ASEAN-Japan Economic Partnership for a Sustainable and Resilient Future

Edited by
Keita Oikawa
and **Fusanori Iwasaki**

ERIA
Economic Research Institute for ASEAN and East Asia

50th Year of ASEAN-Japan Friendship and Cooperation

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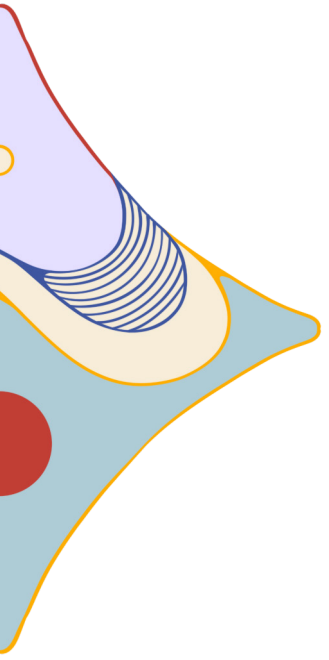


Foreword from ERIA's President

As we celebrate the momentous 50th year of ASEAN–Japan friendship and cooperation, we take this opportunity to reflect on our shared journey and look forward to a future brimming with immense promise. This book, titled 'ASEAN–Japan Economic Partnership for a Sustainable and Resilient Future,' marks this significant milestone, tracing our journey that began with the establishment of the ASEAN–Japan Synthetic Rubber Forum in 1973.

Japan's robust foreign direct investment in ASEAN, bolstered by the Plaza Accord in 1985, has fortified our economic partnership and propelled ASEAN's transformation from a production hub to a global consumption powerhouse with a remarkable $3.6 trillion GDP and a burgeoning centre of innovation. Even amid the global pandemic, our resilience has shone through, fostering an expansion in the adoption of digital services.

Emerging digital technologies, such as robotics, artificial intelligence (including generative AI), and blockchain, hold the potential to redefine both business and society. This book emphasises the urgent need for swift and effective adoption of these technologies, which are pivotal for achieving inclusive and sustainable regional growth. Special attention is given to the development of human resources capable of harnessing these digital technologies, addressing the digital skills gap that could otherwise hinder growth and exacerbate income disparities.

Today, ASEAN is experiencing phenomenal economic growth, driven in part by its vibrant and dynamic young digital generation. This momentum underscores ASEAN's tremendous potential for the future. However, challenges persist, including disparities in physical, human, and social capital development across countries, urban and rural areas, and industries.

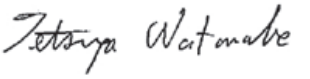
Conversely, Japan, despite having one of the most aged demographic profiles globally, remains a beacon of advanced technologies and possesses significant human and social capital. These attributes position Japan as an

indispensable partner in harnessing ASEAN's potential. It is evident that ASEAN and Japan possess unique advantages and complement each other. Therefore, their economic cooperation must strive to deepen economic integration and co-create innovations for mutual benefit.

Aligned with these challenges and potential solutions, this book presents recommendations across four key themes: 'Promoting Trade and Investment', 'Encouraging a Digital and Innovative Society', 'Aiming for a Sustainable Future', and 'Building a Professional Workforce for the Future.' These recommendations pave the way for fostering a sustainable and resilient ASEAN–Japan economic partnership.

To bring this vision to life, ERIA is poised to launch the Digital Innovation and Sustainable Economy Centre, with generous support from the Japanese government. This centre marks the first step towards the co-creation of the ASEAN and Japanese economies.

As we commemorate this golden jubilee of friendship and cooperation, let this book serve not only as a testament to our shared history but also a blueprint for our journey towards a sustainable, resilient, and digitally empowered future.



Professor Tetsuya Watanabe

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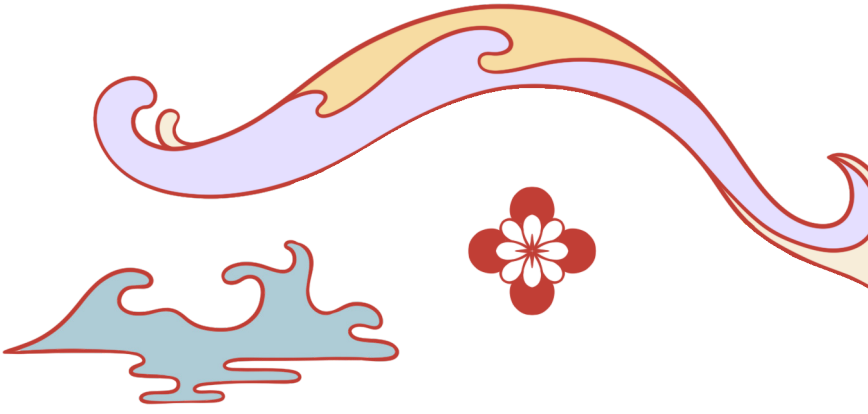

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Executive Summary

The formal relationship between the Association of Southeast Asian Nations (ASEAN) and Japan took root in 1973 with the establishment of the ASEAN–Japan Synthetic Rubber Forum. This bond was fortified in the late 1980s as Japan considerably increased its foreign direct investment (FDI) in ASEAN countries. The main impetus for this surge was the substantial appreciation of the Japanese yen following the 1985 Plaza Accord. The momentum of FDI from Japan continued to rise in the 1990s, driven by Japanese multinational companies' global production fragmentation, facilitated by advancements in information and communication technology.

ASEAN became increasingly positioned as a new production base for Japanese companies. Since that time, Japanese companies have been actively expanding into ASEAN and exporting products from the region to the rest of the world. This has helped lead to significant progress in the sophistication of industries in AMS as well as significant economic growth in the region. Today, ASEAN has a gross domestic product (GDP) of about $3.62 trillion. It has transformed into a giant consumption centre from a production centre and is transitioning into an innovation centre. Although the pandemic restricted the movement of people, goods, and various other resources – leading to the stagnation of economic activity in both ASEAN and Japan – it also led to the creation of new digital services and further expansion of their use, as typified by e-commerce and cashless transactions. Furthermore, ASEAN's digital innovation is impressive with over 30 unicorns in 2021 and a rapidly growing number of start-ups led by young leaders.

ASEAN is currently witnessing remarkable economic growth, which is, in part, powered by its dynamic and tech-savvy young digital generation. This momentum signals the tremendous potential for even greater growth in the future. However, amid this process, there are still challenges to overcome. Disparities in physical, human, and social capital development persist across countries, between urban and rural areas, and amongst different industries. Addressing these challenges is crucial to ensure inclusive and sustainable growth throughout the region.

Despite Japan having one of the most aged demographic profiles worldwide, it boasts advanced technologies and significant human and social capital. These assets make Japan an essential partner in harnessing ASEAN's potential for growth. Recognising their unique advantages, it is evident that ASEAN and Japan complement each other perfectly. Their economic cooperation should focus on deepening economic integration and fostering collaborative innovations that bring mutual benefits for both.

In the spirit of cooperative synergy, it is crucial for ASEAN and Japan to recognise each other as indispensable partners in their respective economic development trajectories. With this understanding as a foundation, the following recommendations are proposed for the ASEAN–Japan Economic Partnership, aimed at fostering a sustainable and resilient future.

Promote Trade and Investment

Deepen ASEAN–Japan Economic Integration

Upgrade the ASEAN–Japan Comprehensive Economic Partnership. To promote ASEAN–Japan trade and investment, the ASEAN–Japan Comprehensive Economic Partnership (AJCEP) agreement should be upgraded. Coverage should be expanded to include provisions of the Regional Comprehensive Economic Partnership (RCEP) agreement, chapters on trade in services and investment should be upgraded, and the AJCEP Secretariat should be established for institutional support.

Equip companies with relevant information on economic partnership and free trade agreement applications. To improve the ease of doing business, ASEAN and Japan should introduce simple procedures to optimise the use of economic partnership agreements (EPAs) and free trade agreement (FTAs) amongst companies. A mechanism for optimising trade costs should be introduced, and a consultation service for inquiries from firms on EPAs and FTAs should be provided. Enhancement of private-sector trading platforms for this purpose should be considered.

Introduce a fast-track trading scheme under certain conditions. To benefit intraregional economic activities, ASEAN–Japan should consider introducing a multinational fast-track trading scheme for emergency relief supplies and specific industries. The fast-track mechanism would encourage rapid research and development and business development in the region, stimulate specific industries and technology areas, and improve the doing business environment. A project highlighting such procedures should be piloted, and early development of successful cases can be expanded to other areas of interest.

Accelerate efforts to prevent corruption amongst customs officials. To combat corruption in AMS, ASEAN and Japan should promote initiatives to improve customs compliance through the development of anti-corruption manuals and training programmes for customs officials. Additionally, minimising the opportunities for face-to-face interaction – by expanding the electronic scope of national single windows (NSWs) – and strengthening connectivity with private-sector trading platforms can be effective measures to reduce facilitation payments.

Strengthen Supply Chain Resilience

Build a data supply chain ecosystem to strengthen competitiveness of international production networks. ASEAN and Japan should build a data supply chain ecosystem to efficiently respond to supply chain shifts, maintain competitiveness, and comply with global requirements on sustainability and human rights issues. This can be achieved through discussions on data sharing amongst supply chain stakeholders. With the aim of establishing a competitive digital supply chain in ASEAN and Japan, ERIA has taken the initiative by convening a study group consisting of experts from business associations and academia.

Expand the scope of digitisation of the intraregional trading system. The digitisation of trade operations through NSWs and the ASEAN Single Window (ASW), including online processing of bills of lading and certificates of origin, should be expanded across ASEAN and Japan. System connectivity amongst the ASEAN Single Window, NSWs, and private-sector trading platforms should be enhanced. Moreover, the electronic exchange of certificates of origin should occur on a multilateral basis. It is important to promote this intracountry and multilateral digitisation using the same protocols as much as possible, and to promote these efforts with the necessary financial assistance and human resources.

Provide information on alternative sources of parts and materials for supply chain resilience. To achieve resilient supply chains, it is essential to promote a network that enables the utilisation of alternative sources for materials and inventory supply in case of disruptions. The use of advanced technologies, such as blockchain, can help achieve this goal. TradeWaltz, a private-sector trading platform from Japan, demonstrates how supply chain management functions can be backed by blockchain technology, enabling faster and more accurate tracking of trading items. The linkage between private-sector platforms and NSWs should thus be promoted, and necessary knowledge on implementing private-sector trading platforms should be transferred to AMS.

Encourage a Digital and Innovative Economy

Promote Start-ups

Build an ASEAN–Japan-wide entrepreneurial ecosystem. To achieve sustainable growth, ASEAN and Japan should collaborate to foster innovative entrepreneurship and associated activities. Access to markets, networks, leadership, finance, and diverse human resources are necessary for a thriving entrepreneurial ecosystem. Collaborative efforts, such as the ERIA Centre for Digital Innovation and Sustainable Economy, can serve as catalysts for the development of this ASEAN–Japan-wide entrepreneurial ecosystem.

Encourage Innovative Smart Cities

Promote citizen-driven smart cities. ASEAN and Japan should collaborate to develop citizen-driven smart cities to promote economic development and to enhance the quality of life throughout the region. A citizen-driven approach prioritises the needs and desires of residents, promoting social inclusion and enhancing social capital. Japan is already making advanced efforts towards this goal through its Society 5.0 concept. The Asian Inclusive Smart Cities conference can be a platform to showcase city-planning projects that respect Asian values and to develop new city evaluation indicators and standardisations to realise democratic, inclusive, and resident-centred urban development unique to Asia.

Secure Intellectual Property Rights

Introduce a unified scheme to enable intellectual property protection. ASEAN and Japan should introduce a unified intellectual property protection scheme, modelled after the European Union (EU) system, to ensure protection for innovative technologies and products created by companies and research institutes in the region. The scheme should establish a standard patent filing and examination system accessible to all applicants in ASEAN and Japan. Developed AMS can take the lead in establishing the scheme and should provide individual assistance to less-developed AMS through knowledge transfer and human resources.

Ensure Regulatory Reform

Introduce a regulatory sandbox system. A regulatory sandbox system in ASEAN and Japan should be introduced to encourage innovation activities. The system would allow regulatory authorities to authorise the demonstration of new technologies and to decide whether to implement the tested regulatory reforms. Requirements should be developed to allow foreign companies to apply for the system, and support for the creation of sandboxes in AMS by Japan and Singapore is required. ASEAN should also consider pilot projects in which the content demonstrated in a specific AMS can lead to regulatory reform throughout ASEAN in the future; thus, information sharing is important.

Aim for a Sustainable Future

Support Carbon Neutrality

Prioritise technology development, demonstration, and supply chain development towards carbon neutrality. To achieve carbon neutrality in ASEAN, policymakers should prioritise technology development, demonstration, and supply chain development while considering a mix of fossil fuel-fired power generation and clean energy options to suit the region. Japan should actively develop and demonstrate these technologies and provide affordable energy transition technologies to ASEAN, promoting advanced technologies to contribute to an environmentally friendly Asia and to gain new business opportunities. ASEAN and Japan should also work together to develop cost-saving supply chains that establish the foundation for the region's energy transition.

Promote financial support for energy-transition technologies. ASEAN and Japan should establish a common taxonomy that includes phased transition technologies to ensure the necessary financial support for ASEAN's energy transition goals. This requires updating and regularly expanding the Asia Transition Finance Study Group's taxonomy and the transition finance technology list from ERIA.

Improve energy efficiency and connectivity. To achieve ASEAN's energy transition goals, ASEAN and Japan must focus on improving energy efficiency and enhancing energy connectivity throughout the region. Capacity building for energy managers and experts, such as through the ASEAN–Japan Energy Efficiency Partnership, is essential. Enhancing energy connectivity through the ASEAN Power Grid would optimise electricity and accelerate renewable power generation; however, it requires establishing a power trading institution, as recommended by ERIA. The ASEAN Power Grid would benefit Japan significantly by enabling many Japanese companies to conduct business activities using green energy, enhancing their social reliability and brand, and creating more opportunities for Japanese companies as power producers in ASEAN.

Introduce emissions trading schemes. ASEAN and Japan should establish an intraregional emissions trading scheme to harmonise their efforts towards reducing carbon emissions. AMS should first consider introducing emissions trading schemes within their own countries with knowledge from Japan, which is already conducting demonstration experiments. Common rules for the future harmonisation of such schemes should also be established. A fund to support the carbon trading market in AMS should be established, and dialogue on this subject should be deepened between ASEAN and Japan. The EU's Carbon Border Adjustment Mechanism can serve as a reference for further developments.

Promote carbon credit initiatives. Japan should promote its bilateral credit efforts, which have been operating since November 2022, internationally. These

bilateral credit initiatives should become an international standard to further promote ASEAN–Japan cooperation. Additionally, Japan should cooperate with six remaining AMS in this regard in the future.

Foster a Circular Economy

Provide technology and know-how related to resources recovery and reuse. AMS should adopt EU-type uniform rules for resources recovery and reuse, with support for specific institutional design and operation in each country. Japan's technology and knowledge in resources recovery and reuse – refined through years of rules-making and operational experience – is instrumental in this regard. Effective waste collection rules and their proper implementation, predicated on the principles of extended producer responsibility, are imperative. Japan's experience with its Containers and Packaging Plastics Law can also provide a valuable model. Defining the roles and responsibilities of the entities involved in the recycling process, as shown in Japan's laws and regulations, could be effective in AMS.

Develop a more efficient system for distributing recycled products. ASEAN and Japan should establish industry standards for recycled products. An integrated market spanning across borders should be established to foster private sector participation. Established standards from the EU should be referenced, and they should be applicable to all businesses to create a larger market.

Reform the Food and Agriculture Sector

Prioritise dissemination of innovative technologies and human resources for resilient food and agriculture systems. ASEAN and Japan should collaborate on the development and dissemination of innovative technologies to promote resilient and sustainable agriculture and food systems. Human resources development for officials and stakeholders is also essential. Existing projects, such as the Greenhouse Gas Mitigation in Irrigated Rice System in Asia (MIRSA) and Capacity Building Project for Farmer's Organizations to Support the Development of Food Value Chains in ASEAN Countries, should be scaled up, with the view that there is no one-size-fits-all solution.

Facilitate the implementation of the ASEAN Regional Guidelines for Sustainable Agriculture in ASEAN. ASEAN and Japan should collaborate to implement the ASEAN Regional Guidelines for Sustainable Agriculture in ASEAN, with Japan's Green Asia initiative and ERIA's research project providing support. The active involvement of AMS is essential, and reporting project outcomes to relevant ASEAN bodies would pave the way for realising the aims of the guidelines.

Expand the scope of the ASEAN Plus Three Emergency Rice Reserve. ASEAN and Japan should work together to expand the ASEAN Plus Three Emergency Rice Reserve (APTERR) to ensure regional food security during short-term crises, such as the COVID-19 pandemic. The APTERR's recent successful release of rice from Japan and the Republic of Korea to mitigate emergency situations in several AMS highlights its potential.

Establish a new framework for food and agriculture cooperation. A new framework for the ASEAN Plus Japan Ministers on Agriculture and Forestry (AMAF+Japan) should be developed to enhance food and agriculture cooperation, as ASEAN-Japan cooperation approaches its 50th anniversary in 2023.

Increase Inclusive Health Care

Evolve universal health coverage schemes. ASEAN and Japan should work together to update their universal health coverage (UHC) schemes to match current demographic and epidemiological needs. Japan's successful composite approach to UHC should be considered, with priority given to administrative efficiency and expanding coverage to the informal sector and primary care. Collaboration between the public and private sectors, as well as research and development on antimicrobials and medical supply chains, is also recommended. Circulating technology, human resources, and experience are crucial for overall regional growth.

Develop the health care workforce and deploy technology. The numbers of the health care workforce should be boosted throughout the region, and a technology strategy should be embraced to address regional disparities and to improve patient outcomes. The UHC model should be leapfrogged through technology by providing base enablers, such as internet access and mobile wallets. Digitalisation efforts in various areas should also continue, including cloud; electronic medical records; and low-bandwidth health care apps for telehealth, decentralised patient education, and social media. Data should be collected to provide insights required to construct policies and to monitor implementation outcomes effectively. Creating consolidated health care databases, implementing digital transformation best practices, and integrating diverse health care information are necessary in providing better health care outcomes.

Tackle chronic diseases, and step up preventative efforts against infectious diseases. ASEAN and Japan should collaborate to address lifestyle and chronic diseases rampant in the region by increasing the number of available physicians, preparing the primary care community for more specialty training, and incentivising wearable medical technologies. For more niche domains like rare diseases and cancers, the volume of screening should be increased, and cross-border specialist-to-specialist networks should be established. To address

infectious diseases, access to immunisation programmes should be increased, and vaccine records should be digitised.

Utilise public–private partnerships to achieve universal health coverage. Public–private partnerships should be prioritised to leverage innovation and financial contributions, and the use of underutilised private insurance and social impact bonds should be explored towards the goal of UHC. It is also essential to establish national preventative care centres, increase health care literacy, promote preventative health behaviours, and enable self-care capabilities.

Endorse Sustainable Tourism

Promote and manage tourism as a tool for regional and local development and revitalisation. Japan should assist ASEAN in achieving sustainable economic growth by promoting community-based and people-centred tourism. This involves leveraging natural and cultural resources to promote regional and local development and revitalisation while also promoting and preserving the environment and cultural heritage.

Engage local communities. Japan should assist ASEAN in pursuing sustainable tourism development by sharing its experience of engaging local communities in the development and use of spaces for tourism and leisure. For example, collaborative management under the concept of 'forests for people' has been implemented in Japan, bringing about wider public participation in forest management.

Prepare for disasters. Japan should assist ASEAN in promoting sustainable tourism development by sharing its experiences in developing tourism in the aftermath of disasters. For instance, Japan's use of traditional ecological knowledge-based tourism helped in the recovery process following the 2011 Tōhoku earthquake and tsunami. Additionally, Japan's experience in reducing the vulnerability of international visitors to disasters through the use of digital technologies is relevant to ASEAN's emphasis on digital technologies as an enabler for sustainable tourism development.

Measure sustainable tourism. Japan's experience in establishing governance structures and generating relevant information for sustainable tourism policies should be leveraged to assist AMS. Japan's approach emphasises environmental protection as core to sustainable growth in the tourism sector, as evidenced by cooperation amongst stakeholders. Japan also developed the Japan Sustainable Tourism Standard for Destinations, which can provide useful insights for AMS in developing and adapting sustainable tourism criteria to their contexts.

Address the Digital Divide amongst Micro, Small, and Medium-Sized Enterprises

Close the gap. To bridge the digital divide amongst micro, small, and medium-sized enterprises (MSMEs), ASEAN and Japan should collaborate with the private sector, including Japan's multinational information and communications technology (ICT) solution providers. Addressing the business knowledge gap is essential for effectively utilising ICT tools; Japan's evidence-based policymaking initiative for micro and SME policies should serve as a useful model. Sharing knowledge and lessons learned would also enhance the business knowledge of MSMEs.

Build a Professional Workforce for the Future

Address the Mismatch between Human Resources Skills and Industry Needs

Define human resources skill standards. ASEAN and Japan should define skills required for the future for human resources development programmes. Japan's Digital Skills Standard, which integrates business and digital skills, should be adopted throughout the region. Existing skills standards from the International Labour Organisation and EU should also be used as references. The framework for human resources targets should be applied to the diversity of digital application capabilities in AMS and continually updated to respond to industry demands. Reskilling and upskilling are essential to remain competitive.

Incorporate common skills into educational programmes. To ensure consistency between education and employment, ASEAN and Japan should integrate relevant skill sets into their educational programmes that are applicable to a wide range of businesses. This can be achieved by involving various educational institutions and linking to Japan's KOSEN programme. Lifelong learning programmes should also be developed and linked to the human resources exchange programmes and involve stakeholders from educational, business, and research institutions.

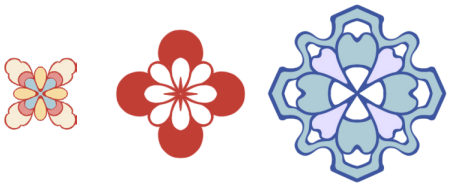
Foster Inclusive Education

Enhance inclusive education through digital technologies. The ASEAN–Japan partnership should improve network infrastructure throughout the region with advanced technologies, such as 5G, and collaborate with public–private partnerships to provide inclusive education. Educators should commonly use digital technology to deliver lessons to maximise the benefits of digital education.

Ease the Mobility of Human Resources

Expand mutual recognition arrangements. Mutual recognition arrangements should be expanded to include more vocational qualifications to increase the mobility of human resources throughout ASEAN and Japan. The criteria for recognition should be carefully considered, however, to maintain the level of service and competitiveness of Japanese occupational qualifications.

Mutually recognise academic credits and degrees. Educational qualifications and professional standards should be standardised throughout the region under mutual recognition arrangements, the range of applicable personnel with specialised skills should be expanded, and the ASEAN–Japan credit transfer system should be enlarged. Additionally, mutual recognition of credits and standard study plans for training programmes should be implemented, building upon the existing ASEAN Credit Transfer System, and linked to the qualifications approved by the mutual recognition arrangements.



Acknowledgements

We extend our deepest gratitude to Dato Lim Jock Hoi, former Secretary-General of the Association of Southeast Asian Nations (ASEAN), and Mr Koichi Hagiuda, former Minister of Economy, Trade and Industry, Japan. In their meeting in January 2022, Dato Lim suggested a new economic partnership between ASEAN and Japan – the ASEAN–Japan Economic Partnership for a Sustainable and Resilient Future. This envisioned partnership aims to foster a sustainable, inclusive, and resilient economic alliance, aligning with the evolving global economic landscape, especially in the post-COVID-19-pandemic era. Furthermore, the timing is significant, as ASEAN and Japan celebrate 50 years of ASEAN–Japan Friendship and Cooperation in 2023. The insightful discussion between Dato Lim and Mr Hagiuda has greatly influenced our work, providing meaningful direction to this endeavour.

We express our particular appreciation to Dr Kao Kim Hourn, the Secretary-General of ASEAN, and the ASEAN Secretariat, for entrusting us with the critical task of conducting this pivotal study. Their request to assess trade and investment between ASEAN and Japan and to identify the required activities, outcomes, and resources for realising this partnership has given us a precious opportunity to contribute to this important milestone in ASEAN–Japan relations. We also appreciate the valuable comments received from ASEAN Member States.

Notwithstanding the extensive support and guidance, any errors or oversights found in this report are solely the responsibility of the authors.

CHAPTER 1

Review of ASEAN–Japan Economic Relations and Ongoing Initiatives: ASEAN–Japan Comprehensive Economic Partnership (AJCEP) Study

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1.1 Introduction

1.1.1 Development of the ASEAN–Japan Comprehensive Economic Partnership (AJCEP)

In November, 2007, Japan and Association of Southeast Asian Nations (ASEAN) Member States (AMS) concluded a comprehensive economic partnership agreement in Manila; it was signed by all parties by 14 April 2008. The agreement – the ASEAN–Japan Comprehensive Economic Partnership (AJCEP) – entered into force between 1 December 2008 and 1 July 2010, depending on the party. The AJCEP aims to (i) strengthen ASEAN–Japan economic integration; (ii) enhance their mutual competitiveness in the world market; (iii) progressively liberalise and facilitate trade in goods and services in a transparent and liberal investment regime; (iv) explore new areas and develop appropriate measures for further cooperation and integration; and (v) facilitate the more effective economic integration of Cambodia, the Lao People's Democratic Republic (Lao PDR), Myanmar, and Viet Nam, and bridge the development gap in ASEAN (ASEAN Secretariat, 2008).

In 2019, the parties signed the First Protocol, amending the agreement. The protocol aims to strengthen the reciprocal economic ties between Japan and AMS in wide-ranging fields by completing chapters on trade in services, movement of natural persons, and investment (ASEAN Secretariat, 2019). The protocol entered into force on 1 August 2020 amongst Japan, Lao PDR, Myanmar, Singapore, Thailand, and Viet Nam, and on 1 October 2020 for Brunei Darussalam.

1.1.2 Development of the Regional Comprehensive Economic Partnership (RCEP)

AMS leaders and six ASEAN free trade agreement (FTA) partners – Australia, China, India, Japan, Korea, and New Zealand – launched Regional Comprehensive Economic Partnership (RCEP) negotiations during the 21st ASEAN Summit and Related Summits in Phnom Penh in November 2012. The objective of the RCEP is to achieve a modern, comprehensive, high-quality, and mutually beneficial economic partnership agreement.[1] The RCEP entered into force on 1 January 2022.

1.1.3 Trade and Investment Trends between ASEAN and Japan

Total merchandise trade between ASEAN and Japan reached $240 billion in 2021, accounting for 7% of ASEAN's total trade in goods, while total foreign direct investment (FDI) inflows from Japan to ASEAN amounted to $12 billion in the same year, accounting for 6.7% of total FDI inflows to ASEAN.[2] Japan is ASEAN's fifth-largest trading partner and external source of FDI in 2021, after the United States (US), European Union (EU), and China.

The overall statistics, except for those on Cambodia and Myanmar, do not show a sharp contrast in Japan–ASEAN trade growth before and after AJCEP enforcement (Table 1.1). First, despite the relatively high average annual growth rates of trade between Japan and the Lao PDR and Viet Nam after AJCEP enforcement (24% and 17%, respectively), these trade growth rates after enforcement are lower than those before by 25%–50%. Second, Brunei Darussalam and Singapore show a drop in the growth rates of trade between them and Japan after AJCEP enforcement.

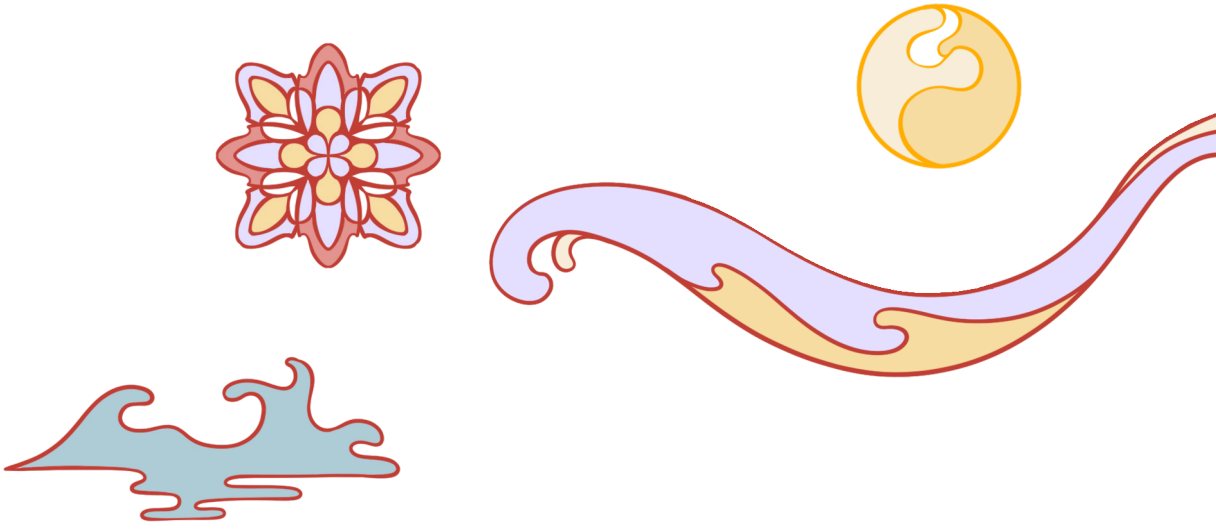
The higher trade growth after enforcement can be explained by other economic, financial, and political shocks. For instance, in 2011, Cambodia enjoyed a boom in the garment sector and, in turn, increased its export volume (Un, 2011). Myanmar opened up that same year, welcoming FDI in 2012 through a new investment law. Therefore, only considering descriptive statistics is insufficient to conclude that the AJCEP encourages more trade volume or growth between Japan and AMS.

[1] ASEAN Secretariat, RCEP, https://rcepsec.org/
[2] ASEANStatsDataPortal, Indicators, https://data.aseanstats.org/ (accessed 1 December 2022).

Table 1.1: 5-Year Average Annual Growth Rate of Trade between Japan and ASEAN Member States
(%)

State	Year of AJCEP Enforcement	Before Enforcement of AJCEP	After Enforcement of AJCEP
Brunei Darussalam	2009	16	3
Cambodia	2010	8	28
Indonesia	2018	(3)	2
Lao PDR	2008	49	24
Malaysia	2009	2	3
Philippines	2009	(5)	4
Singapore	2008	12	5
Thailand	2009	4	6
Viet Nam	2008	23	17

() = negative, AJCEP = ASEAN–Japan Comprehensive Economic Partnership, ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.
Source: Authors, based on ASEANStatsDataPortal, Indicators, https://data.aseanstats.org/ (accessed 1 December 2022).



1.2 Comparison of the AJCEP and RCEP Agreements

1.2.1 Overview

Table 1.2 summarises the differences between the AJCEP and RCEP agreements. Generally, the AJCEP is generally less comprehensive than the RCEP, as it lacks systematic discussions on trade remedies, e-commerce, government procurement, general provisions and exceptions, and institutional provisions. Moreover, the AJCEP specifies lighter commitments (e.g. limited to joint research, cooperation, exchange of information, or other forms of non-binding assistance) in several chapters, including customs procedures and trade facilitation (Chapter 2, Article 22), trade in services (Chapter 6), temporary movement of natural persons (Chapter 6), investment (Chapter 7), intellectual property, competition, and small and medium-sized enterprises (Chapter 8, Article 53). The First Protocol of the AJCEP did add provisions concerning trade in services, temporary movement of natural persons, and investment, potentially strengthening reciprocal economic ties between Japan and ASEAN countries.

Table 1.2: Chapters of the AJCEP and RCEP Agreements

		Agreement Chapter	
Category	**Topic**	**AJCEP**	**RCEP**
Initial Provisions	Initial Provisions and General Definitions	Chapter 1	Chapter 1
Trade in Goods	Trade in Goods	Chapter 2	Chapter 2
	Rules of Origin	Chapter 3	Chapter 3
	Customs Procedures and Trade Facilitation	Chapter 2 Article 22*	Chapter 4
	Sanitary and Phytosanitary Measures	Chapter 4	Chapter 5
	Trade Remedies	-	Chapter 7
Trade in Services	Trade in Services	Chapter 6§*	Chapter 8
Movement of Persons	Temporary Movement of Natural Persons	Chapter 6§*	Chapter 9
Investment	Investment	Chapter 7§*	Chapter 10
Business Environment	Intellectual Property	Chapter 8 Article 53*	Chapter 11
	Electronic Commerce	-	Chapter 12
	Competition	Chapter 8 Article 53*	Chapter 13
	Small and Medium Enterprises	Chapter 8 Article 53*	Chapter 14
	Economic and Technical Cooperation	Chapter 8	Chapter 15
	Government Procurement	-	Chapter 15
General Provisions and Dispute Settlement	General Provisions and Exceptions	-	Chapter 11
	Institutional Provisions	-	Chapter 18
	Dispute Settlement	Chapter 9	Chapter 19
	Final Provisions	Chapter 10	Chapter 20

AJCEP = ASEAN–Japan Comprehensive Economic Partnership, RCEP = Regional Comprehensive Economic Partnership.
§In 2019, the parties signed the first protocol to amend the agreement, which adds provisions concerning trade in services, movement of businesspeople, and investments.
*Liberalisation with light commitments (e.g. limited to joint research, cooperation, exchange of information, or other forms of non-binding assistance).
Source: Authors.

1.2.2 Trade in Goods

1.2.2.1 Tariff Concession Rates

Although the RCEP aims to liberalise its positive list by eliminating 86%–100% of tariffs within 20 years, the tariff concession rates of the RCEP (91% on average) are lower than those of the AJCEP (93% on average) (Table 1.3). With higher tariff concession rates, the AJCEP offers greater incentives to Japanese manufacturers to fragment their regional production value chains in the ASEAN region, as the cost efficiencies will allow Japanese products manufactured in ASEAN to compete in international markets, particularly India and the EU. Thus, the AJCEP could enhance ASEAN's role as an exporter of Japanese technology-intensive products to the rest of the world.

Table 1.3: Tariff Concession Rates, AJCEP and RCEP Agreements (%)

	AJCEP	RCEP
Brunei Darussalam	98	98
Cambodia	85	87
Indonesia	91	91
Lao PDR	86	86
Malaysia	94	90
Myanmar	85	86
Philippines	97	91
Singapore	100	100
Thailand	96	90
Viet Nam	94	89
Average ASEAN	93	91
Japan	92	88

AJCEP = ASEAN–Japan Comprehensive Economic Partnership, ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic, RCEP = Regional Comprehensive Economic Partnership.
Source: Authors, based on Park (2022).

1.2.2.2 Rules of Origin

The consistent application of the rules of origin (ROO) for all products under the RCEP simplifies the origin verification process and, in turn, raises the RCEP's utilisation rate. In addition to the indirect or build-down formula under the AJCEP, the RCEP includes the direct or build-up formula for regional value chain calculations, allowing a more comprehensive range of products to be applicable under the RCEP.[3] Moreover, the RCEP ROO contain more minimal operations and process categories than those under the AJCEP. Lastly, adopting the diagonal cumulation scheme[4] potentially generates positive gains due to the deepened regional value chains amongst RCEP parties – considered consolidated and upgraded ASEAN+1 FTAs – including the AJCEP. Table 1.4 summarises the detailed differences regarding the ROO of the AJCEP and RCEP agreements.

[3] Direct/build-up formula:
RVC = (VOM + Direct Labour Cost + Indirect Overhead Cost + Profit + Other Costs)/FOB) x 100
Indirect/build-down formula:
RVC = (FOB – VNM/FOB) x 100
where FOB = value of the good, inclusive of the cost of transport to the port or site of final shipment abroad; RVC = regional value content; VNM = value of non-originating materials used in the production of the good; VOM = value of originating materials, parts, or produce acquired/self-produced and used in the production of the good.

[4] There are three types of cumulation: (i) bilateral cumulation, where only raw materials or components in the preference-granting country can be counted; (ii) diagonal cumulation, where raw materials or components from the preference-granting country and a list of other designated countries to which the same ROO apply can be counted; and (iii) full cumulation, where raw materials from all countries to which the same ROO apply can be counted (World Customs Organization, n.d.)

Table 1.4: Rules of Origin, AJCEP and RCEP Agreements

Rule of Origin	AJCEP	RCEP
De minimis	10%; for some agricultural products, 7%	10%
Regional value contents	40% (Indirect/build-down)	40% (Indirect/build-down or direct/build-up)
Minimal operations and processes (non-qualifying operations)	**Chapter 3, Article 30** 7 operations and processes	**Chapter 3, Article 3.6** 11 operations and processes
Certificate of origin	Public	Public
Detailed components	-	-
Declaration of origin by approved exporters and declaration of origin by all exporters or producers	No	Yes
Provisions to develop an electronic system for origin information exchange	No	Yes
Full list of the product-specific rule, which covers all tariff lines at the HS 6-digit level	No	Yes

Rule of Origin	AJCEP	RCEP
Allowance of the application of chemical reaction rules for specific tariff lines in an equal manner to other rules	No	Yes
Treatment of an indirect material as an originating material without regard to where it is produced	No	Yes
Provision where a non-originating material undergoes further production that confers originating status, that material will be treated as originating when determining the originating status of the subsequently produced good	No	Yes
Allowance of a post-importation claim for preferential tariff treatment, subject to the RCEP participating countries' domestic laws and regulations	No	Yes

AJCEP = ASEAN–Japan Comprehensive Economic Partnership, HS = Harmonized System, RCEP = Regional Comprehensive Economic Partnership.
Notes: Minimal operations and processes (non-qualifying operations) are as follows:
AJCEP: (a) operations to ensure the preservation of products in good condition during transport and storage (e.g. drying, freezing, keeping in brine) and other similar operations; (b) changes of packaging and breaking up and assembly of packages; (c) disassembly; (d) placing in bottles, cases, boxes, and other simple packaging operations; (e) collection of parts and components classified as a good pursuant to Rule 2(a) of the General Rules for the Interpretation of the Harmonized System; (f) mere making-up of sets of articles; or (g) any combination of operations referred to in subparagraphs (a) through (f).
RCEP: (a) preserving operations to ensure that the goods remain in good condition for the purposes of transport or storage; (b) packaging or presenting goods for transport or sale; (c) simple processes consisting of sifting, screening, sorting, classifying, sharpening, cutting, slitting, grinding, bending, coiling, or uncoiling; (d) affixing or printing of marks, labels, logos, or other like distinguishing signs on goods or their packaging; (e) mere dilution with water or another substance that does not materially alter the characteristics of the good; (f) disassembly of products into parts; (g) slaughtering of animals; (h) simple painting and polishing operations; (i) simple peeling, stoning, or shelling; (j) simple mixing of goods, whether or not of different kinds; or (k) any combination of two or more operations referred to in subparagraphs (a) through (j).
Source: Authors, based on ASEAN Secretariat (2022), Park (2022), and ASEAN Secretariat, RCEP, https://rcepsec.org/.

1.2.2.3 Customs Procedures and Trade Facilitation

The RCEP provides more detailed information on customs procedures and trade facilitation than the AJCEP. Specifically, the AJCEP lacks discussion on the application of information technology (Chapter 4, Article 4.12), authorised operators (Chapter 4, Article 4.13), express consignments (Chapter 4, Article 4.15), and customs cooperation (Chapter 4, Article 4.19), implying slower customs procedures in the AJCEP (Table 1.5).

Table 1.5:
Customs Procedures and Trade Facilitation, AJCEP and RCEP Agreements

	AJCEP	RCEP
Customs Procedures		
Consistency	Chapter 2, Article 22	Chapter 4, Article 4.4
Transparency	Chapter 2, Article 22	Chapter 4, Article 4.5
Enquiry Points	No	Chapter 4, Article 4.6
Customs Procedures	No	Chapter 4, Article 4.7
Pre-Shipment Inspection	No	Chapter 4, Article 4.8
Pre-Arrival Processing	No	Chapter 4, Article 4.9
Advance Rulings	No	Chapter 4, Article 4.10
Release of Goods	No	Chapter 4, Article 4.11
Application of Information Technology	No	Chapter 4, Article 4.12
Risk Management	No	Chapter 4, Article 4.14
Express Consignments	No	Chapter 4, Article 4.15
Post-Clearance Audit	No	Chapter 4, Article 4.16

	AJCEP	RCEP
Time-Release Studies	No	Chapter 4, Article 4.17
Review and Appeal	No	Chapter 4, Article 4.18
Consultations and Contact Points	No	Chapter 4, Article 4.20
Implementation Arrangement	No	Chapter 4, Article 4.21

	AJCEP	RCEP
Trade Facilitation		
	Chapter 2, Article 22 (a) simplify its customs procedures	Chapter 4, Article 4.13 Measures for authorised operators: (a) low documentary and data requirements, as appropriate; (b) low rate of physical inspections and examinations, as appropriate; (c) rapid release time, as appropriate; (d) deferred payment of duties, taxes, fees, and charges; (e) use of comprehensive guarantees or reduced guarantees; (f) a single customs declaration for all imports or exports in a given period; and (g) clearance of goods at the premises of the authorised operator or another place authorised by a customs authority.
	Chapter 2, Article 22 (b) harmonise its customs procedures, to the extent possible, with relevant international standards and recommended practices such as those made under the auspices of the Customs Co-operation Council.	Chapter 4, Article 4.13 (a) exchanging information on such schemes and on initiatives to introduce new schemes; (b) sharing perspectives on business views and experiences, and best practices in business outreach; (c) sharing information on approaches to mutual recognition of such schemes; and (d) considering ways to enhance the benefits of such schemes to promote trade, and, in the first instance, to designate customs officers as coordinators for authorised operators to resolve customs issues.

AJCEP	RCEP
Trade Facilitation	
	Chapter 4, Article 4.19 (a) the implementation and operation of this chapter; (b) developing and implementing customs best practice and risk management techniques; (c) simplifying and harmonising customs procedures; (d) advancing technical skills and the use of technology; (e) application of the Customs Valuation Agreement; and (f) such other customs issues as the parties may mutually determine.

AJCEP = ASEAN–Japan Comprehensive Economic Partnership; RCEP = Regional Comprehensive Economic Partnership.
Source: Authors.

1.2.2.4 Sanitary and Phytosanitary Standards, Technical Regulations, and Conformity Assessment Procedures

Although the RCEP provides more detailed information on sanitary and phytosanitary standards (SPS) and technical barriers to trade (TBT) than the AJCEP, the AJCEP formulates sub-committees for SPS and TBT to exchange information; facilitate cooperation and technical consultations; and provide capacity building, technical assistance, and exchange of experts (Table 1.6). Therefore, the AJCEP is likely to benefit policymakers, especially in AMS, resulting in more comprehensive liberalisation of goods despite the rise of non-tariff measures.

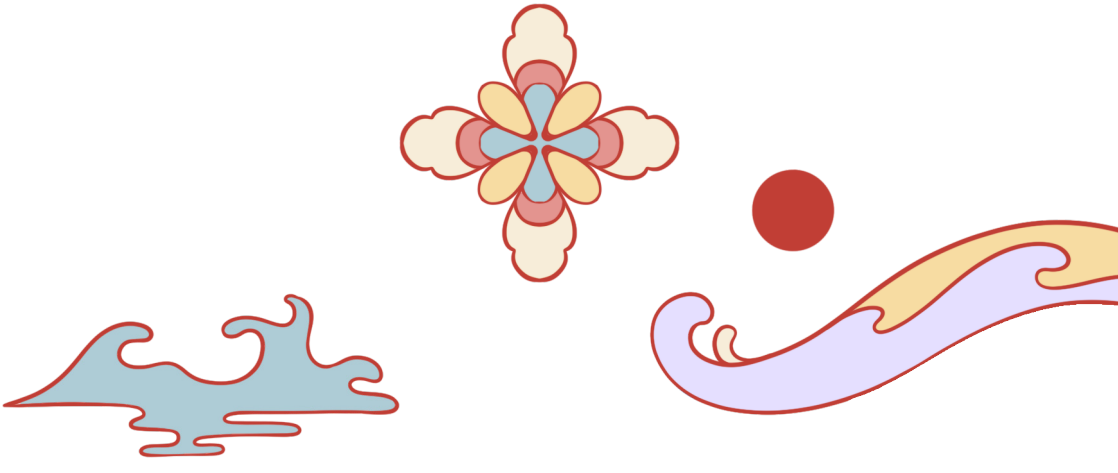


Table 1.6: Sanitary and Phytosanitary Standards, Technical Regulations, and Conformity Assessment Procedures, AJCEP and RCEP Agreements

	AJCEP	RCEP
Sanitary and Phytosanitary Standards		
Sub-Committee on Sanitary and Phytosanitary Standards	Chapter 4, Article 40	No, but following the WTO Committee on Sanitary and Phytosanitary Measures and reporting directly to the Committee on Goods
Enquiry/Contact Points	Chapter 4, Article 41	Chapter 5, Article 5.15 More details
Adaptation to Regional Conditions, including Pest- or Disease-Free Areas and Areas of Low Pest or Disease Prevalence	No	Chapter 5, Article 5.6
Other Operational Details	No	Chapter 5: Article 5.8: Audit Article 5.7: Risk Analysis Article 5.9: Certification Article 5.10: Import Checks Article 5.11: Emergency Measures Article 5.12: Transparency Article 5.13: Cooperation and Capacity Building Article 5.14: Technical Consultation Article 5.16: Implementation Article 5.17: Dispute Settlement

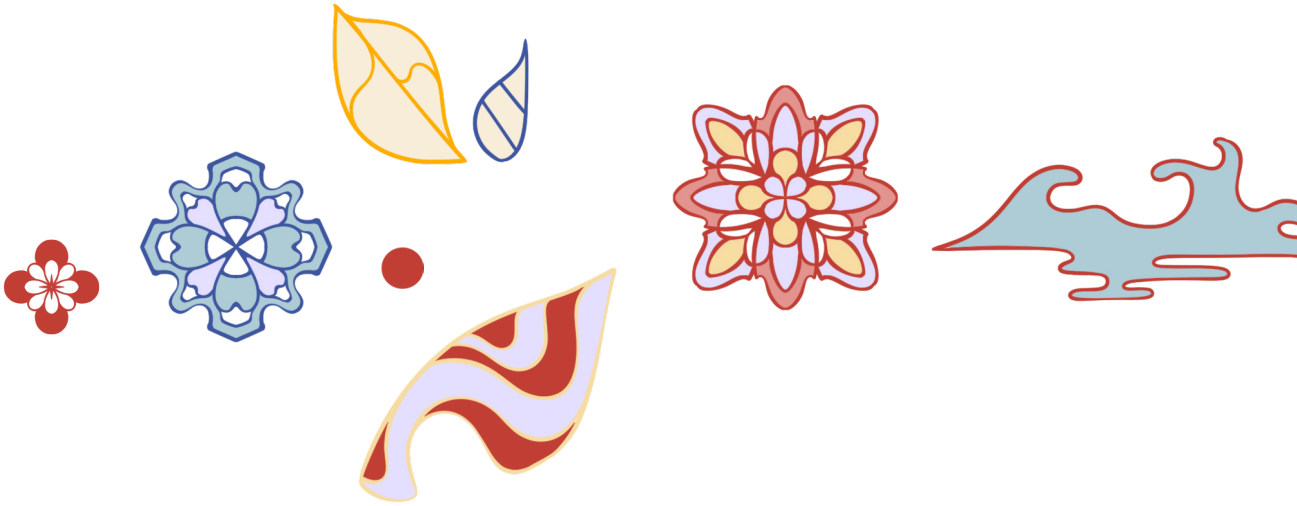
	AJCEP	RCEP
Standards, Technical Regulations, and Conformity Assessment Procedures		
Sub-Committee on Standards, Technical Regulations, and Conformity Assessment Procedures	Chapter 4, Article 48	No, but following the WTO Committee on Sanitary and Phytosanitary Measures and reporting directly to Committee on Goods
Cooperation	Chapter 4, Article 46	Chapter 6, Article 6.9
Enquiry/Contact Points	Chapter 4, Article 47	Chapter 6, Article 6.12
Other Operational Details	No	Chapter 6: Article 6.5: International Standards, Guides, and Recommendations Article 6.6: Standards Article 6.7: Technical Regulations Article 6.8: Conformity Assessment Procedures Article 6.10: Technical Discussions Article 6.11: Transparency Article 6.13: Implementing Arrangements Article 6.14: Dispute Settlement

AJCEP = ASEAN–Japan Comprehensive Economic Partnership, RCEP = Regional Comprehensive Economic Partnership, WTO = World Trade Organization.
Source: Authors.

