chapter 2 Q10. Do the following human resources lack in your company to achieve medium- or long-term business growth? If so, please indicate to what extent your company lacks for each human resources as follows: (1) mostly, (2) partially, (3) slightly, and (4) never recognised the lack.)

Source: Figure 2.9 of Chapter 2.

Moreover, regarding the extent of skills shortages amongst middle management personnel, Figure 5.9 illustrates a uniform dearth of such professionals, with all AMS displaying a shortfall exceeding 80%, regardless of their level of economic development.

Figure 5.9: Shortages of Skills Required for Middle Management by Country



CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.

Notes: Excludes 'never recognised the shortage'. Brunei Darussalam is excluded since no responses were obtained. The countries are in the order of gross national income per capita. (Chapter 2 Q13. Please indicate the degree of shortage of the following skills required for middle management to drive business transformation or innovation: (1) mostly, (2) partially, (3) slightly, and (4) never recognised the lack.)

Source: Figure 2.11 of Chapter 2.

In regard to the scale of the surveyed organisations, Figure 5.10 indicates a greater degree of concern regarding the matter amongst medium-sized (i.e. 299–500 employees) and large (i.e. exceeding 300 employees) enterprises.

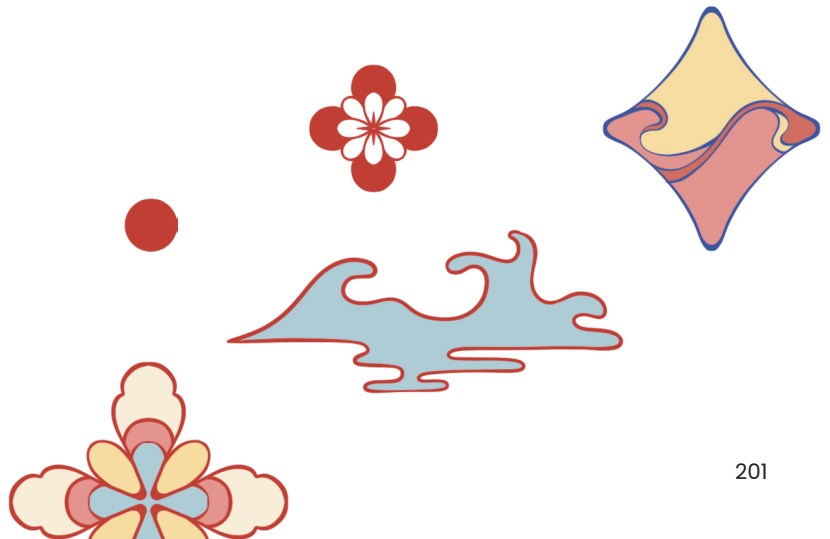
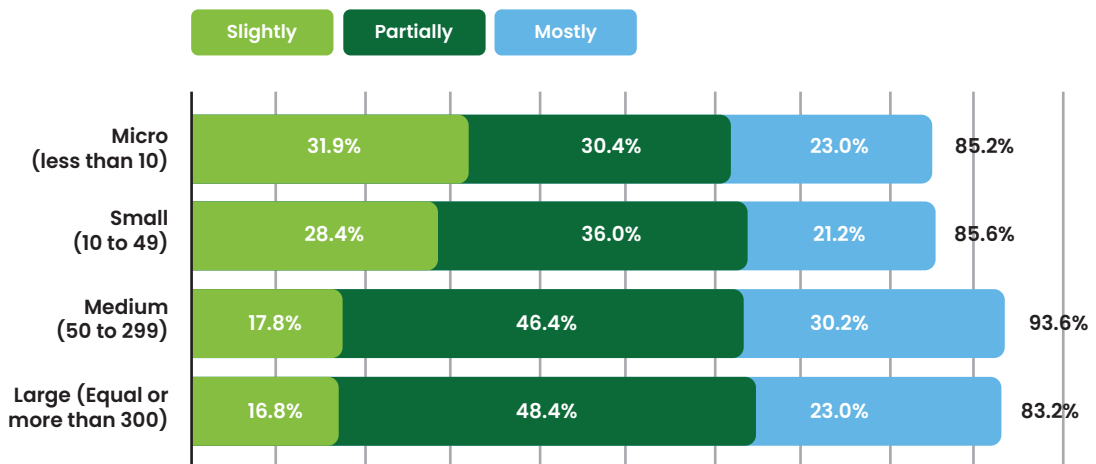