1.2.3 Investment

Concerning investment provisions, the scope of prohibitions of performance requirements[5] in the RCEP is more comprehensive than in the AJCEP, potentially improving the RCEP's legal stability and predictability (Table 1.7). However, the AJCEP may provide more benefits to AMS regarding technology-transfer requests and royalty regulations. Japan and AMS can negotiate to what extent and what level of technology transfer should occur to incentivise Japanese investors and to help improve the production capacity of AMS. Technical assistance – one of AJCEP's FTA+ commitments – can improve AMS capacities and encourage them to identify comparative advantages. For instance, Somboon Advance Tech, a Thai automotive manufacturing company, had Japanese partners and technical assistants from Japan provide technical support and training to Somboon's engineers (Korwatanasakul and Intarakumnerd, 2020). With such research and development capability, the company became more self-reliant and established its own technical team to reduce the use of technical assistants.

Yet under the AJCEP, the negotiation of the investment chapter has been challenging due to (i) new issues, such as most-favoured nation treatment, the ratchet mechanism, prohibition of performance requirements, and non-conforming measures; (ii) no multilateral rules governing the protection of FDI; (iii) the connection to a commercial presence in the trade in services chapter; and (iv) preferences on investment regulations for national authorities and development.

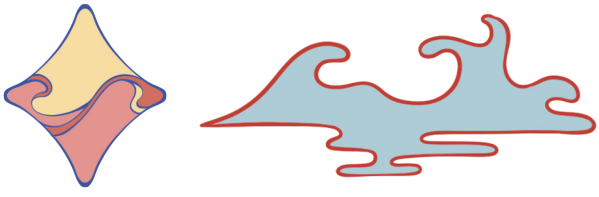


[5] The RCEP includes commitments to prohibit performance requirements (e.g. a specified level or percentage of domestic content or technology transfer requirements) on investors as conditions for entering, expanding, or operating. It ensures future relaxation of investment measures covered by the agreement and mitigates backtracking of commitments. It also includes a built-in work programme on investor–state dispute settlement provisions. (MTI, n.d.)

Table 1.7: Main Provisions of Investment Chapters, AJCEP and RCEP Agreements

Provision		AJCEP	RCEP
National treatment at the entry stage		Deferment until preparation of reservation list	O
Most-favoured nation treatment at entry stage		Renegotiation	O[1]
Specific measures demand for performance	WTO TRIMs (e.g. local procurement requirements, prohibition of import/export balance requirements)	O	O[1]
	Prohibition of technology transfer requests	X	O[2]
	Prohibition of royalty regulations	X	O[2]
Reservation table	Adoption of the negative list method	Negotiate after entry into force	O
	Ratchet duty	Renegotiation	O[3]

AJCEP = ASEAN–Japan Comprehensive Economic Partnership, ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic, RCEP = Regional Comprehensive Economic Partnership, WTO TRIMs = World Trade Organization's Agreement on Trade-Related Investment Measures.
Notes:
[1]Cambodia, the Lao PDR, Myanmar, and Viet Nam are exempted.
[2]Cambodia, the Lao PDR, and Myanmar are exempted. Reservations in most of ASEAN.
[3]Cambodia, the Lao PDR, Myanmar, Indonesia, and the Philippines remain obligated to maintain the status quo (i.e. standstill obligation).
Source: Authors, based on JETRO (2022).



1.2.4 E-Commerce

The AJCEP has no provisions for e-commerce because e-commerce is a new field (Table 1.8). Since developing countries participate in the RCEP, several reservations and non-conforming measures remain. Therefore, establishing a framework of rules for e-commerce is a significant step forward.

Table 1.8: Provisions on E-Commerce, AJCEP and RCEP

	AJCEP	RCEP
Free cross-border data distribution	No	Chapter 12, Article 12.15
Prohibition of data-localisation requests	No	Chapter 12, Article 12.14
Tariff-free import duties	No	Chapter 12, Article 12.11
Prohibition of source-code disclosure requests	No	No
Non-discriminatory treatment of digital products	No	No
Prohibition on requests for the disclosure of cryptography-related technologies	No	No

AJCEP = ASEAN–Japan Comprehensive Economic Partnership, RCEP = Regional Comprehensive Economic Partnership.
Source: Authors, based on JETRO (2020).

1.2.5 Competition

The AJCEP lacks an implementing agreement and inter-agency cooperation regarding competition (Table 1.9). The implementing agreements specified in the RCEP include appropriate measures against anti-competitive activities, the confidentiality of information, and consumer protection, amongst others.

Table 1.9: Provisions on Competition

	AJCEP	RCEP
Implementing agreement	No	Chapter 13, Articles 13.3, 13.5, 13.7
Inter-agency cooperation	No	Chapter 13, Article 13.4

AJCEP = ASEAN–Japan Comprehensive Economic Partnership, RCEP = Regional Comprehensive Economic Partnership.
Source: Authors, based on AJC (2021).

1.3 Way Forward

1.3.1 AJCEP Strengths

The AJCEP provides unique mechanisms, such as higher tariff concession rates and sub-committees for SPS and TBT, that can facilitate trade liberalisation. Under the AJCEP common framework, Japan can institutionalise and accelerate its technical and development assistance to ASEAN – the FTA+ commitments. For instance, under the AJCEP, ASEAN and Japan have commenced several initiatives to improve AMS capacities and to encourage them to identify comparative advantages (e.g. technical assistance for and capacity building in ASEAN, trade and investment promotion and facilitation measures, trade and investment policy dialogue and business sector dialogues, measures to facilitate the mobility of businesspeople, and exchange and compilation of customs tariff and bilateral trade statistics). These efforts can be combined with human and physical resources and the experience of more developed AMS to assist those less developed, strengthening solidarity within ASEAN.

1.3.2 AJCEP Challenges

Based on the analysis, the RCEP is generally more comprehensive than the AJCEP, as it covers wider 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 natural persons, investment, intellectual property, competition, and small and medium-sized enterprises. The challenges are summarised in Table 1.10.

Table 1.10: Challenges of the AJCEP

Challenge	Detail
Inefficient trade liberalisation	Lack of systematic discussions on trade remedies, e-commerce, government procurement, and general provisions and exceptions
	Light commitments (e.g. limited to joint research, cooperation, exchange of information or other forms of non-binding assistance) in several chapters, including customs procedures and trade facilitation (Chapter 2, Article 22); trade in services (Chapter 6); temporary movement of natural persons (Chapter 6); investment (Chapter 7), intellectual property, competition, and small and medium-sized enterprises (Chapter 8, Article 53)
	Complicated and incomprehensive rules of origin, leading to low utilisation rate and weak trade creation effects
	Complicated and slow customs procedures without sufficient trade facilitation.
	Slow adoption of new technology (e.g. the application of information technology for customs procedures and trade facilitation)
Slow development of trade in services investment and other provisions	Outdated information, provisions, and official website
	Lack of provisions on e-commerce, application of information technology, performance requirements, competition, ratchet mechanism, and non-conforming measures
	Lack of mechanisms for negotiations across chapters (e.g. investment chapter and trade in services chapter).
	Lack of appropriate measures against anti-competitive activities, the confidentiality of information, and consumer protection
Lack of government institutional provision	Lack of governmental bodies to monitor and to accelerate progress and to solve issues

AJCEP = ASEAN–Japan Comprehensive Economic Partnership.
Source: Authors.

1.3.3 Policy Suggestions

Firstly, the AJCEP should be expanded to cover the provisions that have been covered by the RCEP to maximise the benefits of both the AJCEP and the RCEP.

On one hand, the AJCEP mainly benefits AMS capacities due to the FTA+ commitments and unique mechanisms (e.g. higher tariff concession rates and sub-committees for SPS and TBT) that facilitate trade liberalisation.

On the other hand, the RCEP provides a more comprehensive discussion on trade liberalisation and the deepened regional value chains amongst RCEP parties; therefore, ASEAN and Japan are able to enhance their regional production networks and, in turn, improve competitiveness as production and exporting hubs of goods and services, particularly from the manufacturing sector.

ASEAN and Japan can maximise their gains from both the AJCEP and RCEP through compatibility between the two agreements, which may enhance ASEAN's role as an exporter of technology-intensive products to the rest of the world, while Japanese manufacturers would have a greater incentive to fragment their regional production value chains instead of locating in bilateral economic partnership agreement partners.

Secondly, the AJCEP should expedite its development of trade in services, investment, and other provisions, implying that more discussions between Japan and AMS are required to raise awareness of the benefits of the AJCEP and to speed up ongoing trade liberalisation. Furthermore, as the AJCEP lacks information technology utilisation and discussion on e-commerce, the AJCEP must undergo a digital transformation at the policy discussion and formation levels as well as the policy implementation level to utilise digital technology effectively and efficiently in trade liberalisation and facilitation.

Lastly, given the difficult and complex process of creating a single, continent-wide market for goods, services, and investment, it is logical that regional institutions be developed over time to enforce rules and to monitor implementation. One critical institutional support is the establishment of the AJCEP Secretariat to oversee the overall implementation of the AJCEP agreement.

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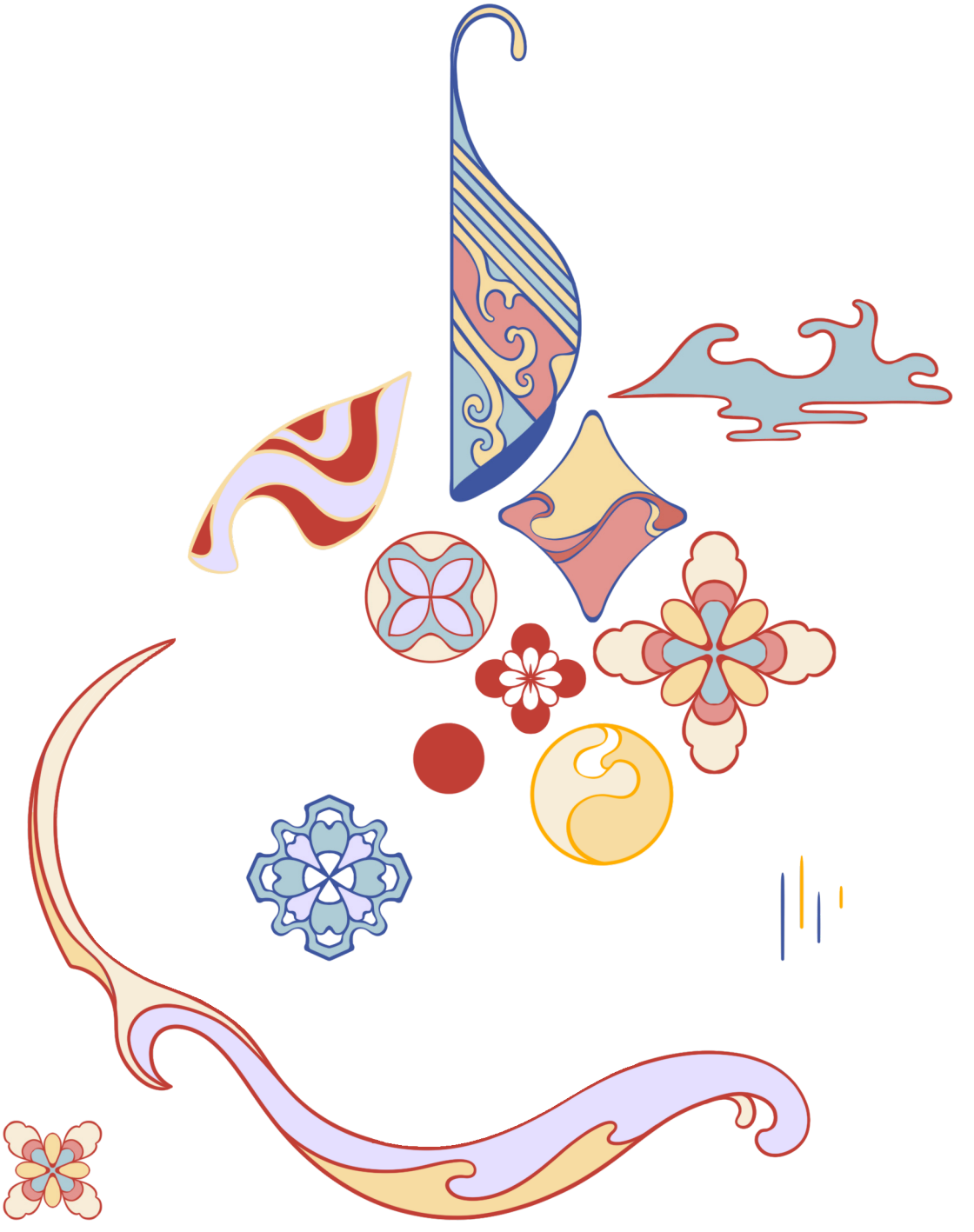

CHAPTER 2

Survey on the Doing-Business Environment in ASEAN

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2.1 Introduction

This chapter reports on a survey of the business environment in Association of Southeast Asian Nations (ASEAN) Member States (AMS) conducted by the Economic Research Institute of ASEAN and East Asia (ERIA) in collaboration with Deloitte Consulting. The purpose of this survey was to answer the following questions: (i) what difficulties do companies based in ASEAN find when doing business, (ii) how serious are the difficulties, (iii) what they expect governments to do to overcome these difficulties, and (iv) how they are responding to the digital economy to realise a sustainable and resilient future. The survey had four categories of questions: trading across borders, human resources development, the digital economy, and others on doing business.

Results show that many companies perceived difficulties in trading across borders due to three significant factors: time-consuming manual or on-site procedures because of the limited scope of electronic services, time-consuming manual or on-site procedures due to unclear customs procedures, and corruption or lack of compliance of customs officers. Further, many companies expected governments or public institutions to promote improvement in customs authority compliance, provide online services to compare available economic partnership agreements (EPAs) or free trade agreements (FTAs), and develop references for customs officers to determine Harmonized System (HS) codes.

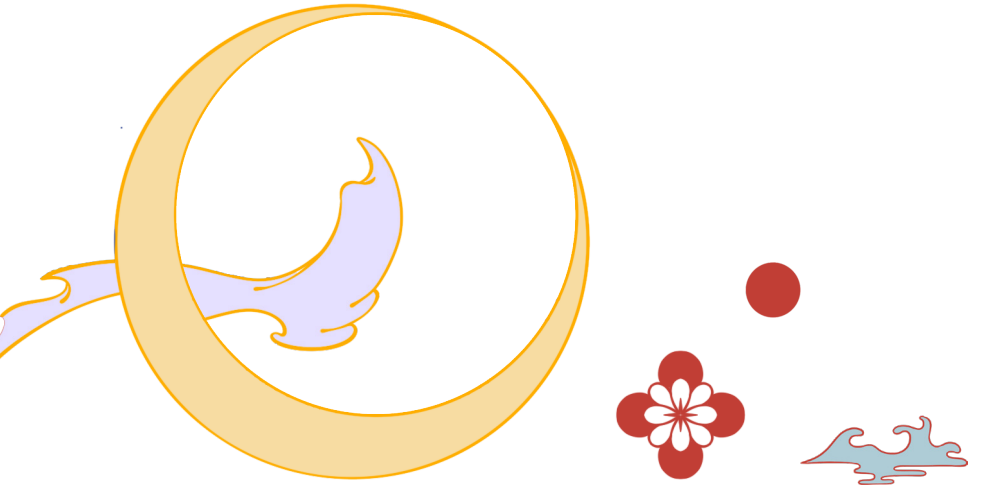
The private sector found challenges in securing human resources to achieve medium- or long-term business growth goals, such as middle managers to drive business transformation or innovation and/or to manage existing business processes. Leadership, strategy development, and business modelling and planning, in particular, were highlighted in the shortage of skills amongst middle

managers. In addition, many companies struggled with hiring and training new graduates (i.e. potential workers) and professionals (i.e. existing workers) due to a gap between the skills required by the private sector and educational curriculum or materials, as well as a lack of opportunities for working professionals to reskill. To overcome challenges in securing human resources, governments and public institutions were expected to encourage educational institutions to incorporate common skills into their curriculum, define the common skills necessary before beginning to work, and enhance the mobility of human resources across countries.

A wave of digital technologies is stimulating the private sector to deal with social agendas for a sustainable and resilient future, such as upgrading administrative processes, smart logistics and supply chain resilience, sustainable energy, cybersecurity, smart cities, and e-government. However, many companies found difficulties in collecting the necessary information for the creation of innovative products and services, such as a lack of information on competitors and a lack of innovative business ideas or technical seeds. Many companies also experienced difficulties in obtaining funding, such as internal capital or investment budgets, and found loans inaccessible due to strict conditions. For the private sector to be innovative and productive, governments and public institutions were expected to support their expansion globally or through overseas collaborations and regulatory support (e.g. creation of a sandbox to deregulate technology to encourage companies to innovate).

Lastly, results on other matters on doing business suggest that many companies experienced difficulties in paying taxes (i.e. complicated systems of taxation) and integrating sustainability agenda into their businesses.

This chapter is organised as follows. Section 2 describes how the survey was designed. Section 3 reports the results of the survey. Section 4 concludes.



2.2 Questionnaire Design

2.2.1 Development of Questionnaire Items

To design the survey, desktop research and expert interviews with public agencies (e.g. the Japan External Trade Organization [JETRO]) were conducted regarding challenges that companies face in doing business, initial hypotheses were formulated, and questionnaire items were consequently developed. These items were distributed online with the support of relevant stakeholders.

To formulate initial hypotheses, 12 indicators[1] were adopted from World Bank (2020), as they are a comprehensive set of issues faced in the business environment. Desktop research was then conducted to identify the challenges of the 12 indicators in businesses operating in AMS. The material for the desktop research was from publicly available sources, including the Asian Development Bank (ADB), Organisation for Economic Co-operation and Development (OECD), and World Bank (World Bank, 2020; IMD, 2021; OECD, 2021; IEA, 2022; Lin et al., 2022; UNESCAP, 2022). The desktop research suggested selecting indicators for the survey relevant to the business operation stage (i.e. after the business starts and before it closes), for example, 'trading across borders' and 'employing workers'.

Next, expert interviews were conducted to examine the initial hypotheses derived from the desktop research. They were conducted with business associations and public agencies (e.g. ASEAN Business Advisory Council [ASEAN-BAC], Federation of Japanese Chambers of Commerce and Industry in ASEAN, and JETRO),[2] which revealed that 'trading across borders' and 'employing workers' were the most important indicators in terms of business challenges compared to other indicators. In addition, 'innovation' was identified as a key indicator.

The questionnaire items were thus designed to relate to the business environment of the companies. They included four categories of questions: trading across borders, human resources development, digital economy, and other issues on doing business.

[1]Indicators included 'starting a business', 'dealing with construction permits', 'getting electricity', 'registering property', 'protecting minority investors', 'getting credits', 'paying taxes', 'trading across borders', 'enforcing contracts', 'employing workers', 'contracting with the government', and 'resolving insolvency'.
[2]To justify the business issues faced by companies, a series of interviews was conducted with public agencies that have close contact with companies in their respective regions to obtain information and opinions from the companies. Interviews with external organisations were conducted online with ASEAN-BAC Brunei Darussalam; JETRO Phnom Penh; JETRO Jakarta; Japanese Chamber of Commerce and Industry, Lao People's Democratic Republic; JETRO Vientiane; JETRO Kuala Lumpur; ASEAN-BAC Singapore; and Japanese Chamber of Commerce, Bangkok.

2.2.2 Questionnaire Distribution Method

The survey was conducted online to obtain responses from various companies with diverse demographics (e.g. size of enterprise and industry) in AMS. The questionnaire items are listed the appendixes of this chapter. The survey was conducted from 28 October to 1 December 2022. The survey link was distributed to member companies in each AMS through the organisations in Table 2.1. In addition, the project team allowed some companies to answer the survey by leveraging the local network from Deloitte Consulting in AMS to supplement the number of responses.

Table 2.1: Organisations that Supported Questionnaire Distribution

Country	Name
Indonesia	Japan External Trade Organization Indonesia (JETRO Jakarta)
Lao PDR	Japanese Chamber of Commerce and Industry, Lao PDR
Myanmar	Japan Chamber of Commerce and Industry, Myanmar
Philippines	Japanese Chamber of Commerce and Industry of the Philippines
Singapore	Japanese Chamber of Commerce and Industry Singapore
Thailand	The Japanese Chamber of Commerce, Bangkok
Viet Nam	Japanese Chamber of Commerce and Industry in Ho Chi Minh City
Viet Nam	Japanese Chamber of Commerce and Industry in Vietnam

Lao PDR = Lao People's Democratic Republic.
Source: Authors.

2.3 Results

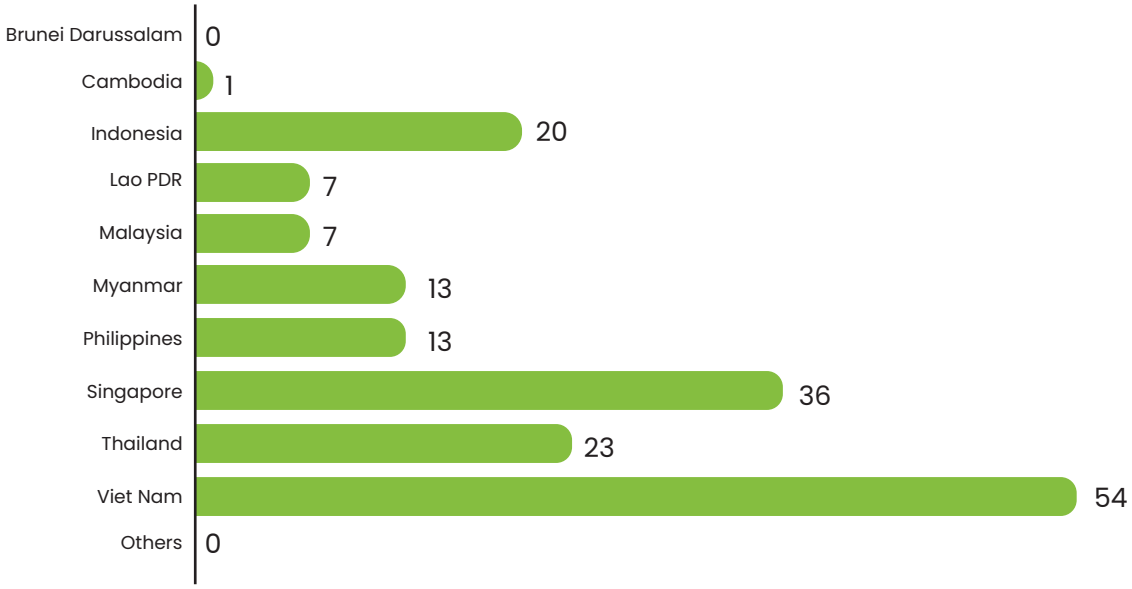
2.3.1 Respondent Overview

In total, 174 valid responses were obtained by the deadline from the companies.

2.3.2 Location of Respondents

Figure 2.1 shows that most companies are in Viet Nam (54), followed by Singapore (36), Thailand (23), Indonesia (20), Myanmar (13), the Philippines (13), Malaysia (7), Lao People's Democratic Republic (Lao PDR) (7), and Cambodia (1). No respondents were from Brunei Darussalam or 'Others' countries.

Figure 2.1: Location of Respondents

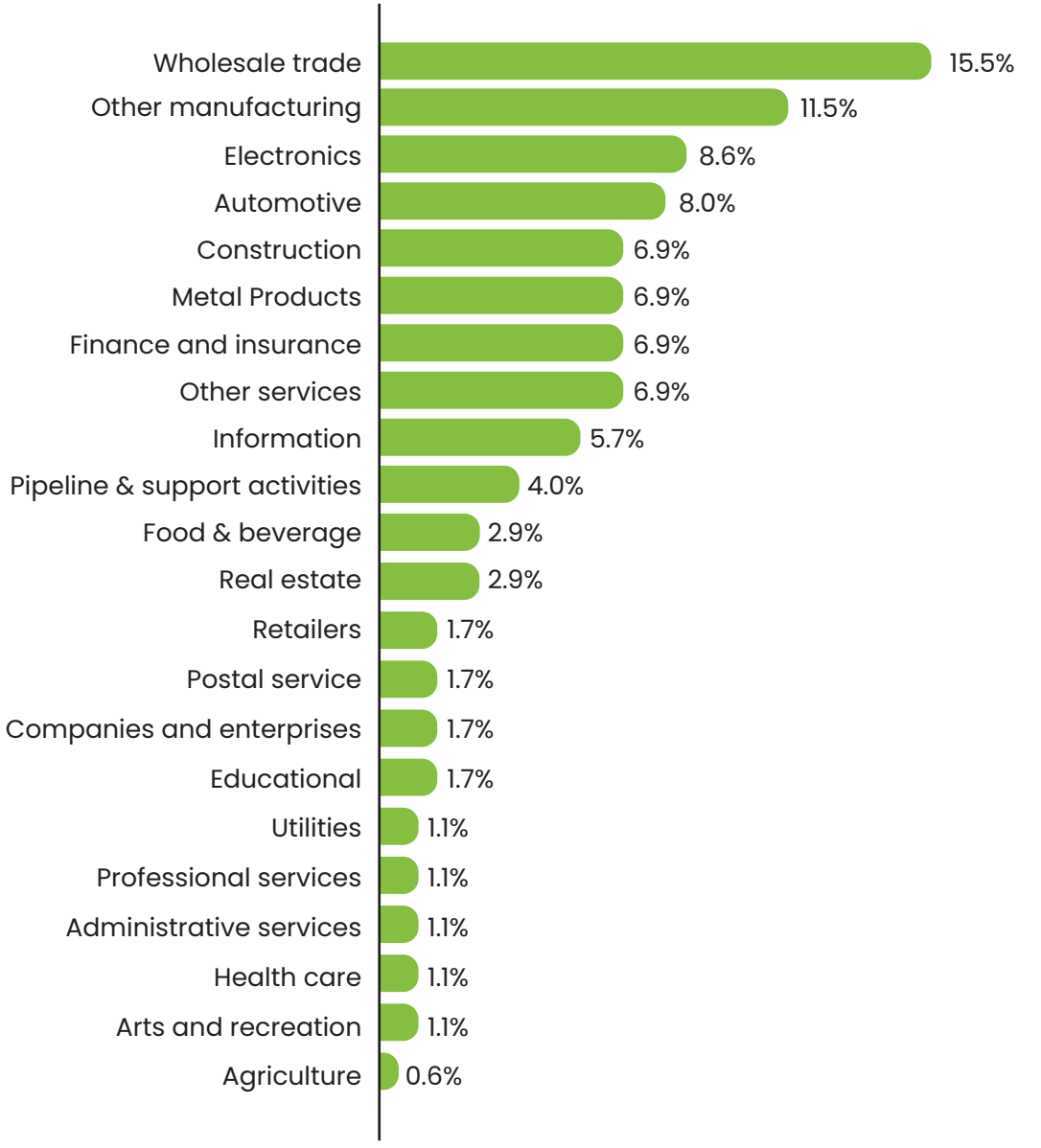


Lao PDR = Lao People's Democratic Republic.
Note: Q3-1. Please provide your company's location.
Source: Authors.

2.3.3 Main Business Areas of Respondents

Figure 2.2 shows that 22 sectors were captured by the survey. The top four sectors were 'wholesale trade' (15.5% of respondents), followed by 'other manufacturing' (11.5%), 'electronics' (8.6%), and 'automotive' (8.0%).

Figure 2.2: Main Business Areas of Respondents

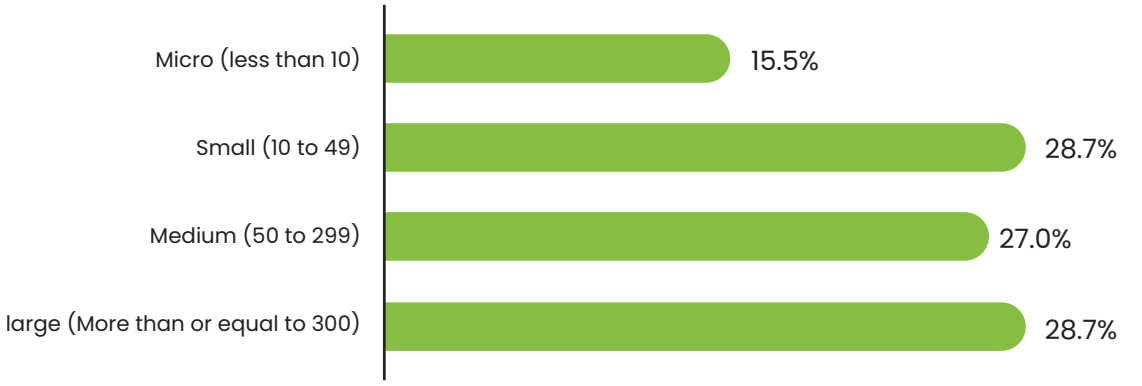


Note: Q4. Which industry is your company's main business?
Source: Authors.

2.3.4 Size of Respondent Enterprises

Figure 2.3 shows respondents by company size. The top groups are small enterprises (i.e. 10–49 employees) and large enterprises (i.e. more than 300 employees), both representing 28.7%, followed by medium enterprises (i.e. 50–299 employees) with 27.0%, and micro enterprises (i.e. less than 10 employees) with 15.5%.

Figure 2.3: Size of Respondent Enterprises



Note: Q7. How many regular employees work for your company?
Source: Authors.

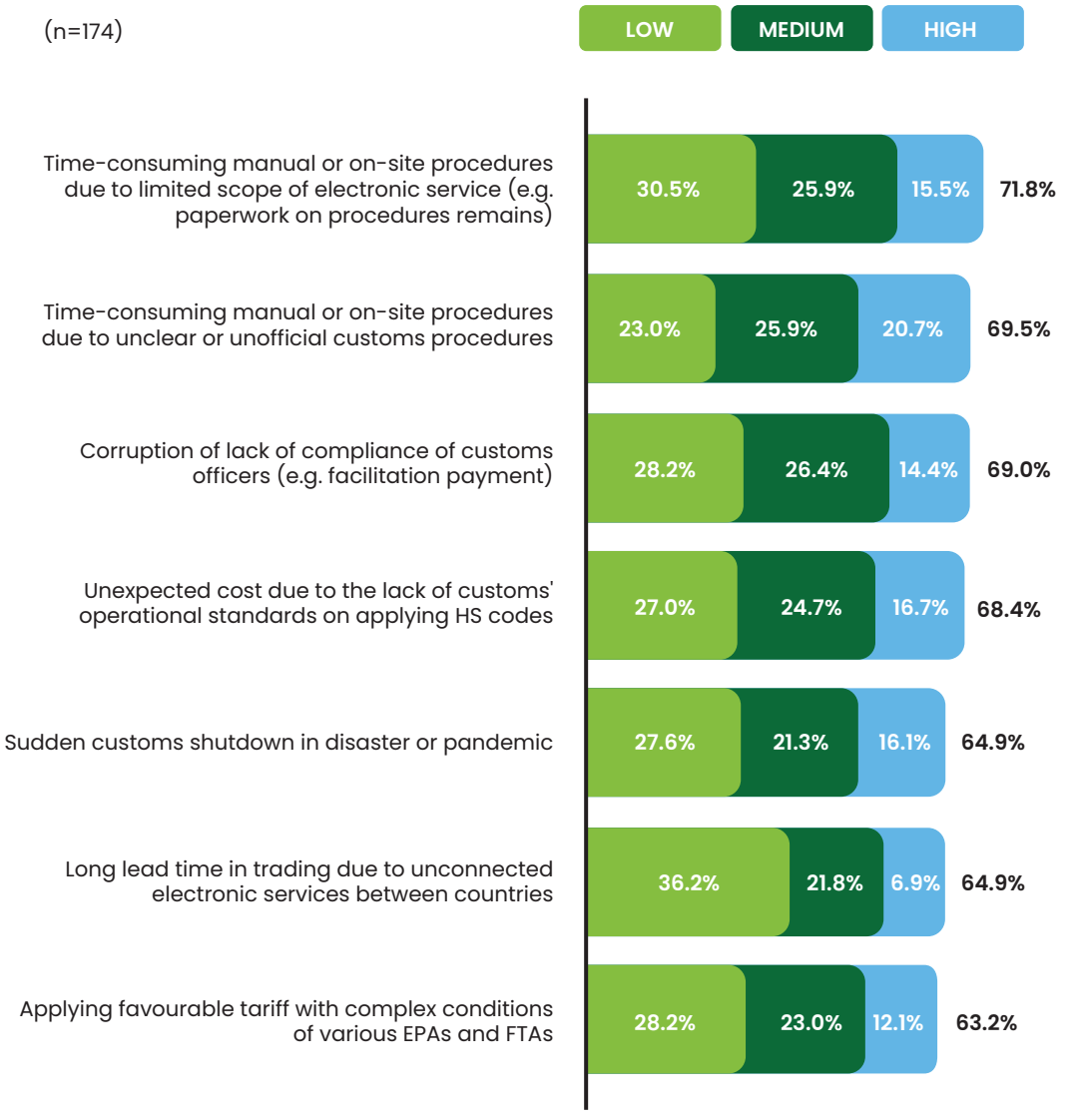
2.4 Trading across Borders

This section provides insights into and implications of trading across borders based on survey results (i.e. Q8–Q9). It covers the difficulties in trading across borders in general by country, by industry, and by company size; and the expectations of public initiatives to solve difficulties in trading across borders.

2.4.1 Difficulties in Trading across Borders

Figure 2.4 illustrates the perceived difficulties in trading across borders and the impact on respondents' business profits at three levels, 'low', 'medium', and 'high'. When adding 'low', 'medium', and 'high' responses together, more than 60% of the respondents indicated difficulties in trading across borders. Notably, the most significant difficulty was noted as 'time-consuming or on-site procedures due to limited scope of electronic services', with 71.8% of the respondents indicating this issue.

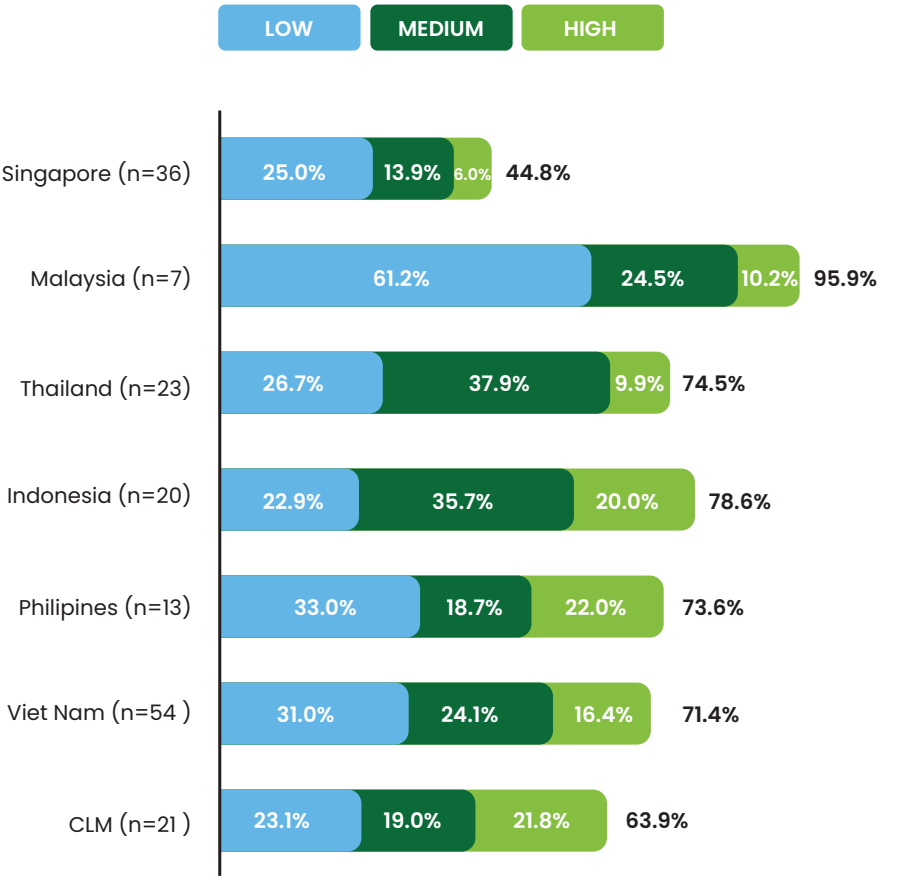
Figure 2.4: Difficulties in Trading across Borders



EPA = economic partnership agreement, FTA = free-trade agreement, HS = Harmonized System.
Notes: Excludes 'never recognized as difficulties or issues'. (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, or (4) never recognized as difficulties or issues.)
Source: Authors.

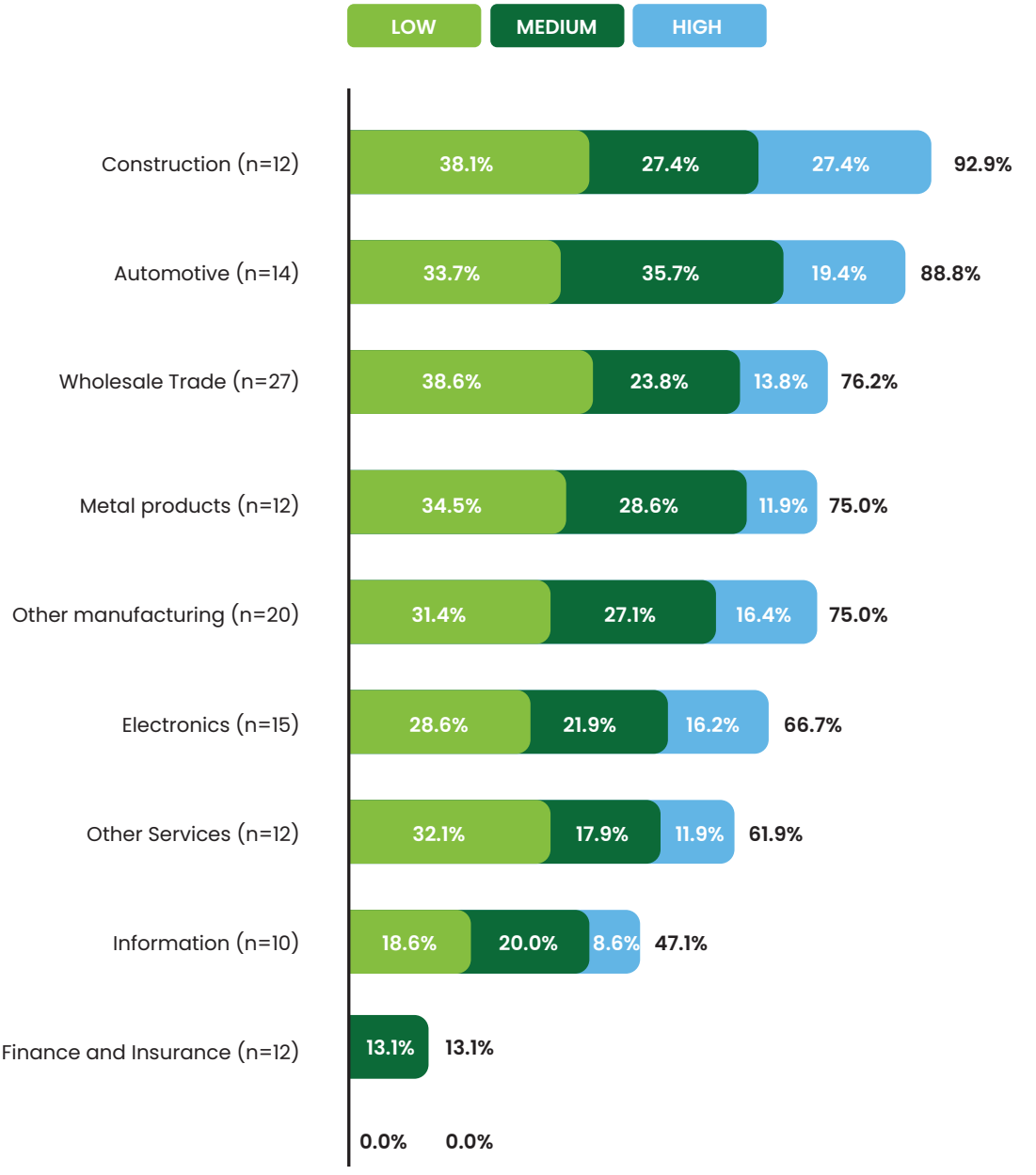
Figure 2.5 examines by country the same responses as Figure 2.4. Malaysia presented the most significant difficulties with 95.9% of respondents indicating issues; Malaysian companies do experience higher costs of trading despite the country's high economic development level. However, note that the number of responses from Malaysia is limited (i.e. 7); the country also had the highest score for 'low' challenges at 61.2%. Indonesia followed with 78.6%, and there was no significant difference amongst other AMS. Singapore had the least perceived challenges, with only 44.8% of respondents noting them. Adding together 'high' and 'medium' responses, Indonesia scored the highest with 55.7% of respondents indicating issues, and Thailand followed with 47.8%.

Figure 2.5: Difficulties in Trading across Borders by Country



CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.
Notes: Brunei Darussalam is excluded since no responses were obtained. The countries are in order by gross national income per capita. (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, or (4) never recognized as difficulties or issues.)
Source: Authors.

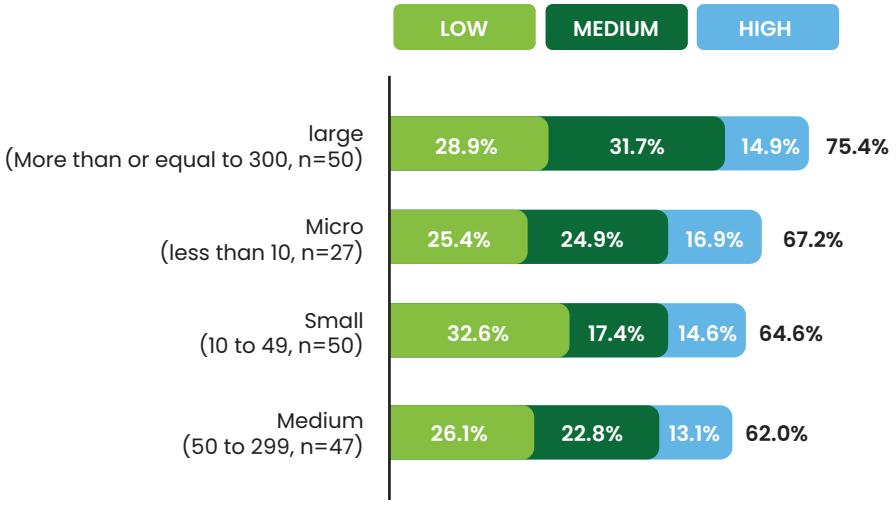
Figure 2.6: Difficulty in Trading across Borders by Industry



Notes: The data used only include industries with 10 respondents or more. (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, or (4) never recognized as difficulties or issues.)
Source: Authors.

Figure 2.7 examines, by company size, the same responses as Figure 2.4. Large companies indicated slightly higher challenges in trading across borders, with 75.4% compared to micro, small, and medium-sized companies.

Figure 2.7: Difficulties in Trading across Borders by Company Size

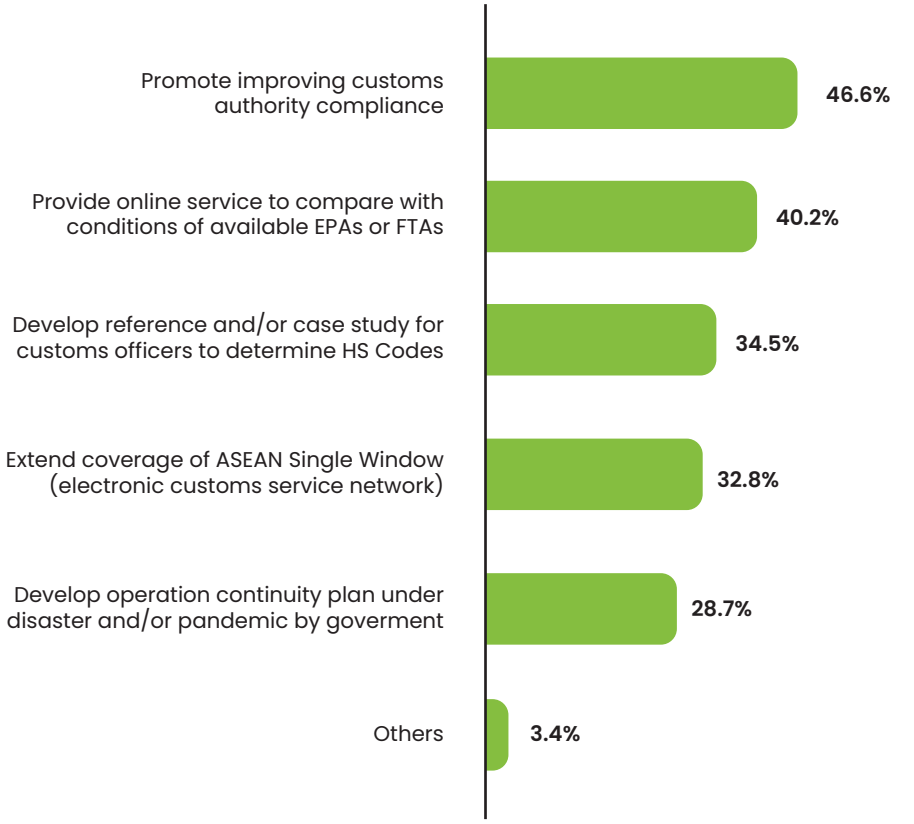


Note: Q8. Do you have difficulties or issues in trading across borders? If you have those, please select the impact of each on profits of your business as follows: (1) high, (2) medium, (3) low, or (4) never recognized as difficulties or issues.
Source: Authors.

2.4.2 Expectations of Public Initiatives to Solve Difficulties in Trading across Borders

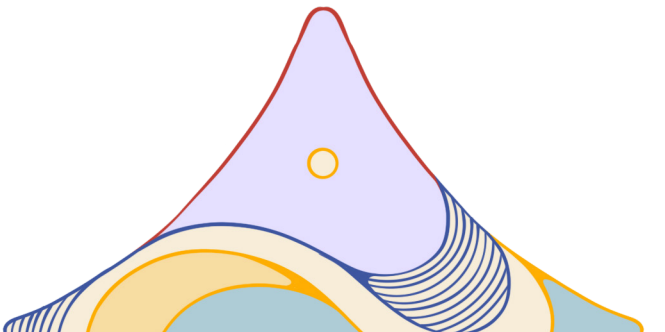
Figure 2.8 shows public initiatives that companies expected to resolve difficulties in trading across borders. The top priority of public initiatives should be to 'promote improving customs authority compliance', with 46.6% of respondents agreeing with this statement. This was followed by 'provide online service to compare with condition of available EPAs or FTAs' with 40.2%. The third priority should be to 'develop reference or case study for customs officers to determine HS codes' with 34.5%.

Figure 2.8: Expectations toward Public Initiatives to Solve Difficulties in Trading across



ASEAN = Association of Southeast Asian Nations, EPA = economic partnership agreement, FTA = free-trade agreement, HS = Harmonized System.
Note: Q9-1. Please select the initiatives [that] you expect public institutions to take to solve the difficulties or issues.
Source: Authors.

Several responses were received to the open-ended question regarding expected public initiatives, such as 'make [a] clear standard for legal interpretation, as legal interpretations vary from province to province, which is very difficult [when obtaining] approvals from [each province]' (Viet Nam).



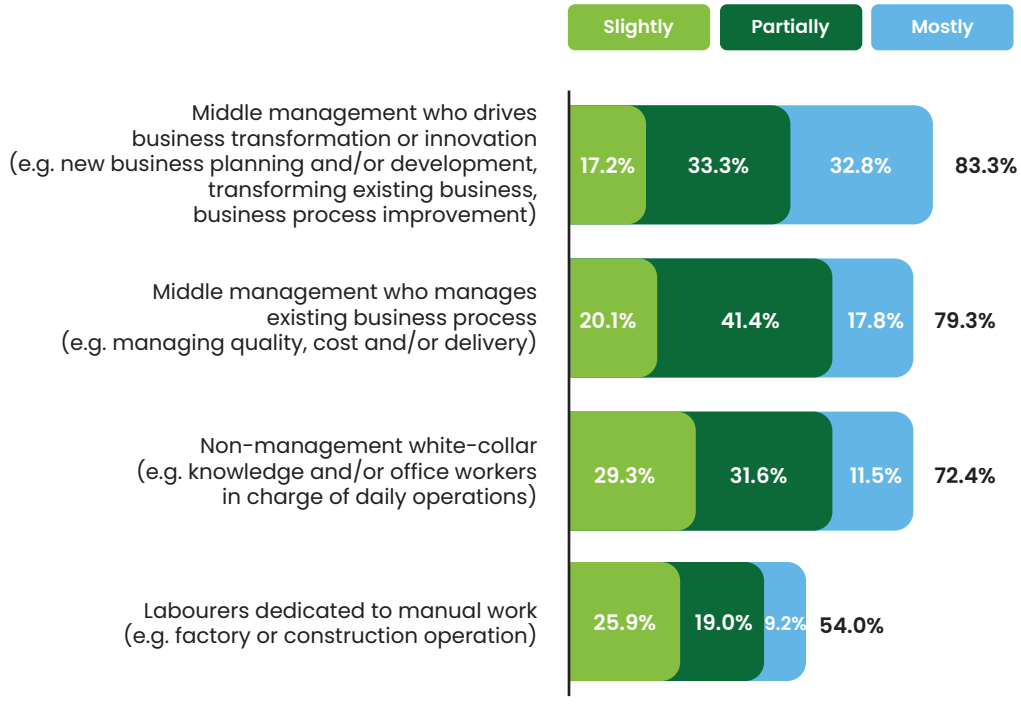
2.5 Human Resources Development

This section examines the results of the survey regarding human resources development (i.e. Q10–Q14). It covers (i) types of human resources that respondents felt were insufficient to achieve business growth, (ii) shortages of skills required for middle management, (iii) difficulties that respondents found in hiring and training workers, and (iv) public initiatives regarding human resources development that respondents expected.

2.5.1 Types of Human Resources Insufficient to Achieve Business Growth

Figure 2.9 examines the perceived insufficiency at three levels of four types of human resources to achieve medium- or long-term business growth ('slightly', 'partially', and 'mostly'). More than 50% of respondents indicated a failure of human resources to help achieve medium- or long-term business growth. Notably, middle management – who drives business transformation and/or innovation – were perceived as having the least capability with 83.3% of respondents indicating this. Specifically, 66.1% of the respondents indicated 'partially' and 'mostly' middle management are unable to drive business transformation or innovation.

Figure 2.9: Types of Human Resources Insufficient to Achieve Business Growth

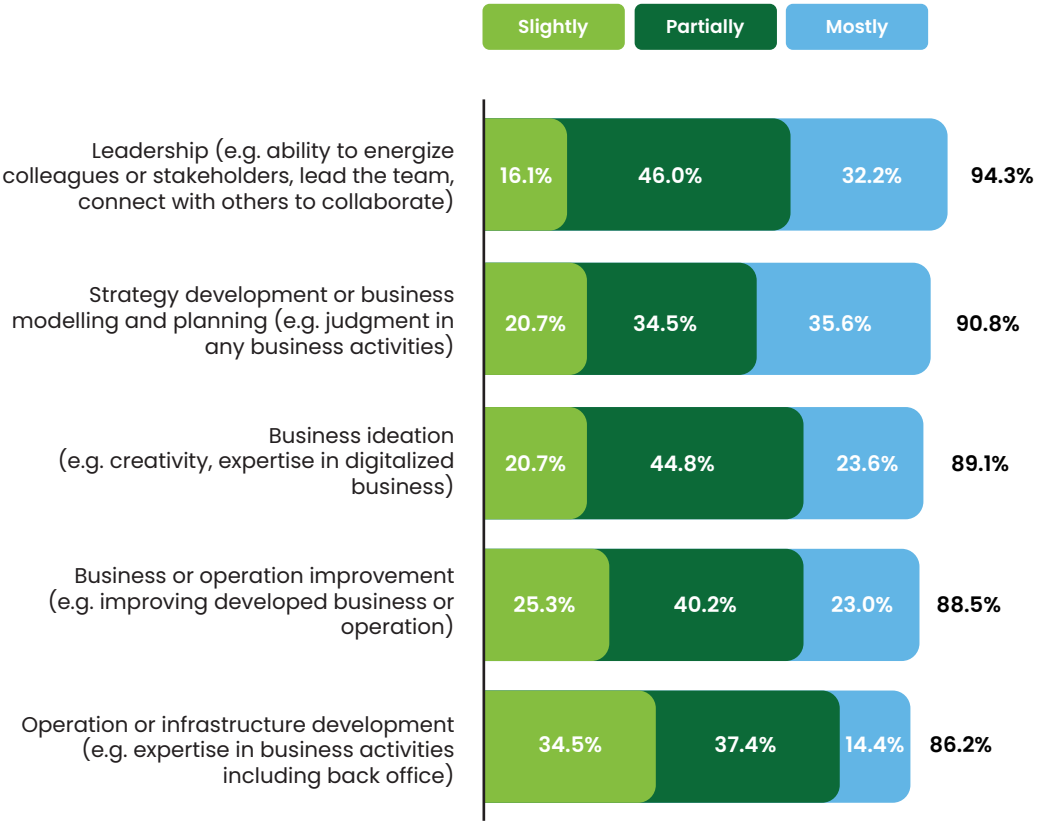


Notes: Excludes 'never recognized the lack'. (Q10. Do the following human resources lack in your company to achieve medium- or long-term business growth? If so, please indicate to what extent your company lacks for each human resources as follows: (1) mostly, (2) partially, (3) slightly, or (4) never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

2.5.2 Shortages of Skills Required for Middle Management

Figure 2.10 indicates the perceived shortage of skills required for middle management at three levels, 'slightly', 'partially' and 'mostly'. Around 90% of respondents indicated experiencing a shortage of skill sets amongst middle management for all skills. Notably, 94.3% of respondents mentioned that they had experienced a shortage of 'leadership' skills amongst middle management. The second-highest shortage was 'strategy development or business modelling', with 90.8% of respondents indicating this.

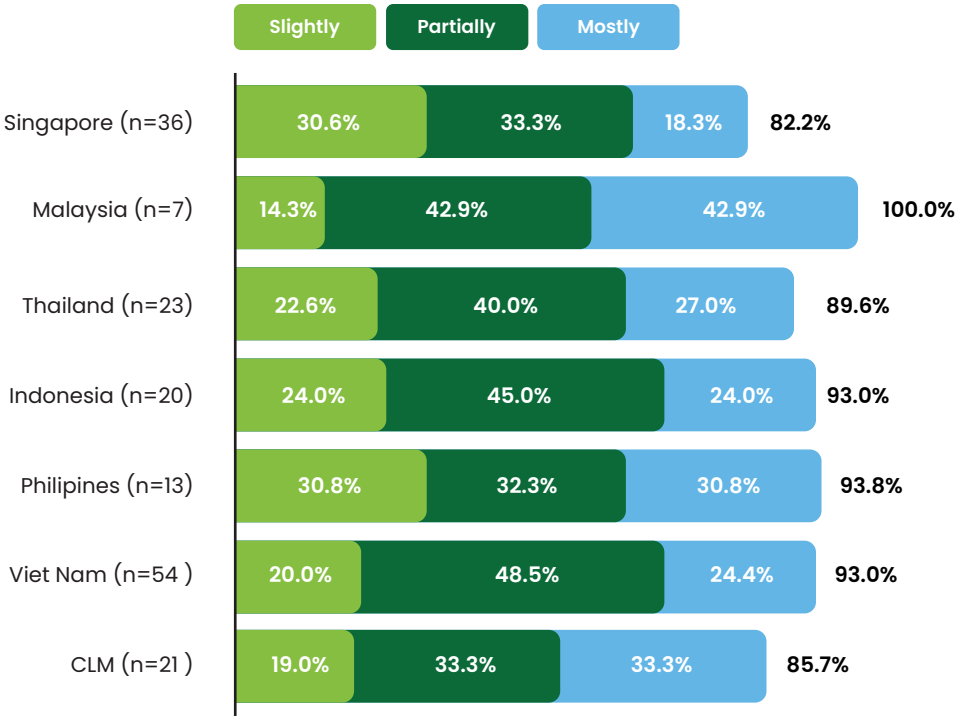
Figure 2.10: Shortages of Skills Required for Middle Management



Note: 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), or (4) never recognized the lack.
Source: Authors.

Further, Figure 2.11 shows that all surveyed companies experienced a shortage of skill sets amongst middle management. Although Malaysia stood out as a country that scored 100% on this indicator, as previously mentioned, it should be noted that the responses from Malaysia were limited.

Figure 2.11: Shortages of Skills Required for Middle Management by Country



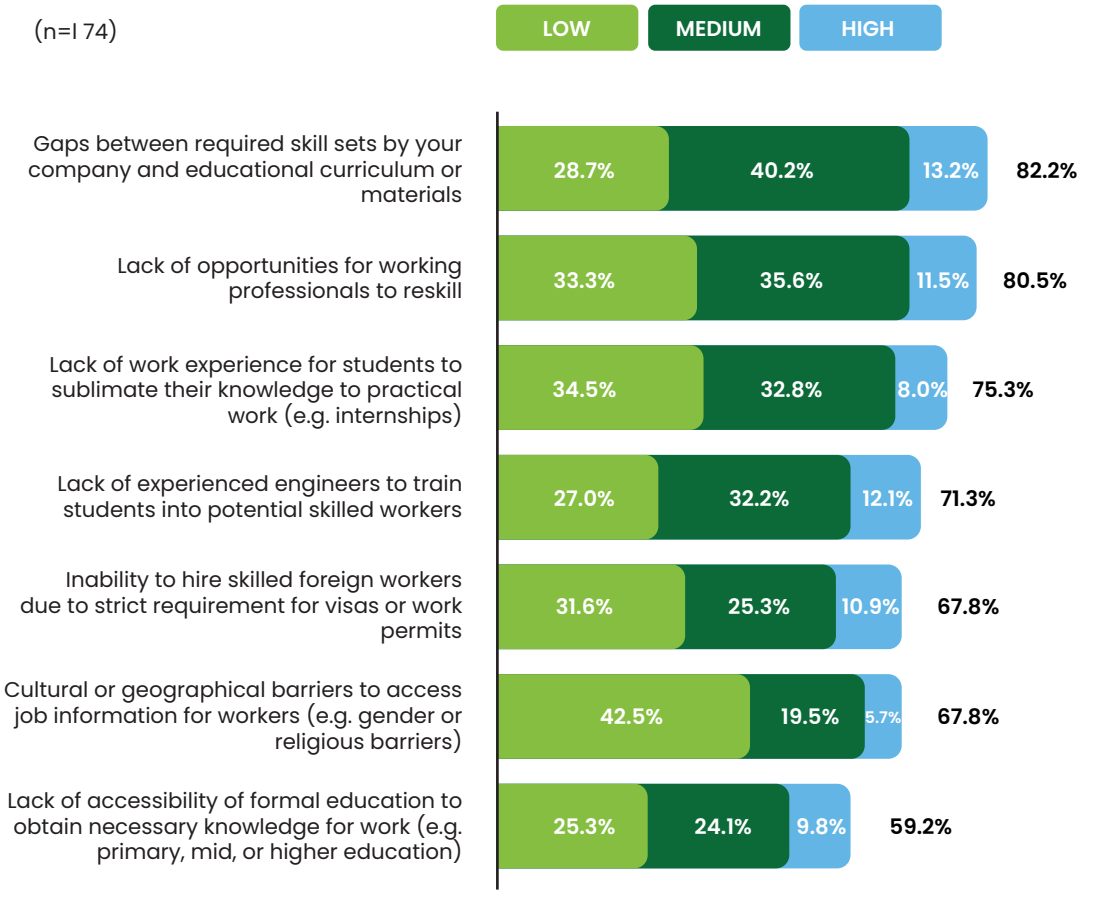
CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.
Notes: Excludes 'never recognized the shortage'. Brunei Darussalam is excluded since no responses were obtained. The countries are in the order of gross national income per capita. (Q13. Please indicate the degree of shortage of the following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

The questionnaire also asked an open-ended question about the shortage of skills in middle management. The responses included 'the skills of logical thinking and Plan-Do-Check-Act (PDCA) improvement cycle are important because they can promote revolution [in] other departments' (Viet Nam); 'managers often focus on short-term goals and do not have much experience [in considering] long-term strategy' (Viet Nam); and 'it is very difficult to find talented employees for a management role that matches the standard salary, [as] the salary expectations of talented professionals are very high, and they tend to work only in the finance, consulting, or government sectors' (Singapore).

2.5.3 Difficulties in Hiring and Training Workers

Figure 2.12 indicates the difficulties in hiring and training new graduates and professionals and their impacts on respondents' business profits at three levels, 'low', 'medium', and 'high'. The most significant difficulty indicated was 'gaps between required skill sets by [the] company and educational curriculum and materials', with 82.2% of respondents selecting this. The second difficulty was 'lack of opportunities for working professionals to reskill', with 80.5% of the respondents agreeing with the statement.

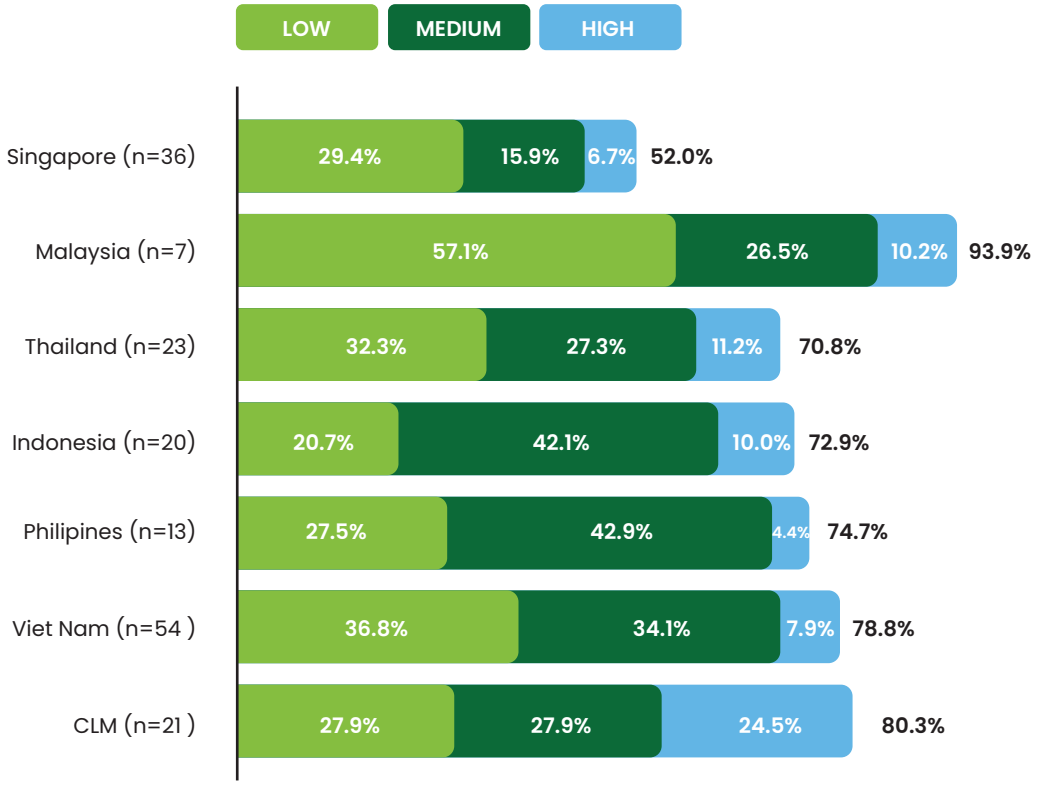
Figure 2.12: Difficulties in Hiring and Training New Graduates and Professionals



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

Figure 2.13 shows the recognised difficulties in hiring and training new graduates and professionals. Malaysia experienced the most difficulties, with 93.9% citing difficulties in hiring and training new graduates and professionals. Singapore experienced the fewest difficulties with 52.0%. When adding together 'medium' and 'high' responses, Cambodia, Lao PDR, and Myanmar have the most with 52.4% of respondents indicating difficulties, and Indonesia followed with 52.1%.

Figure 2.13: Difficulties in Hiring and Training New Graduates and Professionals by Country



CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.
Notes: Brunei Darussalam is excluded since no responses were obtained. The countries are in order by gross national income per capita. (Q11. Do you have difficulties or issues in hiring or training new graduates and professionals? Please select the impact of each on the profits of your business as follows: (1) high, (2) medium, (3) low, or (4) never recognized as difficulties or issues.)
Source: Authors.

Table 2.2 offers further insight by looking at only 'medium' and 'high' responses from Figure 2.12. By examining the shares of types of difficulties in hiring and training workers, Singapore indicated the most significant challenge as the 'inability to hire skilled foreign workers due to strict requirements for visas or work permits', with 55.6% of respondents citing this; however, Singapore experienced minor difficulties

compared to other countries. Focussing on the most significant difficulty for the other countries, 'gaps between required skill sets by [the] company and educational curriculum or materials' ranked at the top for Indonesia; the Philippines; Viet Nam; and Cambodia, Lao PDR, and Myanmar. A 'lack of opportunities for working professionals to reskill' ranked at the top for Malaysia, and 'lack of experienced engineers to train students into potential skilled workers' for Thailand.

Table 2.2: Difficulties in Hiring and Training New Graduates and Professionals by Country

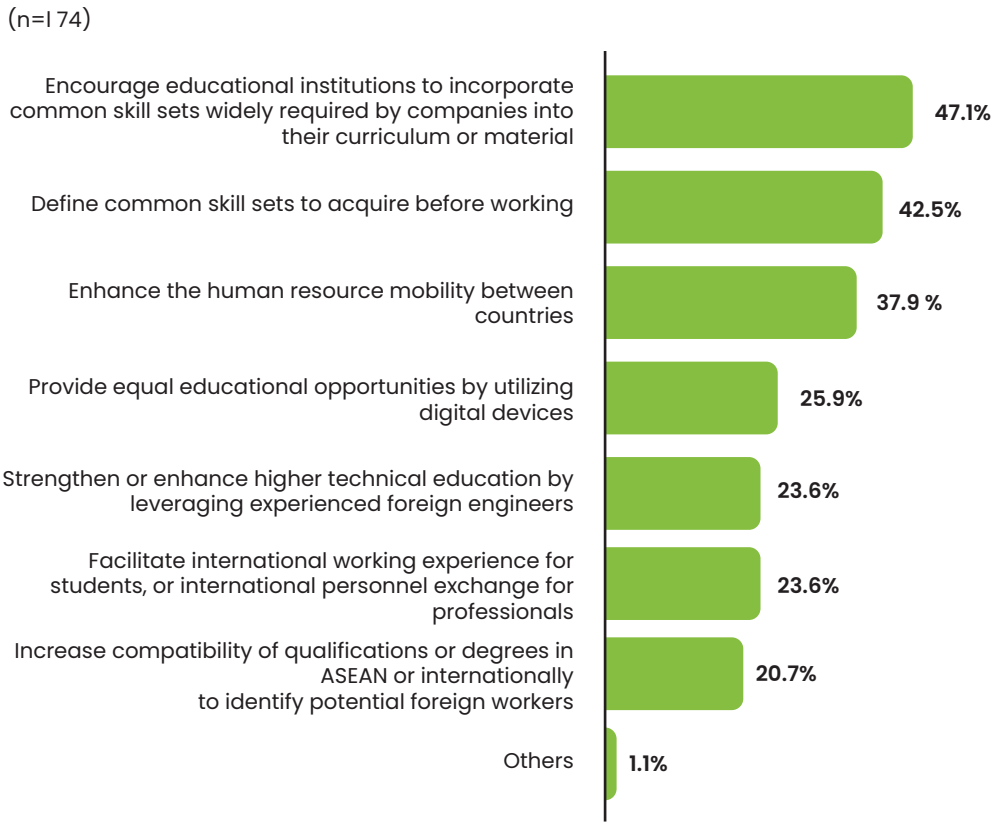
Difficulty	SGP	MYS	THA	IDN	PHL	VNM	CLM
Lack of accessibility of formal education to obtain necessary knowledge for work	8.3%	28.6%	39.1%	50.0%	61.5%	27.8%	57.1%
Lack of experienced engineers to train students	13.9%	42.9%	56.5%	55.0%	61.5%	48.1%	52.4%
Gaps between required skill sets by company and educational curriculum or materials	25.0%	42.9%	52.2%	65.0%	69.2%	59.3%	71.4%
Lack of work experience for students to sublimate their knowledge to practical work	22.2%	28.6%	39.1%	60.0%	38.5%	42.6%	57.1%
Lack of opportunities for working professionals to reskill	22.2%	57.1%	34.8%	60.0%	38.5%	57.4%	66.7%
Cultural or geographical barriers to access job information for workers	11.1%	14.3%	26.1%	30.0%	38.5%	25.9%	38.1%
Inability to hire skilled foreign workers due to requirements for visas or work permits	55.6%	42.9%	21.7%	45.0%	23.1%	33.3%	23.8%

CLM = Cambodia, Lao PDR, and Myanmar (n = 21); IDN = Indonesia (n = 20); MYS = Malaysia (n = 7); PHL = Philippines (n = 13); SGP = Singapore (n = 36); THA = Thailand (n = 23); VNM = Viet Nam (n = 54).
Notes: Brunei Darussalam is excluded since no responses were obtained. The countries are in order by gross national income per capita. (Q11. Do you have difficulties or issues in hiring or training new graduates and professionals? Please select the impact of each on the profits of your business as follows: (1) high, (2) medium, (3) low, or (4) never recognized as difficulties or issues.)
Source: Authors.

2.5.4 Expected Public Initiatives Regarding Human Resources Development

Figure 2.14 shows expected public initiatives from respondents to solve the difficulties in employing workers. The most selected option was to 'encourage educational institutions to incorporate common skill sets widely required by companies into their curriculum or material' (47.1%). The second was to 'define common skill sets to acquire before working' (42.5%). The third was to 'enhance human resource mobility between countries' (37.9%).

Figure 2.14: Expectations towards Public Initiatives to Solve Difficulties in Employing Workers



ASEAN = Association of Southeast Asian Nations.
Note: Q12-1. Please select the initiatives that you expect public institutions to take to solve the difficulties.
Source: Authors.

Other expected public initiative responses included: 'the labour laws [are] not in line with actual implementation . . . initiatives [are needed] to address the gap between the public appearance of the labour law and the actual implementation by public institutions . . . to comply with the rules and laws' (Viet Nam) and 'it would be beneficial for both employers and employees if there were courses on the various software programs used by the companies' (Singapore).

2.6 Digital Economy

This section discusses the results of survey questions on the digital economy (i.e. Q15–Q17). It includes (i) areas of interest to create innovative products and services with digital technologies, (ii) difficulties in creating innovative products or services regarding information collection in general and by country, (iii) difficulties in creating innovative products and services regarding funding in general and by country, and (iv) expectations of public initiatives in creating innovation.

2.6.1 Areas of Interest

Figure 2.15 shows companies' areas of interest in creating innovative products and services with digital technologies. The first category was 'business process and product innovation'. The most popular area was 'upgrading administrative operations', which was selected by 67.8% of respondents. This was followed by 'upgrading sales and marketing' with 53.4%.

The second category was 'mobility'; 44.3% of respondents were highly interested in 'smart logistics' and 'supply chain resilience'. For the third category of 'environment and energy', the most selected answer was 'sustainable energy', with 61.5%; 'energy management' followed with 43.1%. The fourth category was 'safety and security'. 'Cybersecurity' ranked at the top, with 69.0% of respondents. The option of 'disaster management' was also selected by many respondents – 46.0%.
Regarding the fifth category of 'living and health', 'smart cities, buildings, and homes' ranked at the top with 45.4%, and 'well-being' followed with 41.4%. Lastly, for the sixth category of 'government and education', 'e-government' ranked at the top with 52.9%.

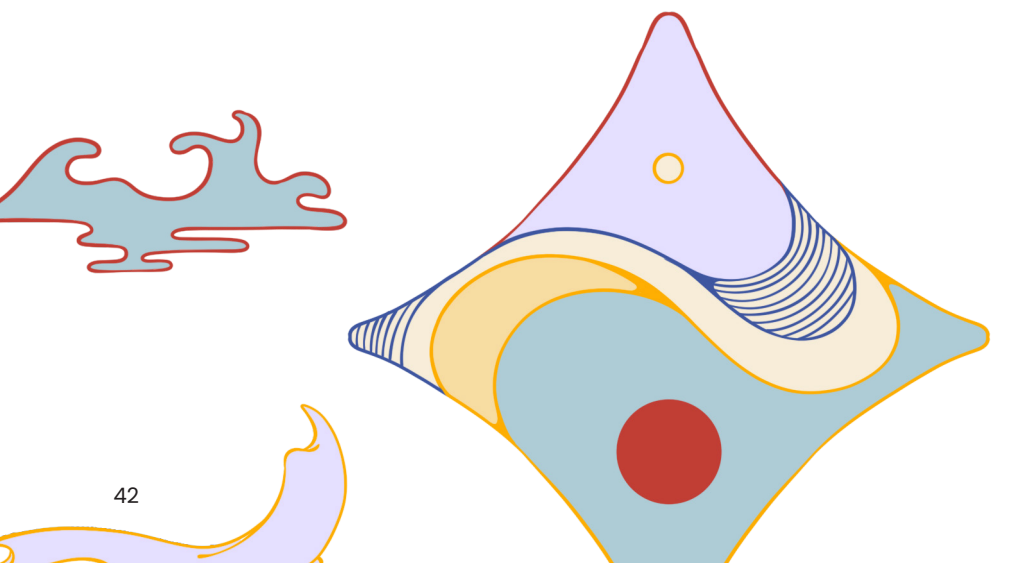
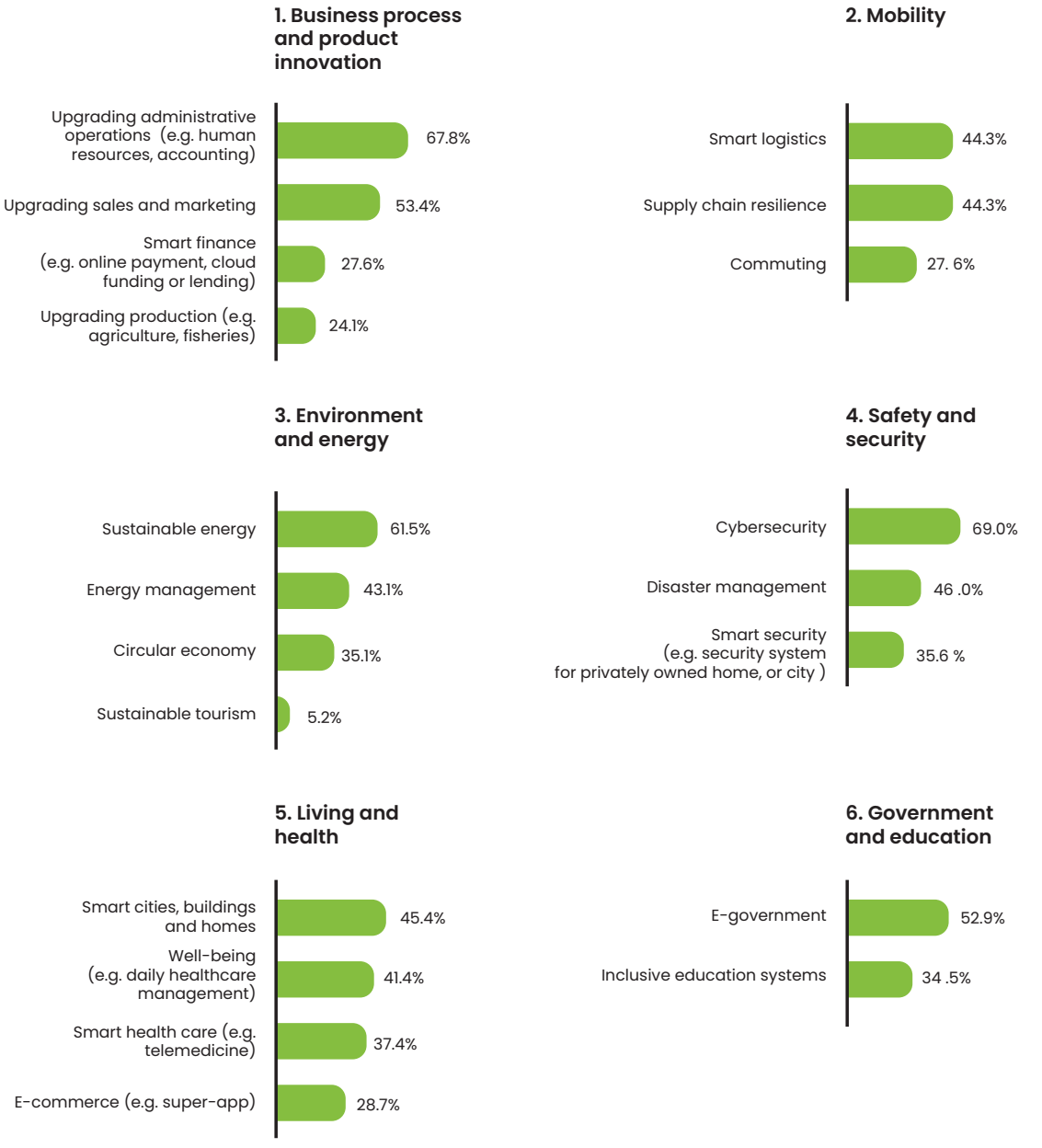


Figure 2.15: Areas of Interest of Corporate Activities

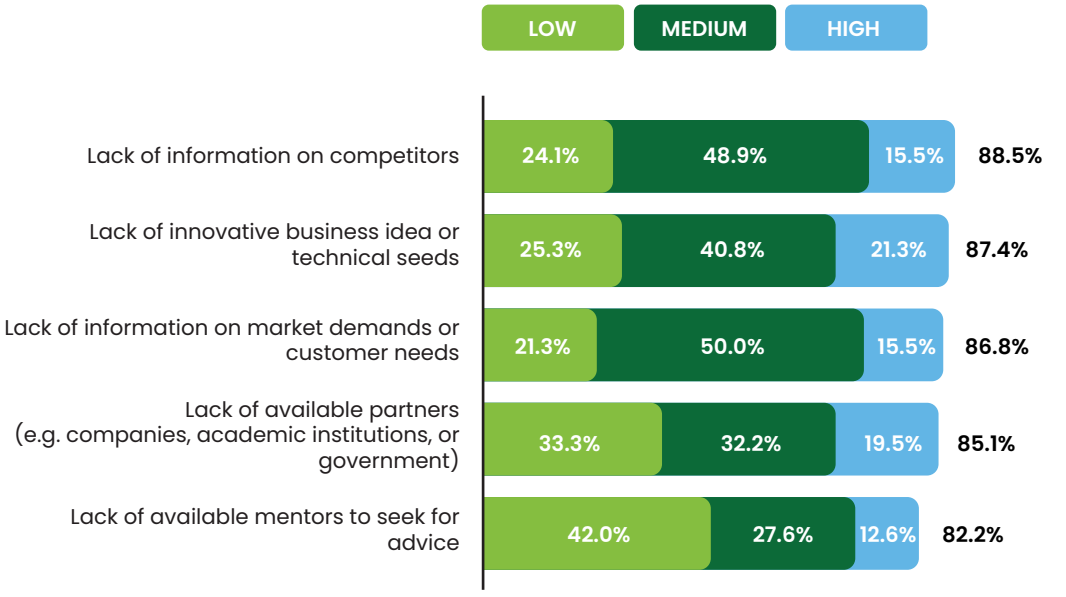


Note: Q15. Are you interested in corporate activities to create innovative products or services with digital technology? Please select the social agendas based on your interest.
Source: Authors.

2.6.2 Difficulties in Collecting Information

Figure 2.16 indicates the perceived difficulties in collecting necessary information for the creation of innovative products and services at three levels, 'low', 'medium', and 'high'. More than 80% of the respondents experienced all difficulties listed in Figure 2.16. Although significant differences amongst difficulties were not observed, the most prevalent was 'lack of information on competitors', with 88.5% affirming. Specifically, 64.4% of the respondents indicated 'medium' or 'high' to 'lack of information on competitors' as a difficulty in creating innovative products and services.

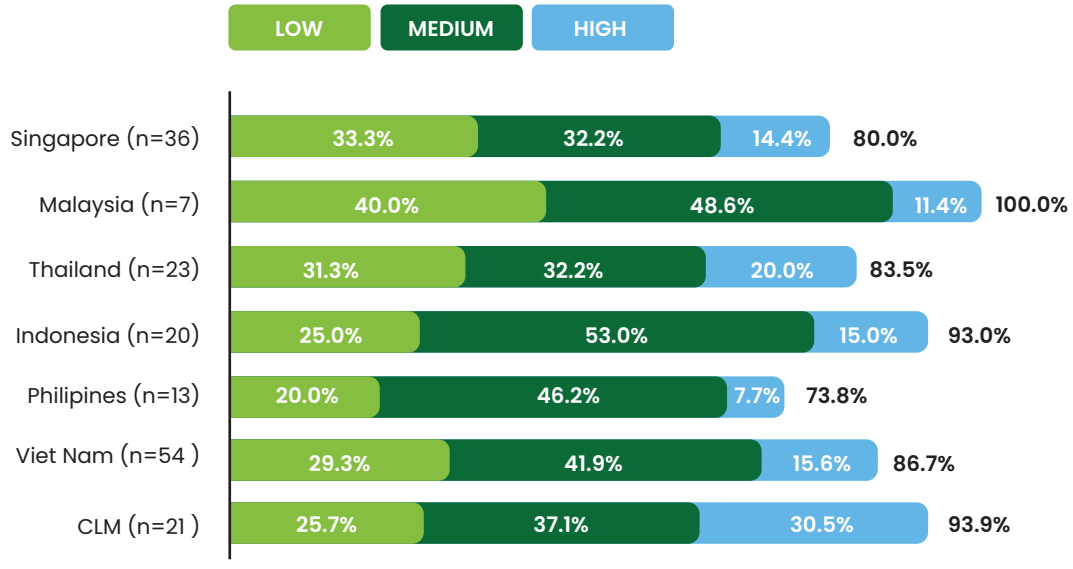
Figure 2.16: Difficulties in Creating Innovative Products and Services



Notes: Excludes 'never recognized as difficulties or issues'. (Q16-1-1. (Collecting necessary information) Do you have difficulties or issues in creating innovative products or services? Please select the difficulties in the categories below.)
Source: Authors.

Figure 2.17 examines by country the same responses as Figure 2.16. More than 70% of respondents from all AMS experienced difficulties in collecting information to create innovative products and services. Notably, although the total number of responses from Malaysia is limited, all of these respondents answered that they experienced difficulties. Cambodia, Lao PDR, and Myanmar, and Indonesia followed with more than 90% affirming this.

Figure 2.17: Difficulties in Creating Innovative Products and Services by Country



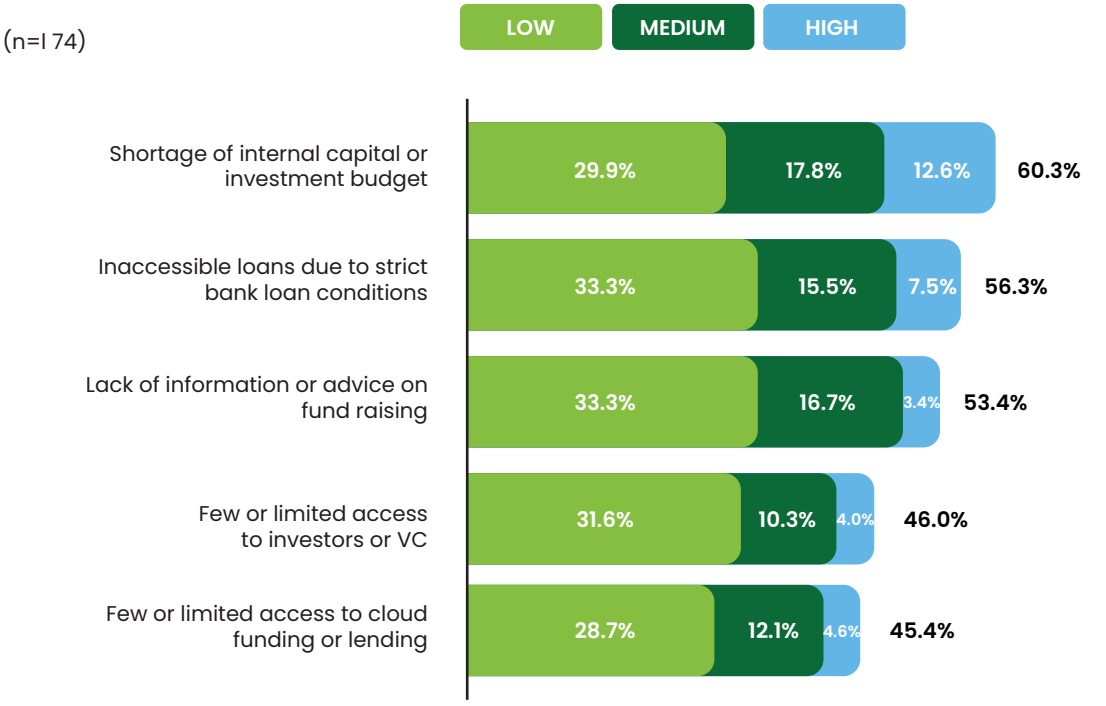
CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.
Notes: Excludes 'never recognized as difficulties or issues'. Brunei Darussalam is excluded since no responses were obtained. The countries are in order by gross national income per capita. (Q16-1-1. (Collecting necessary information) Do you have difficulties in creating innovative products or services? Please select the difficulties or in the categories below.)
Source: Authors.

Several respondents commented on difficulties in collecting information to create innovative products and services, such as 'market information is not organized to cover everything' (Philippines), 'the details of the information are difficult to find' (Viet Nam), 'it is difficult to collect information because of the lack of sales and marketing staffs' (Myanmar), and 'there is no place [in] education regarding advanced technology' (Myanmar).

2.6.3 Difficulties in Funding

Figure 2.18 indicates the difficulties related to funding for the creation of innovative products and services at three levels, 'low', 'medium', and 'high'. Notably, 'shortage of internal capital or investment budget' ranked at the top with 60.3% affirming, and 30.4% of respondents indicated 'medium' or 'high' regarding the same difficulty in creating innovative products and services.

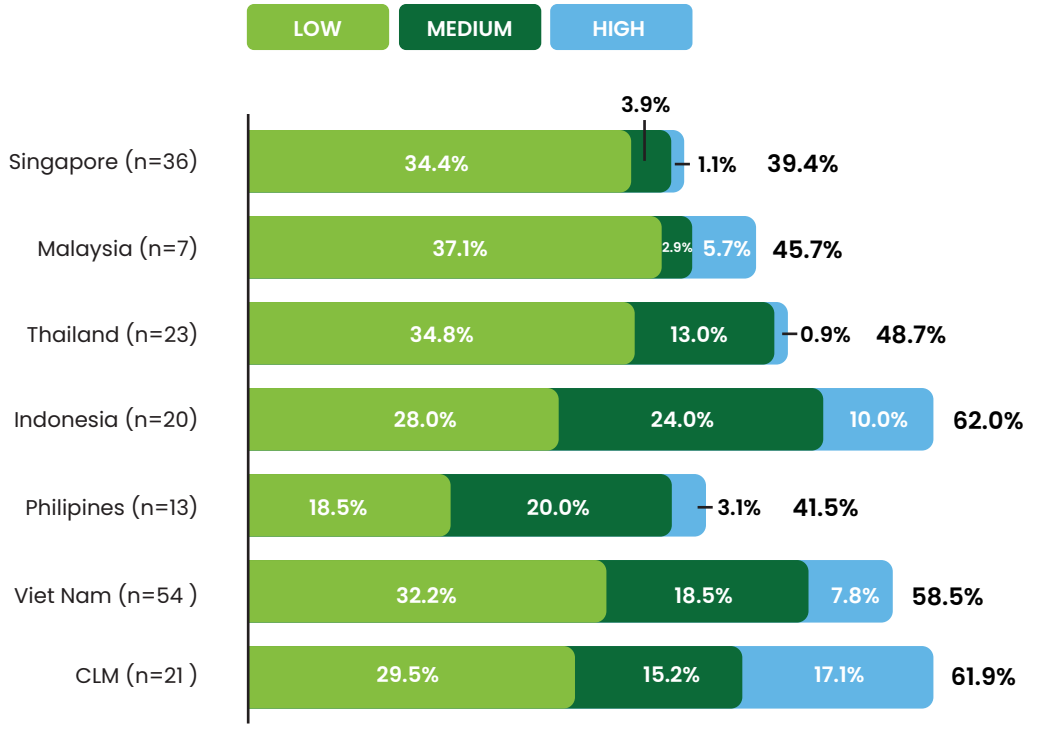
Figure 2.18:Difficulties in Funding



VC = venture capital.
Notes: Excludes 'never recognized as difficulties or issues'. (Q16-2-1. (Funding) Do you have difficulties in creating innovative products or services? Please select difficulties in the categories below.)
Source: Authors.

Figure 2.19 examines by country the same responses as Figure 2.18. Indonesia had the most significant difficulties, with 62.0% indicating issues. Cambodia, Lao PDR, and Myanmar followed with 61.9%. Singapore experienced minor difficulties in funding with just 39.4% agreeing. When highlighting only 'medium' and 'high', Indonesia showed the highest perceived funding issues with 34.0% of respondents confirming difficulties, and Cambodia, Lao PDR, and Myanmar followed with 32.3%.

Figure 2.19: Difficulties in Funding by Country



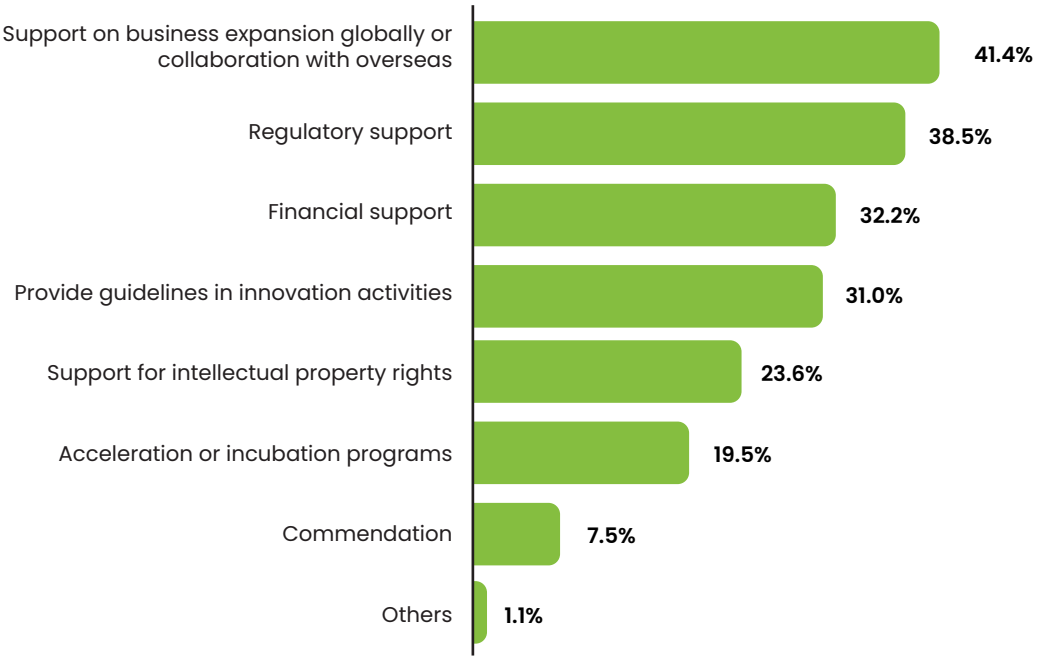
CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.
Notes: Brunei Darussalam is excluded since no responses were obtained. The countries are in order by gross national income per capita. (Q16-2-1. (Funding) Do you have difficulties in creating innovative products or services? Please select the difficulties in the categories below.)
Source: Authors.

Many respondents commented on perceived difficulties in funding to create innovative products or services, such as 'most foreign companies do not invest in Myanmar now' (Myanmar) and 'there are restrictions on international remittances' (Myanmar).

2.6.4 Expected Public Initiatives to Create Innovation

Figure 2.20 shows public initiatives that companies expected to support innovation. The most selected answer was 'support [for] business expansion globally or [in] collaboration with overseas', with 41.4% of respondents choosing that option. The second was 'regulatory support' (38.5%), and the third was 'financial support' (32.2%).

Figure 2.20: Expected Public Initiatives to Create Innovation



Notes: The percentage to the right of each bar is calculated by dividing the total number of responses of the corresponding row expectation by the total respondents of the questionnaire. (Q17-1. Please select the initiatives that you expect institutions to take to create innovation.)
Source: Authors.

The questionnaire also captured respondents' comments on public initiatives that would be helpful for creating innovation, such as 'I would welcome deregulation, such as licensing for foreign companies, as strict regulations … make it difficult to start a new business' (Indonesia) and 'they would like to see a relaxation of customs regulations for starting new logistics businesses and a relaxation of restrictions on foreign investment' (Myanmar).