Figure 5.10: Shortages of Skills Required for Middle Management by Company Size



Notes: Q13. Please indicate the degree of shortage of the following skills required for middle management to drive business transformation or innovation: (1) mostly, (2) partially, (3) slightly, and (4) never recognised the lack. Source: Authors based on the data collected in the Chapter 2 survey.

The deficiency in competencies amongst middle management personnel is not a predicament exclusive to developed countries or large companies. It is a challenge encountered by all enterprises that participated in the survey.

Moreover, in the Chapter 2 survey also queried specific competencies that were lacking amongst middle managers (Figure 5.11). The majority reported insufficiencies across all skills categories. Of note, 94.3% of participants identified 'leadership' as the most deficient.

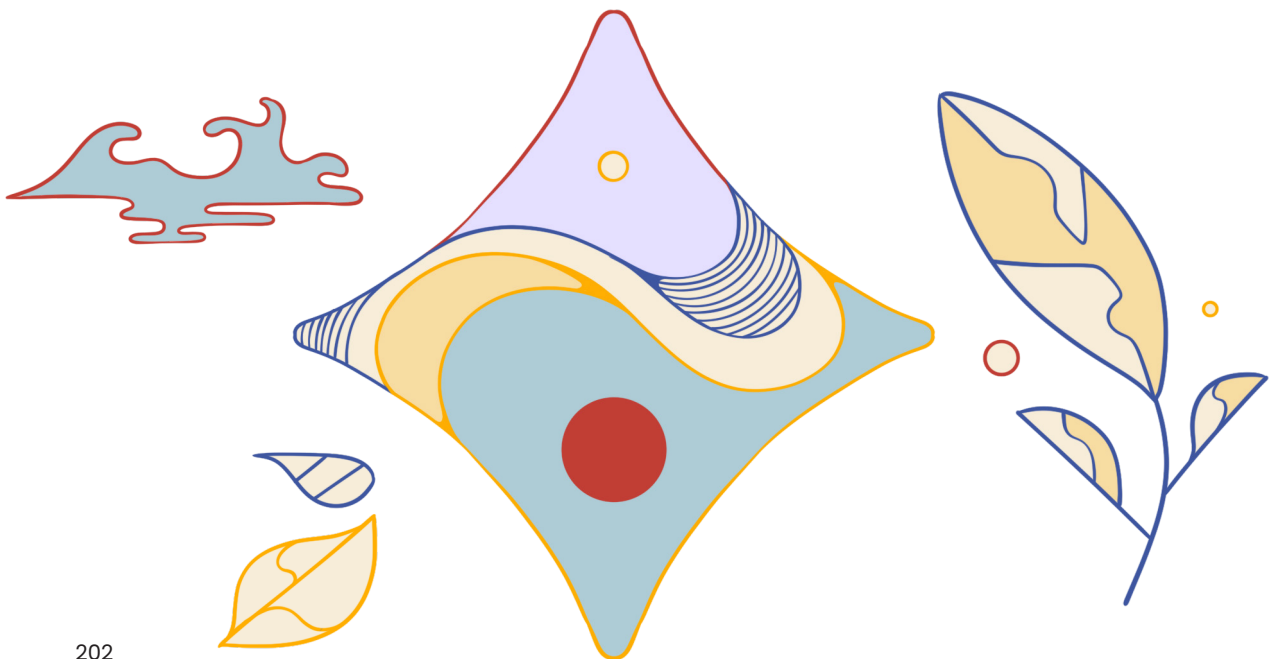
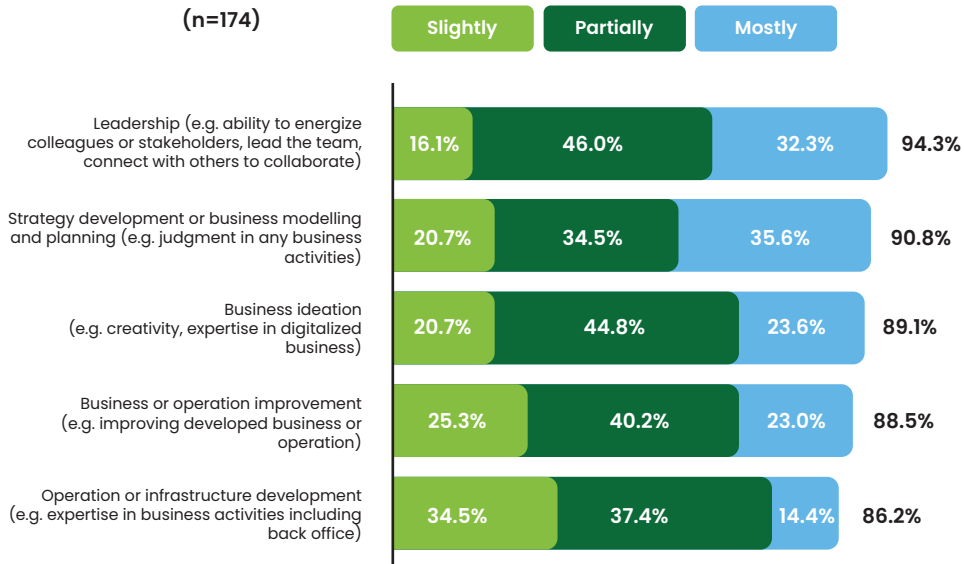