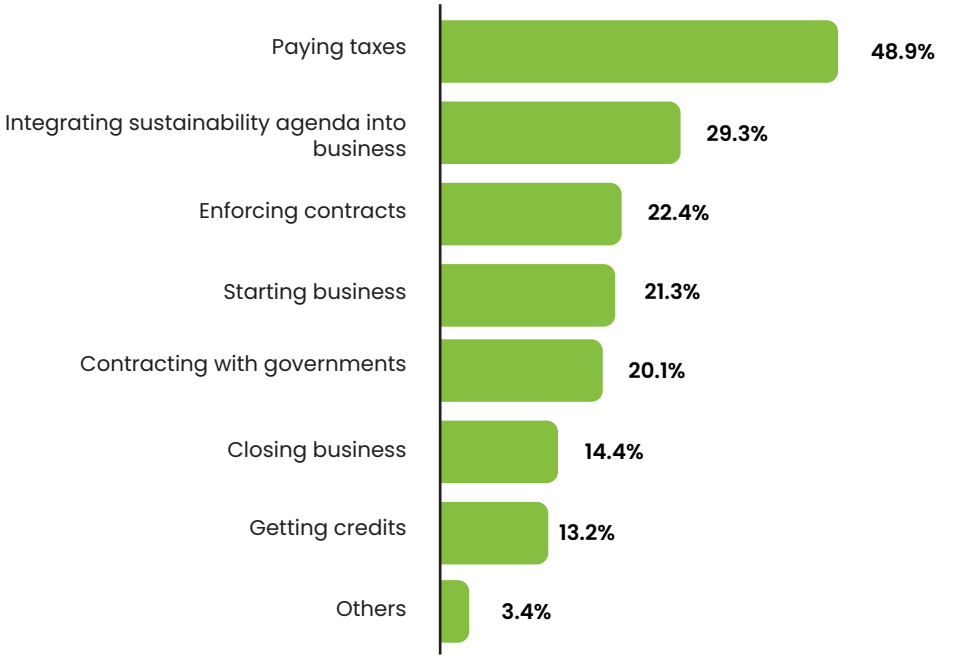
2.7 Others on Doing Business

This section shares an overview and key takeaways on other matters related to doing business elicited from the survey results (i.e. Q18–Q19). The data analysis is composed of (i) challenges in doing business within the country where the company is located; (ii) business operation in foreign countries; and (iii) the country with the most significant difficulties in doing business, detailing countries with the most difficulties (i.e. Japan, Myanmar, Viet Nam, and Indonesia)

2.7.1 Challenges in Doing Business within a Country

Figure 2.21 indicates the perceived challenges in doing business within the country where a company is located. Amongst the top four difficulties, 'paying taxes' ranked at the top with 48.9% of respondents indicating this, followed by 'integrating the sustainability agenda into businesses' with 29.3%.

Figure 2.21: Challenges in Doing Business within a Country Where a Company Is Located



Note: Q18-1. Other than the previous questions, please select any difficulties that you experience in doing business within the country in which your company is located.
Source: Authors.

For respondents who selected the 'others' in Figure 2.21, the questionnaire also captured details, such as 'difficulty of obtaining a work visa for expatriates' (Singapore), 'strict criteria for the employment pass' (Singapore), and 'licenses and other regulations are too strict' (Indonesia).

Table 2.3 examines by country the same responses as Figure 2.21. Despite scoring the highest in 'integrating sustainability agenda into business' with 33.3% of respondents indicating this and 'others' with 11.1%, Singapore had fewer issues in doing business compared to other AMS. Notably, all AMS experienced considerable difficulties with 'paying taxes', except for Singapore.

Table 2.3:Difficulties in Doing Business within a Country Where a Company Is Located by Country

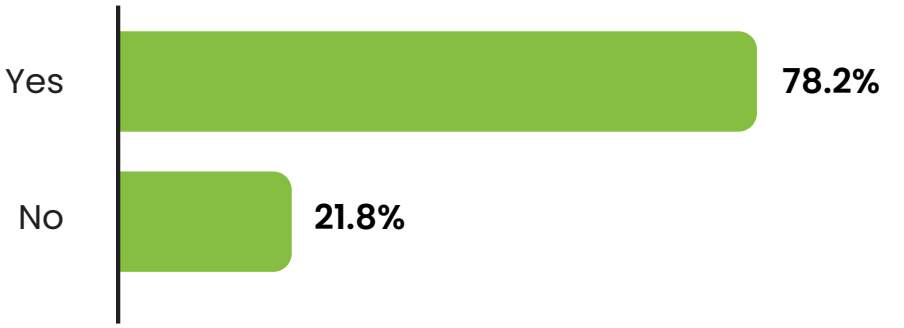
Difficulty	SGP	MYS	THA	IDN	PHL	VNM	CLM
Starting a business	8.3%	14.3%	17.4%	45.0%	23.1%	27.8%	9.5%
Integrating a sustainability agenda into business	33.3%	0.0%	34.8%	45.0%	46.2%	22.2%	19.0%
Getting credits	2.8%	14.3%	17.4%	15.0%	15.4%	16.7%	14.3%
Paying taxes	2.8%	57.1%	47.8%	90.0%	76.9%	55.6%	52.4%
Enforcing contracts	5.6%	14.3%	8.7%	45.0%	38.5%	27.8%	23.8%
Contracting with governments	8.3%	28.6%	13.0%	40.0%	23.1%	14.8%	38.1%
Closing businesses	2.8%	0.0%	17.4%	15.0%	38.5%	13.0%	23.8%
Others	11.1%	0.0%	0.0%	5.0%	0.0%	0.0%	4.8%

CLM = Cambodia, Lao People's Democratic Republic, and Myanmar (n = 21); IDN = Indonesia (n = 20); MYS = Malaysia (n = 7); PHL = Philippines (n = 13); SGP = Singapore (n = 36); THA = Thailand (n = 23); VNM = Viet Nam (n = 54).
Note: Q18-1. Other than the previous questions, please select any difficulties that you experience in doing business within the country in which your company is located.
Source: Authors.

2.7.2 Business Operation in Foreign Countries

Figure 2.22 shows the percentage of respondents operating their businesses in foreign countries. About 78.2% of respondents operated their businesses abroad.

Figure 2.22: Business Operations in Foreign Countries



Note: Q19-1. Are you operating the business in a foreign country?
Source: Authors.

2.7.3 Countries with Most Significant Difficulties in Doing Business

Figure 2.23 shows the countries with the most significant perceived difficulties in doing business. Of the most difficult countries to do business in, Japan ranked at the top with 16.9% of respondents citing it, followed by Myanmar with 16.2%, Viet Nam with 8.1%, and Indonesia with 7.4%.

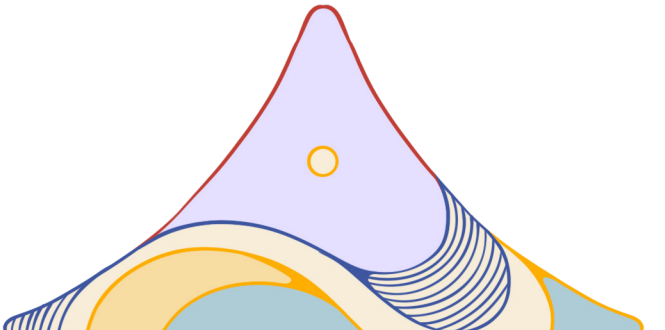
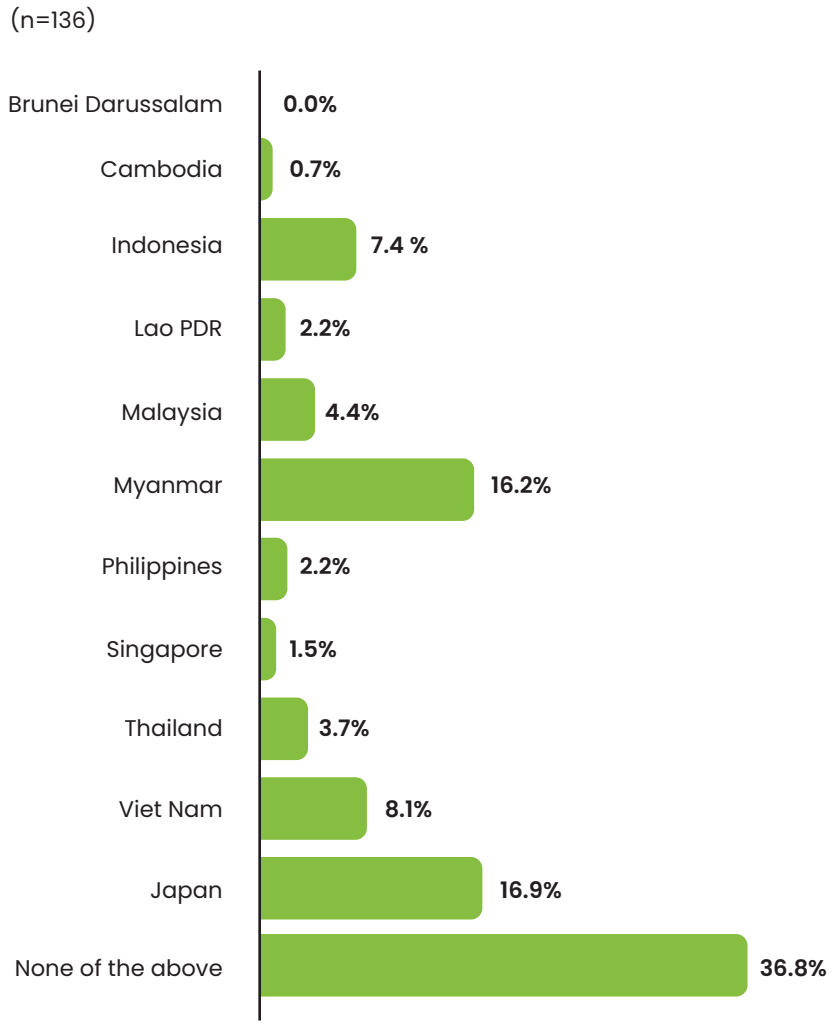


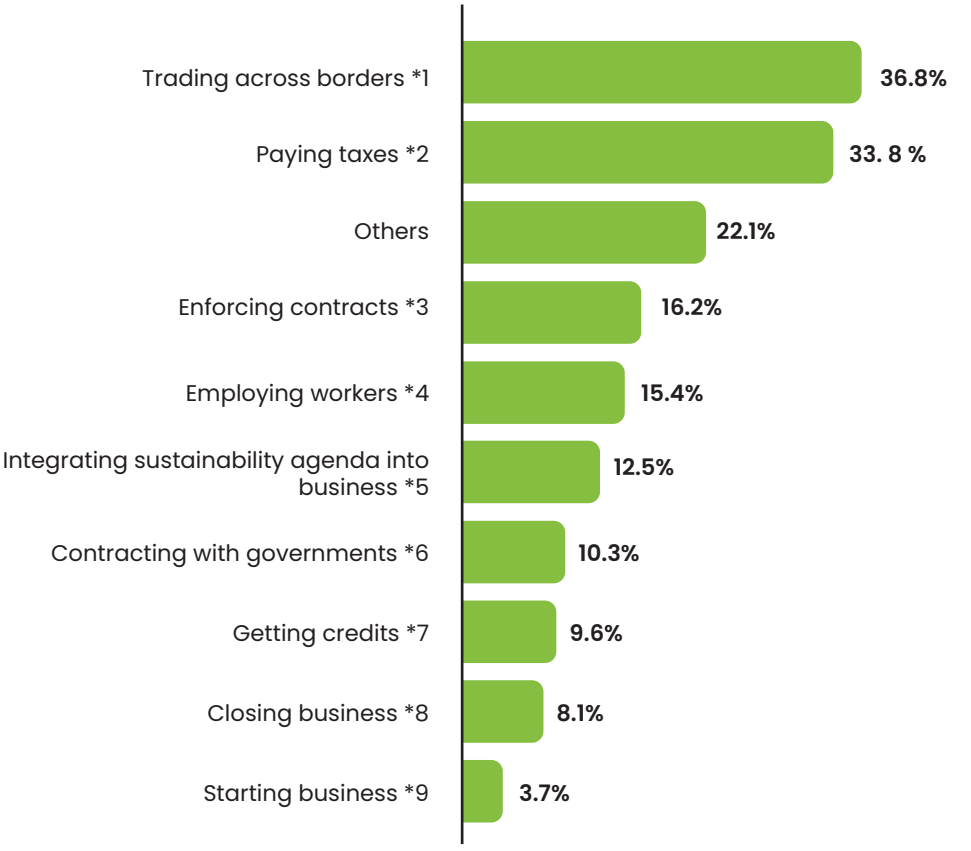
Figure 2.23: Most Significant Difficulties in Doing Business



Lao PDR = Lao People's Democratic Republic.
Note: Q19-2. Please indicate the specific country with the most significant difficulties in doing business (countries in ASEAN and Japan).
Source: Authors.

Figure 2.24 indicates the perceived difficulties in doing business in the countries selected in Figure 2.23. Amongst the difficulties, 'trading across borders' ranked at the top with 36.8%, followed by 'paying taxes' with 33.8%.

Figure 2.24: Difficulties in Doing Business in the Country Selected Above

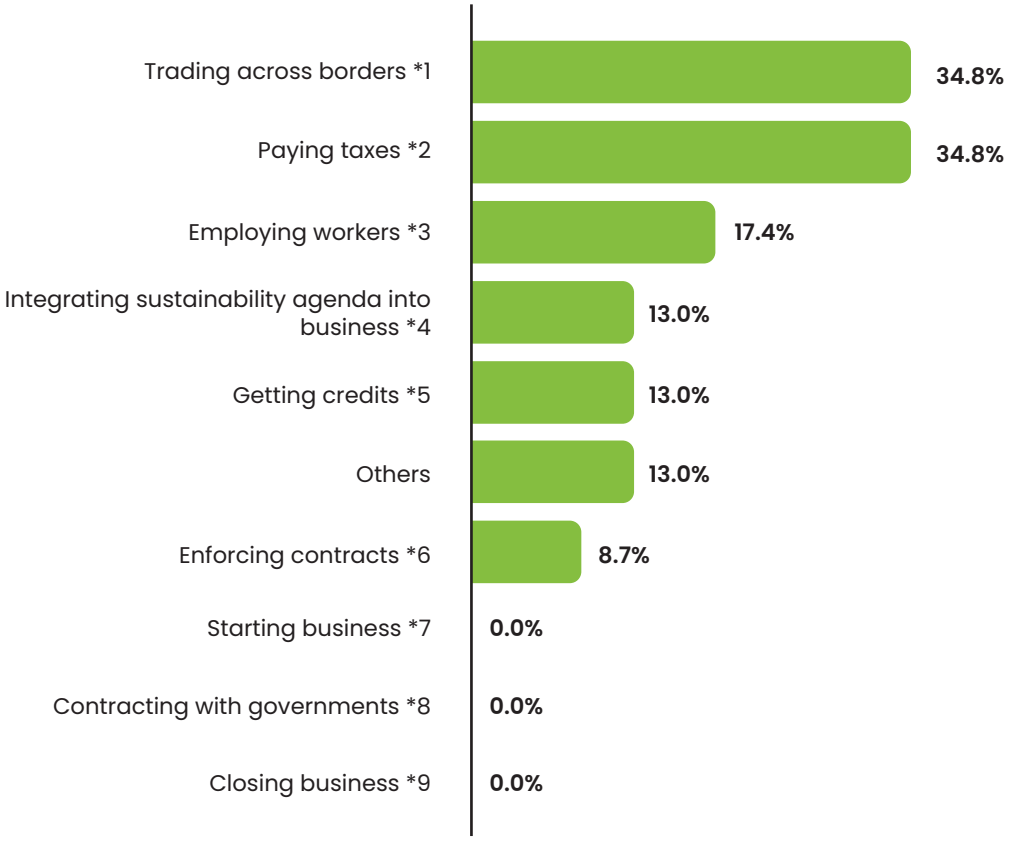


Note: Q19-3. Please indicate any difficulties that you experience in doing business in the country selected above.
*1 (e.g. unclear or unofficial customs procedures, limited scope of electronic services)
*2 (e.g. complicated taxation, corruption of authorities)
*3 (e.g. complicated or inefficient judicial procedures, corruption of judicial authorities)
*4 (e.g. lack of accessibility of primary and mid education, lack of work experience)
*5 (e.g. reengineering production or procurement processes, regulatory compliance)
*6 (e.g. complicated government procurement, inequal information on bidding)
*7 (e.g., complicated or inefficient loan processes, long lead times to receive funds)
*8 (e.g. complicated or long lead times of procedures to close businesses)
*9 (e.g. time-consuming or complicated procedures)
Source: Authors.

The respondents who selected 'others' in Figure 2.24 provided several comments. One respondent from Myanmar was concerned about the 'unstable … political situation'. One individual from Singapore mentioned that 'different business cultures, market participants, and regulations compared with Asia' can be difficult.

Figure 2.25 shows that 'trading across borders' and 'paying taxes' ranked at the top of perceived difficulties in doing business in Japan.

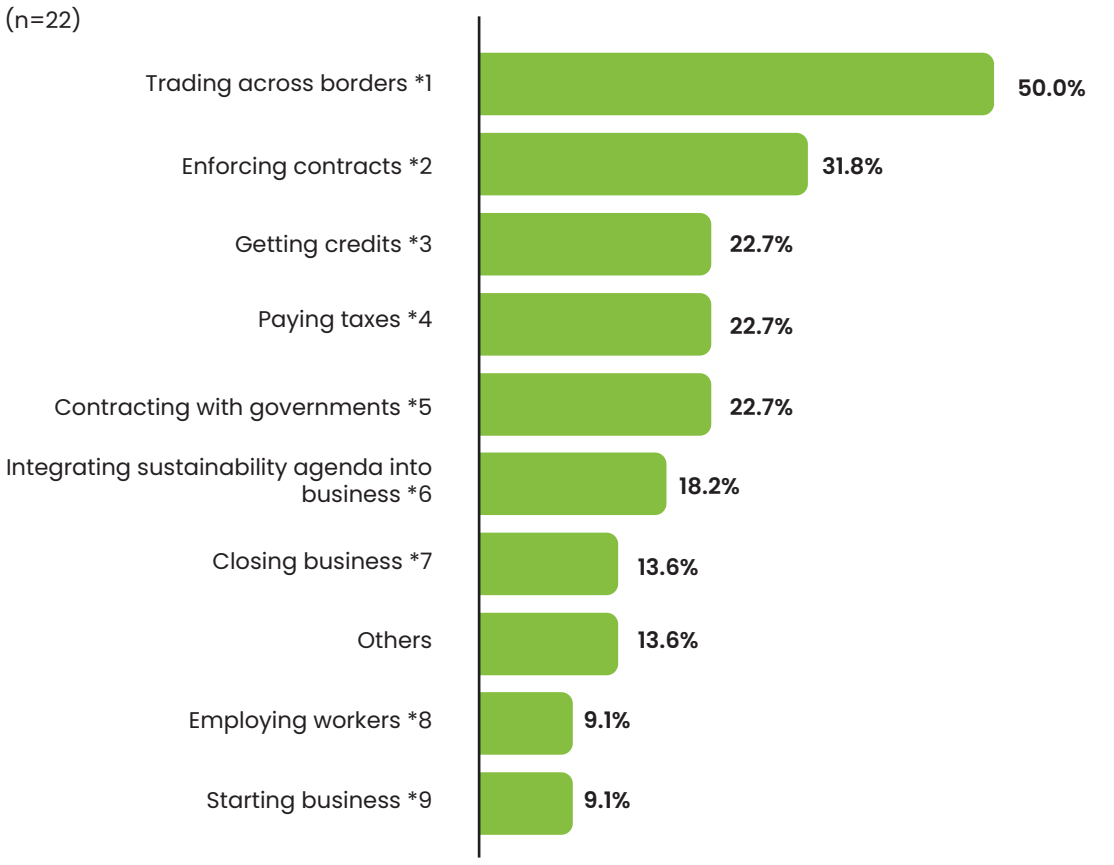
Figure 2.25: Difficulties in Doing Business in Japan from the Viewpoint of Foreign Companies



Note: Q19-3. Please indicate any difficulties that you experience in doing business in the country selected above (Japan).
*1 (e.g. unclear or unofficial customs procedures, limited scope of electronic services)
*2 (e.g. complicated taxation, corruption of authorities)
*3 (e.g. lack of accessibility of primary and mid education, lack of work experience)
*4 (e.g. reengineering production or procurement processes, regulatory compliance)
*5 (e.g. complicated or inefficient loan processes, long lead time to receive funds)
*6 (e.g. complicated or inefficient judicial procedures, corruption of judicial authorities)
*7 (e.g. time-consuming or complicated procedures)
*8 (e.g. complicated government procurement, inequal information on bidding)
*9 (e.g. complicated or long lead time of procedures to close businesses)
Source: Authors.

Figure 2.26 shows that in Myanmar, 'trading across borders' ranked as the most significant difficulty in doing business there with 50.0% of respondents indicating this, followed by 'enforcing contracts'.

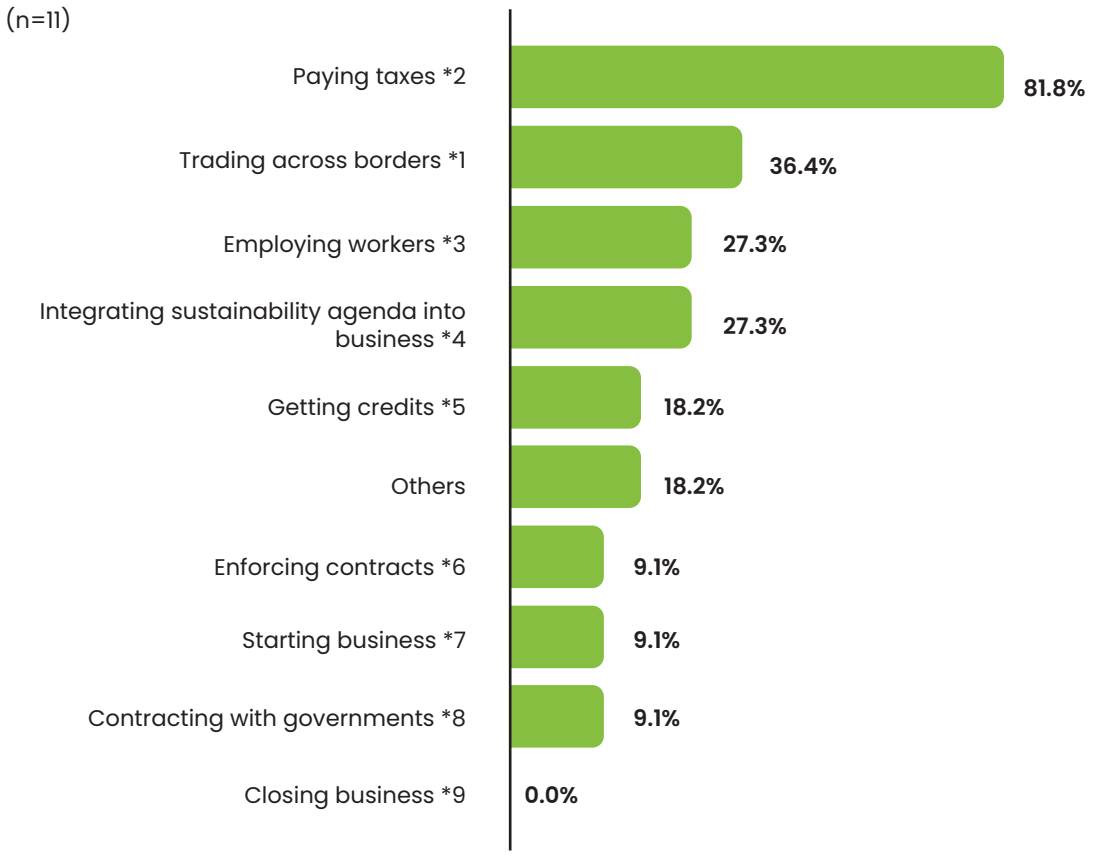
Figure 2.26: Difficulties in Doing Business in Myanmar from the Viewpoint of Foreign Companies



Note: Q19-3. Please indicate any difficulties that you experience in doing business in the country selected above (Myanmar).
*1 (e.g. unclear or unofficial customs procedures, limited scope of electronic services)
*2 (e.g. complicated or inefficient judicial procedures, corruption of judicial authorities)
*3 (e.g. complicated or inefficient loan process, long lead time to receive funds)
*4 (e.g. complicated taxation, corruption of authorities)
*5 (e.g. complicated government procurement, inequal information on bidding)
*6 (e.g. reengineering production or procurement processes, regulatory compliance)
*7 (e.g. complicated or long lead time of procedures to close businesses)
*8 (e.g. lack of accessibility of primary and mid education, lack of work experience)
*9 (e.g. time-consuming or complicated procedures)
Source: Authors.

Figure 2.27 shows that in Viet Nam, 'paying taxes' ranked as the most significant difficulty in doing business by 81.8% of respondents, followed by 'trading across borders'.

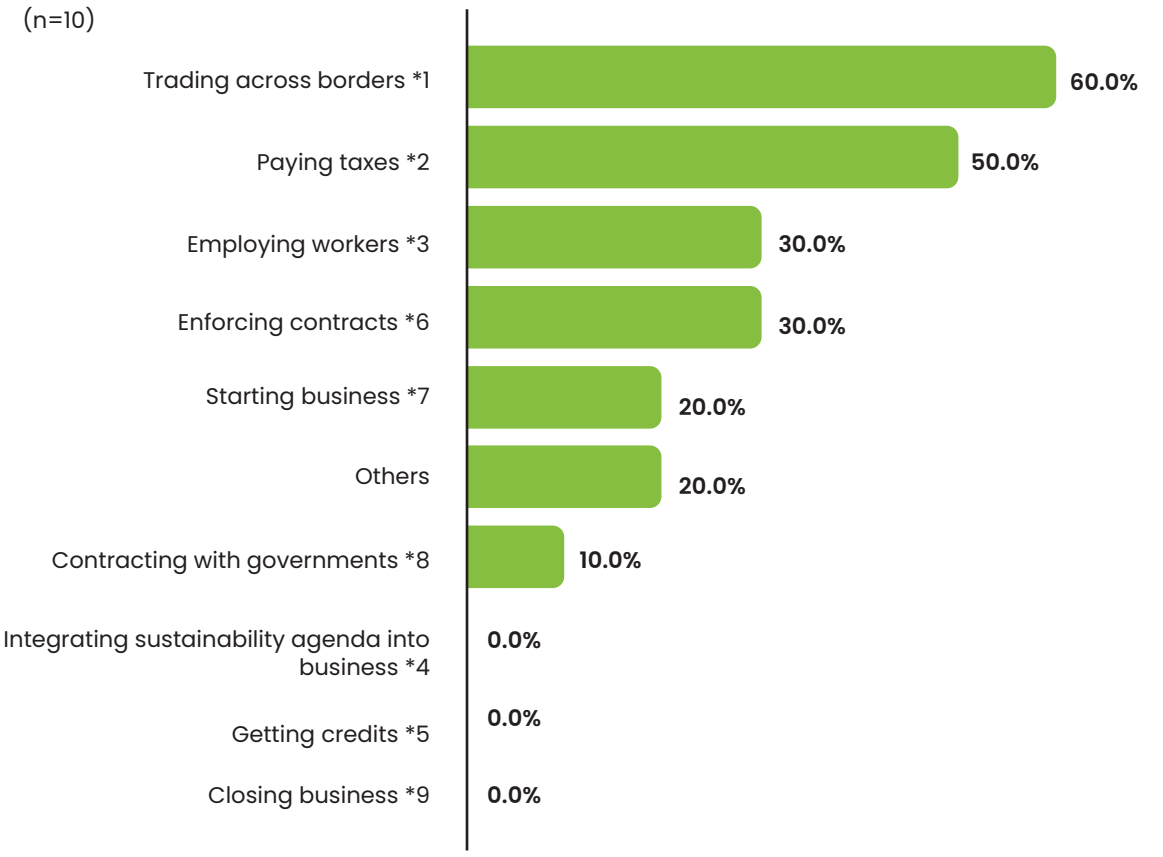
Figure 2.27: Difficulties in Doing Business in Viet Nam from the Viewpoint of Foreign Companies



Note: Q19-3. Please indicate any difficulties that you experience in doing business in the country selected above (Viet Nam).
*1 (e.g. complicated taxation, corruption of authorities)
*2 (e.g. unclear or unofficial customs procedures, limited scope of electronic service)
*3 (e.g. lack of accessibility of primary and mid education, lack of work experience)
*4 (e.g. complicated or long lead time of procedures to close businesses)
*5 (e.g. reengineering production or procurement processes, regulatory compliance)
*6 (e.g. complicated government procurement, inequal information on bidding)
*7 (e.g., time-consuming or complicated procedures)
*8 (e.g. complicated or inefficient judicial procedures, corruption of judicial authorities)
*9 (e.g. complicated or inefficient loan process, long lead time to receive funds)
Source: Authors.

Figure 2.28 shows that in Indonesia, 'trading across borders' ranked as the most significant difficulty in doing business by 60.0% of the respondents, followed by 'paying taxes'.

Figure 2.28: Difficulties in Doing Business in Indonesia from the Viewpoint of Foreign Companies



Note: Q19-3. Please indicate any difficulties that you experience in doing business in the country selected above (Indonesia).
*1 (e.g. unclear or unofficial customs procedures, limited scope of electronic services)
*2 (e.g. complicated taxation, corruption of authorities)
*3 (e.g. lack of accessibility of primary and mid education, lack of work experience)
*4 (e.g. complicated or inefficient judicial procedures, corruption of judicial authorities)
*5 (e.g. time-consuming or complicated procedures)
*6 (e.g. complicated government procurement, inequal information on bidding)
*7 (e.g. reengineering production or procurement processes, regulatory compliance)
*8 (e.g. complicated or inefficient loan process, long lead time to receive funds)
*9 (e.g. complicated or long lead time of procedures to close businesses)
Source: Authors.

2.8 Conclusion

2.8.1 Trading across Borders

The first category of questions focussed on the business environment of trading across borders. More than half of the respondents perceived difficulties in trading across borders, mainly due to three main factors: time-consuming manual or on-site procedures because of the limited scope of electronic services, time-consuming manual or on-site procedures due to unclear customs procedures, and corruption or lack of compliance of customs officers.

Focussing on differences amongst AMS, Malaysia had the most perceived difficulties in trading across borders compared to other countries. Malaysia was followed by Indonesia; there was no significant difference amongst other AMS except for Singapore. Singapore was considered to be the least difficult for trading across borders amongst the AMS.

The construction, automotive, and wholesale trade sectors experienced more significant perceived difficulties in trading across borders compared to other industries. Large companies (i.e. with 300 employees or more) seemed to have experienced slightly more difficulties in trading across borders compared to micro, small, and medium-sized companies.

Many companies expected public institutions to solve difficulties in trading across borders by promoting customs authority compliance, providing online services to compare available EPAs or FTAs, and developing a reference for customs officers to determine HS codes.

2.8.2 Human Resources Development

The second category of questions focussed on human resources. More than half of the respondents perceived that human resources were often unable to achieve medium- or long-term business growth goals, mainly middle management who drives business transformation and/or innovation, and middle management who manages existing business processes. Moreover, around 90% of respondents pointed out the lack of skill sets expected for middle management, in particular, leadership, strategy development, and/or business modelling and planning. More than 60% of respondents experienced difficulties in hiring and training new graduates and professionals due to gaps between required skill sets by the company and educational curriculum or materials, and the lack of opportunities for working professionals to reskill.

Companies in most AMS experienced challenges in human resources. Companies based in Singapore – one of the most advanced countries doing business – responded specifically that there have been difficulties in 'hiring skilled foreign

workers due to strict requirements for visas or work permits'. For other AMS, companies selected, as significant challenges, 'gaps between required skill sets by [the] company and educational curriculum or materials', 'lack of opportunities for working professionals to reskill', and 'lack of experienced engineers to train students into potential skilled workers'.

To solve difficulties in employing workers, companies expected public institutions to encourage educational institutions to incorporate common skill sets into their curriculum, define common skill sets to acquire before working, and enhance human resources mobility between countries.

2.8.4 Other Issues in Doing Business

The last category of questions was on other issues in doing business. The top two difficulties that respondents experienced in doing business were paying taxes and integrating a sustainability agenda into business. Singapore had fewer issues in doing business compared to other AMS. However, Singapore experienced significant difficulty in integrating a sustainability agenda into business compared to other countries.

About 78% of companies amongst the respondents engaged in business overseas. When asked about the most difficult countries in which to do business, most respondents indicated 'none of the above'. However, Japan ranked at the top with the most significant difficulties in doing business, especially 'trading across borders'. Myanmar followed with the most difficulty in 'trading across borders'. Viet Nam had with the most difficulty in 'paying taxes', and Indonesia followed with 'trading across borders'.

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Appendix:
Questionnaire Items and Response Number

1. Company Overview

Q1-1. Please provide your company's name (Please provide the official name, not an abbreviation).
Q1-2. Please provide your company URL.

Q2-1. Please provide your company telephone number (e.g. +XX-XXX-XXXX).
Q2-2. Please provide your company e-mail address (If you provide it to us, we will send the report based on this survey to the e-mail indicated).

Q3-1. Please provide your company's location (single choice) (Table A1.1).

Table A1.1: Please Provide Your Company's Location

Country	No. of Companies
Brunei Darussalam	0 (0.0%)
Cambodia	1 (0.6%)
Indonesia	20 (11.5%)
Lao People's Democratic Republic	7 (4.0%)
Malaysia	7 (4.0%)
Myanmar	13 (7.5%)
Philippines	13 (7.5%)
Singapore	36 (20.7%)
Thailand	23 (13.2%)
Viet Nam	54 (31.0%)
Others	0 (0%)

Note: n = 174.
Source: Authors.

Q3-2. In which city is your company located? (single choice) (Table A1.2)

Table A1.2: Which City Is Your Company Located in?

Country	Province or City	No. of Companies
Brunei Darussalam	Bandar Seri Begawan	0 (0.0%)
	Kuala Belait	0 (0.0%)
	Seria	0 (0.0%)
	Others	0 (0.0%)
Cambodia	Greater Phnom Penh Area	1 (0.6%)
	Takeo	0 (0.0%)
	Sihanoukville	0 (0.0%)
	Battambang	0 (0.0%)
	Siem Reap	0 (0.0%)
	Others	0 (0.0%)
Indonesia	Greater Jakarta Area	19 (10.9%)
	Surabaya	0 (0.0%)
	Medan	0 (0.0%)
	Bandung	0 (0.0%)
	Semarang	0 (0.0%)
	Others	1 (0.6%)
Lao People's Democratic Republic	Vientiane	4 (2.3%)
	Savannakhet	0 (0.0%)
	Pakse	3 (1.7%)

Country	Province or City	No. of Companies
	Thakhek	0 (0.0%)
	Luang Prabang	0 (0.0%)
	Others	0 (0.0%)
Malaysia	Greater Kuala Lumpur Area	5 (2.9%)
	Kota Bharu	0 (0.0%)
	Johor Bahru	0 (0.0%)
	Seberang Perai	1 (0.6%)
	George Town	0 (0.0%)
	Others	1 (0.6%)
Myanmar	Greater Yangon Area	12 (6.9%)
	Mandalay	0 (0.0%)
	Nay Pyi Taw	1 (0.6%)
	Mawlamyine	0 (0.0%)
	Taunggyi	0 (0.0%)
	Others	0 (0.0%)
Philippines	Greater Manila Area	8 (4.6%)
	Davao City	0 (0.0%)
	Budta	0 (0.0%)
	Cebu City	0 (0.0%)
	Zamboanga City	0 (0.0%)
	Others	5 (2.9%)
Singapore	Singapore	36 (20.7%)
Thailand	Bangkok Greater Area	12 (6.9%)

Country	Province or City	No. of Companies
	Eastern Economic Corridor (Chon Buri, Rayong, Chachoengsao)	6 (3.4%)
	Udon Thani	0 (0.0%)
	Nakhon Ratchasima	0 (0.0%)
	Chiang Mai	0 (0.0%)
	Others	5 (2.9%)
Viet Nam	Greater Ho Chi Minh City Area	30 (17.2%)
	Greater Ha Noi Area	16 (9.2%)
	Can Tho	0 (0.0%)
	Da Nang	0 (0.0%)
	Hue	0 (0.0%)
	Others	8 (4.6%)

Note: n = 174.
Source: Authors.

Q4. Which industry is your company's main business? (single choice) (Table A1.3)

Table A1.3: Which Industry Is Your Company's Main Business?

Sector	No. of Companies
Administrative services	2 (1.1%)
Agriculture	1 (0.6%)
Arts and recreation	2 (1.1%)
Automotive	14 (8.0%)
Companies and enterprises	3 (1.7%)
Construction	12 (6.9%)
Educational	3 (1.7%)

Sector	No. of Companies
Electronics	15 (8.6%)
Finance and insurance	12 (6.9%)
Health care	2 (1.1%)
Information	10 (5.7%)
Metal products	12 (6.9%)
Other manufacturing	20 (11.5%)
Other services	12 (6.9%)
Pipeline and support activities	7 (4.0%)
Postal service	3 (1.7%)
Professional services	2 (1.1%)
Real estate	5 (2.9%)
Retailers	3 (1.7%)
Utilities	2 (1.1%)
Wholesale trade	27 (15.5%)

Note: n = 174.
Source: Authors.

Q5. Which year was your company established? (single choice) (Table A1.4)

Table A1.4: Which Year was Your Company Established?

Country	Year Company Established									
	Before 1950	1950–1959	1960–1969	1970–1979	1980–1989	1990–1999	2000–2009	2010–2019	2020–2023	Total
Brunei Darussalam	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)
Cambodia	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	1 (0.6%)	0 0 (0.0%)	1 (0.6%)
Indonesia	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	5 (2.9%)	1 (0.6%)	4 (2.3%)	3 (1.7%)	6 (3.4%)	1 (0.6%)	20 (11.5%)
Lao People's Democratic Republic	1 (0.6%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	2 (1.1%)	4 (2.3%)	0 0 (0.0%)	7 (4.0%)
Malaysia	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	2 (1.1%)	3 (1.7%)	2 (1.1%)	0 0 (0.0%)	7 (4.0%)
Myanmar	2 (1.1%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	11 (6.3%)	0 0 (0.0%)	13 (7.5%)
Philippines	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	2 (1.1%)	0 0 (0.0%)	5 (2.9%)	3 (1.7%)	3 (1.7%)	0 0 (0.0%)	13 (7.5%)
Singapore	0 0 (0.0%)	0 0 (0.0%)	1 (0.6%)	11 (6.3%)	6 (3.4%)	6 (3.4%)	3 (1.7%)	7 (4.0%)	2 (1.1%)	36 (20.7%)
Thailand	0 0 (0.0%)	1 (0.6%)	1 (0.6%)	2 (1.1%)	3 (1.7%)	2 (1.1%)	6 (3.4%)	8 (4.6%)	0 0 (0.0%)	23 (13.2%)
Viet Nam	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	1 (0.6%)	6 (3.4%)	22 (12.6%)	23 (13.2%)	2 (1.1%)	53 (31.0%)
Others	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)	0 0 (0.0%)
Total	3 (1.7%)	1 (0.6%)	2 (1.1%)	20 (11.5%)	11 (6.3%)	25 (14.4%)	42 (24.1%)	65 (37.4%)	5 (2.9%)	174 (100.0%)

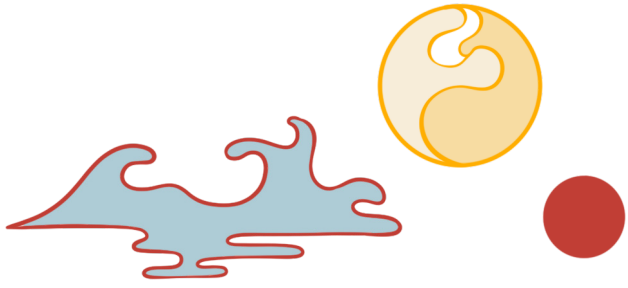
Note: n = 174.
Source: Authors.

Q6. What is your company's ownership type? (single choice) (Table A1.5)

Table A1.5: What Is Your Company's Ownership Type?

Country	Year Company Established		
	Domestic Company	Foreign-Affiliated Company	Total
Brunei Darussalam	0 (0.0%)	0 (0.0%)	0 (0.0%)
Cambodia	0 (0.0%)	1 (0.6%)	1 (0.6%)
Indonesia	0 (0.0%)	20 (11.5%)	20 (11.5%)
Lao People's Democratic Republic	1 (0.6%)	6 (3.4%)	7 (4.0%)
Malaysia	1 (0.6%)	6 (3.4%)	7 (4.0%)
Myanmar	1 (0.6%)	12 (6.9%)	13 (7.5%)
Philippines	1 (0.6%)	12 (6.9%)	13 (7.5%)
Singapore	6 (3.4%)	30 (17.2%)	36 (20.7%)
Thailand	6 (3.4%)	17 (9.8%)	23 (13.2%)
Viet Nam	7 (4.0%)	47 (27.0%)	54 (31.0%)
Total	23 (13.2%)	151 (86.8%)	174 (100.0%)

Note: n = 174.
Source: Authors.



Q7. How many regular employees work for your company? (single choice) (Table A1.6)

Table A1.6: How Many Regular Employees Work for Your Company?

No. of employees	No. of companies
< 10	27 (15.5%)
50–299	50 (28.7%)
50–299	47 (27.0%)
300–999	28 (16.1%)
1,000–4,999	16 (9.2%)
> = 5,000	6 (3.4%)

Note: n = 174.
Source: Authors.

2. Doing Business Environment – Trading across Borders

Q8. Do you have difficulties or issues in trading across borders? If you do, please select the impact of each on profits of your business as follows: (1) high, (2) medium, (3) low, or (4) never recognized as difficulties or issues. (single choice) (Table A2.1)

Table A2.1: Do You Have Difficulties or Issues in Trading across Borders?

Difficulties	High	Medium	Low	Never Recognised as Difficulties
1. Applying favourable tariffs with complex conditions of various EPAs or FTAs	21 (12.1%)	40 (23.0%)	49 (28.2%)	64 (36.8%)
2. Unexpected costs due to the lack of customs operational standards on applying HS codes	29 (16.7%)	43 (24.7%)	47 (27.0%)	55 (31.6%)
3. Time-consuming manual or on-site procedures due to unclear or unofficial customs procedures	36 (20.7%)	45 (25.9%)	40 (23.0%)	53 (30.5%)
4. Time-consuming manual or on-site procedures due to limited scope of electronic service (e.g. paperwork on procedures remains)	27 (15.5%)	45 (25.9%)	53 (30.5%)	49 (28.2%)

Difficulties	High	Medium	Low	Never Recognised as Difficulties
5. Sudden customs shutdown in disaster or pandemic	28 (16.1%)	37 (21.3%)	48 (27.6%)	61 (35.1%)
6. Corruption or lack of compliance of customs officers (e.g. facilitation payments)	25 (14.4%)	46 (26.4%)	49 (28.2%)	54 (31.0%)
7. Long lead time in trading due to unconnected electronic services between countries	12 (6.9%)	38 (21.8%)	63 (36.2%)	61 (35.1%)

EPA = economic partnership agreement, FTA = free trade agreement,
HS = Harmonized System.
Note: n = 174.
Source: Authors.

Q9-1. Please select the initiatives that you expect public institutions to take to solve the difficulties (multiple choice). (Table A2.2)

Table A2.2: Please Select the Initiatives You Expect Public Institutions to Take to Solve the Difficulties

Initiative	No. of responses
1. Extend coverage of ASEAN Single Window	57 (32.8%)
2. Provide online service to compare conditions of available EPAs or FTAs	70 (40.2%)
3. Develop operation continuity plan under disaster or pandemic scenario by government	50 (28.7%)
4. Develop reference or case study for customs officers to determine HS codes	60 (34.5%)
5. Promote improving customs authority compliance	81 (46.6%)

Initiative	No. of responses
6. Others	6 (3.4%)
7. No particular expectation	37 (21.3%)

ASEAN = Association of Southeast Asian Nations, EPA = economic partnership agreement, FTA = free trade agreement, HS = Harmonized System.
Note: n = 174.
Source: Authors.

Q9-2. Please add your comments on the initiatives that you expect public institutions to take to solve the difficulties (if any). (Table A2.3)

Table A2.3: Please Add Your Comment on the Initiatives You Expect Public Institutions to Take to Solve the Difficulties or Issues

Comments
1. Improve network infrastructure for electronic services (Indonesia). 2. Clarify customs clearance for goods, especially dangerous goods (Philippines). 3. Create an online portal to check customs procedures for export shipments to various ports or countries (Singapore). 4. Clarify and simplify licenses and applications for customs clearance of chemicals (Viet Nam). 5. Make clear standards on legal interpretation. Currently, legal interpretations amongst provinces differ, making it difficult to obtain various approval from different provinces (Viet Nam).

Source: Authors.

3. Doing Business Environment – Employing Workers

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, or (4) never recognized the lack. (single choice) (Table A3.1)

Table A3.1: Do the Following Human Resources Lack in Your Company to Achieve Medium- or Long-Term Business Growth?

Human Resources	Mostly	Partially	Slightly	Never Recognized the Lack
1. Labourers dedicated to manual work (e.g. factory or construction operation)	16 (9.2%)	33 (19.0%)	45 (25.9%)	80 (46.0%)
2. Non-management white-collar (e.g. knowledge or office workers in charge of daily operations)	20 (11.5%)	55 (31.6%)	51 (29.3%)	48 (27.6%)
3. Middle management of existing business processes (e.g. managing quality, cost, or delivery)	31 (17.8%)	72 (41.4%)	35 (20.1%)	36 (20.7%)
4. Middle management who drives business transformation or innovation (e.g. new business planning or development, transforming existing business, business process improvement)	57 (32.8%)	58 (33.3%)	30 (17.2%)	29 (16.7%)

Note: n = 174.
Source: Authors.

Q11. Do you have difficulties in hiring or training new graduates and professionals? Please select the impact of each on the profits of your business as follows: (1) high, (2) medium, (3) low, or (4) never recognized as difficulties or issues. (single choice) (Table A3.2)

Table A3.2: Do You Have Difficulties or Issues in Hiring or Training New Graduates and Professionals?

Human Resources	Mostly	Partially	Slightly	Never Recognized the Lack
1. Lack of accessibility to formal education to obtain necessary knowledge for work (e.g. primary, mid, or higher education)	17 (9.8%)	42 (24.1%)	44 (25.3%)	71 (40.8%)
2. Lack of experienced engineers to train students into potential skilled workers	21 (12.1%)	56 (32.2%)	47 (27.0%)	50 (28.7%)
3. Gaps between required skill sets by your company and educational curriculum or materials	23 (13.2%)	70 (40.2%)	50 (28.7%)	31 (17.8%)
4. Lack of work experience for students to sublimate their knowledge to practical work (e.g. internships)	14 (8.0%)	57 (32.8%)	60 (34.5%)	43 (24.7%)
5. Lack of opportunities for working professionals to reskill	20 (11.5%)	62 (35.6%)	58 (33.3%)	34 (19.5%)
6. Cultural or geographical barriers to access job information for workers (e.g. gender or religious barriers)	10 (5.7%)	34 (19.5%)	74 (42.5%)	56 (32.2%)
7. Inability to hire skilled foreign workers due to strict requirements for visas or work permits	19 (10.9%)	44 (25.3%)	55 (31.6%)	56 (32.2%)

Note: n = 174.
Source: Authors.