Figure 5.11: Shortages of Skills Required for Middle Management

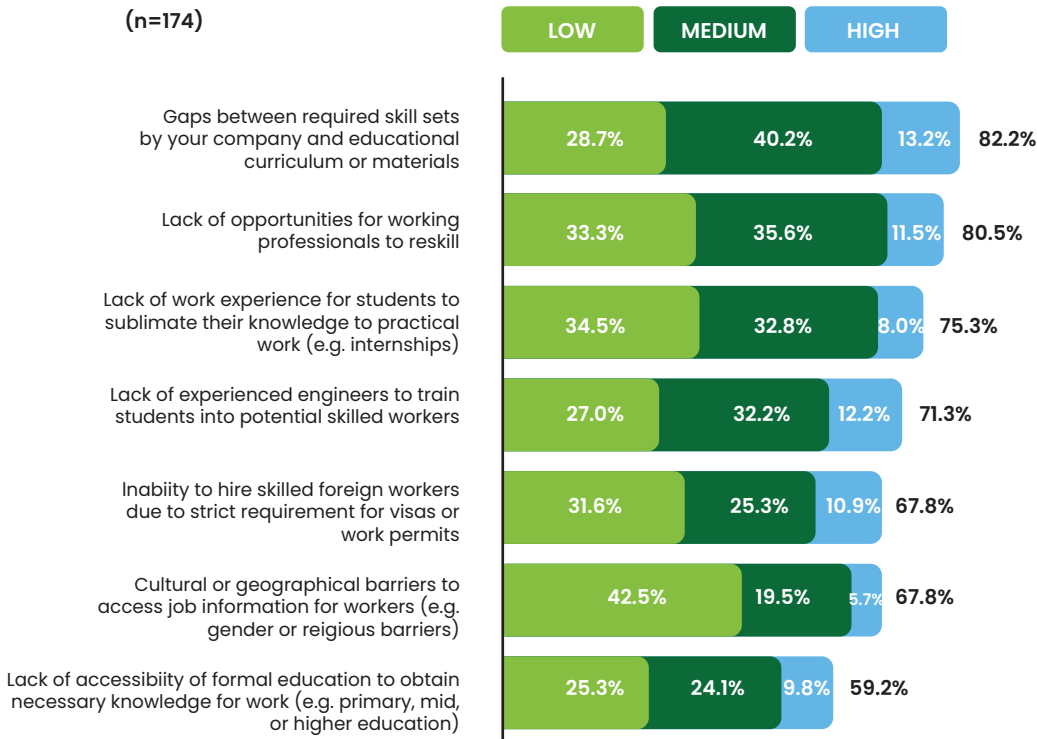


Note: Chapter 2 Q13. Please indicate the degree of shortage of the following skills required for middle management to drive business transformation or innovation: (1) mostly, (2) partially, (3) slightly, and (4) never recognised the lack.

Source: Figure 2.10 of Chapter 2.

In ASEAN, a disparity exists between the skills demanded by the labour market and the competencies possessed by the human resources generated by educational institutions. OECD (2021) reported that companies in ASEAN often encounter difficulties in procuring suitable human resources, owing to a misalignment between the candidates' proficiencies and firms' expectations. Empirical