Q12-1. Please select the initiatives that you expect public institutions to take to solve the difficulties (multiple choice). (Table A3.3)

Table A3.3: Please Select the Initiatives You Expect Public Institutions to Take to Solve the Difficulties

Initiative	No. of Responses
1. Define common skill sets to acquire before working (e.g. communication skills or other skills widely required by companies for workers)	74 (42.5%)
2. Encourage educational institutions to incorporate common skill sets into their curriculum or materials	82 (47.1%)
3. Increase compatibility of qualifications or degrees in ASEAN or internationally to identify potential foreign workers	36 (20.7%)
4. Enhance human resources mobility between countries (e.g. ease requirements for visas or work permits)	66 (37.9%)
5. Provide equal educational opportunities by digital devices (i.e. reducing educational disparities caused by internet environment, language, or economic gaps)	45 (25.9%)
6. Strengthen or enhance higher technical education leveraging foreign experienced engineers	41 (23.6%)
7. Facilitate international working experience for students or international personnel exchange for professionals	41 (23.6%)
8. Others	2 (1.1%)
9. No particular expectation	18 (10.3%)

ASEAN = Association of Southeast Asian Nations.
Note: n = 174.
Source: Authors.

Q12-2. If you selected 'Others' in the previous question, please add your comments on the initiatives that you expect public institutions to take to solve the difficulties (if any). (Table A13)

Comments
1. Labour laws are not in line with actual implementation. Initiatives are needed to carry out activities that eliminate the gap between the public appearance of the labour law and its actual implementation (Viet Nam).
2. Courses should be created on the various common software used by companies. For example, it is easy to hire someone with 'shipping experience'; however, shipping documents are generated from our off-the-shelf software system, and it is difficult to find someone who has experience in using the system (Singapore).

Source: Authors.

Q13. Please indicate the degree of shortage of the following skills required for middle management to drive business transformation or innovation (single choice): (1) mostly, (2) partially, (3) slightly, or (4) never recognised the shortage. (single choice) (Table A3.5)

Table A3.5: Please Indicate the Degree of Shortage of the Following Skills Required for Middle Management to Drive Business Transformation or Innovation

Skills	Mostly	Partially	Slightly	Never Recognized the Lack
1. Business ideation (e.g. creativity, expertise in digitalized business)	41 (23.6%)	78 (44.8%)	36 (20.7%)	19 (10.9%)
2. Leadership (e.g. ability to energize colleagues or stakeholders, lead the team, connect with others to collaborate)	56 (32.2%)	80 (46.0%)	28 (16.1%)	10 (5.7%)

Skills	Mostly	Partially	Slightly	Never Recognized the Lack
3. Strategy development or business modelling and planning (e.g. judgment in any business activities)	62 (35.6%)	60 (34.5%)	36 (20.7%)	16 (9.2%)
4. Operation or infrastructure development (e.g. expertise in business activities, including back office)	25 (14.4%)	65 (37.4%)	60 (34.5%)	24 (13.8%)
5. Business or operation improvement (e.g. improving developed business or operation)	40 (23.0%)	70 (40.2%)	44 (25.3%)	20 (11.5%)

Note: n = 174.
Source: Authors.

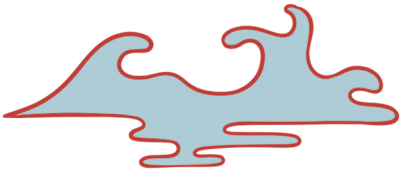
Q14. Please add your comments on the reason why you think so, and specify the skills required. (Table A3.6)

Table A3.6: Please Add Your Comments on the Reason Why You Think So, and Specify the Specific Skills Required

Comments
1. In the Lao PDR, advanced equipment, machinery, and even consumables – such as jigs and tools – are often of low quality. There is little demand for them, and the variety of products is limited. Therefore, these must be imported from neighbouring countries. We need creative managers who can plan procurement and explain why the procurement is needed. Leadership is also an essential ability to operate the factory smoothly (Lao PDR).
2. Managers often quickly forget what they have learned, are unable to use what they have learned in their actual work, or take no initiative. The ability to think deeply, systematically, and logically is needed (Malaysia).
3. Logical thinking is crucial, as is the PDCA improvement cycle. Managers should be willing to promote innovation and improvement in other departments by enlarging their scope (Viet Nam).

Comments
4. Due to the difference in company cultures, there is lack of knowledge of the business processes of the parent company in Japan (Philippines).
5. Managers need to think and to act on their own instead of waiting for instructions. They lack basic skills. It is unclear whether this is due to their education or whether upper-level management positions have traditionally only given instructions to others. They lack leadership and planning and strategy formulation skills (Thailand).
6. Veteran managers who joined at the start of operations are already in their 16th year; perhaps they feel that improvement in their abilities is sluggish. It is thus necessary to provide continuous education on how to manage policy (Hoshin Kanri). Education is necessary to increase the expertise of each department – e.g. quality, production technology, maintenance, accounting, and general affairs (Viet Nam).
7. Managers have no concern for promoting team members (Indonesia).
8. Many young people in Myanmar display certificates of various training courses (e.g. MS Office or English language), but their actual ability is very low. More practical trainings are required (Myanmar).
9. Business changes so fast, and there is no time to experiment. Skilled managers are needed to drive businesses and innovation (Thailand).
10. Managers should have the ability to translate strategies into action plans and to communicate them to employees (Singapore).
11. There is a local education problem (Singapore).
12. In Singapore, it is no problem to hire operational staff members who are expected to work on existing standards, but it is very difficult to hire talented ones who think of new businesses or take on a leadership role – especially with our standard salary level. Their salary expectations are very high, so they tend to work in finance, consulting, or government (Singapore).

Comments
13. Managers are deficient in IT knowledge (Singapore).
14. Managers need to improve their subordinates' leadership and management skills (Singapore).
15. Few people want to increase their income, because they have no ambition or desire to advance in their careers (Myanmar).
16. Managers are often corrupt (Viet Nam).
17. It may be Myanmar's culture, but we are unable to see proactive proposals from managers – this could be due to a lack of knowledge or capability (Myanmar).
18. Few managers can think and act on their own (Viet Nam)
19. Since there are specific issues in Viet Nam such as lack of LNG, there are often misunderstandings between Japanese headquarters and domestic managers (Viet Nam).
20. The skill to manage a cross-departmental project, or company-wise project, is lacking (Myanmar).
21. Our business depends solely on HQ direction and has few opportunities to launch or to develop strategies by ourselves. Therefore, our middle managers follow their Japanese bosses without submitting their opinions (Thailand).
22. We want to diagnose our business problems, but there are no human resources who can do this (Thailand).



Comments
23. Almost all managers focus on short-term targets; they do not have enough experience to consider a long-term strategy. They lack the foresight to improve daily operations. Because wages are still lower than those of other countries, whole departments are easy to dismiss and to replace (Viet Nam).
24. Machine technology is needed (Indonesia).
25. Managers are hesitant to provide ideas or show leadership in the company (Thailand).
26. Managers' lack of logical thinking and inability to categorise issues by importance are serious problems. Most university graduates do not have such fundamental capabilities or even realise that they are capabilities to acquire (Viet Nam).
27. Local people have a lack of cultural consensus to work for companies (Viet Nam).
28. Managers have little ability and/or experience to think on their own; they need creativity and originality (Viet Nam).
29. Managers are poorly trained to foresee upcoming tasks (Viet Nam).

Source: Authors.

4. Doing Business Environment – Innovation

Q15. Are you interested in corporate activities to create innovative products or services with digital technology? Please select the social agendas based on your interest (multiple choice). (Table A4.1)

Table A4.1: Are You Interested in Corporate Activities to Create Innovative Products or Services with Digital Technology?

Topics	Activities	No. of Responses
1. Business process and product innovation	1.1 Upgrading production (e.g. agriculture, fisheries)	42 (24.1%)
	1.2 Upgrading sales and marketing	93 (53.4%)
	1.3 Upgrading administrative operations (e.g. human resources, accounting)	118 (67.8%)
	1.4 Smart finance (e.g. online payment, cloud funding or lending)	48 (27.6%)
	1.5 Not interested	12 (6.9%)
2. Mobility	2.1 Commuting	48 (27.6%)
	2.2 Smart logistics	77 (44.3%)
	2.3 Supply chain resilience	77 (44.3%)
	2.4 Not interested	38 (21.8%)
3. Environment and energy	3.1 Sustainable energy	107 (61.5%)
	3.2 Energy management	75 (43.1%)
	3.3 Circular economy	61 (35.1%)
	3.4 Sustainable tourism	9 (5.2%)
	3.5 Not interested	28 (16.1%)
4. Safety and security	4.1 Smart security (e.g. security system for privately owned home, or city)	79 (45.4%)
	4.2 Cybersecurity	120 (69.0%)
	4.3 Disaster management	80 (46.0%)
	4.4 Not interested	20 (11.5%)

Topics	Activities	No. of Responses
5. Living and health	5.1 Smart cities, buildings, or homes	79 (45.4%)
	5.2 E-commerce (e.g. super-app)	50 (28.7%)
	5.3 Smart health care (e.g. telemedicine)	65 (37.4%)
	5.4 Well-being (e.g. daily health care management)	72 (41.4%)
	5.5 Not interested	31 (17.8%)
6. Government and education	6.1 E-government	92 (52.9%)
	6.2 Inclusive education systems	60 (34.5%)
	6.3 Not interested	48 (27.6%)

Note: n = 174.
Source: Authors.

Q16-1-1. (Collecting necessary information) Do you have difficulties in creating innovative products or services? Please select difficulties in the categories below (single choice). (Table A4.2)

Table A4.2: Do You Have Difficulties in Creating Innovative Products or Services?

Difficulties	High	Medium	Low	Never Recognized as difficulties or issues
1. Lack of innovative business ideas or technical seeds	37 (21.3%)	71 (40.8%)	44 (25.3%)	22 (12.6%)
2. Lack of information on market demands or customer needs	27 (15.5%)	87 (50.0%)	37 (21.3%)	23 (13.2%)
3. Lack of information on competitors	27 (15.5%)	85 (48.9%)	42 (24.1%)	20 (11.5%)
4. Lack of available partners (e.g. companies, academic institutions, or government)	34 (19.5%)	56 (32.2%)	58 (33.3%)	26 (14.9%)
5. Lack of available mentors to seek for advice	22 (12.6%)	48 (27.6%)	73 (42.0%)	31 (17.8%)

Note: n = 174.
Source: Authors.

Q16-1-2. (Collecting necessary information) For the previous answers, please let us know why you think so. (Table A4.3)

Table A4.3: Please Let Us Know Why You Think So

Comments
1. There are few official internet articles and information sources. Even if we ask a consulting company in Lao PDR to provide information, we cannot obtain the information that we need due to its poor research capabilities. There are no international exhibitions or trade fairs for innovative technologies held in Lao PDR. If necessary, more useful information can be obtained by collecting information at an exhibition in Thailand, whose scale is different (Lao PDR).
2. In Malaysia, there are many people who are satisfied with the current situation and believe that it should continue. There is no one who will champion a business idea (Malaysia).
3. Market information is not organised to cover everything (Philippines).
4. Head office functions include a development department and an overseas sales department, and the overseas subsidiaries manufacture and sell products. Since this function is left to the head office, I do not feel the need to innovate (Viet Nam).
5. I can manage most tasks since I have been in this country for decades. Yet it is still difficult to collect necessary information easily (Myanmar).
6. The most important thing for innovation is information, but it is lacking in Singapore (Singapore).
7. There are no vendors with technical capabilities (Singapore).
8. There is no education regarding advanced technology (Myanmar).
9. Information collection is difficult due to lack of sales and marketing staff (Myanmar).
10. There is separation from the international community (Myanmar).
11. There are few opportunities to acquire new knowledge, and self-development cannot be expected (Thailand).
12. Although anybody can supposedly access general information, details are difficult to retrieve (Viet Nam).

Source: Authors.

Q16-2-1. (Funding) Do you have difficulties in creating innovative products or services? Please select difficulties in the categories below (single choice) (Table A4.4)

Table A4.4: Do You Have Difficulties in Creating Innovative Products or Services?

Difficulties	High	Medium	Low	Never Recognized as difficulties or issues
1. Shortage of internal capital or investment budget	22 (12.6%)	31 (17.8%)	52 (29.9%)	69 (39.7%)
2. Inaccessible loans due to strict bank loan conditions	13 (7.5%)	27 (15.5%)	58 (33.3%)	76 (43.7%)
3. Few or limited access to cloud funding or lending	8 (4.6%)	21 (12.1%)	50 (28.7%)	95 (54.6%)
4. Few or limited access to investors or venture capital	7 (4.0%)	18 (10.3%)	5 (31.6%)	94 (54.0%)
5. Lack of information or advice on fundraising	6 (3.4%)	29 (16.7%)	58 (33.3%)	81 (46.6%)

Note: n = 174.
Source: Authors.

Q16-2-2 (Funding) For the previous answers, please let us know why you think so. (Table A4.5)

Table A4.5: Please Let Us Know Why You Think So

Comments
1. Internal company issues (Philippines)
2. No worries about funding (Viet Nam)
3. We have enough financial injections from the head office (Myanmar).
4. Almost all foreign companies have given up investing in Myanmar (Myanmar).
5. Restrictions on international remittances (Myanmar)
6. No investment plans (Thailand)
7. Not interested in subject (Viet Nam)

Source: Authors.

Q17-1. Please select the initiatives that you expect institutions to take to create innovation (multiple choice) (Table A4.6)

Table A4.6: Please Select the Initiatives You Expect Institutions to Take to Create Innovation

Initiatives	No. of Responses
1. Financial support (e.g. loans from government financial institutions, tax incentives, subsidies)	56 (32.2%)
2. Acceleration or incubation programs	34 (19.5%)
3. Support for intellectual property rights (e.g. consultation services, support, or lectures on patent application)	41 (23.6%)
4. Provide guidelines in innovation activities (e.g. know-how to collaborate with external parties, contract-related matters, funding)	54 (31.0%)
5. Regulatory support (e.g. a sandbox to deregulate the application of regulations on technology to encourage companies to create innovation)	67 (38.5%)
6. Support business expansion globally or collaboration overseas (e.g. matching with experts)	72 (41.4%)
7. Commendation (e.g. government awards for business or CEOs)	13 (7.5%)
8. Others	2 (1.1%)
9. No particular expectation	33 (19.0%)

Note: n = 174.
Source: Authors.

Q17-2. Please elaborate the public initiatives that would be helpful to have (if any). (Table A4.7)

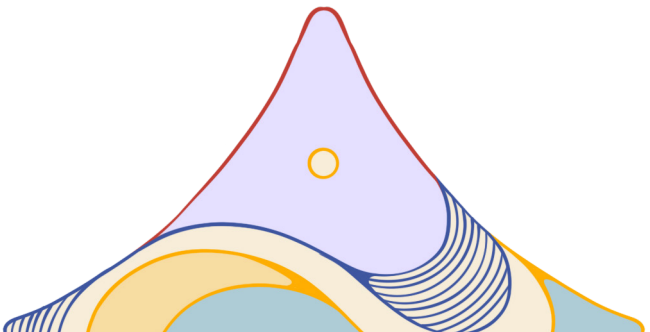


Table A4.7: Please Elaborate the Public Initiatives that Would Be Helpful to Have

Comments
1. International exhibitions (e.g. mechanical equipment, technology, tools) that invite companies from neighbouring countries (Lao PDR)
2. Human resources development that can bring about innovation (Thailand)
3. When I try to start a new business, I am not able to proceed due to strict regulations, such as business licensing for foreign companies. I would like to see deregulation (Indonesia).
4. Establish a support platform that details customs requirement for exports (e.g. all goods must be packed in fumigated pallets, packing lists require a net weight for each item, or invoices must show the net weight of each size) (Singapore).
5. Myanmar needs good instructors and persons who can share their experiences (Myanmar).
6. Both have different goals (Singapore).
7. No support system (Myanmar)
8. Need to relax of customs regulations to create new logistics businesses (Myanmar)
9. Relax restrictions on foreign investment (Myanmar)

Source: Authors.

5. Doing Business Environment – Others in Doing Business

Q18-1. Other than the previous questions, please select any difficulties that you experience in doing business within the country in which your company is located (multiple choice). (Table A5.1)

Table A5.1: Please Select Any Difficulties or Issues You Experience in Doing Business within the Country in Which Your Company Locates

Difficulties	No. of Responses
1. Shortage of internal capital or investment budget	37 (21.3%)
2. Integrating a sustainability agenda into businesses (e.g. reengineering production or procurement processes, regulatory compliance)	51 (29.3%)
3. Getting credits (e.g. complicated or inefficient loan process, long lead time to receive funds)	23 (13.2%)
4. Paying taxes (e.g. complicated taxation, corruption of authorities)	85 (48.9%)

Difficulties	No. of Responses
5. Enforcing contracts (e.g. complicated or inefficient judicial procedures, corruption of judicial authorities)	39 (22.4%)
6. Contracting with governments (e.g. complicated government procurement, inequal information on bidding)	35 (20.1%)
7. Closing businesses (e.g. complicated or long lead time of procedures to close businesses)	25 (14.4%)
8. Others	6 (3.4%)
9. No particular issues	38 (21.8%)

Note: n = 174.
Source: Authors.

Q18-2. If you selected 'Others' in the previous question, please specify the difficulties that you experience in doing business within the country in which your company is located (if any). (Table A5.2)

Table A5.2: Please Specify the Difficulties That You Experience in Doing Business within the Country in Which Your Company Is Located

Comments
1. After the coup d'état, construction work has been suspended, and the military government has forced the conversion of foreign currency (Myanmar).
2. Difficulty of getting visas for expatriates (Singapore)
3. Licenses and other regulations are too strict (Indonesia).
4. Difference in culture and skill level (Singapore)
5. Strict criteria for employment passes (Singapore)
6. Labour cost, access to foreign manpower, inward policy (Singapore)

Source: Authors.

Q19-1. Are you operating the business in a foreign country? (single choice) (Table A5.3)

Table A5.3: Are You Operating Businesses in Foreign Countries?

Operating Businesses in Foreign Countries	No. of Companies
Yes	136 (78.2%)
No	38 (21.8%)

Note: n = 174.
Source: Authors.

Q19-2. (If yes,) Please indicate the specific country with the most significant difficulties in doing business (countries in ASEAN and Japan) (single choice). (Table A5.4)

Table A5.4: Please Indicate the Specific Country with the Most Significant Difficulties in Doing Business

Country	No. of Companies
Brunei Darussalam	0 (0.0%)
Cambodia	1 (0.7%)
Indonesia	10 (7.4%)
Lao People's Democratic Republic	3 (2.2%)
Malaysia	6 (4.4%)
Myanmar	22 (16.2%)
Philippines	3 (2.2%)
Singapore	2 (1.5%)
Thailand	5 (3.7%)
Viet Nam	11 (8.1%)
Japan	23 (16.9%)
None of the above	50 (36.8%)

Note: n= 136.
Source: Authors.

Q19-3. Please indicate any difficulties that you experience in doing business in the country selected above (multiple choice). (Table A5.5)

Table A5.5: Please Indicate Any Difficulties You Experience in Doing Business in the Country Selected Above

Difficulties	No. of Responses
1. Trading across borders (e.g. unclear or unofficial customs procedures, limited scope of electronic service)	50 (36.8%)
2. Employing workers (e.g. lack of accessibility of primary and mid education, lack of work experience)	21 (15.4%)
3. Starting business (e.g. time-consuming or complicated procedures)	5 (3.7%)
4. Integrating sustainability agenda into business (e.g. reengineering production or procurement processes, regulatory compliance)	17 (12.5%)
5. Getting credits (e.g. complicated or inefficient loan process, long lead time to receive funds)	13 (9.6%)
6. Paying taxes (e.g. complicated taxation, corruption of authorities)	46 (33.8%)
7. Enforcing contracts (e.g. complicated or inefficient judicial procedures, corruption of judicial authorities)	22 (16.2%)
8. Contracting with governments (e.g. complicated government procurement, inequal information on bidding)	14 (10.3%)
9. Closing businesses (e.g. complicated or long lead time of procedures to close businesses)	11 (8.1%)
10. Others	30 (22.1%)

Note: n = 174.
Source: Authors.

Q19-4. If you selected 'Others' in the previous question, please specify any difficulties that you experience in doing business in the country selected above. (Table A5.6)

Table A5.6: Please Specify Any Difficulties That You Experience in Doing Business in the Country Selected Above

Comments
1. Unwillingness of the counterparty (i.e. distributor) to disclose information (Singapore)
2. No issues (Singapore)
3. No issues (Viet Nam)
4. No issues (Philippines)
5. No issues (Thailand)
6. Money collection (Singapore)
7. Differences between systems in different countries (Others)
8. Different business culture, players, regulations compared with Asia (Singapore)
9. FATF, banking system (Singapore)
10. Not so difficult to arrange logistics services to and from other ASEAN countries and Japan (Myanmar)
11. Political situation is unstable (Myanmar).
12. Strong competitor in Indonesian market (Viet Nam)
13. Malay (language), market price (Indonesia)
14. Foreign money exchange, remittance issues (Viet Nam)

Source: Authors.

CHAPTER 3

ASEAN–Japan Cooperation in the New Emerging Agenda

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Aladdin D. Rillo *(ERIA)*,
and Rashesh Shrestha *(ERIA)*

3.1 Introduction

This chapter reviews the achievements of cooperation between the Association of Southeast Asian Nations (ASEAN) and Japan and studies potential benefits and opportunities in the new emerging agenda, including supply chain resilience, digitalisation, smart cities, the circular economy, agriculture, health care, sustainable energy, sustainable tourism, and human capital development. It is organised as follows. In Section 2, Keita Oikawa writes about the importance of building an end-to-end supply chain data ecosystem to strengthen supply chain resilience in East Asia. In Section 3, with the new ASEAN–Japan Comprehensive Economic Partnership (AJCEP), Lurong Chen emphasises the importance of improving connectivity, facilitating trade liberalisation in services, and fostering regulatory harmonisation between ASEAN and Japan. In Section 4, Venkatachalam Anbumozhi and Fumitaka Machida review the ASEAN Smart Cities Network (ASCN) and a smart city supported by Japan and ASEAN, stressing the importance of a human-centric perspective in the future collaboration of ASEAN and Japan in such initiatives. In Section 5, Masanori Kozono summarises the history of ASEAN–Japan cooperation in the food and agriculture sectors and suggests a future direction for the cooperation. In Section 6, Christopher L. Hardesty, Asuka Nagatani, and Takuma Kato detail the collaboration between ASEAN and Japan regarding developing universal health coverage (UHC) in ASEAN and introduce efforts of the Economic Research Institute for ASEAN and East Asia (ERIA) towards building a health care ecosystem in Asia for UHC.

In Section 7, Kei Sudo and Han Phoumin evaluate recent ASEAN–Japan collaboration on energy, highlighting the range of cooperation that encompasses financial, technological, and human resources development towards a sustainable energy future in the ASEAN region. In Section 8, Aladdin D. Rillo and Melanie S. Milo examine sustainable tourism in ASEAN, while drawing on the experience of Japan to offer valuable insights. In Section 9, Fusanori Iwasaki and Michikazu Kozima propose policy recommendations for building a circular economy with ASEAN–Japan cooperation. Their recommendations draw on Japan's experience in waste management and aim to foster sustainable and efficient use of resources. Finally, in Section 10, Rashesh Shrestha notes the lack of a skilled workforce in the ASEAN region and advocates for a collaborative effort between ASEAN and Japan in the field of secondary and post-secondary education, leveraging Japan's advanced educational resources.

3.2. Supply Chain Resilience: Building an End-to-End Supply Chain Data Ecosystem

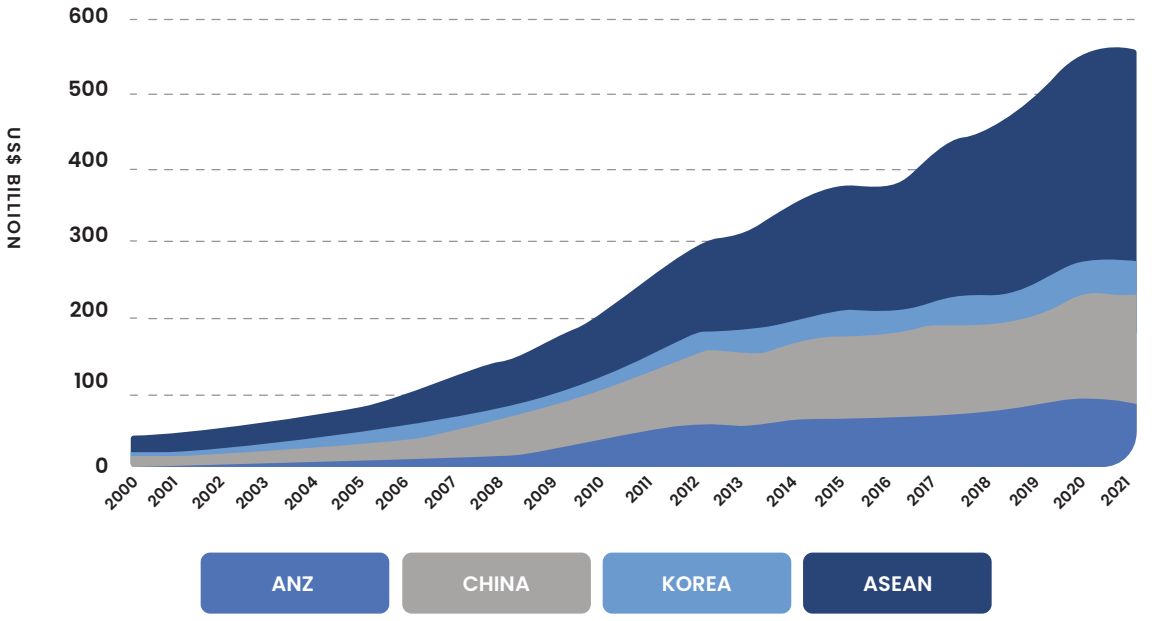
3.2.1. Competitive International Production Networks in East Asia

East Asia has used globalisation extensively in its development strategy during the last 3 decades. Since the 1990s, 'Factory Asia' – international production networks (IPNs) constructed in East Asia – has led the world in the development of competitive and resilient production networks and has weathered several economic crises and natural catastrophes. In 2008–2009, the Asian financial crisis caused a trade collapse, but the sophisticated IPNs in East Asia have since recovered (Ando and Kimura, 2012; Okubo, Kimura, Teshima, 2014). Then, during the sluggish trade period of 2011–2016, the growth of international trade slowed relative to the growth of the global gross domestic product (GDP), but IPNs in East Asia continued to expand (Obashi and Kimura, 2018). Moreover, Factory Asia's proportional relevance to the world has increased over time, notably in the production of general and electrical machinery.

IPNs in East Asia have most recently shown their robustness and resilience during the COVID-19 pandemic. For example, although the pandemic originally brought about negative impacts on machinery exports, by October 2020, these had recovered to 2019 levels (Ando and Hayakawa, 2021). The decline in exports in East Asia was substantially less severe than in North America or Europe; notably, East Asian exports of general and electrical equipment stayed almost at 2019 levels in April and May 2020 (Ando and Hayakawa, 2021). ERIA studied enterprises in ASEAN Member States (AMS) and India, discovering that many Asian firms responded swiftly and actively to pandemic shocks, frequently earning a profit during the pandemic's height (Oikawa et al., 2021).

Japan has been key to building these competitive, robust, and resilient IPNs in East Asia. In fact, Japan's outward foreign direct investment (FDI) to ASEAN accounted for the largest share of Japan's FDI in Asia and the Pacific (Figure 3.1)

Figure 3.1: Japan's Outward Foreign Direct Investment in Asia and the Pacific (FDI Stock in US$ billion)



ANZ = Australia and New Zealand, ASEAN = Association of Southeast Asian Nations.
Sources: Bank of Japan, Direct Investment Position, https://www.boj.or.jp/en/statistics/br/bop_06/bpdata/index.htm, and author.

Maintaining and strengthening the competitiveness of IPNs in East Asia is an essential part of development strategy, including that of ASEAN and Japan (Han, 2022). To do so, current global trends around supply chain issues must be identified.

3.2.2. Major Trends Affecting the Competitiveness of Supply Chains in East Asia

Supply chains are becoming much more complicated and are confronting various challenges because of three trends. The first trend is the rising diversity of consumers and the technological advancement of industry. With diversification of customer preferences, supply chains have become more intricate with the customisation of goods and services and recognition of digital-purchasing patterns. In addition, as product life cycles become shorter and products more technologically advanced, distinct supply chain models are necessary. The second trend is a rise in supply chain risks. Companies are more concerned about supply chain disruptions caused by, for example, global pandemics, large-scale

earthquakes, and the Russian invasion of Ukraine. Moreover, disputes between economic giants, such as that between the United States and China, are extending a destabilising element to supply chains. The third trend is the emergence of new social values, as governments and consumers are becoming more aware of social concerns, such as the environment and human rights. Thus, environmental regulations, human rights measures, and climate change now all have an impact on business activity.

In particular, the issue of carbon neutrality will shape future supply chains. Initiatives to achieve carbon neutrality have been strengthened in various countries, such as through the European Green Deal. Also, the Government of Japan announced a decarbonisation policy, aiming for zero greenhouse gas emissions by 2050 (Prime Minister's Office of Japan, 2020). As many companies are now monitoring carbon emissions across the entire supply chain, they must reconfigure all business activities towards decarbonisation.

Indeed, environmental regulations are another important issue for future supply chains. Regulations on chemicals contained in products have been strengthened in various countries, such as the Restriction of Hazardous Substances Directive and the Regulation for the Registration, Evaluation, Authorisation and Restriction of Chemicals in Europe. Regulations regarding water and air pollution have also been strengthened, and companies now must comply with green procurement standards.

The United Nations approved Guiding Principles on Business and Human Rights in 2011. Successively, principles and various associated legislation have been implemented around the world, especially in Europe. Confirmation of human rights protections in business partners are increasingly required through corporate social responsibility (CSR) questionnaires, voluntary audits, and external audits. Unjust treatment of immigrant workers and use of child labour often lead to boycotts all over the world.

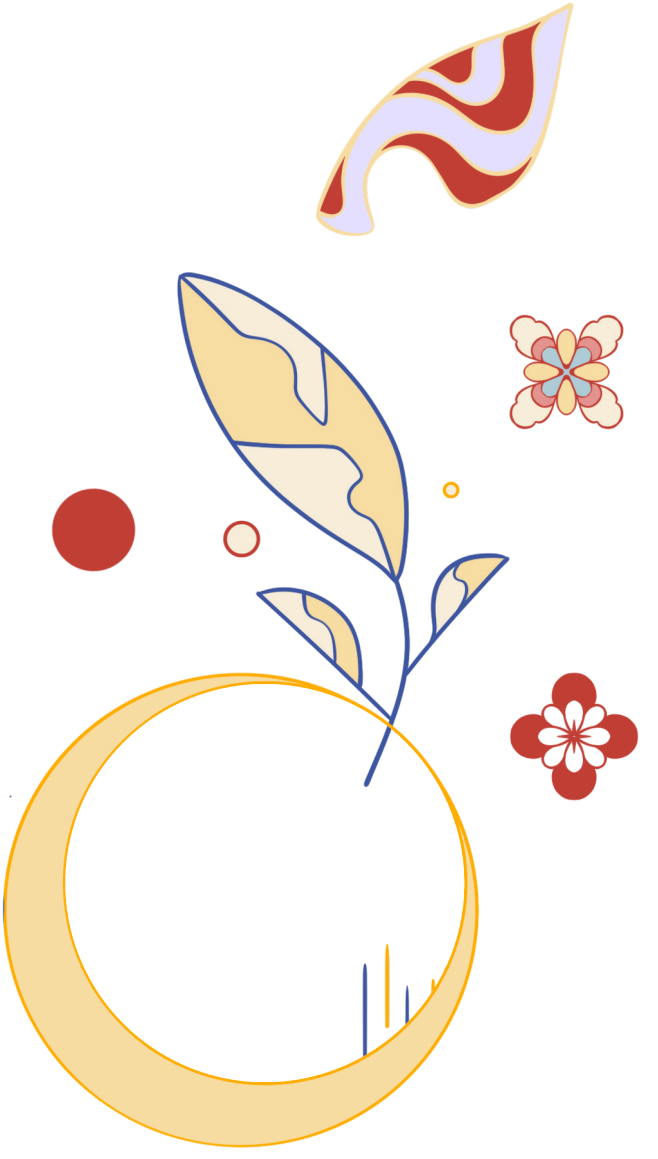
3.2.3. Digital Supply Chain Ecosystem

If ASEAN and Japan fail to efficiently respond to these supply chain shifts, they may lose the awesome competitiveness of IPNs that they have built. Thus, ASEAN and Japan must build a data supply chain ecosystem that features the necessary data flows amongst various end-to-end supply chain stakeholders. Without efficient data sharing, companies cannot comprehend what is happening in emergencies, such as during natural catastrophes. Also, companies cannot meet global requirements on sustainability and human rights without knowing how their suppliers make materials or parts.

In general, companies do not want to share their internal data with other companies, as they believe that their internal data are the source of their competitiveness.

They also may believe that sharing detailed data with their customers will cause them to lose their bargaining power. To overcome these challenges and to obtain global optimisation, companies need to take part in discussions about why data should be shared, the benefits of sharing data, and how this can create more competitive business operations. Governments need to be included as well since supply chains are international. Creating concrete use cases (i.e. define and stipulate collaboration purposes, stakeholders, data items shared, data stocks and flows, and impacts or outcomes expected) will be effective.

Building a digital supply chain ecosystem is not an easy task. However, if a response is postponed, IPNs could lose their competitiveness. ASEAN and Japan should start discussions immediately to overcome challenges in supply chains.



3.3 Digitalisation: A New ASEAN–Japan Comprehensive Economic Partnership (AJCEP)

This section details ideas to upgrade the current AJCEP regarding digitalisation.

3.3.1. Improving Connectivity

The new AJCEP should aim to improve connectivity between ASEAN and Japan. It should facilitate investment in physical infrastructure in the ASEAN region, as improvement in the quality of services is directly linked to the quality of overall connectivity. Japan has set aside $110 billion for infrastructure improvement in ASEAN (MOFA, 2015); it should also continue to provide low interest rate loans or other forms of financial assistance to AMS in support of infrastructure projects. In many AMS, capacity and resources are limited, but enhancing regional cooperation will provide a solution for better connectivity.

3.3.2. Trade Liberalisation in Services

Trade liberalisation in services should be another focus of the new AJCEP. Services have extensive implications on digital transformation in Asia. First, development of the services sector will create more jobs to absorb labour. Second, services efficiency will save trade costs, increase product and trade reliability, and promote e-commerce activities. Third, the resulting increase in government revenue will provide additional resources to further improve infrastructure and thus connectivity.

Emerging services intermediaries can lead this trade liberalisation. Digitalisation will generate more business opportunities for downstream companies in materials suppliers, market investigations, software development, shipment and delivery, agency operations, search for key words, and optimisation. As production network clustering around upstream core e-commerce actors begins to deepen and to spread, this will lead to a finer division of labour and therefore a higher degree of specialisation. With such market segmentation, demand will be more precisely identified; thus, more services activities will find space for expansion. Enhancing ASEAN–Japan relations will fuel the market engine to foster the growth of trade in services.

3.3.3. Promoting Regulatory Harmonisation

The online marketplace needs rules and regulations to ensure free data flow as well as fair play, competition, and security. Internationally, digital trade has promoted the formation of global governance on digital trade. These new rules and regulations then influence the development of the digital economy. However, current progress in multilateral trade negotiations cannot catch up to the radical growth of the digital economy. The new AJCEP should therefore pilot new rules making.

The growth of ASEAN has proven the importance of adopting policies in favour of globalisation and trade facilitation. Actions to remove tariff or non-tariff barriers and to simplify customs, inspection, and taxation procedures will promote digitalisation and expand global value chains. Moreover, Japan has been active in international rules setting on trade and investment. Enhancing bilateral relations between AMS and Japan can help both sides learn from each other and jointly resolve difficulties in customs clearance, exchange settlements, and tax reimbursements that create barriers to trade. Reaching region-wide regulatory harmonisation on digital trade will also help ASEAN ensure that its voice is heard.

3.4. Smart Cities: An ASEAN–Japan Innovation Partnership

At the 32nd ASEAN Summit in 2018, ASEAN leaders established the ASCN, a collaborative platform where cities from the 10 AMS work towards the common goal of smart and sustainable urban development. The 26 ASCN pilot cities selected are Bandar Seri Begawan, Bangkok, Banyuwangi, Battambang, Cebu City, Chonburi, Da Nang, Davao City, DKI Jakarta, Ha Noi, Ho Chi Minh City, Johor Bahru, Kota Kinabalu, Kuala Lumpur, Kuching, Luang Prabang, Makassar, Mandalay, Manila, Nay Pyi Taw, Phnom Penh, Phuket, Singapore, Siem Reap, Vientiane, and Yangon.

Considering the opportunities and challenges posed by rapid urbanisation and digitalisation in Asia, the primary goal of the ASCN is to improve lives, using technology as an enabler. By focussing on people, the ASCN adopts an inclusive approach to smart city development that is respectful of human rights and fundamental freedoms as inscribed in the ASEAN Charter. The networking of smart cities across ASEAN also contributes to enhancing mutual understanding across cultures. The ASCN aims to facilitate cooperation on smart city development, catalyse bankable projects with the private sector, and secure funding and support from ASEAN external partners such as Japan. To this end, 33 partnerships have been established thus far.

Japan's commitment to the ASCN has been outstanding; since 2019, Japan has been hosting the ASCN High-Level Meeting and supporting collaboration and partnerships amongst the 26 cities. In addition, based on the Smart City Supported by Japan ASEAN Mutual Partnership (Smart JAMP) programme launched at the ASCN High-Level Meeting in 2020, the Government of Japan is supporting smart

city projects in the region by soliciting proposals for project formation studies from the 26 pilot cities. With AMS pushing ahead, the Smart JAMP could help guide the ASCN throughout its lifespan.

Below, the six action clusters of the ASCN are explored: (i) sustainable cities and smart built environments; (ii) integrated technology infrastructure and process for smart services delivery; (iii) smart urban mobility; (iv) sustainable business/ extended enterprise models; (v) smart people; and (vi) integrated planning, policy, standards, and regulations. Through these six action clusters, the ASCN aims to improve the quality of life of ASEAN citizens; reach an environmental, low-carbon energy transition and climate targets; make cities more competitive and better places to live; increase the competitiveness of ASEAN and Japanese industries and innovative small and medium-sized enterprises (SMEs); hear knowledge to replicate success and to prevent mistakes from being repeated; and support cities in finding the right partners and investment solutions for digital technologies.

3.4.1. Sustainable Cities and Smart Built Environments

The main challenges in creating a sustainable and smart environment at the city level is to reduce energy use, environmental impacts, and carbon footprints; foster competitive industries for jobs and growth; and ensure societal and social development and the well-being of citizens. The investment needed to improve energy efficiency, generate low-carbon energy, modernise infrastructure, and create high-quality living environments is enormous in ASEAN. Cities have limited access to planned financial resources for systemic change, which requires the activation of private capital combined with public investment. The ASEAN–Japan partnership will recognise that every city is unique and give stakeholders the tools needed to make appropriate systemic or individual decisions and to facilitate solutions. It will also provide a large-scale launching ground for new Japanese concepts to test in and to unleash onto the ASEAN markets and to test and to implement new financial products and models.

3.4.2. Integrated Technology Infrastructure and Process for Smart Services Delivery

Significant – and yet insufficiently tapped – value is offered by integrating various existing social and new digital infrastructure networks within and across cities (i.e. energy, transport, or communications) rather than duplicating these needlessly. This point applies to both active and passive infrastructure. Ageing budgets to replace them are stretched beyond capacity, and projects are procured and managed in silos. The potential afforded to cities through new joined-up approaches, exploiting modern digital technologies, is substantial. However, it will take sustained commitment from multiple parties to access value. The ASEAN–Japan partnership will search out smaller, innovative cities within the ASCN that can rapidly advance and 'design for small' rather than accept designs made for

large. The target and focus for this initiative are still in formation; however, the initially agreed action is around circular cities and low-carbon cities, engaging a group of 10 ASEAN 'small giants'.

3.4.3. Smart Urban Mobility

Significant – and yet insufficiently tapped – value is offered by integrating various existing social and new digital infrastructure networks within and across cities (i.e. energy, transport, or communications) rather than duplicating these needlessly. This point applies to both active and passive infrastructure. Ageing budgets to replace them are stretched beyond capacity, and projects are procured and managed in silos. The potential afforded to cities through new joined-up approaches, exploiting modern digital technologies, is substantial. However, it will take sustained commitment from multiple parties to access value. The ASEAN–Japan partnership will search out smaller, innovative cities within the ASCN that can rapidly advance and 'design for small' rather than accept designs made for large. The target and focus for this initiative are still in formation; however, the initially agreed action is around circular cities and low-carbon cities, engaging a group of 10 ASEAN 'small giants'.

3.4.4. Sustainable Business and Extended Enterprise Models

To become 'smart', the ASCN needs responsive business models and adaptive funding. The new challenges facing cities require new business models, finance and funding instruments, and procurement schemes. This means establishing a dialogue between the public and private sectors to identify and to remove any obstacles in the way of the smart city market. This action cluster will provide a platform where local authorities, financial institutions, businesses, SMEs, and other relevant actors can work together. The ASCN will use this platform as a focal point for the gathering and sharing of information about innovative business and procurement models. The platform will give future smart city aspirants better access to financial instruments, providing invaluable knowledge about financing and funding opportunities by directly engaging the financial community.

3.4.5. Smart People

In a time of urban transformation and the digitalisation of smart cities, too little attention is sometimes given to citizens. A people-focussed strategy and partnership strongly believes in citizens as the fundamental actors for the regeneration and development of smart cities. Civic engagement, empowerment, participation, and co-creation are at the basis of the ASEAN–Japan partnership, since ASEAN and Japan acknowledge that citizen voices are pivotal in providing demand-side pressure on the government, service providers, and organisations to encourage a full response to actual citizen needs. Empowerment also ensures the establishment of a trusted relationship with local governments and is a source of democratic legitimacy and transparency.

3.4.6. Integrated Planning, Policy, Standards, and Regulations

Innovative forms of smart city policies, standards, and regulations are needed to enable the large-scale implementation and roll-out of smart cities. New governance concepts are required to coordinate and to integrate smart city stakeholders – cities, businesses, and various organisations – within the change process to identify strengths, weaknesses, opportunities, and threats. The ASEAN–Japan partnership will identify new forms of governance and policy concepts to further the process of becoming a sustainable, inclusive smart city. Under this action cluster, the ASCN will work with Japanese cities, businesses, research institutes, and academia to build smart, inclusive, and sustainable cities. Partnership efforts towards the implementation and design of smart city strategies will include making the best use of various capacities, monitoring tools, and measuring tools and enabling knowledge sharing and replication of successful smart cities.

3.4.7. Conclusion

One of the most important concepts in a smart city is social inclusion and a citizen-driven approach. If a technology-driven smart city is the main goal, communities may end up being controlled by surveillance, for example. A citizen-driven approach, in general, refers to social capital that enhances trust, concern for one's associates, and cooperation. Discussing the concept of a citizen-driven approach for smart cities in this way will contribute towards the continuous enhancement of the smartness of communities in Asia.

Indeed, the global trend in smart cities is shifting from a technology- to a people-driven approach, and democratic, inclusive, and resident-centred urban development is now required. Advanced efforts in Japan are being made to realise not only liveability but also the well-being of a diverse range of people. As cities in ASEAN still face many challenges – such as the need for basic infrastructure development and an insufficient response to digitalisation, they have tended to lean towards technology-led urban development. However, the unique people-centred social characteristics of ASEAN itself have increased interest in citizen-driven city planning; Japan has also embraced this ideal through the concept of Society 5.0, a human-centered, 'super smart' society that balances economic advancement with the resolution of social issues through a system that integrates cyberspace and physical space.

The challenge of realising democratic, inclusive, and resident-centred urban development unique to Asia has begun. ERIA, in collaboration with Kyoto University and various universities in AMS, has organised the Asian Inclusive Smart Cities (AISC) conference to discuss related issues. Now is the time to showcase city planning projects that respect Asian values and involve the business community, including the development of new city evaluation indicators and standardisation.

3.5. Food and Agriculture: ASEAN–Japan Cooperation

ASEAN–Japan cooperation in the food and agriculture sector occurs through the ASEAN ministers of agriculture and forestry and the ministers of agriculture and forestry of China, Japan, and Korea, known as AMAF+3. The framework for AMAF+3 was established in 2001, and the first AMAF+3 meeting was held in 2001 in Indonesia (ASEAN, 2001). Since then, the AMAF+3 meeting has been held annually.
Before the establishment of the AMAF+3 framework, Japan's agricultural cooperation in AMS was mostly implemented in the form of bilateral cooperation between each AMS and Japan. For example, in Indonesia, Japan's bilateral cooperation in the agriculture sector there had been conducted since the 1960s, which focussed on growing agricultural production through support for irrigation.

At the first AMAF+3 meeting in 2001, the criteria for ASEAN regional projects were adopted. Projects should be regional in nature and of benefit to AMS, and projects should be implemented with the participation of as many AMS as possible, but these projects should involve, at a minimum, participation by any two AMS and China, Japan, or Korea. These criteria remain valid.

Areas of cooperation have changed, however. At the first AMAF+3 meeting, there were six areas of cooperation: regional food security, research and development, human resources development, coordination and cooperation in international and regional issues, agriculture information network, and trade facilitation. Since then, the areas of cooperation have been updated to nine within the framework of the *ASEAN Plus Three Cooperation Strategy on Food, Agriculture and Forestry (APTCS) 2016–2025* (ASEAN Secretariat, 2017). The current strategic areas of cooperation are in Table 3.1.