evidence also shows the existence of a skills mismatch between candidates and employers. The Chapter 2 survey revealed that 82% of respondents acknowledged a divergence between the skills required by firms and educational curriculum and materials (Figure 5.12).

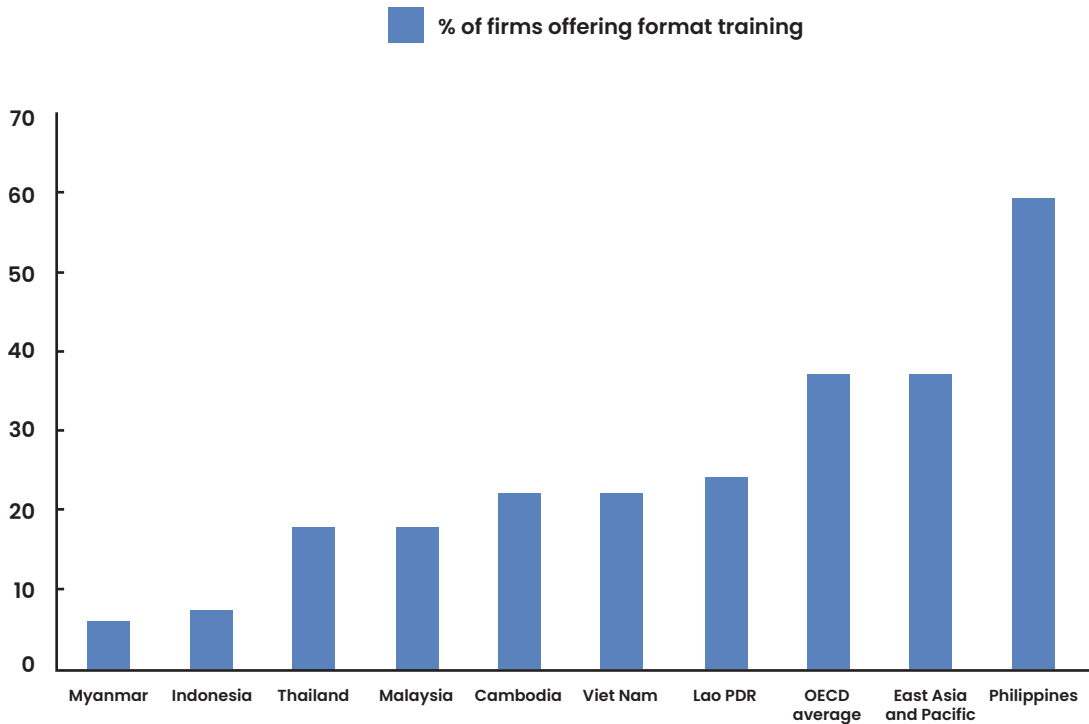
Figure 5.12: Difficulties in Hiring and Training New Graduates and Professionals



Notes: Excludes 'never recognised as difficulties or issues'. (Chapter 2 Q11. Do you have difficulties or issues in hiring or training new graduates and professionals? Please select the impact of each on profits of your business as follows: (1) mostly, (2) partially, (3) slightly, and (4) never recognised the lack.)
 Source: Figure 2.12 of Chapter 2.

Consequently, some companies find it necessary to retrain newly hired employees. New graduates are frequently not equipped with the skills necessary to excel in the workplace, necessitating the implementation of a comprehensive training programme upon their hiring. Such programmes typically include both off-the-job training, which takes place in a classroom setting, and on-the-job training. Nonetheless, the proportion of companies providing such needed training to their employees in South-East Asia remains relatively low (OECD, 2021).

Figure 5.13: Training Provision by Employers



Lao PDR = Lao People’s Democratic Republic, OECD = Organisation for Economic Co-operation and Development. Source: OECD (2021).

Indeed, only the Philippines surpasses the OECD average in providing necessary training by employers (Figure 5.13). Other AMS fall below due to a range of factors, including lack of capacity to inadequate training for trainers. Despite the regulatory requirement for companies to provide training to their employees, many firms struggle to establish effective training programmes. The Chapter 2 survey results demonstrated that firms often seek to translate students’ academic knowledge into practical skills through internships and other job-related opportunities (Figure 5.12).

A significant proportion of firms surveyed (75%) also identified the ‘lack of work experience for students to apply their theoretical knowledge in practical settings (e.g. internships)’ as a major concern. In addition, a substantial number of firms (80%) recognised the importance of reskilling opportunities for their employees to enhance their professional competencies. Nonetheless, the implementation of training programmes posed challenges for firms in need of them. About 71% of the surveyed firms cited the ‘insufficiency of experienced engineers to train students into potential skilled workers’ as a key obstacle.

The industrial sector is currently striving to adapt to the dynamic landscape of Industry 4.0, undertaking various business transformation endeavours and

initiatives. It follows that the educational sector must also respond to these changes in kind. The promotion of demand-driven employment within higher education and technical and vocation education and training (TVET) assume critical significance.

A majority of Chapter 2 survey respondents identified the lack of access to formal education to obtain necessary knowledge for work as a difficulty in recruiting and training new graduates and professionals. This finding underscores the prevalence of exclusion from the inclusive education network amongst a significant proportion of the ASEAN population, while also signalling the recognition by some firms of the critical role played by inclusive education networks in enhancing workforce development.

Inclusive educational opportunities are crucial in preparing human resources for prospective white-collar or middle-management positions, particularly in Cambodia, Lao PDR, and Myanmar (ASEAN, 2020). Therefore, prioritising inclusive educational practices can yield favourable outcomes in the region's socio-economic development.

Intraregional business integration can be deepened through the implementation of policies that facilitate the freer movement of skilled workers, as posited by Yue et al. (2019). Indeed, a significant proportion of Chapter 2 survey respondents (68%) reported being unable to hire skilled foreign workers due to onerous visa and work permit requirements.

5.6.2. The Way Forward

To develop advanced skilled workers in the region, it is essential to define common skill sets for human resources between ASEAN and Japan. These skill sets should include both digital and business skills. Ideally, these skill sets would be offered through e-learning or integrated into relevant educational programmes to ensure consistency between education and employment, thereby bridging the skills mismatch between human resources and industries.

Moreover, the ASEAN–Japan partnership should focus on inclusive education to ensure efficient human resources mobilisation in the labour market. This can be achieved by developing hard infrastructure, such as broadband networks; providing smartphones and tablets to guarantee conducive learning environments; and facilitating educational opportunities through PPPs, especially education technology companies offering advanced educational programmes.

The mutual recognition of professional qualifications should also be promoted throughout the region, and the scope of the occupational areas to be covered between ASEAN and Japan should be expanded. Additionally, mutual recognition of credentials could be supported by increasing the number of schools eligible for credit transfer, ensuring the quality of professional qualifications.

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