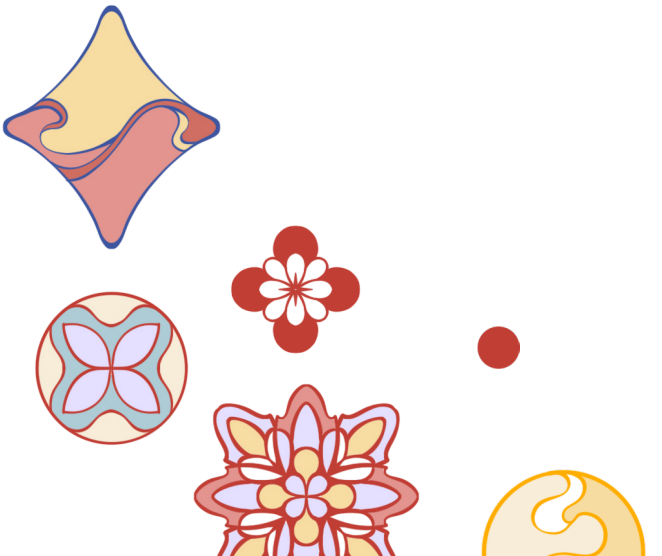


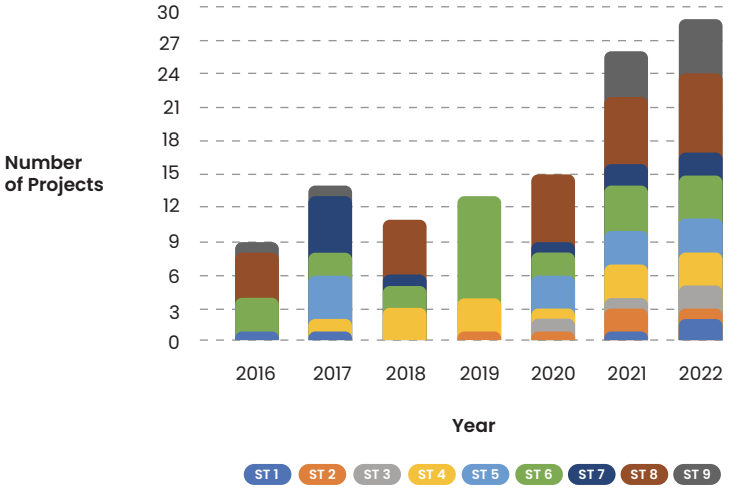
Table 3.1: Strategic Areas of Cooperation, ASEAN Plus Three Cooperation Strategy on Food, Agriculture and Forestry, 2016–2025

Area	Area of cooperation
1	Strengthening Food Security
2	Biomass Energy Development
3	Sustainable Forest Management
4	Climate Change Mitigation and Adaptation
5	Management of Animal Diseases and Plant Pests
6	Enhancement of Capacity-Building and Human Resources Development
7	Enhancement of Productivity, Quality, and Marketability of Agriculture Products
8	Strengthening of Information and Knowledge Networking and Exchange
9	Strengthening Collaboration on Research and Development

ASEAN = Association of Southeast Asian Nations.
Source: ASEAN Secretariat (2017).

Some features of ASEAN–Japan cooperation in food, agriculture, and forestry can be identified through a comparative analysis based on information collected from each year's summary record of the Special Senior Officials Meeting of the AMAF+3 (Figure 3.2).

Figure 3.2: ASEAN–Japan Cooperation Projects on Food, Agriculture, and Forestry



ASEAN = Association of Southeast Asian Nations.
Source: ASEAN Secretariat (2017).

In 2016, the first year of the APTCS 2016–2025, ASEAN–Japan cooperation projects only numbered 9, but this drastically increased to 29 in 2022. Furthermore, capacity-building and human resources development, as well as information and knowledge networking and exchange, have consistently been the focus of cooperation. Collaboration on research and development is rising. This move is consistent with the focus of Japan's recent cooperation strategy with ASEAN that emphasises innovation.

Two other important initiatives have been undertaken to strengthen regional food security since the establishment of AMAF+3. The first is the ASEAN+3 Emergency Rice Reserve (APTERR) and its preparatory stage, including the East Asian Emergency Rice Reserve pilot project. The APTERR was established in 2013 as a permanent mechanism and aims to strengthen food security, alleviate poverty, and eradicate malnourishment amongst its members (i.e. AMS plus China, Japan, and Korea) without distorting normal trade. Under the APTERR, the rice reserve is available through a three-tier programme; the last tier is designed for acute emergencies and other humanitarian responses. The second initiative is the ASEAN Food Security Information System (AFSIS), which began in 2003 and has been implementing projects to strengthen food security in the region through the systematic collection, analysis, and dissemination of data related to food security in the ASEAN region. Japan has been continuously supporting these two key initiatives with Thailand.

3.5.1. Direction of Policy and Strategy towards Sustainable Agriculture and Food Systems

In Japan, to realise both an increase in productivity and sustainability in the food, agriculture, forestry, and fishery industries through innovation, *Measures for the Achievement of Decarbonization and Resilience with Innovation (MeaDRI)*, which is a medium- to long-term strategy, was developed in 2021 (MAFF, 2021). The MeaDRI is expected to pave the way towards the development of a resilient and sustainable food system, more specifically by increasing the productivity of food and agriculture while reducing the environmental load by promoting innovation.

In ASEAN, *ASEAN Regional Guidelines for Sustainable Agriculture in ASEAN: Developing Food Security and Food Productivity in ASEAN with Sustainable and Circular Agriculture*[1] was adopted in 2022. The guidelines address the challenges that agriculture is facing and raises 28 key strategies to address them, including improving soil health, valorising agricultural waste biomass and food waste, reducing greenhouse gases from agriculture-related activities, promoting the use of smart and precision agriculture systems, and reducing reliance on agrochemicals. The guidelines are expected to facilitate the transformation of ASEAN agriculture into a highly productive, economically viable, and environmentally sound system.

[1] The document is available at the ASEAN Secretariat.

These policy and strategy directions of Japan and ASEAN indicate a similarity of focus, such as the promotion of sustainable agriculture and food systems. More specifically, they both aim to improve agricultural production and productivity while reducing the environmental load.

3.5.2. Priority Areas for Food and Agriculture Cooperation

At the latest AMAF+3 meeting held on 26 October 2022, Japan proposed new initiatives for ASEAN–Japan cooperation in the food and agriculture sector, known as the Midori Cooperation Plan (MAFF, 2022). Japan will focus on building a resilient and sustainable agricultural production system through innovation towards ensuring regional food security. Specific areas of cooperation are the (i) development, demonstration, and dissemination of technologies for building a resilient and sustainable production system through innovation, such as technologies enhancing smart/digital agriculture, the circular economy, and biomass energy; (ii) human resources development for building resilient and sustainable agriculture and food systems; and (iii) other support for the implementation of the *ASEAN Regional Guidelines for Sustainable Agriculture in ASEAN*. Also, the Midori Cooperation Plan emphasises public–private partnerships to utilise the technical and financial capabilities of the private sector. AMS expressed their support for Japan's proposal, with the expectation for the implementation of specific projects.

In the joint press statement of this latest AMAF+3 meeting, the following cooperation areas were highlighted: promoting green, sustainable, and circular agriculture and sustainable forest management; reducing the use of harmful agrochemicals in the agriculture sector; promoting nature-based solutions, decarbonisation efforts, and digital technology application in agriculture and forestry; and promoting biological control agents in animal husbandry and aquaculture (ASEAN, 2022). There are many similarities in terms of possible cooperation areas between Japan's Midori Cooperation Plan and key priority areas for ASEAN cooperation stated in the joint press statement.

3.5.3. Enhancing ASEAN–Japan Cooperation for Food and Agriculture

Towards the realisation of more resilient and sustainable agriculture and food systems in AMS, development and dissemination of innovative technologies should be prioritised as indicated in the Midori Cooperation Plan. Indeed, ongoing projects, such as the Greenhouse Gas Mitigation in Irrigated Rice System in Asia (MIRSA) initiative, Accelerating Application of Agricultural Technologies That Enhance Resilient and Sustainable Agriculture and Food Systems in the Asia Monsoon Region programme, and a smart agriculture pilot project, are expected to facilitate the dissemination of innovative technologies and to be scaled up in the future. As each AMS's priorities – as well as policy and technical circumstances for application of innovative technologies – differ, however, it must be recognised that there is no 'one-size-fits-all' solution for the entire ASEAN region.

In addition, human resources development for those engaged in activities to realise resilient and sustainable agriculture is essential. Current projects, such as one focussed on farmer organisations to support the development of food value chains in AMS (i.e. the CBF Project), a human resources development project in food-related areas through partnership programmes with universities in ASEAN (i.e. the HRD Project), and a project for enhancing the understanding of good agricultural practices (i.e. the GAP project), do feature ASEAN–Japan cooperation. Many ASEAN officials and stakeholders have already been trained thanks to these projects, which have, in turn, been highly evaluated. These projects should be continued.

ASEAN–Japan cooperation on facilitating the implementation of the A*SEAN Regional Guidelines for Sustainable Agriculture in ASEAN* needs to be intensified; the Green Asia Project, newly initiated by the Japan International Research Center for Agricultural Sciences (JIRCAS), could support such implementation. This project focusses on sharing information on basic agricultural technologies for sustainable agricultural efforts in the Asia monsoon region. Additionally, ERIA began a new research project on building and enhancing sustainable agriculture and food systems in AMS with contributions from Japan. Through a scoping study, key priority issues and strategies in each AMS will be identified, as well as readiness for implementing the *ASEAN Regional Guidelines for Sustainable Agriculture in ASEAN*. Findings should be reported to related ASEAN sectoral bodies, which will then help formulate accurate action plans for implementation of the guidelines in each AMS.

Recent external shocks, such as the COVID-19 pandemic and escalation of various geopolitical tensions, have adversely affected food security globally and regionally, resulting in food price hikes. The APTERR has been key to ensuring regional food security against a short-term crisis in terms of rice supply. It released 7,138 metric tonnes of rice from Japan and Korea to address the emergency, including the pandemic, in Cambodia, Lao People's Democratic Republic (Lao PDR), Myanmar, and the Philippines. As the APTERR mechanism functioned well during this short-term crisis, expansion of its target commodity to another key crops – other than rice – should be discussed.

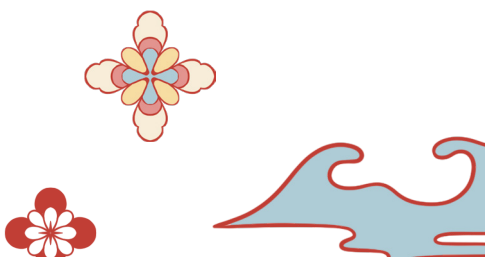
Finally, as the number of ASEAN–Japan cooperation projects has been increasing and areas of cooperation are becoming diversified, the establishment of a new framework for the AMAF+Japan should be considered to enhance food and agriculture cooperation, apart from the current AMAF+3 framework. As ASEAN–Japan cooperation will celebrate its 50th anniversary in 2023, the first meeting of AMAF+Japan should be held during this year.

3.6. Health Care: Towards Achieving the Universal Health Coverage Vision in ASEAN[2]

3.6.1. Less than 10 Years Remaining to Achieve the Vision

UHC means that all individuals and communities receive health care services and associated products that they need, without suffering financial hardship. UHC includes the full spectrum of essential, quality health care, ranging from prevention to treatment, rehabilitation, and palliative care across the life cycle. Importantly, UHC emphasises not only what services are covered but also how they are funded, managed, and delivered (WHO, 2021). Achieving UHC became a global priority when all nations committed to the Sustainable Development Goals (SDGs) in 2015, of which SDG 3 specifically pertains to UHC. Led by the World Health Organization (WHO), various initiatives have been established to see this vision achieved by the 2030 deadline, including UHC2030, P4H Network, and UHC Partnership (World Bank, 2022). Household health care expenditures continue to impoverish an estimated 90 million people globally every year, a situation which was further highlighted by the COVID-19 pandemic (Tediosi et al., 2020).

There is no single template for achieving UHC. WHO set out 16 essential topics across 4 categories as leading indicators: maternal and child health, infectious diseases, non-communicable diseases, and broader capacity and access schemes such as health care worker density. The key metrics aligned to the SDGs pertain to population access to essential, quality health care services, and household expenditures required for the same. Ultimately, however, stakeholders agree that every country's culture is unique; therefore, UHC practices need to be tailored to each.



[2] This section was made possible through collaboration with and reporting of the ASEAN Secretariat, particularly the Health Division Team under Cluster 3. The authors wish to thank the Secretariat, AMS, and other public–private stakeholders for their contributions: Eduardo Banzon, health specialist, Asian Development Bank; Edward Booty, chief executive officer, Reach52; Probir Das, group executive officer, Terumo Corporation; Brent Denning, ASEAN regional head, Docquity; Hinoshita Eiji, assistant minister for global health and welfare, Ministry of Health, Labour and Welfare, Government of Japan; Steven Graaff, founder, Good Practice; Chris Humphrey, executive director, EU-ASEAN Business Council; Dennis Jacobus, managing director, Diagnos Laboratorium; Shige Kanao, health care and medical business unit leader, Marubeni; Daniel Kastner, chief transformation officer, Bumrungrad International Hospital; Nikki Kitikiti, vaccines policy lead for emerging markets, Takeda; Feisal Mustapha, Disease Control Division, Ministry of Health, Government of Malaysia; Minh Nguyen, Viet Nam senior country lead, Allianz Partners; Clive Tan, integrated care, Singapore National Healthcare Group; and Itani Tetsuya, director, Office of Global Health Cooperation, Ministry of Health, Labour and Welfare, Government of Japan.

That said, as countries around the world are in varying stages of UHC maturity, there is a great opportunity to learn from one another. For example, Japan has achieved excellent health care outcomes since its focus on UHC, which dates to the implementation of social insurance in 1961. This effort was decades in the making, evolving out of revisions to community-based health care programmes and encouragement of employers to take more accountability for protecting their workers. Importantly, Japan demonstrated stable leadership for UHC and timed the inputs and outputs for its health care reform with broader socio-economic planning. Indeed, investment in health is an investment in wealth; it is no coincidence that Japan's UHC achievement coincided with the Japanese Economic Miracle.

3.6.2. ASEAN's March towards Providing Health for All

ASEAN's growth and size outpace much of the rest of the world, with the 10 AMS representing nearly 10% of the global population; the ASEAN economy is projected to be the fourth largest in the world by 2050. The region is facing several demographic and epidemiological headwinds, however. AMS will officially become aged societies within the next decades, and they will lose 9 million lives annually due to chronic diseases while also representing 27% of such cases around the globe (Humphrey et al., 2020).

Despite the 250% increase in public health care expenditures in AMS, government strategies across ASEAN remain varied, and outcome measures like life expectancy and UHC index scores are low. Other indicators – such as insufficient child immunisation rates, limited preventative health budgets, and more generally, a focus on low-cost measures rather than on rewarding innovation – are symptomatic of the low 5% GDP allocation that goes to health care (i.e. about half of the global average) in the region. There are infrastructure challenges as well, such as the lack of about 5 million requisite health care workers, revenues well below the 15% tax–GDP target, and largely informally employed populations. Ultimately, this has led to out-of-pocket (OOP) expenditures on health care to be 30% or more of total (Table 3.2), which is working against UHC and broader socioeconomic development ambitions (Humphrey et al., 2020).

Table 3.2: ASEAN Member States and Others, Health Statistics

Country	Health Expenditure (% of GDP)	Average Life Expectancy (years)	Out-of-Pocket Costs (% of total health care expenditures)
Indonesia	2.90	72	34.76
Malaysia	3.83	76	34.57
Philippines	4.08	71	48.56
Singapore	4.08	84	30.15
Thailand	3.79	77	8.67
Viet Nam	5.25	75	42.95
Germany	11.70	81	12.82
Japan	10.74	85	12.91
United Kingdom	10.15	81	17.07

ASEAN = Association of Southeast Asian Nations, GDP = gross domestic product.
Source: Humphrey et al. (2020).

AMS have stepped up over the past few years to tackle these challenges. The *ASEAN Declaration on Strengthening Social Protection* was established in 2015 (ASEAN Secretariat, 2013) in line with the SDGs, which was then elaborated by a regional framework and action plan with the goal of improving the quality of life by 2025 (ASEAN Secretariat, 2015). ASEAN, moreover, created the A*SEAN Post-2015 Health Development Agenda, 2021–2025*, under which the Cluster 3 team is specifically targeting progress in strengthening health systems and access to care (i.e. UHC). Areas of focus within Cluster 3 include reproductive health, migrant health, pharmaceuticals, human resources, financing, and, increasingly, digital health (ASEAN Secretariat, 2021).

The past few decades have indeed witnessed a decline in poverty, emergence of a middle class, and a welcome increase in government health care investment. Particularly strong investment increases (in double digits) have been observed in Indonesia, Viet Nam, and the Philippines, where very large population sizes – impacted by the aforementioned demographic and epidemiological challenges – necessitate a greater focus on health care. These emerging countries are taking lessons from the long-established UHC scheme in Thailand, where OOP expenditures dropped from more than 20% to 8% or less (Cui, Cassidy, Hendrajaya, 2017). While Indonesia, Viet Nam, and the Philippines still see 30% OOP expenditures, expectations are for a dramatic decline with their rollouts of UHC (Cui, Cassidy, Hendrajaya, 2017).

UHC penetration rates elsewhere in AMS are much lower (Table 3.3), the UHC service coverage index scores still remain closer to 50%. However, initiatives such as *Myanmar Health Vision 2030* are bringing associated discussions to the

forefront. Towards this, the ASEAN Secretariat has documented UHC best practices from across the region thus far, providing practical solutions for such countries in areas such as health care facility infrastructure (urban as well as rural), health care worker upskilling and task-shifting, and service package strategies that encourage both integration and accountability of health care (Cui, Cassidy, Hendrajaya, 2017; ASEAN Secretariat, 2019a).

Table 3.3: Breakdown of Indicators and Universal Health Coverage Efforts in ASEAN

Country	**Population** (million, 2018)	**GNI per Capita** ($, 2018)	**UHC Service Coverage Index** (out of 100, 2015)	**Insurance Coverage** (% of total population, 2019)	**Summary of UHC Commitment**
Brunei Darussalam	0.4	31,020	>80	100.0	National welfare
Cambodia	16.1	1,380	55	37.5	Commitment to move towards UHC
Indonesia	267.7	3,840	49	84.0	UHC began in 2014
Lao PDR	7.1	2,460	48	94.0	Commitment by 2020
Malaysia	31.5	10,460	70	100.0	UHC using single public provider and general government budget since 1980s
Myanmar	53.7	1,310	59	2.0	Commitment to strengthen health system to support UHC
Philippines	106.7	3,830	58	78.0	Expansion of national health insurance by national/local government and PhilHealth benefits package
Singapore	5.6	58,770	>80	93.0	UHC though national programmes of MediSave, MediShield, and MediFund since 1980s
Thailand	69.4	6,610	75	100.0	UHC since 2002
Viet Nam	94.7	2,590	73	89.9	Resolution of Central Committee of the Communist Party of Viet Nam has committed to move towards UHC. Social health insurance is targeted at 95% coverage by 2015.

ASEAN = Association of Southeast Asian Nations, GNI = gross national income, Lao PDR = Lao People's Democratic Republic, UHC = universal health coverage.
Note: These figures are in process of being refreshed for the current decade.
Source: ASEAN Secretariat (2019b).

According to various public and private stakeholders who are actively involved in UHC efforts in the region, a few challenges still stand out:

(i) Foundational elements are lacking that inhibit the progress of health care. Examples include internet access and modernised payment systems, especially for the rising middle class.

(ii) Financing is a resounding theme across a range of dimensions, from medicine reimbursement to furnishing of health care commodities to even health care worker salaries. Stakeholders are calling for more sustainable and efficient financing models – which are seen as an investment akin to that in the education sector – to maximise resources. These improvements must also be clearly communicated and understood by the population.

(iii) At the same time, health care needs to continue to evolve. There must be increasing focus on harnessing the momentum of improved health care literacy following the COVID-19 pandemic as well as on broader well-being initiatives, necessitating a whole-of-government approach. Of particular importance is overcoming the inequities that exist in accessing high-quality health care, such as in rural and low-income areas.

(iv) Countries that have been successful with achieving UHC have done so by executing a stable, long-term vision. Despite political uncertainties in AMS, UHC requires leadership that remains committed to the cause over the next decade to see the ambition realised.

(v) The private sector stands ready to support AMS governments. UHC may be difficult to achieve without public–private partnerships, which means more collaboration from the beginning to the end of key programmes, as well as transparency along the way. There is a shared vision to reduce burdens on health care settings and to improve affordability for UHC.

3.6.3. Recommendations

Despite the challenges, a spirit of progress remains towards achieving UHC in AMS, and the public as well as private stakeholders are aligned in their views about opportunities for collaboration. The ASEAN Secretariat has been proactive in reaching out to and learning from other regions that have achieved UHC. Japan, for instance, is a UHC model that demonstrates a manageable GDP allocation to health care of about 11%, OOP expenditures of about 13%, a UHC coverage index score of 83 out of 100, and average life expectancy of 85 years (Hardesty et al. 2021).

ASEAN and Japan are celebrating 50 years of collaboration in 2023, including through the Japan–ASEAN Health Initiative, which aims to support AMS in creating vibrant and healthy societies (ASEAN Secretariat, 2022). In 2014, at the 17th Japan–ASEAN Summit, an agreement was made to jointly train 8,000 new health care workers in topics like disease prevention and quality standards. Then, at the 2015 forum, the Japan–ASEAN Integration Fund was established as a platform for sharing of experiences, such as those tackling the rise in lifestyle-related disease

patterns. Ageing societies are another commonality, given that Japan became an aged society over a 24-year period, while ASEAN is on track to become the same in only 15 years (Mission of Japan to ASEAN, 2016).

Once the SDGs were established, ASEAN and Japan committed to the ASEAN–Japan UHC Initiative to jointly achieve the 2030 UHC objective (MHLW, 2017). At the ASEAN–Japan Health Ministers' Meeting on UHC held in 2017, topics included the impacts of population ageing, as connected to the new United Nations Decade of Healthy Ageing framework and involving a site visit to Kanagawa Prefecture's Life Innovation Centre, as well as strategies for diversifying UHC funding streams, which are used to reduce OOP expenditures (WHO, 2017). More recently, Japan contributed $50 million to the ASEAN Centre for Public Health Emergencies and Emerging Diseases associated with the efforts to combat the COVID-19 pandemic (MOFA, 2020).

To continue to drive progress forward on UHC, opportunities in AMS can be prioritised into five high-level areas:

(i) Improve health care coverage rates of the population, while maintaining administrative efficiencies and preparing for mandatory premium contributions.
(ii) Commit to a dual, long-term strategy of developing the health care workforce, including cross-border, while also digitalising patient-facing and back-office infrastructure.
(iii) Explore alternative and more sustainable financing arrangements for ASEAN populations, leveraging best practices (as well as investments) from abroad and from other sectors.
(iv) Build consolidated health care data flows across ASEAN, allowing stakeholders better insights to work together to tackle non-communicable as well as infectious disease challenges.
(v) Achieve the above through public–private collaborations, embracing elements of choice for the emerging middle class and harnessing the trust developed (e.g. in supply chains).

Beyond the above, all ecosystem stakeholders must support ongoing research endeavours for UHC in AMS. A prior call for research themes for AMS, as led by the WHO Centre for Health Development in Japan (also known as the WHO Kobe Centre), highlighted areas such as new services delivery configurations, alternative funding models, healthy ageing, task shifting of human resources, and evaluation techniques for innovation. This research spans governments, the private sector, and academia, from Japan to ASEAN, towards the UHC 2030 ambition.

Given the situations in Japan and the ASEAN region, the following themes and viewpoints could be raised for further collaboration on UHC.

(i) For the short- to long-term, data must be collected regularly and shared with the public so that every stakeholder can review progress. As some health

data are also useful for the research and development of medicines and medical devices, they can likewise be considered part of the collaboration amongst governments, academia, and the private sector. Japan could support these data collection and sharing activities in the ASEAN region with ERIA.

(ii) In addition to UHC, Japanese initiatives are expected on the topics of ageing, antimicrobial resistance, and the ASEAN Centre for Public Health Emergency and Emerging Diseases. To strengthen these three pillars, the Japan and ASEAN health ministers' meetings should resume. Discussions on the centre would be a welcome agenda item for the Government of Japan, since the rough framework of support from Japan has been already determined, although its operation scheme is still unclear.

(iii) Building the collaboration scheme between the public and private sector is necessary. To provide long-term care for as many people as possible, for example, the private sector must be utilised. Research and development on antimicrobials and to ensure supply chain of medical devices or medicine are additional significant topics for collaboration.

Table 3.4: Recommendations for Government

No	Recommendation	Details
1	Evolve UHC schemes to align to modernised demographic and epidemiological needs. For example, Japan deployed a composite approach, in a stepwise manner, while keeping premiums low for those who were socio-economically disadvantaged. The key was keeping eligibility and collections data current, while taking a long-term yet agile view in seeking inputs.	• Consider a composite approach of existing UHC scheme options available. • Ramp up coverage penetration, including for the informal sector and for primary/outpatient care. • Aim for administrative efficiencies. • Start preparing for the shift towards mandatory UHC enrolments.
2	Focus on boosting the health care workforce while embracing a technology strategy. Regional disparities, within and across AMS, affect patient outcomes, and often a bottleneck is the shortage of health care workers. Cloud technology, for example, is projected to derive significant savings for AMS over the next 5 years (ACCESS Health International, 2022).	• Set up or promote a regional talent exchange programme (including Japan and ASEAN) to offer training opportunities. • Leapfrog the UHC model through technology, including base enablers such as internet access and mobile wallets. • Continue digitalisation in areas like cloud, electronic medical records, and low-bandwidth health care apps (e.g. for

No	Recommendation	Details
		telehealth, decentralised patient education, even social media). • Take an example from Viet Nam, which issued 97 million digitalised social security numbers through the VssID mobile app, positioning the country to revolutionise the insurance process under UHC design. • Leverage benefits of these programmes in the form of data collection, helping provide the insights and investment cases needed to construct policies and to monitor implementation outcomes more effectively.
3	Tackle lifestyle and chronic diseases, an inevitable need for AMS as their economies develop.	• Consider how to equip more institutions with faculty to boost the number of available physicians. • Prepare the primary care community for more specialty training, a proven technique in Japan. For example, for diabetes, this means providing educational materials and incentivising wearable technologies for improved data sharing. • In more niche domains like rare diseases and cancers, consider increasing screening and establishing cross-border specialist-to-specialist networks.
4	Step up preventative efforts for infectious diseases, which will continue to be a challenge for AMS.	• Increase the availability and access to immunisation programmes, one of the most cost-effective public health interventions available. For example, in Japan, the Ministry of Health, Labour, and Welfare collaborates with the Ministry of Education on vaccine awareness programmes. • Ensure that vaccine records become digitised over time, helping governments track and manage future outbreak scenarios.

No	Recommendation	Details
5	Utilise public–private partnerships to achieve the UHC commitment. In Japan, for example, a UHC success factor was the government working with private primary care providers, such as small hospitals, to manage the demand on the system.	• Lean on the private sector for global best practices, including in areas such as supply chains and logistics (as observed during the COVID-19 pandemic). • Align models for privatised provision of health care services, which ASEAN populations will begin to seek out as the middle class develops. • See the private sector as a source of innovation and a financial contributor, in terms of taxation, employment, and other joint investment schemes. • Undertake a new flagship programme, such as establishing a national preventative care centre, to share lessons beyond AMS and to train the next generation of leaders.

AMS = ASEAN Member States, ASEAN = Association for Southeast Asian Nations, UHC = universal health coverage.
Source: Authors.

Table 3.5: Recommendations for the Private Sector and Academic Collaboration on Universal Health Coverage

No	Recommendation	Details
1	Bring creativity to financing solutions, given the UHC resourcing challenges faced by AMS governments.	• Consider how to utilise private insurance, traditionally under-penetrated, as a form of financial security to the populations on the basis that necessary medical care is publicly provided. • Consider social impact bonds. For example, in Hiroshima Prefecture in Japan, these bonds were used to increase the rate of colorectal cancer screenings, leading to savings in downstream medical expenses and ultimately a return to private investors.

No	Recommendation	Details
		• Leverage public–private financial schemes from abroad, which could be tailored to the UHC context in AMS.
2	Invest beyond health care into wider GDP and socioeconomic development.	• Seek, where possible, to localise research, production, and employment activities. • Partner with international development agencies and non-traditional new entrants who have like-minded UHC goals. • Leverage the public–private trust that developed during the COVID-19 pandemic, for example, on supply chains. • Deploy business models that can develop and harness an emerging middle class expected to have greater demands on the health care system.
3	Align to health system reforms.	• Topics include ongoing campaigns in AMS for increasing health care literacy, encouraging preventative health behaviours, and enabling capabilities like self-care. • Bring technology expertise to areas such as internet penetration and health care infrastructure, like cloud and digitised patient recordkeeping. • Lead by example to help UHC programmes achieve scale. For example, in Japan, employers are obliged to provide annual medical check-ups for employees.
4	Construct and contribute to consolidated health care database initiatives. AMS are expected to move quickly on this topic as a UHC leapfrogging imperative.	• Bring best practices to digital transformation, such as harnessing data repositories for use in policy design and evaluation. • Other examples include integration of vaccine records, new-born screening to triage abnormalities earlier in life, and algorithms for data generated from wearable technologies (e.g. identification of disease risk factors).

No	Recommendation	Details
5	Maximise available resources and enable health system efficiency to overcome workforce deficiencies.	• Provide administrative support in areas such as maintaining population eligibility information, collecting coverage premiums, and potentially serving as an intermediary reimbursement vehicle. • Establish close relationships between payer and provider organisations, which enable the public sector to prevent overtreatment and rehospitalisation and the private sector to provide managed services across the patient life cycle as additional value through consolidation. • Iterate programme improvements with the public sector by ramping up monitoring and evaluation efforts.

AMS = ASEAN Member States, ASEAN = Association of Southeast Asian Nations, UHC = universal health coverage.
Source: Authors.

ERIA Activities to Accomplish the Universal Health Coverage Vision

Fumitaka Machida and Takuma Kato, ERIA

Japan has strong research capability, universal access to quality health care services, personnel with high morale, and industries such as pharmaceutical companies that rank third globally in originating top-selling drugs. Japan was, in fact, one of the first countries to achieve universal health coverage, which developed even under the economic slowdown of the past 30 years. This has been made possible by the strong ecosystem of collaboration amongst industry, government, academia, and medicine.

Yet it has also proven difficult to create the synergy that allows stakeholders in the sector to work together for more efficient and effective health services delivery, research and development, regulation, production, national economy, and health diplomacy, which are all interlinked under

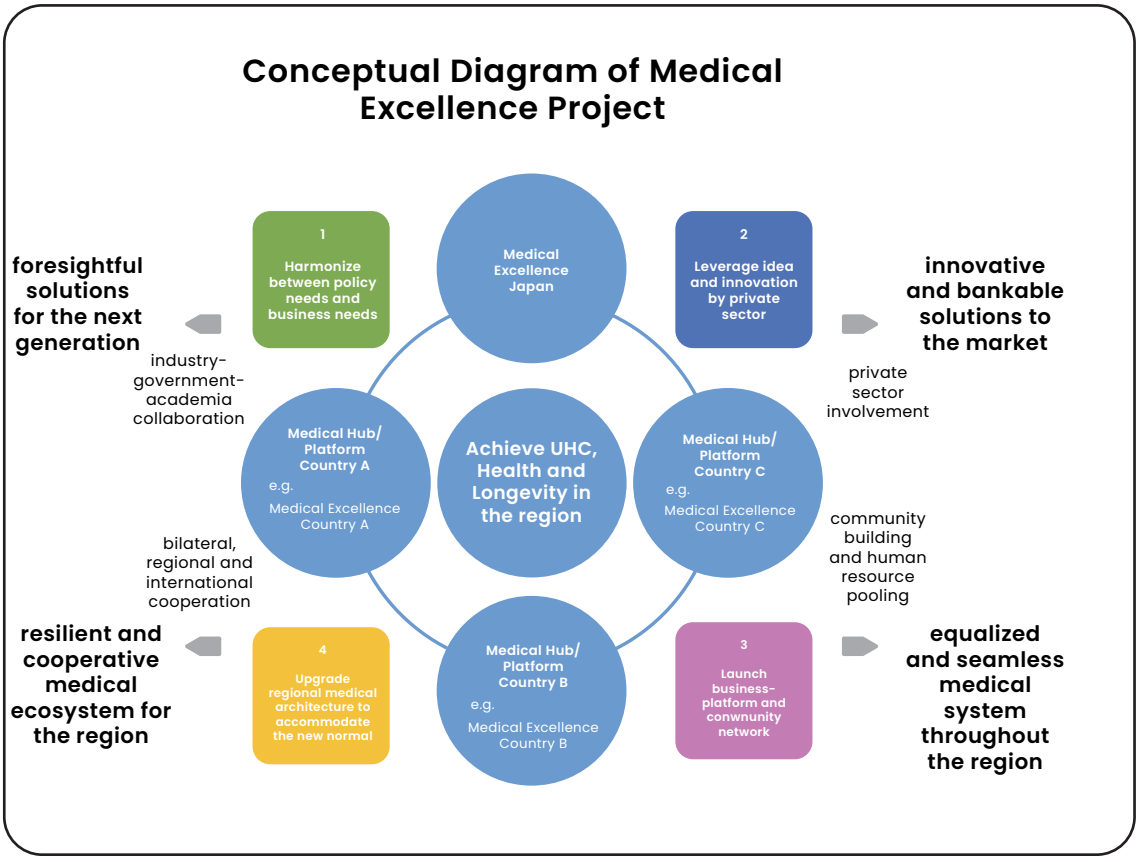
the situation where the perspectives and mind-sets of the major actors and relevant ministries differ. Regarding pharmaceuticals, for example, there are various steps before they are widely used as medicines or vaccines, including basic research, verification of safety and efficacy, approval through legal procedures, protection of intellectual property rights, business planning and pricing to meet market demand, and production and sales.

Accordingly, Japan decided to strengthen its coordination function in the government. To have a more organised ecosystem, Medical Excellence JAPAN (MEJ) was established in 2011 as a general incorporated association and hub platform to promote cooperation with foreign countries through connecting the Japanese ecosystem with overseas ecosystems. Subsequently, the government approved the Basic Principles of the Asia Health and Wellbeing Initiative in 2016 (revised in 2018). Under this initiative, the exchange of long-term care-related personnel and collaboration of long-term care services with other countries have expanded, and MEJ is currently serving as the secretariat.

Neither Japan nor ASEAN Member States have complete health care ecosystems. What each country lacks, like-minded countries can fill in the gaps; only when the ecosystems of like-minded countries are linked together can a resilient ecosystem be created in a specific country and in the region.

In the region where the perspectives, mind-sets, interests, and priorities of major stakeholders are diverse, comprehensive coordination is essential and a common challenge. One possible measure to alleviate these bottlenecks is to create MEJ-like institutions or fora in each country. In the future, when these fora collaborate mutually, health improvement and the competitiveness of the Asian health care industry can improve. Against this background, ERIA set up a special team for coordination, and full-scale activities began in 2021 to realise mutually beneficial cooperation of Asian countries through formulating an industry–government–academia–medicine collaboration mechanism by referencing the MEJ model (Figure). In response to these efforts, the MEV–MEJ Forum was established in Viet Nam. In India, efforts are underway to establish Medical Excellence India.

Medical innovation can emerge in any country. No country can build and maintain an adequate health care ecosystem in a closed form on its own. It is necessary for technology, human resources, and experience to circulate together and complement each other throughout the region.



Source: Authors.

3.7. Sustainable Energy

3.7.1. Past ASEAN–Japan Energy Cooperation

Japan possesses high-quality energy technology, especially in the areas of power transport systems, energy conservation, highly efficient fossil fuel-fired power generation, and fossil fuel stockpiling, and has long supported the ASEAN region in these fields. Japan's support has been presented at meetings such as the ASEAN Ministers on Energy Meeting Plus Three, which has been held annually since 2004, and the East Asia Summit Energy Ministers Meeting, which has been held annually since 2007. Human resources development; knowledge sharing; and research cooperation on energy security, including oil stockpiling, high-efficiency coal-fired power, and energy conservation have been ongoing. In addition to these initiatives, recent trends have been marked by new initiatives related to renewable energy; carbon dioxide capture, utilisation, and storage (CCUS); and hydrogen in the transition to a low-carbon society.

In the field of energy conservation, ASEAN–Japan cooperation was initiated in 2000, with the implementation of the project for Promotion of Energy Efficiency

and Conservation (PROMEEC) and the Multi-Country Training Programme on Energy Conservation for ASEAN Countries. In 2012, the PROMEEC project was replaced by the ASEAN–Japan Energy Efficiency Partnership (AJEEP), which is implemented by the ASEAN Centre for Energy and the Energy Conservation Center, Japan in cooperation with the ASEAN Energy Efficiency and Conservation Sub-Sector Network. Under the AJEEP, starting with consulting support on policies and legal systems in AMS with advanced energy efficiency and conservation promotion infrastructure (i.e. policies and legal systems), projects were formed to help develop energy efficiency and conservation businesses. The AJEEP has also contributed to human resources development to narrow country-specific gaps in energy conservation infrastructure.

In the field of energy security, energy supply security planning for ASEAN was initiated in conjunction with the ASEAN Senior Officials' Meeting on Energy (SOME)–Ministry of Economy, Trade and Industry of Japan (METI) cooperation programme in 2000. The programme also aims to strengthen energy security through the development and improvement of policies related to the stable supply of energy, especially oil, in AMS. After recognising the importance of energy supply security through information exchange and seminars for energy policy experts from ASEAN and Japan, Japan helped organise data and prepare an energy demand outlook (ACE, 2011), which are key elements in assessing energy security in the recent.

3.7.2. Recent World Energy Situation

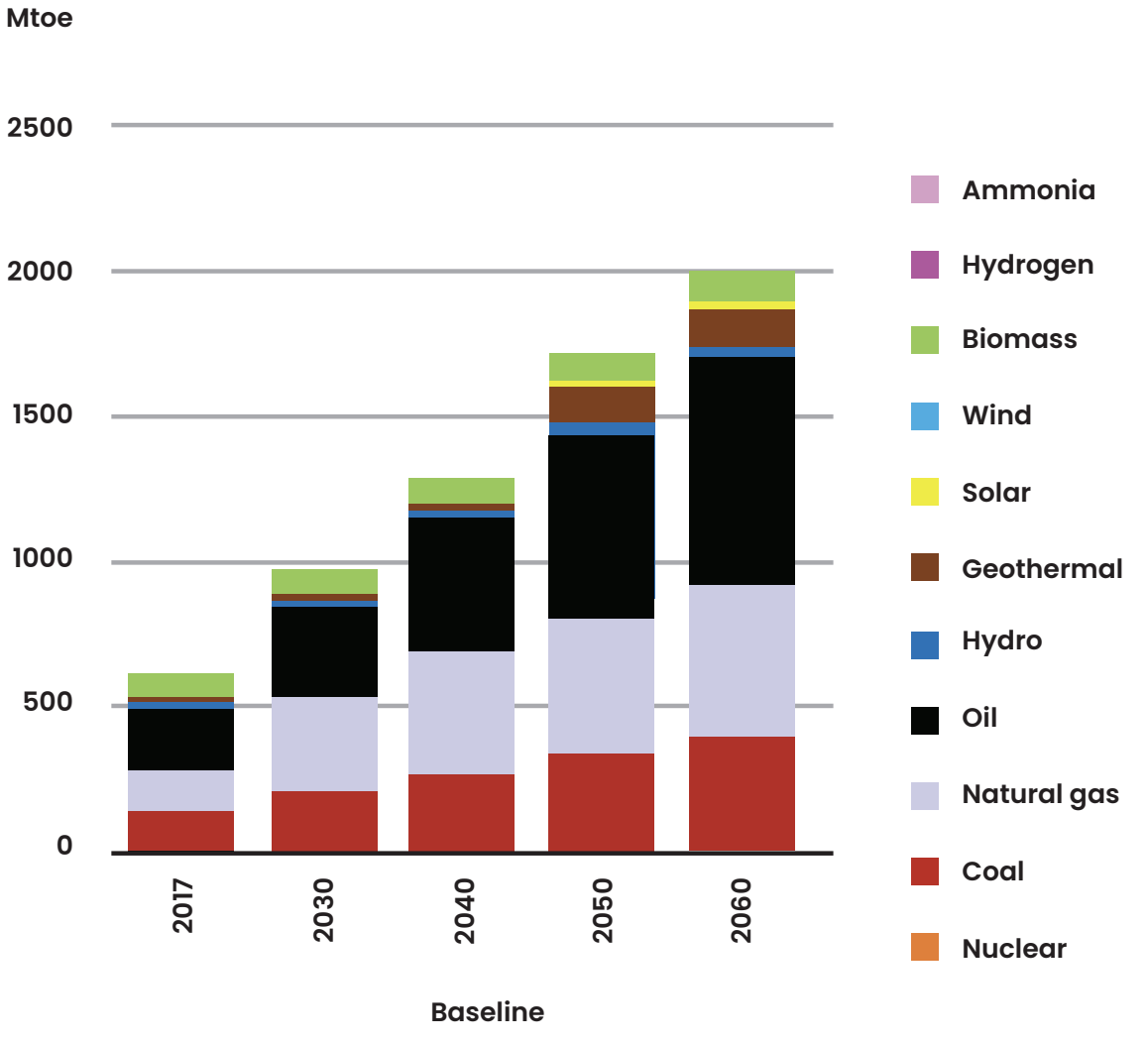
Currently, the discussion on climate change is becoming more active around the world. All countries, including AMS, that participated in the 2021 United Nations Climate Change Conference in Glasgow, United Kingdom announced their carbon-neutral scenarios to 2050 or 2060. In addition, the World Bank and various European financial institutions have announced that they will take tougher stances on financing fossil fuels. The Asian Development Bank (2021) also announced that it will not support coal mining, processing, storage, and transport nor new coal-fired power generation as a new policy of lending to the energy sector in 2021. Its energy policy also states that there will be no support for natural gas exploration and mining and only limited support for midstream and downstream natural gas that meets conditions such as cost, decarbonisation, and operation period guidelines.

The Russian invasion of Ukraine has further exacerbated imbalances of global fossil fuel demand and supply, stoking inflationary pressures and slowing pandemic recovery. The immediate reduction of the oil supply due to the collective efforts of Western-led sanctions on Russia has recast the global energy trade and made the oil market vulnerable, putting pressure on global fossil fuel supply security. This is causing an increase in overall energy costs and deepening energy security concerns around the world.

3.7.3. Energy Situation in ASEAN

ASEAN's primary energy supply in 2060 is estimated to substantially increase to about 3.3 times the 2017 level (Kimura et al., 2022). In addition, fossil fuels such as coal, natural gas, and oil will continue to increase in 2060, and their share in the energy mix in 2060 is expected to be more than 80% (Figure 3.3).

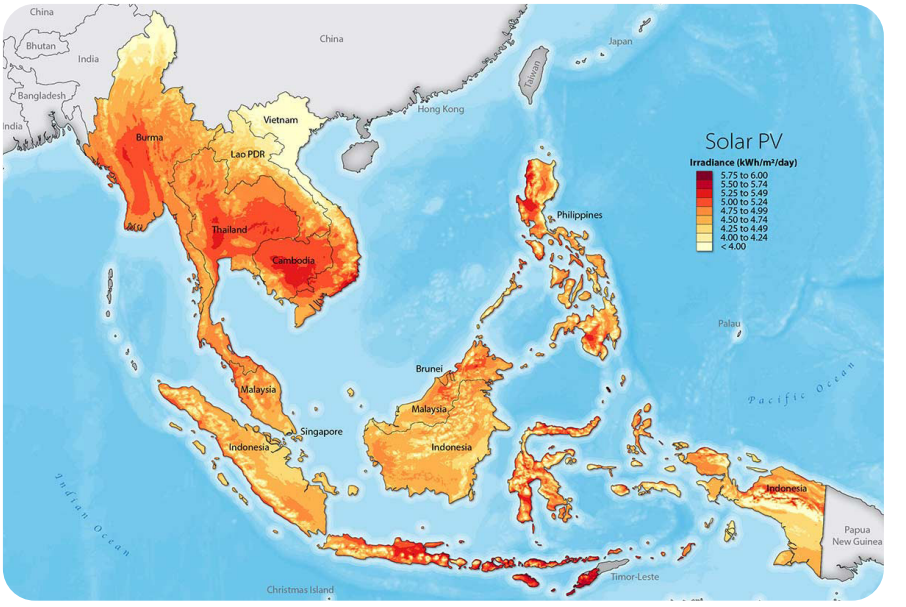
Figure 3.3: Primary Energy Supply in ASEAN



Mtoe = million tonnes of oil equivalent.
Source: Kimura et al. (2022).

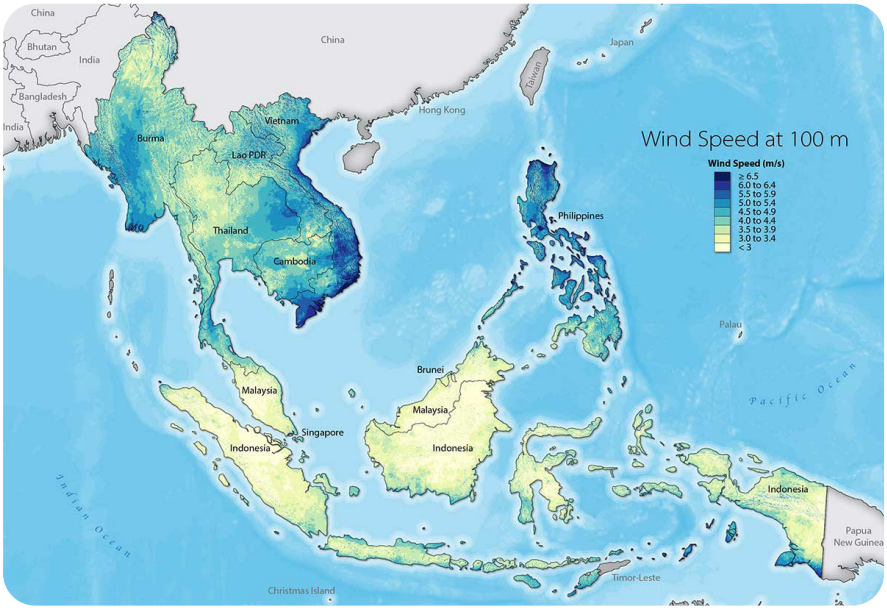
Renewable energy development in the ASEAN region is currently on pace, but these figures reveal that the potential of these renewable energies differs from region to region, and this tendency is particularly pronounced for wind power generation. Therefore, the areas where renewable energy can be introduced at a low cost are few, and fossil fuels remain an important source of electricity. This renewable energy situation differs from that of Europe, where renewable energy resources are abundant, especially wind. In addition, the ASEAN region has distinctive energy landscapes compared to North America and Europe in terms of stage of economic development, current energy mix, resources endowments, and cross-country interconnection.

Figure 3.4: Solar Resource Potential across ASEAN



Source: Lee et al. (2020).

Figure 3.5: Wind Resource Potential across ASEAN



m/s = metre per second.
Source: Lee et al. (2020).

3.7.4. Ongoing and Future ASEAN–Japan Energy Cooperation

Future ASEAN–Japan energy cooperation will occur in the areas of carbon neutrality, energy security, and human resources development. Japan has provided support for these efforts in the past.

Regarding carbon neutrality, METI (2020) stated that energy cooperation with AMS will become increasingly important. METI announced the Asia Energy Transition Initiative (AETI) in 2019, which is a comprehensive support measure for the energy transition in Asia. The AETI consists of the following five foundations:

(i) support for formulating energy transition road maps towards implementing carbon neutrality;
(ii) presentation and promotion of the Asian version of energy transition finance;
(iii) $10 billion in financing support for renewable energy, energy efficiency, LNG, and other projects;
(iv) support for the development and deployment of technology, utilising a ¥2 trillion fund; and
(v) human resources development, knowledge sharing, and rules-making on decarbonisation technologies.

Based on the AETI, ERIA has conducted studies on energy transition scenarios and transition technologies in the ASEAN region, emphasising the importance of a diversity of mitigation pathways towards carbon neutrality, including highly efficient combined-cycle gas turbine, coal and ammonia co-combustion, gas and hydrogen co-combustion, coal and biomass co-combustion in power generation with the possibility of CCUS, and financing for related technologies (Kimura et al., 2022; Han, 2022).

In line with the AETI, Japan also aims to realise the Asia Zero Emission Community (AZEC) with like-minded Asian countries. The AZEC consists of four frameworks: zero-emissions technology development, international joint investment and co-financing towards this goal, standardisation of technologies, and a carbon credit market. Strengthening energy security to support zero emissions in Asia will also be promoted. The AZEC intends to help build decarbonised supply chains, such as hydrogen and ammonia, as well as technology development and deployment, with the support of and through coordination amongst relevant parties.
Although the AETI and AZEC are comprehensive, well-designed frameworks of ASEAN-Japan energy cooperation, many details remain unresolved. The following recommendations are designed to help create a more specific action plan to achieve the goals of both frameworks.

First, technology development, demonstration, and supply chain development must be actively promoted. As stated previously, based on the AETI, Kimura et al. (2022) conducted a study on energy transition scenarios and stated that achieving carbon neutrality in ASEAN will require a combination of various low-carbon technologies in addition to renewable energy installations. However, many of these technologies are currently too expensive for most AMS. Therefore, the key is not to pursue any particular technology but to identify cost-effective technologies. Japan therefore must actively develop and demonstrate these technologies and then provide them to ASEAN. Furthermore, ASEAN and Japan should promote the development of supply chains towards this objective.

Second, appropriate financial support for energy transition technologies is key. As the European Union and Singapore are focussed on green technology, some of the phased transition technologies needed in ASEAN – such as ammonia co-firing – have not been financially supported. Therefore, it is necessary to establish a common taxonomy for the ASEAN region to ensure that the technologies needed for its energy transition are appropriately funded. As part of the AETI, the Asia Transition Finance Study Group published the first version of such taxonomy in 2022, and ERIA published the first version of the transition technical list in 2022. Facilitation of such transition financing should continue by updating these documents and expanding stakeholder relationships into the future.

Third, support and cooperation are needed for the effective use of energy resources. Specifically, these include improvements in energy efficiency and

energy connectivity. Cooperation between Japan and ASEAN in these areas has taken place, but it is becoming even more important as energy security has become a top priority for most countries – including AMS – due to unstable energy prices. Improvements in energy efficiency and energy connectivity also are helpful in achieving carbon neutrality affordably.

Indeed, energy efficiency has great potential in ASEAN, especially in the industrial, transport, and building sectors. However, there are few managers and experts capable of forming and managing such projects. Therefore, for energy efficiency knowledge and skills to spread widely throughout the ASEAN region, it is important to support capacity building continuously, as is occurring through the AJEEP.

In terms of enhancing energy connectivity, regional cooperation contributes to more efficient deployment of low-carbon technologies, including renewable energy. The ASEAN Power Grid initiative is seeking to optimise investments on a regional scale rather than individually in each AMS, help balance excess supply and demand, reduce the costs of developing energy infrastructure, and accelerate development of renewable power generation into the regional grid. This initiative is first occurring on cross-border bilateral terms, then expanded sub-regionally, and finally to a totally integrated regional system.

ASEAN successfully launched sub-regional power trade in the Lao PDR-Thailand-Malaysia-Singapore Power Integration Project, the first pilot project for multilateral power trade in ASEAN. The knowledge gained, such as wheeling methodology and development processes, can be used in the ASEAN Power Grid and further stimulate discussions. However, the ASEAN Power Grid has issues that more complex than those in the above project, such as consensus building amongst stakeholders, establishment of a power-trading institution, market design, and infrastructure development. ASEAN must be sure to engage in steady discussions from a long-term perspective while involving countries with knowledge in these fields, such as Japan, those in Europe, and the United States.

It must also be noted that Japan will benefit greatly from the ASEAN Power Grid. The efficient supply of renewable energy will enable many Japanese companies in ASEAN to conduct their business activities using green energy. This will improve their social reliability and brands. In addition, the ability to connect large amounts of renewable energy to the grid will create more opportunities for Japanese companies to penetrate ASEAN as a power producer.

Lastly, human resources development for associated policy design and implementation is essential. The pace of low-carbon technology diffusion is strongly influenced by the ability of individuals and institutions to make informed and effective decisions. Yet in many AMS, the institutional capacities of energy, environment, and economic ministries remain weak; some do not have even basic statistical data. Japan has focussed on developing human resources in ASEAN

capable of developing energy outlooks as the bases for policy design in past projects. However, continuous support to increase the number of people who can update energy outlooks and formulate policies, including manage basic statistical data, is crucial.

3.8. Lessons and Areas for Cooperation to Support Sustainable Tourism in ASEAN

3.8.1. Introduction

The vision for ASEAN tourism, as articulated in the ASEAN *Economic Community Blueprint 2025*, is to make the region a quality tourism destination, which offers a unique and diverse experience and is committed to sustainable tourism development (ASEAN Secretariat, 2015a). In realising this vision, the *ASEAN Tourism Strategic Plan, 2016–2025* details two strategic directions: (i) enhance the competitiveness of ASEAN as a single tourism destination, and (ii) ensure that ASEAN tourism is sustainable and inclusive (ASEAN Secretariat, 2015b). Sustainable and inclusive tourism is to be promoted through upgrading communities and private sector participation in the tourism value chain; ensuring the safety, security, and protection of tourism and heritage assets; and increasing responsiveness to the environment and climate change.

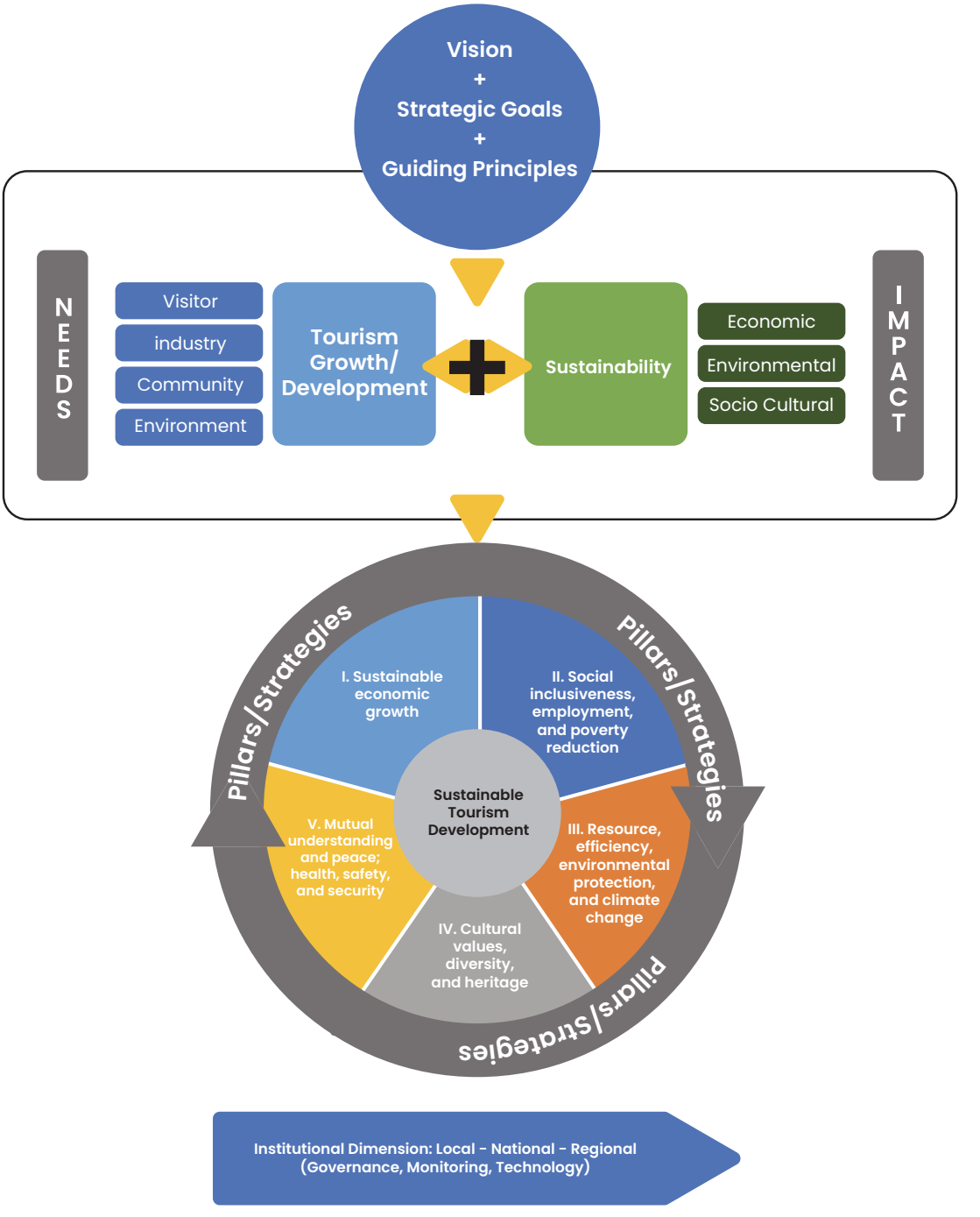
Following the mid-term review of the plan in 2020, an updated plan was released in January 2021, which recognises the need to encourage more programmes and activities that promote sustainable and responsible tourism development in ASEAN to balance the previous focus on marketing and promotional efforts. Furthermore, the *Phnom Penh Declaration on More Sustainable, Inclusive and Resilient ASEAN Tourism* was adopted in February 2021, which called for closer collaboration amongst AMS as well as with relevant international organisations and tourism stakeholders; expeditious development of a post-COVID-19 recovery plan for ASEAN tourism; promotion of opportunities, especially for micro and SMEs, vulnerable groups, and other affected communities; and enhanced capacity building towards these goals (ASEAN, 2021c).

In addition, the COVID-19 pandemic required ASEAN to revisit its tourism strategy as it prepared for the recovery and long-term resilience of the region. While offsetting the devastating impacts of the pandemic on the tourism sector, the pandemic should also serve as an impetus for the sector to 'build back better' by designing a more sustainable tourism sector that underpins its resilience.

Recognising the important role of sustainability in the recovery of the tourism sector, the *ASEAN Framework on Sustainable Tourism Development in the Post-COVID 19 Era* was developed by ERIA and endorsed by ASEAN tourism ministers in February 2023 (ASEAN, 2023). The framework provides a multi-sector approach to sustainable tourism development by leveraging the work that is already being

undertaken by relevant sectors in the ASEAN community that have direct relevance to and impact on the pursuit of sustainable tourism development in the region (Figure 3.6).

Figure 3.6: ASEAN Framework on Sustainable Tourism Development in the Post-COVID 19 Era



Source: ASEAN (2023).

Going forward, developing an action plan on how sustainable tourism can be more explicitly incorporated in their agendas – and how the tourism sectors can incorporate related initiatives into their sustainable agendas – needs to be analysed and explicated, together with identifying appropriate modalities for cooperation, coordination, and/or collaboration. Doing so requires comprehensive planning and adequate resources for effective development and implementation. The support of ASEAN's dialogue partners, including Japan, is essential in this endeavour.

3.8.2. ASEAN–Japan Cooperation in Tourism and Sustainable Tourism

Japan supports ASEAN tourism primarily through the ASEAN Promotion Centre on Trade, Investment and Tourism – also known as the ASEAN-Japan Centre – an intergovernmental organisation established by AMS and Japan in 1981 in Tokyo, through the conduct of seminars, workshops, capacity-building programmes, research and policy analysis, cross-cultural events, and publication and information dissemination services. Over the years, the ASEAN-Japan Centre has promoted ASEAN tourism through the production and dissemination of promotional videos and other materials; youth and other cultural exchanges; and provision of training and other technical assistance to enhance ASEAN tourism stakeholders' capacity to better cater to Japanese tourists, promote ASEAN tourism to the Japanese market, and strengthen product development. The ASEAN-Japan Centre also promotes investment in the ASEAN tourism sector through investment seminars.

The nature of the assistance provided by Japan to ASEAN tourism is largely determined under the ASEAN Tourism Strategic Plan, 2016–2025, which identified ASEAN-Japan cooperation under Strategic Direction 1 through diversification of tourism products; raising capacity and capability of human capital; implementation and expansion of connectivity and destination infrastructure, particularly the air services agreement and the ASEAN–Japan Cruise Promotion Strategy; and digital tourism.

There is no explicit role for ASEAN–Japan cooperation under Strategic Direction 2, which includes priority initiatives related to upgrading local communities and public–private sector participation in the tourism value chain, ensuring safety and security, prioritising protection and management of heritage sites, and increasing responsiveness to environmental protection and climate change. However, Japan has indeed provided support for sustainable tourism in ASEAN. In particular, some key Japanese initiatives for other sectors impact sustainable and inclusive tourism in ASEAN, such as initiatives related to connectivity; smart cities; energy; resilient and sustainable agriculture and food systems; the environment; climate change; people-to-people, sports, and cultural exchanges; protection of heritage sites; and peace and security.

The Meeting of ASEAN Plus Three Tourism Ministers (M-ATM+3) also serves as a platform for Japan's support of tourism and sustainable tourism in ASEAN. Main

areas of collaboration to promote quality tourism over the years have included cruise tourism, cultural and eco-tourism, youth exchanges, human resources development, joint tourism marketing and promotion, quality assurance, safety measures for tourists, tourism crisis communications, and tourism statistics. In 2017 – which the United Nations General Assembly declared the International Year of Sustainable Tourism for Development – the 16th M-ATM+3 called for the promotion of sustainable tourism cooperation in the region. The 19th M-ATM+3, held in January 2020, endorsed environmental management standards and encouraged all ASEAN+3 countries to use these as their guidelines in implementing more sustainable tourism. Most recently, the 22nd M-ATM+3, held in February 2023, encouraged ASEAN+3 national tourism organisations to focus on capacity building, sustainable tourism, digital transformation, tourism marketing, strengthening the role of micro and SMEs, and identifying new initiatives to be implemented.

3.8.3. Some Lessons and Potential Areas for Cooperation with ASEAN

In terms of tourism policy in Japan, the focus during the 1970s and 1980s was primarily to support and to develop domestic and outbound tourism. The focus on national tourism and natural conservation aimed to encourage local and regional economic development and revitalisation. Outbound tourism aimed to support the economies of destination countries as well as to enhance the mutual understanding between nations, which has been an important aspect of Japan's tourism policy. The focus of its tourism policy shifted in 1997 towards increasing inbound tourism to both enhance international relations (i.e. encouraging more people to visit Japan to promote understanding of the country and people) and to stimulate economic growth, particularly in regional economies and industries challenged by an ageing and decreasing population, urbanisation, and rural decline. Thus, an initial goal was set in 2003 of increasing international arrivals to 10 million by 2010; this rose to a target set in 2012 of 25 million international arrivals by 2020, and later to increased targets of an ambitious 40 million international arrivals by 2020 and 60 million by 2030. While the domestic tourism market remained bigger than the international market, remarkable growth has been achieved, with the 10 million mark being exceeded in 2013, the 20 million mark in 2015, and the 30 million mark in in 2018 (Sharpley and Kato, 2021).

Not surprisingly, the rapid growth in and concentration of tourism in a few well-known destinations in Japan also led to increased concern for and initiatives related to the sustainability of tourism in recent years. Amongst the concerns were overcrowding and pollution at the country's major attractions and the resulting burden on residents and communities. The COVID-19 pandemic likewise called for a reassessment of Japan's policies and targets for international tourism, such as a move towards alternative qualitative growth-based or even non-growth-based tourism policies that would address the wider socioeconomic challenges faced by the country.

The concept and practice of sustainability have deep roots in Japanese culture. A recent demonstration of this is the global attention received by some Japanese football fans for cleaning up trash at the 2022 FIFA World Cup in Qatar. More generally, concern for sustainability and environmental issues – and the welfare of local communities – formed part of Japan's historical tourism development policy, and environment and development were not seen as mutually exclusive. Rather, the view was that reinforcing efforts for environmental protection by the tourism industry and tourist destinations would increase the attraction of tourist destinations, thereby contributing to their sustainable development and the creation of tourist destinations that are nice to live in and visit. While more recent policies focus on transforming Japan into a 'tourism nation' (MLIT, 2012:2) to support national economic growth and regional revitalisation through increasing international arrivals (MLIT, 2016), the goals of enhancing local community well-being and international understanding continue to be highlighted (Sharpley and Telfer, 2015; Sharpley and Kato, 2021). The need to build cooperative arrangements involving various stakeholders in Japan's tourism sector, including local public bodies, residents, and the tourism industry, is also recognised to ensure that environmental protection forms the core of sustainable growth for the tourism sector (Alduais, 2009).

In 2022, Japan ranked 19 out of 163 countries in terms of achievement of the SDGs, with an average achievement score of 79.6%.[3] Remaining challenges were identified in the areas of gender equality, responsible consumption and production, climate action, life below water, life on land, and partnerships, although moderate improvements were also noted in some of these areas. While not yet perfect, there are some lessons to be learned from Japan's pursuit of sustainable development in general – and sustainable tourism in particular – that could be useful for ASEAN and provide inputs in developing additional areas for tourism cooperation between ASEAN and Japan.

Some key lessons from Japan's pursuit of sustainable tourism are discussed below, together with a brief discussion of how they relate to the ASEAN framework's pillars and strategic areas for intervention and the potential role of ASEAN–Japan cooperation to support those areas.

3.8.3.1. Promote and Manage Tourism as a Tool for Regional or Local Development and Revitalisation

Historically, Japan has promoted domestic tourism coupled with natural conservation as a means of promoting local and regional development and revitalisation, which was facilitated by the development of transport infrastructure, particularly extensive road and rail networks. More recent policies to promote inbound tourism aim to utilise the country's abundant natural and cultural

[3] Sustainable Development Report, Sustainable Development Report 2022, https://dashboards.sdgindex.org/

resources, such as spiritual sites, spas, traditional lifestyles and cuisines, arts, crafts, and skills deeply rooted in the environment and traditions that hold natural sustainability as their core.

In an extensive review of the literature on Japanese tourism, Horita and Kato (2018) noted that two key terms are typically used. Kankō refers to the specific role of tourism in region/local destination development. Machizukuri, which is one of the most prominent concepts in the Japanese approach to tourism as community and regional development or revitalisation, may be defined as sustainable community development, with a focus on social capital, community unity, and resilience based on regional knowledge, wisdom, and sense of place. Such community-based and people-focussed tourism needs to be more strongly highlighted in ASEAN as a means of achieving sustainable economic growth, especially at the local level and in rural areas, as well as promoting and protecting the environment and cultural heritage.

3.8.3.2. Engage Local Communities

Local communities have been actively engaged in the development and use of spaces for tourism and leisure in Japan. Oura (2018) examined the historical development of national forest management and policy and its relationship to tourism policy in Japan, noting that transformations in national forest administration policy since the 1990s have brought about collaborative forest management under the new concept of 'forests for people'. She concluded that wider implementation of such initiatives, including public participation in management, is needed to promote the further development of forest tourism in Japan.

Horita (2018) highlighted the engagement of local communities in the development and use of urban spaces for tourism and leisure in larger metropolises and small and medium cities in Japan. However, tensions remain between a development-oriented focus based on economic growth and collaborative management based on valuing the locality with the prospect of active citizen participation in local management. The ASEAN framework also calls for greater focus on people's engagement and empowerment in the pursuit of sustainable tourism development.

3.8.3.3. Tourism and Natural Catastrophes

Many AMS are prone to natural catastrophes, as is Japan. The importance of tourism development in the early stages of a recovery process following a natural disaster is highlighted by Kato (2018) in the context of the 2011 Tōhoku earthquake and tsunami, particularly by helping communities maintain their connection to their place. In particular, tourism that built on traditional ecological knowledge helped affected communities maintain their connection with the land, which is argued to be the core of resilience.

The COVID-19 pandemic devastated local economies and rural communities in Japan that are reliant on inbound tourism. The immediate challenge facing them is the opposite of overtourism, as local customers are not enough to sustain their operations. While the effects of the pandemic linger, it is an opportune time for rural destinations to consider developing more sustainable forms of tourism.

Another important aspect is the vulnerability of international visitors and tourists. Looking at how national and local governments – as well as the tourism industry – in Japan have helped reduce international visitors' vulnerability to disasters such as earthquakes, tsunamis, typhoons, and floods is instructive. In particular, the role of digital technologies, such as mobile safety apps and social media, to disseminate up-to-date and accurate multi-lingual information needs to be highlighted. The ASEAN framework assigns a critical enabling role to digital technologies to promote sustainable tourism development.

3.8.3.4. Measuring Sustainable Tourism

Establishing necessary governance structures and generating the relevant information to support the design of appropriate tourism policies have been crucial in Japan. The need to build cooperative arrangements involving the various stakeholders in Japan's tourism sector, including local public bodies, residents, and the tourism industry, ensured that environmental protection formed the core of sustainable growth for the tourism sector. Increasing the numbers of destination management organisations have also created more effective management and promotion of regional tourism. In December 2007, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) conducted a survey of awareness on tourism and the environment, which targeted travel agents, hoteliers, and event organisers, to determine (i) the status of efforts for environmental protection, (ii) effects of efforts for environmental protection, (iii) problems related to efforts for environmental protection, and (iv) the support and systems sought to tackle environmental protection (MLIT, 2008).

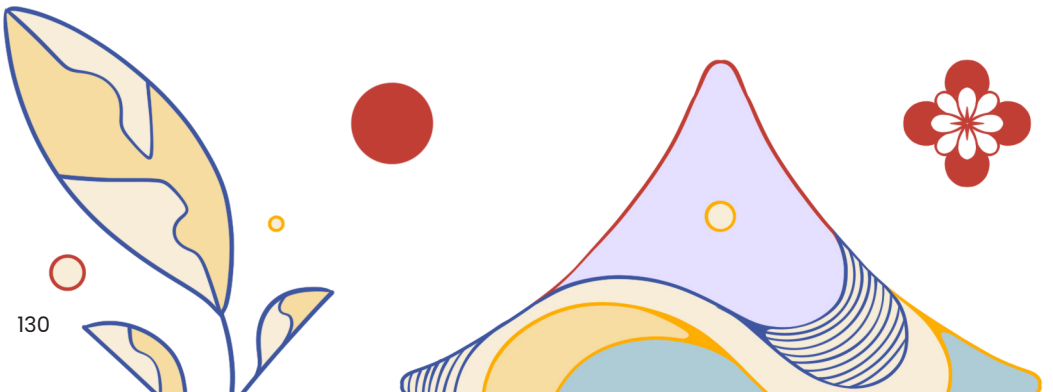
The Japan Tourism Agency (JTA) was set up in 2008 under MLIT to enhance tourism-related measures to achieve the goal of transforming Japan into a tourism nation. In June 2018, JTA established the Sustainable Tourism Promotion Office as well as conducted a national survey amongst Japan's 1,765 local governments to benchmark the state of sustainability nationally, focussing on key elements including transport, accommodations, and infrastructure. Following the results of the survey, developing a set of internationally recognised sustainable tourism indicators to serve as national guidelines and facilitating local implementation were deemed necessary (JTA, 2019).

JTA then joined the Global Sustainable Tourism Council (GSTC) in 2019, expressing its commitment to adopt GSTC criteria as part of its tourism policy for destination management. A national set of guidelines, Japan Sustainable Tourism Standard

for Destinations (JSTS-D), which was based on the global GSTC standards adapted to the Japanese context, was issued (JTA, 2019). The JSTS-D is the criteria by which industry operators in Japan can seek certification as being sustainable to an international standard. The JSTS-D was developed by a committee composed of representatives from academia, World Tourism Organization, Japan National Tourism Office, JICA, Japan Association of Travel Agents, local governments, and JTA. JTA has selected 5 areas in 2020 and 15 areas in 2021 as model areas for the introduction of sustainable tourism destination management using the JSTS-D.
Establishing appropriate governance structures and monitoring mechanisms to support sustainable tourism development is a challenge in most AMS. The ASEAN framework recognises that partnerships formed amongst intergovernmental departments, tourism businesses, civil society, local communities, tourists, international organisations, and other stakeholders are the building blocks for harnessing the full potential of sustainable tourism development. Timely, accurate, and comprehensive data to measure and to monitor tourism performance, impact, and sustainability is also critical. This area needs to be prioritised and will require significant resources, time, and expertise. The Japanese experience in developing and implementing its version of the GSTC criteria may yield helpful insights on whether and how AMS can adapt the criteria to their particular contexts.

3.8.4. Conclusion

The preceding discussion cites some key lessons that ASEAN may glean from Japan's sustainable tourism development, which may be further developed as areas of cooperation. There are also lessons that relate to sustainable tourism in other areas such as Japan's pursuit of a decarbonised society, community building in an era of climate change, cultural heritage and sustainable tourism, integrated innovation strategies, and unlocking SME potential for sustainability. The support of Japan in promoting ASEAN tourism to the Japanese market, providing training and other technical assistance to enhance ASEAN tourism stakeholders' capacity to better cater to Japanese tourists and to strengthen product development, and promoting investment in the ASEAN tourism sector will continue to be vital. A stronger focus, however, is needed on the sustainability aspects of the tourism industry and sustainably minded tourists.



3.9. The Circular Economy

The following policy recommendations are proposed to help develop a circular economy in the ASEAN–Japan context.

Recognise that the circular economy has become an important factor in the growth of the overall economy by capturing changes in society. ASEAN adopted the *Framework for Circular Economy for the ASEAN Economic Community* in 2021 (ASEAN, 2021a). The framework identifies three strategic goals, six guiding principles, and five strategic priorities. Although Japan has used a sound material cycle society instead of a circular economy, it has conducted various policies towards a circular economy, such as a waste source separation programme by local governments; establishment of recycling industrial parks; development of standards for goods made from recycled materials; and development of various recycling laws on packaging containers, large home appliances, small electronic waste, vehicles, food waste, and construction waste. In the process of developing and implementing these acts, the Ministry of the Environment (MOE), METI, and other ministries work together to enforce these circular economy regulations.

Support policies to promote investment in physical infrastructure related to the circular economy. In ASEAN, where green urbanisation is not progressing, infrastructure for waste collection and recycling – such as volume reduction technologies for transport – is lacking. Most of the recycling industry is located near large cities, where it can secure recyclable waste for the recycling process. In areas far from recyclers or where transport costs are high, recyclable waste is not collected.

In Japan, METI collaborated with local governments to start the eco-town programme in 1997. Local governments thus secured areas for the recycling industry. In addition, companies located in recycling industrial parks where able to lower transport costs. For example, companies dismantling e-waste send steel scraps to metal recyclers, plastic waste to plastic recyclers, and non-recyclable waste to waste energy plants.
In Japan's experience, in addition to the investment by recyclers, efforts by existing industries – such as steel, nonferrous metals, and chemicals – have been key, as they can accept various waste for some chemical processes. It is also important to invest in infrastructure for transport through official development assistance (ODA). In addition, the government must also prevent a monopoly or oligopoly of the shipping industry, because these increase the transport cost of recyclable waste.

Develop support for the circular economy. Market-based recycling based on incentives – such as those from Bank Sampah in Indonesia and Wongpanit, a junk shop chain in Thailand – have potential in ASEAN. Both advertise payments for various recyclable waste to encourage people to bring it to the bank or to

the shop. Such a collection mechanism works if recyclable waste is valuable. Institutional support or regulatory guidance for waste in each country that promotes such incentives is needed. Introducing extended producer responsibility is an option when the market-based collection system is ineffective. Moreover, some recycled products may not satisfy conventional industrial standards. It is therefore important to introduce industrial standards for recycled products. Such standards can be utilised in government initiatives for green procurement.

Support people related to the circular economy. During the period of high economic growth in Japan during the 1950s and 1960s, the waste collection system was very limited, and people's motivations were also low. A turning point in changing this behaviour was the Tokyo Olympic Games in 1964. Before the Olympics, the Tokyo metropolitan government removed communal waste bins from the streets and asked citizens to put their own plastic waste bins out for garbage trucks to pick up the waste.

3.10 ASEAN–Japan Cooperation on Human Capital Development

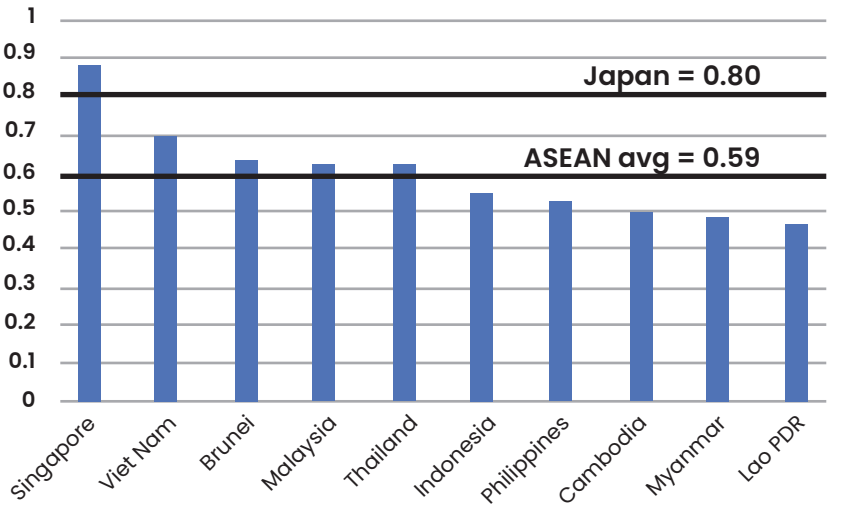
3.10.1 Rationale for Cooperation

ASEAN–Japan cooperation on human capital development can enhance deep economic cooperation. Japan is an important player in the ASEAN economy. Indeed, Japan's share of total inward FDI flow to ASEAN was around 12% during 2015–2021.[4] Over one-third of Japanese investment in ASEAN went to manufacturing, followed by financial and insurance activities (25%), and wholesale and retail trade (11%). Over 70% of Japanese inflow into ASEAN went to sectors where technological disruption is likely to be the greatest in the form of automation, blockchain and digital finance, and e-commerce. As a result, the human capital needs of these sectors will increase, with greater demand for digital skills and the ability to perform non-routine and cognitive tasks. Thus, the level of skills of ASEAN workforce will determine the productivity of Japanese investments in the region.

However, many AMS lack such a skilled workforce. One summary of the level of human capital is provided by the World Bank Human Capital Index (World Bank, 2020). According to this index, compared to Japan's Human Capital Index (HCI) of 0.80, AMS had an average HCI of 0.59 (Figure 3.7). Only Singapore, with an HCI of 0.88, exceeded that of Japan. This lack of a skilled workforce has indeed been felt by Japanese companies in the region. A survey of Japanese affiliates by the Japan External Trade Organization reported a shortage of digital-related human resources as a barrier to the utilisation of digital technologies (JETRO, 2021).

[4]ASEAN, ASEANStats Data Portal, https://data.aseanstats.org/fdi-by-hosts-and-sources (accessed 30 November 2022).

Figure 3.7: Human Capital Index in ASEAN Member States



ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.
Source: World Bank, Human Capital Index, Data, https://data.worldbank.org/indicator/HD.HCI.OVRL (accessed 30 November 2022).

A deeper partnership between ASEAN and Japan in human capital development is necessary for a long-term economic partnership. Despite the current shortage of skills, ASEAN will continue to be an important economic partner for Japan due its natural resources, deep economic integration, and relatively young population. Japan's working-age population is expected to shrink by 28% by 2050, while that of ASEAN will increase by 13% (Table 3.6). A skilled workforce in ASEAN can support the Japanese economy through labour migration in the future. By working together to upgrade ASEAN's human capital, ASEAN and Japan can continue to foster mutually beneficial economic partnership for years to come.

Table 3.6: Working-Age Population (ages 15–65 years), ASEAN Member States

Country	2020	2050 (projected)	Projected Change (%)
Indonesia	185.0	214.0	15.7
Philippines	71.0	96.0	35.2
Viet Nam	67.0	68.0	1.5
Japan	75.0	54.0	(28.0)
Myanmar	37.0	42.0	13.5
Thailand	49.0	38.0	(22.4)
Malaysia	22.0	27.0	22.7
Cambodia	11.0	14.0	27.3
Lao PDR	5.0	7.0	40.0
Singapore	4.0	4.0	0.0
Brunei Darussalam	0.3	0.3	0.0
ASEAN total	451.0	510.0	13.1

() = negative, ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.
Source: Lemahieu and Leng (2021).

Japan has a strong record of human capital development and thus much to offer ASEAN. Miyazawa (2011) concluded that the increase in human capital could explain much of Japan's economic growth during the 1950s and 1960s. At present, Japan has a strong ecosystem for producing a skilled workforce, with universal basic education, a high tertiary completion rate, and a high level of government spending on education. In 2019, Japan spent 4% of its GDP on primary to tertiary educational institutions. The level of tertiary attainment amongst 25–34-year-olds was 65% in 2021, one of the highest amongst Organisation for Economic Co-operation and Development (OECD) and partner countries with available data.

Five of its universities rank amongst the top 100 global universities.[5]Amongst universities in ASEAN, two universities in Singapore rank within top 20, and one from Malaysia ranks within top 70. Through systematic cooperation, Japan's experience in human capital development can support rapid upgrading of skills development systems in ASEAN.

3.10.2. Types of Cooperation

ASEAN–Japan cooperation on human capital development could take both financial and non-financial forms. On the financial side, Japan can set up dedicated funds to support human capital development in ASEAN through loans and grants focussed on infrastructure development – most importantly on the digital capabilities of educational institutions – and incentive programmes for skills development. Financing to upgrade the digital capability of education institutions in ASEAN can be another key priority area. With a relatively young population, the demand for quality education in ASEAN is only going to rise.

Disruptions due to the COVID-19 pandemic has made it necessary to come up with new ways of providing quality education, requiring large investments by AMS. On 15 October 2020, ASEAN education ministers issued a statement that envisioned collaboration with ASEAN partners for digital transformation of education systems throughout ASEAN (ASEAN, 2020). ASEAN's desire to improve its education sector is also envisaged in the *ASEAN Work Plan on Education 2020–2025* (ASEAN Secretariat, 2020). Japan can be an important partner in fulfilling this goal by financially supporting key activities.

Japan is already active in the ASEAN education sector through ODA (Table 3.7). Most of Japan's assistance is disbursed bilaterally, but disbursing support at the ASEAN level would have the added benefit of supporting ASEAN's integration efforts and people-to-people connectivity.

[5] QS Top Universities, QS World University Rankings 2023: Top Global Universities, https://www.topuniversities.com/university-rankings/world-university-rankings/2023 (accessed 29 November 2022).

Table 3.7: Japan's Official Development Assistance to Selected ASEAN Member States, 2021

Recipient	All Sectors ($ million)	Education ($ million)	Education Share (%)
Cambodia	470	18	3.9
Indonesia	1,033	30	3.0
Lao PDR	55	7	13.5
Malaysia	20	2	11.3
Philippines	1,175	4	0.3
Thailand	215	8	3.9
Viet Nam	440	28	6.3

Lao PDR = Lao People's Democratic Republic.
Note: Data pertain to gross disbursements expressed in current prices.
Source: OECD, Creditor Reporting System (CRS), OECD.Stat, https://stats.oecd.org/Index.aspx?DataSetCode=crs1# (accessed 21 March 2023).

ASEAN and Japan could also work together to foster greater private sector investment in the education sector. According to ASEANStats data, net inward FDI in education in ASEAN in 2019 totalled $306 million, out of which Japan's contribution was $15 million (5%).[6] ASEAN and Japan could work together to further liberalise the education sector to FDI and to attract investments from Japanese academic institutions and training providers. Particularly in the technical and vocational education and training sector and education technology sector, investment from Japanese firms could help make them more responsive to the needs of the industry. Some estimates suggest that there were 318 ed-tech start-ups in Japan.[7]

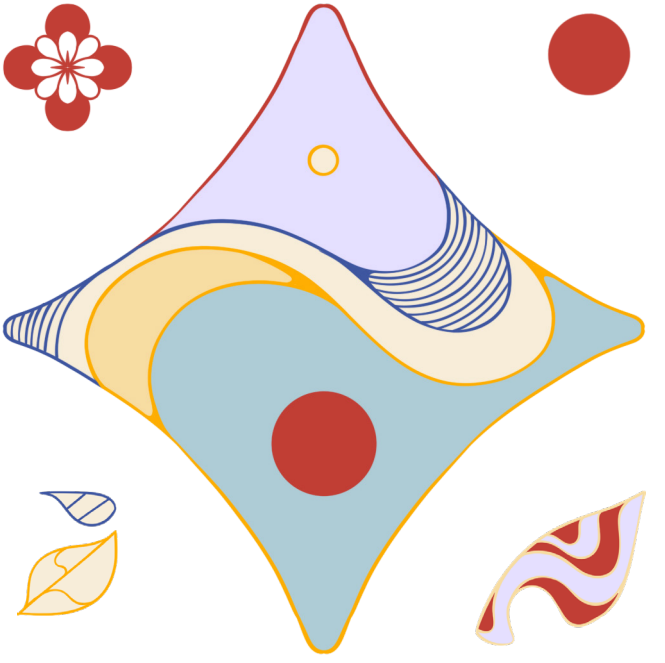
Non-financial cooperation between ASEAN and Japan can occur between governmental agencies tasked with human resources development, between skills development institutions in ASEAN and Japan, and businesses. Cooperation

[6]ASEAN, ASEANStats Data Portal, https://data.aseanstats.org/fdi-by-hosts-and-sources (accessed 30 November 2022).
[7]Tracxn, EdTech Startups in Japan, https://tracxn.com/explore/EdTech-Startups-in-Japan (accessed 30 November 2022).

can occur in various forms, such as memoranda of understanding, training and capacity building, twinning and dual-degree programmes, and student exchanges. ASEAN and Japan can also work to provide institutional support for private sector cooperation. Training SMEs in ASEAN in Kaizen management practices could help improve their productivity.

Labour migration is another way for ASEAN and Japan to cooperate. Research has shown that immigration to high-wage, developed countries encourages human capital investment in origin countries. ASEAN will benefit if highly skilled nationals gather experience in developed countries and return to utilise those skills in their native countries. Increasing opportunities for the migration of ASEAN workers to Japan will not only help address the worker shortage in Japan but also improve the human capital situation in ASEAN.

One concern with labour migration from developing countries is the drain of human resources from the origin countries, which can hamper the origin country's development. One recommendation is to form a skills partnership between host and origin countries (Clemons, 2015). Under such an agreement, the host country funds training programmes in sending regions, training a larger number of workers than the number of eventual migrants. Such an arrangement ensures that there is adequate supply of skilled workers in both the host and origin countries.



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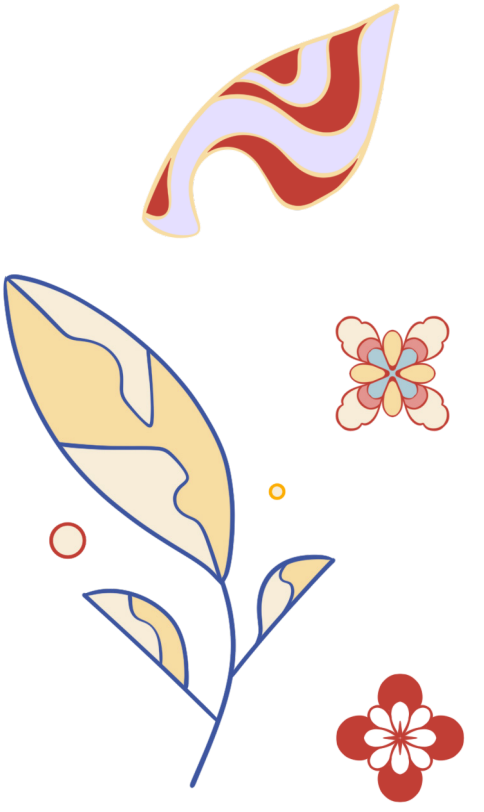

CHAPTER 4

Survey on International Economic Cooperation

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4.1 Introduction

In this chapter, opportunities for the enhancement and expansion of the partnership between the Association of Southeast Asian Nations (ASEAN) and Japan are explored through the lens of various case studies from other regions of the world. In collaboration with Deloitte Consulting Pte Ltd., the chapter examines case studies on four key domains of interest:

(i) **Trading across borders.** ASEAN has built a competitive and resilient international production network, thanks to its generally liberalised trade environment. The COVID-19 pandemic exposed the vulnerabilities of the trading system, however, including supply chain resilience. In this chapter, boosting multilateral trade and customs clearance operations are thus investigated.

(ii) **Human resources development.** Industry 4.0 is requiring new skill sets for human resources, including those in the ASEAN–Japan region. This chapter investigates approaches to the development and supply of such human resources to the labour market across the globe.

(iii) **Digital economy.** Digital technology is creating new, large businesses. In addition, in this age of rapid digital penetration, digital innovation is a key driver of economic growth. How innovation can be promoted in the ASEAN–Japan region is therefore investigated.

(iv) **Sustainability.** For ASEAN and Japan, sustainability is not a medium- to long-term initiative but an urgent issue. Climate change and disasters are having major impacts in the region. The chapter examines various sustainability agendas around the world that ASEAN and Japan should consider.

4.2. Trading across Borders

This section examines case studies concerning the digitisation of trading practices. Furthermore, it expounds on emergency trading schemes in the European Union (EU) and Japan, which offer insights not only on emergency situations but also on the establishment of an expeditious logistics network, with the aim of invigorating business activities in specific industries.

4.2.1. Intra-Regional Integration of the Trading System

4.2.1.1. European Union Single Window Environment for Customs

In 2020, the European Commission (EC) launched a new customs union action plan intended to enhance efficiency within the EU Customs Union.[1]This plan falls under the EU Customs Single Window Certificates Exchange System.[2]It provides customs officers, traders, and information technology service providers with a streamlined and integrated platform to work together.

In compliance with EU directives, member states are required to establish electronic windows for the centralised submission of customs-related documents. The plan intends to integrate these national single windows (NSWs) into a single digitalisation framework, thus enabling authorities in each member state to readily access requisite customs information. This will replace the current decentralised system of customs contact points with a centralised electronic contact point for each member state, thereby standardising the implementation of customs clearance procedures and reducing administrative burdens on operators. Ultimately, the EC envisions the establishment and operation of a centralised contact point for the entire EU region.

According to the EC, a gradual implementation process will extend 1 decade (i.e. to 2030). This extended duration is deemed necessary to accommodate legislative proceedings and the creation of novel information technology systems at both the EU and member state levels.

[1]EC, The Customs Action Plan: Supporting EU Customs to Protect Revenues, Prosperity and Security, Taxation and Customs Union, https://taxation-customs.ec.europa.eu/customs-action-plan-supporting-eu-customs-protect-revenues-prosperity-and-security_en
[2]EC, The EU Single Window Environment for Customs, Taxation and Customs Union, https://taxation-customs.ec.europa.eu/eu-single-window-environment-customs_en

4.2.1.2. Common Market for Eastern and Southern Africa (COMESA)

In 2017, the Common Market for Eastern and Southern Africa (COMESA)[3] was established as a large economic and trading unit to effectively address the challenges faced by its member states. A key priority is the need to enhance intra-regional trade and the investment environment at the regional and member state levels (COMESA, 2022). Accordingly, COMESA resolved to adopt a uniform data connectivity platform via an electronic single window system, thereby streamlining and enhancing the efficiency of trade-related procedures within the region.

From 18 to 21 July 2022, a technical working group formulated requirements and a framework for the electronic single window system (COMESA, 2022). This undertaking entailed a session with customs and single window experts drawn from 15 member states. Several items were deliberated, including a situational assessment study on the implementation of an electronic single window system, a draft legal framework, and a draft strategy for the development and implementation of electronic single windows. As of this writing, half of the member states have implemented electronic single windows, with the remaining countries at varying stages of planning or deploying them.

4.2.2. Private Trade Platforms

To enhance trade facilitation, the private sector has created platforms that offer online services to expedite trade, harnessing the potential of digital technologies, most notably blockchain. In 2020, a blockchain-based platform, TradeWaltz, was established, aimed at facilitating trade information collaboration.[4] It was a joint investment venture by prominent entities such as Mitsubishi, Nippon Telegraph and Telephone (NTT), and Toyota. In November 2020, TradeWaltz entered into a memorandum of understanding with Nippon Automated Cargo and Port Consolidated System (NACCS), Japan's NSW system that processes imports and exports and port-related information (TradeWaltz, 2020). This partnership between Japan's NSW (i.e. NACCS) and a private-sector trading platform (i.e. TradeWaltz) promotes digitalisation across trade operations; it has indeed boosted operational efficiency, with a demonstrated increase of over 44% (TradeWaltz, 2021a).

TradeWaltz has also partnered with public systems in various ASEAN Member States (AMS), as the digitisation of trade-related procedures necessitates collaboration between public and private systems across international borders. To this end, TradeWaltz is actively engaged in constructing the ASEAN–Japan Digital Trade

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[3]COMESA is a regional organisation of 21 member states (i.e. Burundi, Comoros, Democratic Republic of the Congo, Djibouti, Egypt, Eritrea, Eswatini, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Somalia, Sudan, Tunisia, Uganda, Zambia, and Zimbabwe).
[4]TradeWaltz, https://www.tradewaltz.com/en/

Platform based on the Regional Digital Trade Connectivity initiative (NTT Data Institute of Management Consulting, 2021). The preliminary group of countries in the platform comprises Japan (i.e. TradeWaltz), Singapore (i.e. Networked Trade Platform), and Thailand (i.e. National Digital Trade Platform), improving international data interoperability and security through blockchain infrastructure.

In January 2022, TradeWaltz and the National Digital Trade Platform (Thailand) signed terms of reference based on the International Platform Connection Plan (TradeWaltz, 2022a).[5] This collaboration is expected to facilitate the visualisation of supply chains and to enhance the search for necessary items (e.g. relief goods) while identifying alternative distribution routes during emergency events (e.g. pandemics). The successful linkage is also expected to facilitate electronic certificates of origin (COO) for firms to use a free trade agreement (FTA) or an economic partnership agreement (EPA), thereby promoting cross-border trade. This development is also expected to enhance the efficiency and ease of applying for other FTAs or EPAs.

During the Trade DX Symposium in 2022, TradeWaltz announced the successful establishment of connections between five trading platforms in Australia, New Zealand, Japan, Singapore, and Thailand (TradeWaltz, 2022b). Furthermore, TradeWaltz has demonstrated the ability to interface with an external location information platform to enable real-time tracking of packages, potentially enabling accurate lead times in transport and faster response to goods shortages (TradeWaltz, 2021b).

There are several other private-sector trading platforms in the world. For instance, Maersk Line – the largest global shipping company, which is based in the Netherlands – collaborated with IBM in the United States (US) to develop TradeLens, a digital open platform that also utilises blockchain technology. The platform underwent demonstration tests in 2016 and has been introduced to some AMS, including Singapore and Thailand (TradeLens, 2019).

[5]This agreement, proposed by ASEAN and Asia-Pacific Economic Cooperation (APEC), was introduced during the Asia–Japan Investing for the Future Initiative.

4.2.3. Import and Export Systems for Disaster Supplies

4.2.3.1. Single Market Emergency Instrument

In 1993, the EU implemented a single market system, thereby eliminating cross-border barriers and enabling EU citizens to study, reside, work, and retire in any EU member state with the same privileges that they would have in their home countries (EC, 2022a).[6] In the same vein, in 2022, the EC introduced the Single Market Emergency Instrument (SMEI) as part of a crisis governance framework designed to preserve the unhindered movement of goods, services, and people across EU member states during times of emergency, including the recent COVID-19 pandemic.[7] Although the single market has demonstrated some effectiveness in such situations, it became evident that the existing framework required enhancement to support ad-hoc operations and a more standardised system during emergencies.

The SMEI thus serves as a supplementary mechanism to other EU legislative frameworks for crisis management, such as the Civil Protection Mechanism. A novel feature is the identification of distinct levels of risk, with an appropriate mode of response tailored to each level. Specifically, these levels are contingency, vigilance, and emergency, with each level indicating a progressively greater risk level. During the contingency mode, the EC and member states collaborate to establish a coordination and communication network, intended to enhance preparedness. Subsequently, in the vigilance mode, the EC and member states shift their strategic focus towards supply chains, goods, and services that require stocking up in anticipation of potential emergencies. The final stage – the emergency mode – involves an advisory group making suggestions that are most relevant to the specific situation at hand. As of November 2022, member states are currently evaluating the SMEI to assess its adequacy as a supplementary framework for future emergencies.

4.2.3.2. Japan

During the COVID-19 pandemic in Japan, customs duties and domestic consumption taxes were waived for goods pertaining to countermeasures against COVID-19, provided that such goods were donated.[8] Similarly, in the aftermath of the 2011 Tōhoku earthquake and tsunami, the Customs and Tariff Bureau implemented four major procedural changes related to relief goods, including the exemption of tariffs and consumption taxes on relief goods as well as simplifying customs declaration procedures for them. Procedures related to food and beverages

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[6]EC, Mutual Recognition Agreement, European Migration Network (EMN), https://home-affairs.ec.europa.eu/pages/glossary/mutual-recognition-agreement_en
[7]EC, Single Market, Priorities and Actions https://european-union.europa.eu/priorities-and-actions/actions-topic/single-market_en
[8]Government of Japan, Ministry of Finance, Customs and Tariff Bureau, Customs Clearance Procedures, etc., Relating to Countermeasures to the COVID-19, Japan Customs, https://www.customs.go.jp/english/news/covid-19/index.htm

under the Food Sanitation Act, foreign vessels carrying aid, and the importation of pharmaceutical aid supplies were streamlined to facilitate relief efforts (JETRO Australia, 2011).

The EU is transitioning to a new phase of integrating NSWs within its region. In the EU, customs clearance operations are partially standardised across member states, and efforts are underway to establish paperless windows in each member states to enhance operational efficiency. The EU aims to establish NSWs in all of its member states and to connect them to a centralised platform, an initial step towards the eventual creation of a single regional window. This effort parallels the initiatives of the ASEAN Single Window, which has already implemented a single window linking NSWs through a limited scope in the region. The digitalisation of paper-based COO and bills of lading is also a priority for AMS, and their expeditious implementation is expected.

TradeWaltz highlights the potential for other APEC or ASEAN nations to engage in collaborative platforms that facilitate trade information dissemination. The proliferation of private-sector trading windows and their multilateral linkages – which hinge on linkages with NSWs – will help alleviate the challenges that companies face in trade operations throughout the ASEAN region. By enhancing connectivity between NSWs and private-sector trading platforms, the tracking of components and customs clearance statuses will improve, helping facilitate trade.

Although estimating lead times has been historically challenging, the improved interconnectivity amongst trading platforms should enable firms to predict them more easily. Furthermore, the application of Harmonized System (HS) codes, which has been a manual process in some customs offices throughout the region, may become more digitised as the system implementation advances. As the need for human involvement decreases, face-to-face interactions required for facilitation payments are also likely to lessen, boosting efficiency.

In the context of disaster relief supplies and services during emergencies, the primary focus should be on streamlining the systems to ensure efficiency and expediency in delivering the requisite goods and services to the affected areas. As mentioned, the EU employs a unified market structure that facilitates the reduction of administrative barriers concerning general privileges throughout the region. The SMEI aims to complement existing systems to enhance emergency response capabilities. Similarly, in Japan, the 2011 Tōhoku earthquake and tsunami prompted revisions to importation procedures for essential disaster relief supplies and services.

The development of emergency guidelines can have broad implications for the supply of crucial goods between ASEAN and Japan. As both face the frequent occurrence of disasters, they must grapple with devising effective strategies for

managing emergency relief supplies in the face of unforeseeable circumstances. The formulation of such guidelines would help facilitate the timely delivery of medical and daily necessities when critical.

4.3. Human Resources Development

The cultivation of skilled white-collar and middle-management professionals capable of responding to the demands of Industry 4.0 is vital for sustaining the economic growth of ASEAN and Japan. Achieving this goal entails identifying the requisite skill sets in the new digital age to bridge the gap between existing skills and those required by companies. Additionally, inclusive education initiatives must be implemented to establish a diverse pool of human resources, ensuring ongoing production and enhancing regional mobility. This section features case studies that highlight efforts to define these skill sets, establish inclusive education programmes, and improve human resources mobility.

4.3.1. Defining Regional Skills Standards

4.3.1.1. International Labour Organization

The International Labour Organization (ILO) created the *Global Framework on Core Skills for Life and Work in the 21st Century* to guide today's workers in enhancing their capacity to capitalise on opportunities for decent work, as global requirements for work continue to evolve (ILO, 2021). It is aligned with Sustainable Development Goals 4 and 8, *ILO Centenary Declaration on the Future of Work*, Human Resources Development Convention (1975), and Human Resources Development Recommendation (1975). The framework was developed after a rigorous review of core skills frameworks, a study on the impact of global drivers on the world of work, and consultations with professionals from different sectors. It groups 19 core skills into 4 categories – social and emotional skills, cognitive and metacognitive skills, basic digital skills, and basic skills for green jobs. The four categories are designed to enable the ease of transferability between occupations and low- and high-level jobs; they deemed essential for individuals to become productive citizens and to contribute to their own well-being and community.

Social and emotional skills encompass the ability to regulate one's cognition, emotions, and behaviour, which are fundamental to effective social interaction in the workplace and an individual's learning process (ILO and OECD, 2018). These skills serve as a guide for the development and application of the next category – cognitive and metacognitive skills – which refers to the brain's ability to process novel information, and to comprehend, recall, and utilise it. These skills enable individuals to identify the most appropriate strategies and problem-solving methods for specific situations and become particularly evident when individuals apply their own beliefs and values to evaluate the motivations and intentions of those around them within their respective environments.

The fundamental digital skills category refers to an individual's aptitude to operate digital assets – including hardware, software, and online applications – to carry out basic tasks. These proficiencies aim to promote digital literacy amongst individuals and to enable them to excel in their respective workplaces and society. Lastly, basic skills for green jobs, which constitute the fourth category, encompass proficiencies for individuals to acclimate to environmental regulations and requirements to combat climate change.

Subsequent to a future survey administered amongst specialists and experts, two pivotal products are necessary to facilitate the implementation of the framework. These include a digital tool kit that enables the seamless integration of the policy across diverse learning platforms and the creation of massive open online courses that facilitate the capacity building for both teachers and students who will utilise the framework.

4.3.1.2. European Union

In 2013, the Grand Coalition for Digital Jobs was launched, with a focus on e-skills and education to enhance digital skills at the national, regional, and local levels within EU member states. At that time, the EU sought to promote information and communications technology (ICT) professionalism and to generate a more extensive pool of entrepreneurs, business leaders, managers, and advanced users through a specific emphasis on new ICT. Consequently, e-skills were defined and implemented on a regional scale.

E-skills refer to the competencies required to optimise the utilisation and development of ICT. These skills are grouped into three primary categories: ICT practitioner skills, ICT user skills, and e-business skills. ICT practitioner skills target individuals who work directly with ICT systems and require capabilities that include researching, designing, producing, integrating, maintaining, and servicing ICT systems. ICT user skills encompass the digital literacy skills necessary to use common and specialised tools that support business functions within various industries. Lastly, e-business skills comprise the abilities necessary to maximise the potential of ICT, enabling organisations to conduct their businesses more efficiently and effectively.[9]

To facilitate the acquisition and advancement of e-skills in the EU, E-Skills Match was established in 2021.[10] It affords individuals and businesses access to a technology demonstration platform, which delivers training and support services that enable them to remain competitive in the ICT sector. The initiative caters to various user groups, including ICT professionals seeking to acquire new skills or

[9]Eurostat, Glossary: E-Skills, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:E-skills#:~:text=E%2Dskills%20or%20electronic%20skills,to%20apply%20and%20develop%20them
[10]EC, E-Skills Match, https://www.eskillsmatch.eu/en/

to enhance existing ones, technical and vocational education and training (TVET) institutions, higher education institutions, certification providers, and any other parties interested in integrating online courses into their educational programmes.

4.3.1.3. Japan

Japan's Ministry of Economy, Trade and Industry (METI) is spearheading efforts to define the competencies to promote digital utilisation within enterprises. This skill set encompasses not only knowledge and technical skills but also a specific mind-set. METI aims to develop a framework that can be applied to executive and general professionals. [11]

The Information-Technology Promotion Agency developed a standardised skills framework to cultivate world-class ICT human resources in Japan as well.[12] The framework was developed with reference to the Information Technology Engineers Examination (ITEE) and three skills standards for ICT, user information systems, and embedded technology. The Japan International Cooperation Agency (JICA) supported Bangladesh in a similar endeavour as well, where ICT skills for engineers to implement the ITEE were lacking (JICA, 2019).

4.3.2. Providing Inclusive Education

4.3.2.1. European Union

The EU4Digital Facility, launched in 2019 as part of the EU4Digital Initiative, exemplifies the EU's efforts towards a resilient transformation in the Eastern Partnership region.[13] Its objective is to promote the integration of the six Eastern European partner countries with the EU single market. To this end, the EU4Digital Broadband Strategies project was established to help bridge the digital divide between urban and rural areas while supporting the diversification and reconstruction of broadband networks in these countries. The project's objective is to provide access to internet infrastructure and services in a coordinated and centralised manner (EU4Digital, 2022). As an example, the programme contributed recommendations on 5G deployment in Belarus, which were incorporated into the country's overall broadband strategy in 2021 (EU4Digital, 2021).

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[11]METI, Digital Skill Standards, https://www.meti.go.jp/policy/it_policy/jinzai/skill_standard/main.html [in Japanese].
[12]IPA, Common Career/Skill Framework, https://www.ipa.go.jp/en/it-talents/skill-standard/skill-framework.html
[13]The Eastern Partnership is a joint initiative between the EU and six East European partner countries (i.e. Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Ukraine).

4.3.2.2. Public–Private Partnerships

Public–private partnerships are becoming increasingly common, with cloud provisioning being an example. CloudSwyft, a private company established in 2015, collaborated with the Philippine Department of Education to create a cloud-based educational solution. CloudSwyft provides campus lab infrastructure and software tools to students, along with round-the-clock remote lab access and customisable requirements, which can be accessed from mobile devices. This solution is being implemented in universities, including De La Salle University, and has also been extended to higher education institutions in Indonesia, Malaysia, and Singapore.[14]

Further, in Indonesia, CloudSwyft has partnered with the government's Program Kartu Prakerja, which aims to address the unemployment caused by the economic impact of the COVID-19 pandemic. This labour capacity development programme is designed for local citizens who are over age 18 years, secondary school or TVET graduates, job seekers, and laid-off employees. Participants can choose from a variety of online courses offered by CloudSwyft, including data analysis, artificial intelligence (AI), and data science, as well as various certification programmes. The programme aims to offer a diverse range of job opportunities, such as data analysts, cloud support, system operations, and software engineering positions.[15]

4.3.3. Improving Human Resources Mobility

4.3.3.1. Mutual Compatibility of Qualifications

Mutual recognition agreement. The EU has established that certain professions can be transported easily amongst EU member states, including medical practitioners, medical specialists, dentists, veterinarians, pharmacists, nurses, midwives, and architects.[16] Under this system, a professional qualification obtained in one EU member state is considered valid across all EU member states.[17] This recognition applies to professionals who seek employment or wish to start their own businesses in another EU member state. To avail themselves of this system, professionals can submit the necessary documents electronically to the authorities of the host country through a common EU-wide system.[18] To ensure the

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[14]CloudSwyft, https://cloudswyft.co/
[15]CloudSwyft, Finding Your Career amidst the Covid-19 Pandemic, https://cloudswyft.co/finding-your-career-amidst-the-pandemic/
[16]Anerkennung in Deutschland, EU Recognition Directive, https://www.anerkennung-in-deutschland.de/html/en/pro/eu-recognition-directive.php#
[17]EC, Mutual Recognition Agreement, European Migration Network (EMN), https://home-affairs.ec.europa.eu/pages/glossary/mutual-recognition-agreement_en
[18]EC, Automatic Recognition, Internal Market, Industry, Entrepreneurship and SMEs, https://single-market-economy.ec.europa.eu/single-market/services/free-movement-professionals/recognition-professional-qualifications-practice/automatic-recognition_en

quality of professional qualifications, certain conditions have been established for mutual recognition. For example, physicians must have a minimum of 5,500 hours of medical education and a minimum of 5 years of work experience to be eligible for mutual recognition within the EU.[19] These stipulations have been put in place to maintain high standards across professions and to ensure consistency in the recognition process.

European Credit Transfer and Accumulation System. The European Higher Education Area (EHEA) devised the European Credit Transfer and Accumulation System (ECTS) to enhance the transparency of studies across all 48 member countries of the EHEA, 27 of which are EU member states, with the remainder comprising non-EU countries such as Armenia, Georgia, Montenegro, and Switzerland.[20] The goals of the ECTS are to facilitate student mobility amongst member countries and to ensure that academic credits are fully recognised and transferable. Given the differences in national higher education systems across the EHEA, the ECTS promotes uniformity and mitigates potential issues related to the recognition of academic requirements and study periods abroad. Moreover, the ECTS allows for the seamless combination of different learning styles or programmes, including work-based learning such as apprenticeships or on-the-job training.

European Qualifications Framework. In 2008, the European Qualifications Framework (EQF) was established to enhance transparency and mutual trust of various qualifications across Europe (EC, 2018). In addition to the 27 EU member states, 11 other countries have either implemented or are potential adopters of the EQF.[21] The EQF is an eight-level learning outcomes-based framework that serves as a translation guide amongst the various qualification frameworks implemented by member countries. The framework facilitates comparisons of qualifications, as it is closely linked to the national qualifications of the member countries. Ranging from level 1, which indicates the lowest level of proficiency, to level 8, which indicates the highest, the EQF provides a clear indication of an individual's knowledge and competencies. It enables employers to evaluate an applicant's level of qualifications, given that it is standardised. Secondly, it serves as a means of communication between employers and education and training providers, by specifying the desired learning outcomes for various professions at different levels.

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[19]EC, Recognition of Professional Qualifications in Practice, Internal Market, Industry, Entrepreneurship and SMEs, https://single-market-economy.ec.europa.eu/single-market/services/free-movement-professionals/recognition-professional-qualifications-practice_en

[20]EC, European Credit Transfer and Accumulation System (ECTS), European Education Area, https://education.ec.europa.eu/education-levels/higher-education/inclusive-and-connected-higher-education/european-credit-transfer-and-accumulation-system

[21]These include Iceland, Liechtenstein, and Norway, which are part of the European Economic Area and currently apply the EQF, as well as Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia, Switzerland, and Turkey, which are potential or candidate countries.

4.3.3.2. Migration Mitigation for Skilled Workers

United States–Mexico–Canada Agreement. During the tenure of former US President Donald Trump, the North American Free Trade Agreement (NAFTA) was renegotiated and replaced by the United States–Mexico–Canada Agreement (USMCA) in July 2020.[22] The USMCA introduces a provision wherein certain professionals from the US and Mexico are eligible to apply for work permits in Canada, thus circumventing the requirement of obtaining a labour market impact assessment from a Canadian enterprise or a US/Mexican company operating in Canada. This provision encompasses 63 professions, including accountants, graphic designers, vocational counsellors, physicians, and veterinarians, and permits individuals possessing these qualifications to remain in Canada for up to 3 years if they hail from the member countries.

4.3.4. Implications from Case Studies

Initiatives undertaken by ILO and the EU to define skill sets and to provide relevant e-learning courses can serve as a reference for ASEAN–Japan collaboration. In particular, ILO's integration and updating of global skill sets can guide the definition of basic human resources competencies for the ASEAN–Japan region. Moreover, the example of the EU's E-Skills Match programme could help refine these skill sets in the ASEAN–Japan region. Online learning programmes can be offered under the defined skill sets; collaboration with educational institutions and stakeholders will be necessary while considering the language diversity in the ASEAN–Japan region. Likewise, METI in Japan has developed digital skill standards that cover integrated business and digital skills for management to general business personnel, which can also serve as a useful reference for ASEAN–Japan collaboration.

For inclusive education, access to hard infrastructure – such as network environments, smartphones, and tablets to guarantee a conducive learning environment – is necessary, along with ways to provide content. EU4Digital provides insights on the development of broadband environments in the ASEAN–Japan region. The 5G high-speed network can be utilised in the educational environment, and the EU's efforts to install 5G networks in Eastern Partnership countries can serve as a reference for the construction of such infrastructure in the ASEAN–Japan region. CloudSwyft is also an effective model for the flourishing education technology industry in Japan and ASEAN.

To enhance the mobility of human resources, mutual recognition of qualifications must be promoted, and the utilisation of reference frameworks for qualifications and learning status must be expanded. The scope of occupational areas to be covered should grow, and the localised conditions required for qualifications

[22]Office of the United States Trade Representative, United States-Mexico-Canada Agreement, Trade Agreements, https://ustr.gov/trade-agreements/free-trade-agreements/united-states-mexico-canada-agreement

in each AMS and Japan should be noted. Mutual recognition of qualifications throughout ASEAN requires standardisation of learning content required to obtain the qualification. Expanding the number of schools and faculties eligible for credit transfer in the ASEAN–Japan region is necessary to promote mutual recognition of qualifications.

4.4. Digital Economy

To foster innovations that leverage cutting-edge technologies and disruptive business models, it is imperative to examine and potentially to modify existing regulations that hinder the innovation environment. Special applications and allowances may be implemented that facilitate the development of novel solutions. Case studies in this context comprise EU initiatives for multilateral patent unification, which aim to streamline and harmonise the patent system across participating countries. Additionally, regulatory sandbox programmes have been established in various countries to create a controlled environment that allows innovators to test their solutions under a temporary and tailored regulatory framework.

4.4.1. Unified Patent Court Agreement

As a fundamental principle of patent law, the validity of a patent is restricted to the country where the patent is granted. Patent rights are conferred on a country-by-country basis, which is referred to as the principle of patent independence. To obtain the right to use a patent in another country, it is essential to secure patent rights in each desired country.

The EU has been striving to establish a unified patent scheme within the region, which is slated to become operational in 2023.[23] The Single European Patent System will allow a single patent to be protected in all EU member countries. This system will eliminate the previous requirement for validation in each European country, making patent applications more convenient, as patents can be registered in Europe on a one-stop basis.

As in other areas of law, the EU's current intellectual property law framework comprises a two-tier system, with one tier at the European level and another at the level of each member state. Intellectual property rights such as patents, trademarks, designs, copyrights, and trade secrets are safeguarded under the national law of each member country (with utility model rights protected in some nations). As the requirements and substance of such rights differ based on national laws, however, efforts have been made to harmonise them. Furthermore, a system to safeguard intellectual property rights based on treaties at the European level has been established and expanded.

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[23]Unified Patent Court, About the Unified Patent Court, https://www.unified-patent-court.org/en

4.4.2. Regulatory Sandbox

Regulatory sandboxes are limited initiatives within a single country. No effective bilateral or multilateral cases were identified.

4.4.2.1. United Kingdom

The Financial Conduct Authority of the United Kingdom (UK) established a regulatory sandbox in 2016, which received 501 applications as of June 2021, of which 159 were accepted.[24] In August 2021, the sandbox was modified to enhance its accessibility to a broader range of applicants. It also has launched a digital sandbox in collaboration with the City of London in 2021. To apply for the regulatory sandbox, firms must meet eligibility criteria and submit applications. Once approved, participating firms can provide financial services in the market without obtaining the requisite permits and licenses, subject to an agreed-upon limited scope with the Financial Conduct Authority.[25] The demonstration period within the sandbox may last up to 12 months, with shorter options of approximately 2 months. Additionally, applications are accepted continuously, allowing firms to conduct demonstrations as per their services development cycle from 2021.

4.4.2.2. Spain

In 2022, the EU launched its inaugural AI sandbox in Spain (EC, 2022b). The sandbox is intended to serve as a pilot project that will inform forthcoming European AI legislation. The Government of Spain initiated a demonstration to establish optimal practices to guide the future application of EU AI regulation. The EU intends to enact such legislation by the end of 2024 based on this demonstration. Concurrently, other EU member states are being urged to join or to adopt comparable initiatives to establish a pan-European AI sandbox system.

4.4.2.3. Republic of Korea

In April 2019, the Government of Korea enacted the Special Act on Financial Innovation Support, which established a regulatory sandbox for the financial sector. Under this initiative, firms can apply to the Financial Services Commission for entry.[26] Within 30 days, the Financial Services Commission will respond to the applicant, indicating any conflicts with regulations under its jurisdiction; it may also grant exemptions from these regulations subject to the provision of special insurance and clarification of liability.

The regulatory sandbox provides a platform for firms to test their financial services under specific conditions. From April 2019 to September 2021, over 150

[24]FCA, https://www.fca.org.uk/
[25]It is a legal requirement for businesses offering financial services in the UK to be licensed or registered.
[26]FSC, https://www.fsc.go.kr/eng/index

applications were approved. According to the Fintech Center Korea (2021), the regulatory sandbox is available for up to 2 years, with an extension of 18 months upon request. Applications are open to enterprises that have registered their businesses in Korea. [27]

The regulatory sandbox offers various incentives to encourage participation. Except for certain parameters specified at the time of certification – such as maximum numbers of customers or transaction amounts – no restrictions exist.[28] Public authorities provide financial support for costs associated with implementing services designated in the sandbox system, premiums for insurance to protect users, and other expenses related to expanding business overseas.

4.4.2.4. Australia

The Australian regulatory sandbox was introduced in 2016 (Financial Services Council, 2016) and underwent significant revision in 2020, which included expanding the services covered, lengthening the demonstration period to a maximum of 24 months, and not limiting the number of service uses. It operates under the assumption that the services of operators are subject to financial and other regulations. In the sandbox, adopting firms receive a temporary exemption from regulatory compliance to test their financial services in the market, subject to specific conditions. Foreign-affiliated companies registered in Australia may apply for registration in the sandbox, as authorised by the Australian Securities and Investments Commission (ASIC).[29] Firms intending to utilise the regulatory sandbox must provide ASIC with a notification, which is reviewed within 30 days. Feedback is provided on the approval or rejection of the licensing exemption.

4.4.2.5. Japan

In June 2018, METI introduced a regulatory sandbox that focusses on innovative technologies such as Internet of Things (IoT), blockchain, and robotics, as well as novel business models like platform-based businesses and the sharing economy.[30] The regulatory sandbox allows firms to conduct demonstrations, with regulatory approval, in cases where the social implementation of technologies and business models is hindered by current regulations. The data gathered during these demonstrations are used to inform regulatory reviews. As of 2022, 18 cases received approval, covering various industries and themes such as blockchain, robotics, and home electronics with IoT technologies.

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[27]Fintech Center Korea, Introduction, Sandbox Korea, https://sandbox.fintech.or.kr/quickcheck/quickcheck_Introduction.do?lang=en
[28]Fintech Center Korea, Post-Designation Support Guide, Sandbox Korea, https://sandbox.fintech.or.kr/financial/support.do?lang=en
[29]ASIC, Enhanced Regulatory Sandbox, Innovation Hub, https://asic.gov.au/for-business/innovation-hub/enhanced-regulatory-sandbox/#:~:text=The%20sandbox%20allows%20natural%20persons,credit%20licence%20(credit%20licence)
[30]METI, Gray Zone Elimination System, Project-Based 'Regulatory Sandbox' and Special Exception System for New Businesses, https://www.meti.go.jp/policy/jigyou_saisei/kyousouryoku_kyouka/shinjigyo-kaitakuseidosuishin/ [in Japanese].

Japan has also supported schemes that enable enterprises to assess whether their business plans are subject to specific regulations.

4.4.3. Implications from Case Studies

Europe is a significant market for start-ups aiming to expand globally over the medium to long term. Hence, implementing a single European patent scheme is an essential step for enterprises to safeguard their intellectual property rights in the entire region. The region is also a leader in environmental, social, and governance (ESG) initiatives, which have gained increased recognition in recent years.

The EU's single patent system is expected to enable start-ups to file international patent applications that they had previously abandoned due to financial or other constraints. This is expected to result in more patent applications – not only by large enterprises but also by start-ups. The establishment of a unified patent system in the ASEAN–Japan region would also be expected to facilitate the registration of patents by foreign companies and to contribute to improving the business environment for start-ups, as in the EU.

Regulatory sandboxes have been primarily introduced in the financial industry, while Japan has been expanding its coverage to various industries. Demonstrations of actual service provision to users have been widely accepted, particularly in the UK and Korea. To encourage use, regulatory sandboxes should first be introduced in specific industries; expanding the number of authorised firms will foster momentum.

Positioning the demonstration of a specific country as a pilot project in a regional association and linking it to the future deregulation of the entire region can promote innovation within the region, as demonstrated in Spain. Providing a minimum period of a few weeks and a maximum period of years enables diverse types of applications. In some countries, sandboxes are only open for applications at certain times of the year; however, as in Korea and Australia, leaving the application windows open for companies without a specific application period promotes use, as the sandbox application timing may not necessarily coincide with a company's new service or product development process.

It would also be beneficial to offer official support, such as financial or financial-related incentives for businesses, as in Korea. The possibility of receiving public support for market deployment upon certification of an applicant's new business as an innovative service would encourage participation.

4.5. Sustainability

To achieve carbon neutrality in the ASEAN–Japan region, it is crucial to undertake efforts aimed at establishing regulatory frameworks and optimising electricity consumption. The case studies expound on initiatives to formulate international protocols, develop an intra-regional electricity network, and enforce carbon-pricing policies.

4.5.1. Carbon Credits

During the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change, Japan announced the launch of the Paris Agreement Article 6[31] Implementation Partnership, a programme intended to invigorate decarbonisation markets and private investment, facilitate the reduction of greenhouse gas (GHG) emissions, and stimulate economic growth (MOE, 2022). It aims to support capacity building by promoting an understanding of the Paris Agreement's rules and providing training, as well as facilitating the implementation of Article 6 and linkages with nationally determined contributions (NDCs).[32] It includes areas of work such as sharing good practices, developing an informational platform for Article 6 implementation, supporting baseline methodology, and designing high-integrity carbon markets.

Japan has been at the forefront of GHG reduction trading, having introduced a unique trading system, the Bilateral Credit Mechanism, in 2013. Under this mechanism, known as the Joint Crediting Mechanism (JCM), Japan has partnered with 22 countries in Asia, Africa, and Latin America, carrying out over 200 projects, including support for the early stages of renewable energy production. Many Japanese companies are also participating in the programme.

As of the launch in November 2022, the Paris Agreement Article 6 Implementation Partnership has had participation from 23 organisations from 40 countries, including Cambodia, the Philippines, Singapore, and Thailand (MOE, 2022). The initiative aims to involve more than 100 countries. Amongst the numerous individual credit initiatives worldwide, the bilateral credits that Japan has been promoting are expected to become a global standard.

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[31]GHG reduction trading is a mechanism in which developed countries provide developing countries with funds and technologies that lead to GHG reductions, with a portion of the reduced amount credited to developed countries' reductions. This mechanism is stipulated in Article 6 of the Paris Agreement, which was adopted in 2015. Guidelines for its implementation were agreed upon in 2021.

[32]NDCs are the efforts that each country aim to make to reduce national emissions and to adapt to the impacts of climate change.

4.5.2. Regional Power Grid

An international power grid offers numerous benefits, including ensuring a reliable power supply during times of crises, promoting the integration of renewable energy, and providing access to cost-effective electricity. The EU power grid boasts the highest number of interconnections in the world.[33] Several EU member states have also established super grids, which facilitate high-capacity power transmission. Denmark, Germany, the Netherlands, and Norway, for instance, have established large transmission networks consisting of high-voltage or ultra-high-voltage direct current power lines as well as interconnection capabilities with neighbouring countries. Denmark's multilateral transmission network is an exemplary super grid that meets the country's peak electricity demand. This network leverages the benefits of the country's energy mix, which includes wind and hydroelectric power generation, and capitalises on its geographical advantages. Furthermore, surplus power is stored within each country, thanks to the flexibility of electricity exchange amongst countries. Some EU member states have high import rates (e.g. Belgium and Italy) or high export rates (e.g. France, Germany, Norway, and Sweden).

The UK, being an island surrounded by the sea, has been actively promoting offshore wind power and utilising international interconnection lines to import and to export electricity to secure a stable power supply, while phasing out old thermal power plants and reducing domestic electricity prices. The country has already connected to others through undersea transmission lines, and several additional international transmission lines are currently in the planning stages (IRENA, 2020). This development aligns with the growth of the pan-European wholesale electricity market.

4.5.3. Carbon Pricing

Carbon pricing includes emissions trading and carbon taxes and other initiatives as per the World Bank.[34]

4.5.3.1. European Union Emissions Trading System

The EU was the first global entity to introduce an emissions trading market through the establishment of the European Union Emissions Trading System (EU-ETS) in July 2021. The primary objective is to attain climate neutrality within the EU by 2050, with an intermediate goal of achieving a net reduction of at least 55% of GHG emissions by 2030.[35] The EU-ETS operates on the cap-and-trade principle, which entails setting a cap on the aggregate quantity of GHG emissions allowed by the installations covered by the scheme. This cap is progressively reduced over time

[33]EC, Electricity Network Codes and Guidelines, Energy, https://energy.ec.europa.eu/topics/markets-and-consumers/wholesale-energy-market/electricity-network-codes-and-guidelines_en
[34]World Bank, What Is Carbon Pricing? Carbon Pricing Dashboard, https://carbonpricingdashboard.worldbank.org/what-carbon-pricing
[35]EC, EU Emissions Trading System (EU ETS), Climate Action, https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets_en

to ensure an overall reduction in emissions. However, since the installations have the option to purchase or to receive emission allowances that are exchangeable, the cap applies to the collective group. At the end of each year, the installations must surrender sufficient credits to cover their emissions or risk facing significant financial penalties.

The EU-ETS approach fosters the development of innovative, low-carbon technologies by stimulating investment. It covers several sectors and various gases, including carbon dioxide, nitrous oxide, and perfluorochemicals.

4.5.3.2. Carbon Border Adjustment Mechanism

In July 2021, the EU-ETS implemented the Carbon Border Adjustment Mechanism (CBAM) to counteract the phenomenon of carbon leakage, which involves shifting carbon-intensive economic activity to regions with lax climate policies (EC, 2021). The CBAM represents a nascent set of trade policy tools aimed at promoting climate mitigation while ensuring compatibility with World Trade Organization standards. The risk of carbon leakage undermining EU climate efforts is a key concern.

The CBAM involves imposing a carbon charge on imports from countries that lack adequate climate-change measures, thereby equalising trade terms and avoiding a competitive disadvantage for countries with more stringent climate policies. The implementation of a reporting system for high-risk products – such as iron and steel, cement, fertilizer, aluminium, and electricity – is planned for 2023 to facilitate discussion and to ensure a smooth roll-out. Importers of high-risk products will begin paying financial adjustments from 2026.

4.5.4. Waste Disposal and Recycling Systems

The extended producer responsibility (EPR) principle underpins several waste treatment and recycling systems, whereby producers are held partly accountable for the environmental impact of their products during the entire product life cycle, encompassing raw material selection, production processes, usage, and disposal. In 2001, the Organisation for Economic Co-operation and Development (OECD) introduced the concept of EPR in its *Guidance Manual on Extended Producer Responsibility*, and a revised definition was released in 2016.[36]

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[36]OECD, Extended Producer Responsibility, Environment, https://www.oecd.org/env/tools-evaluation/extendedproducerresponsibility.htm
[37]EU, EU Waste Management Law, EUR-Lex, https://eur-lex.europa.eu/EN/legal-content/summary/eu-waste-management-law.html

4.5.4.1. European Union Waste Management Laws

The EU employs Directive No. 2008/98/EC, also known as the EU Waste Management Law, as a legal framework for managing waste in the region.[37] The objective is to safeguard the environment and human health through appropriate waste management, recovery, and recycling techniques. The directive outlines a waste hierarchy that prioritises waste prevention; preparing for reuse, recycling, and other forms of recovery; and disposal. A notable principle is polluter pays, which holds companies liable for environmental damage that they cause and requires them to take necessary preventative or remedial action at their own expense. The EPR approach is highlighted in the directive, which places financial or physical responsibility on producers for the treatment or disposal of post-consumer products. In addition to these key points, the directive emphasises the development of waste-management plans and waste-prevention programmes.

In 2018, an amending directive, Directive No. 2018/851, was introduced as part of the circular economy package, which establishes the minimum operating requirements for EPR schemes and reinforces regulations on waste prevention and generation. This directive highlights supporting sustainable production and consumption models, encouraging the availability of spare parts, and stopping marine waste generation. The directive also sets new municipal waste recycling targets and encourages incentives for the waste hierarchy.

Although each EU member state has its own national waste disposal laws and regulations, all are required to comply with common EU legislation. Such legislation outlines actions that EU member states must take, such as promoting the design, manufacturing, and use of resource-efficient, durable, reparable, reusable, and upgradable products.

4.5.4.2.*Guide to European Union Practices on Waste Recycling Technologies*

In 2016, the EU funded the *Guide to European Union Practices on Waste Recycling Technologies*, which aims to promote waste disposal and recycling efforts within the region (EU and Waste Free Rivers for a Clean Black Sea Project, 2020). As part of this effort, EU member states are collaborating to achieve unified goals, such as recycling at least 55% of general waste by 2025, 60% by 2030, and 65% by 2035. These targets mark a significant shift from a linear economy to a circular economy, where reuse, repair, and recycling become the norm. The transition to a circular economy is expected to create approximately 580,000 new jobs and to reduce GHG emissions by 62 million tonnes by 2030, yielding both environmental and economic benefits.

To achieve these goals, the EU has implemented several measures, including mandatory separate collection of food waste, revision of the EU Waste Management Law, compulsory collection of bio waste, and stricter producer responsibility regulations. Countries that have achieved their recycling targets, such as France,

are providing technical assistance to countries that require support, such as Spain, to meet the EU's 2030 goals.

4.5.4.3. Containers and Packaging Recycling Law

The Containers and Packaging Recycling Law is said to be the first law in Japan to incorporate the EPR concept (Aoki, 2017). Mass production, consumption, and disposal were rampant during the high-growth era in Japan; there were insufficient disposal sites to accommodate all the waste. To help address this issue, the government enacted the Containers and Packaging Recycling Law in 1997, which defines the roles and responsibilities of parties involved in the disposal of containers and packaging waste.[38]

The law designates three parties responsible for container and packaging waste management: consumers, municipalities, and businesses. Consumers are responsible for sorting and disposing of waste, municipalities for sorting and collecting waste, and businesses for recycling waste. The law mandates that the three parties work collaboratively to reduce container and packaging waste. Businesses must outsource recycling to designated corporations and bear the costs while making efforts to reduce packaging waste by using thinner and lighter containers, selling by weight, and charging for plastic bags. Consumers are not subjected to any cost burdens. Businesses involved in the use, manufacture, or import of containers and packaging are considered producers, and the law covers metal, glass, paper, and plastic containers.

Implementation has resulted in significant progress in sorted collection and recycling. There has been a decrease in the final disposal volume of general waste, and the lifespan of final disposal sites increased from 8.5 years in 1995 to 22.4 years in 2020.[39]

4.5.4.4. Home Appliance Recycling Law

Prior to the enactment of the law, nearly half of used home appliances from households in Japan were directly landfilled without any form of processing. In certain instances, metallic components, such as iron, were retrieved after undergoing shredding. Enacted in 1998, the Home Appliance Recycling Law aims to reduce waste and to promote efficient resource utilisation by recycling useful parts and materials from home appliances such as air conditioners, televisions, refrigerators/freezers, and washing machines/clothes dryers that are discarded from households and offices.[40] The legislation requires the take-back of used appliances by retailers and their recycling by manufacturers and importers.

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[38]MOE, What Is the Containers and Packaging Recycling Law, https://www.env.go.jp/recycle/yoki/a_1_recycle/index.html [in Japanese].
[39]Japan Containers and Packaging Recycling Association, https://www.jcpra.or.jp/english/tabid/603/index.php
[40]MOE, Overview of Home Appliance Recycling Law, https://www.env.go.jp/recycle/kaden/gaiyo.html [in Japanese].

Consumers are required to pay a fee under the exclusive EPR scheme of this law when returning their used equipment to retailers, and the fee is determined by the producer (Gupt and Sahay, 2015). According to METI (2022), roughly 16 million units of eligible household equipment waste were collected in 2020, marking the sixth consecutive year of year-on-year growth for the programme.

Japan has been disseminating its waste management technologies and knowledge via international cooperation programmes. JICA provides support in three phases based on the recipient country's development stage: enhancement of public health, reduction of environmental burden and pollution prevention, and realisation of a recycling-oriented society via the 3Rs.[41] As an illustration of Japan's aid to ASEAN through JICA, the second phase was conducted in Thailand between 2011 and 2015.[42] Under the third phase, JICA also provided aid to Indonesia through a Japanese company in 2017. Furthermore, JICA has been sending human resources to countries in ASEAN for waste management and environmental education.[43]

4.5.5. Regional Recycled Product Certification

EuCertPlast is an official certification body for companies that manufacture recycled products that comply with EU standards.[44] This scheme was developed through a 3-year project that was co-financed by the EC under the Eco-Innovation programme. The scheme focusses on the traceability of plastic materials and quality control of recycled content in end-products. The objectives are to recognise recyclers operating according to high standards and to implement best practices.

4.5.6. Regional Information Exchange Platform

The technical assistance and information exchange instrument of the EC environmental implementation review peer-to-peer tool serves as a mechanism for knowledge transfer amongst environmental authorities. Its primary aim is to extend support to national authorities responsible for implementing environmental regulations and policies throughout the EU.[45] By facilitating information exchange, this tool promotes innovation, accelerates progress, and provides an opportunity for EU member states to learn from each other's best practices and policies. This technology emphasises various aspects of environmental governance, including access to justice, environmental liability, and compliance assurance. It offers four short-term activities – expert missions, study visits, workshops, and remote work – that can be availed by EU member states.

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[41] JICA, Environmental Management (JICA Clean City Initiative), JICA Activities, https://www.jica.go.jp/english/our_work/thematic_issues/management/activity.html
[42] JICA, Project for the Development of Basic Schemes for PRTR System in Kingdom of Thailand, Thailand, https://www.jica.go.jp/project/english/thailand/013/index.html
[43] JICA, Civil Participation, Types of Assistance, https://www.jica.go.jp/english/our_work/types_of_assistance/citizen/volunteers.html
[44] EuCertPlast, https://www.eucertplast.eu/
[45] EC, TAIEX-EIR PEER 2 PEER Tool, Environmental Implementation Review, https://environment.ec.europa.eu/law-and-governance/environmental-implementation-review/peer-2-peer_en

4.5.7. Implications from Case Studies

Japan's extensive experience in implementing bilateral credits with various nations has resulted in four AMS agreeing to join the Paris Agreement Article 6 Implementation Partnership as of November 2022. All AMS are encouraged to participate in the effort to establish a global standard for bilateral credits, of which there are several examples. In addition, ASEAN's renewable energy initiatives should be promoted within the context of the current ASEAN Power Grid initiative, particularly for AMS with electricity pipelines that span multiple AMS (ACE, 2020).

The multilateral transmission technology realised in 2022 in the EU should be extended to AMS to improve connectivity.[46] A desirable approach would be to emulate Denmark's multilateral transmission model, which provides most domestic electricity capacity from a mix of clean energy sources. Indeed, Singapore began importing hydroelectric power from the Lao People's Democratic Republic in 2022 through an international power grid system involving Thailand and Malaysia – the first time that Singapore has imported renewable energy from outside of the country. Despite ASEAN having less contiguous land than the EU, this intercountry power grid system is a significant step towards ensuring a reliable electricity supply in the region.

Japan has limited energy resources and has experienced large-scale power outages due to earthquakes throughout its history. Previously, each electrical firm supplied power to Japan's transmission and distribution network, which restricted the flow of electricity throughout the country. This problem can be prevented by using international interconnection lines (i.e. to ASEAN) for emergency power supply. This would be particularly effective in areas in Japan where the scale of interconnection lines with other areas is small. Furthermore, if Japan's energy mix is enhanced with renewable energy by connection to an international grid, multiple advantages are evident, such as reducing GHG emissions, improving energy self-sufficiency, and securing energy in emergencies.

The introduction of carbon pricing in ASEAN has varied. In general, emissions trading schemes in the ASEAN region are more advanced than carbon taxes. Since its enactment of a carbon tax in 2019, Singapore intends to considerably increase the tax amount from 2019 to 2030.[47] On the other hand, Thailand, Indonesia, the Philippines, and Viet Nam are planning to introduce emissions trading schemes for some industries and are conducting associated pilot projects (Liu and Nedopil Wang, 2021).

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[46] The USMCA has a transmission network between the US and Canada, but the total amount of electricity is only a few percentage points, far from that of the EU (Vine, 2017).
[47] National Climate Change Secretariat of Singapore, Carbon Tax, https://www.nccs.gov.sg/singapores-climate-action/mitigation-efforts/carbontax/#:~:text=Singapore%20implemented%20a%20carbon%20tax,period%20for%20emitters%20to%20adjust

Some countries in Asia have begun operating a unified national emissions trading market as of 2022. The Government of China estimates that the volume of emissions trading in China will eventually reach 8 billion tonnes, making it a huge emissions market (Liu and Nedopil Wang, 2021). In Japan, the Tokyo Stock Exchange also began a demonstration test of emissions trading in 2022 (Japan Exchange Group, 2022).

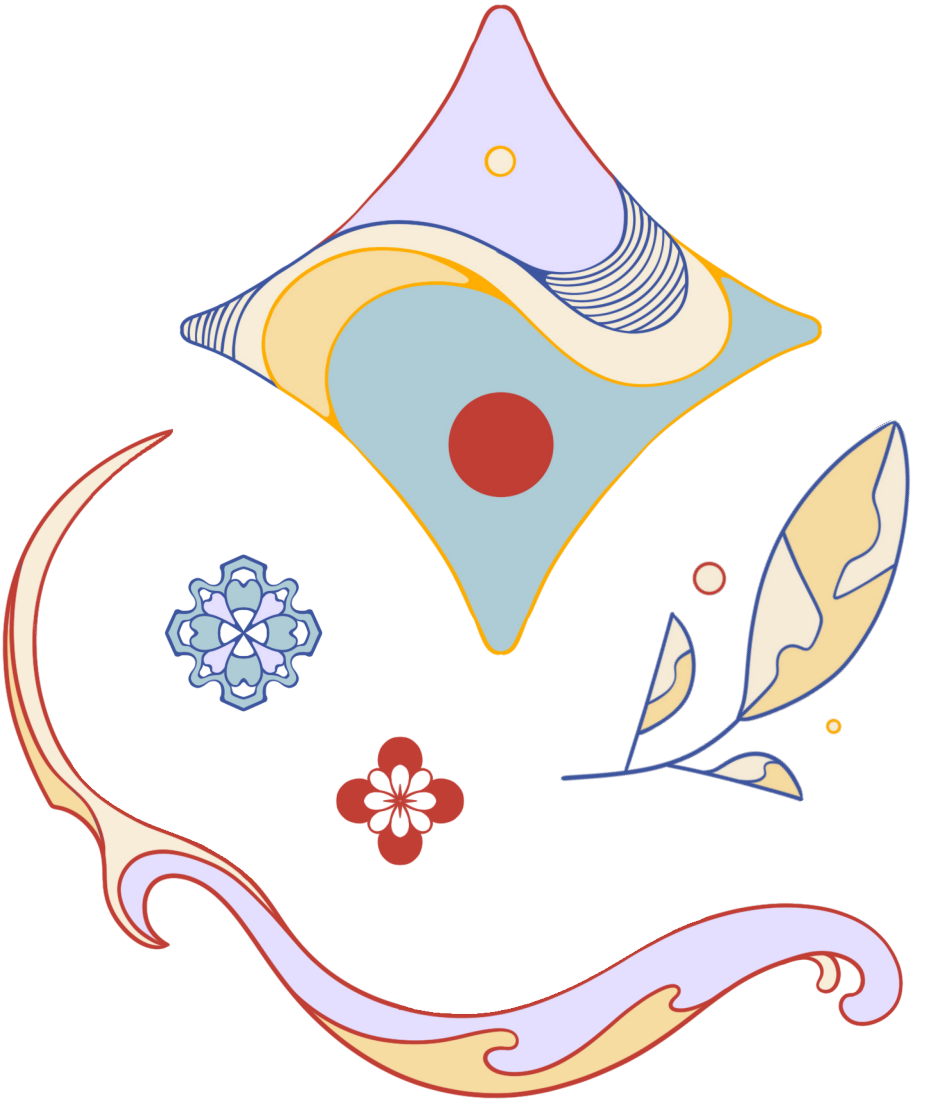
It is important to support these AMS efforts, which promote policies that support the overall lowering of GHG emissions amongst member states. Moreover, the initiatives of Singapore and Japan should be connected to other countries given their clear knowledge advantage and expertise in those fields.

EU carbon adjustment initiatives have featured more advanced studies where emissions trading markets are already operational and multilateral efforts are in progress. AMS should similarly research and evaluate carbon trading in each country before implementing it. It would be beneficial for AMS to observe how the EU carries out the CBAM as well.

A circular society can be formed by collecting waste, recycling it, and distributing recycled products to the market based on standards. It is desirable to expand the distribution market for such recycled products to the entire ASEAN–Japan region. The establishment of a large cross-national distribution market would provide an incentive for companies and other stakeholders to enter the recycling market. Moreover, EU efforts to establish standardised guidelines for waste disposal in the region as part of its efforts to realise a circular economy could be considered in ASEAN. The EU Waste Management Law provides a clear framework on organisational hierarchies that should be followed. The recycling model used by the EU, which emphasises both environmental and financial gains that can be made through the shift from a linear to a circular economy, is another method that ASEAN may adopt.

Currently, waste management is governed by different laws and regulations in Japan and ASEAN. EPR is growing as the fundamental rule for waste treatment around the globe. In ASEAN, waste treatment should be implemented by ensuring its reliable application, especially in least-developed countries. Further, recycling certification bodies should also be introduced to give more legitimacy to a future process in AMS. The EU initiative to establish a certification body for recycled products is a case study that can be referred to in the future when the ASEAN–Japan region is considered a single market for the distribution of recycled products. Establishing a common certification body within the region and having that body certify recycled products within the region based on common rules would promote market integration of recycled products. The historical knowledge of Japan will be key to developing the legislation, as Japan has developed domestic legislation based on EPR principles and updated it as needed.

Finally, peer-to-peer initiatives are helpful to advance regional initiatives if AMS review or provide input on laws, programmes, and systems that they experienced. This contributes to the promotion of private sector cooperation if the programmes are backed by official licensing bodies or trade blocs.



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CHAPTER 5

The Current ASEAN–Japan Economic Partnership

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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).

[1] The 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

[2] The 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 A*SEAN 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).

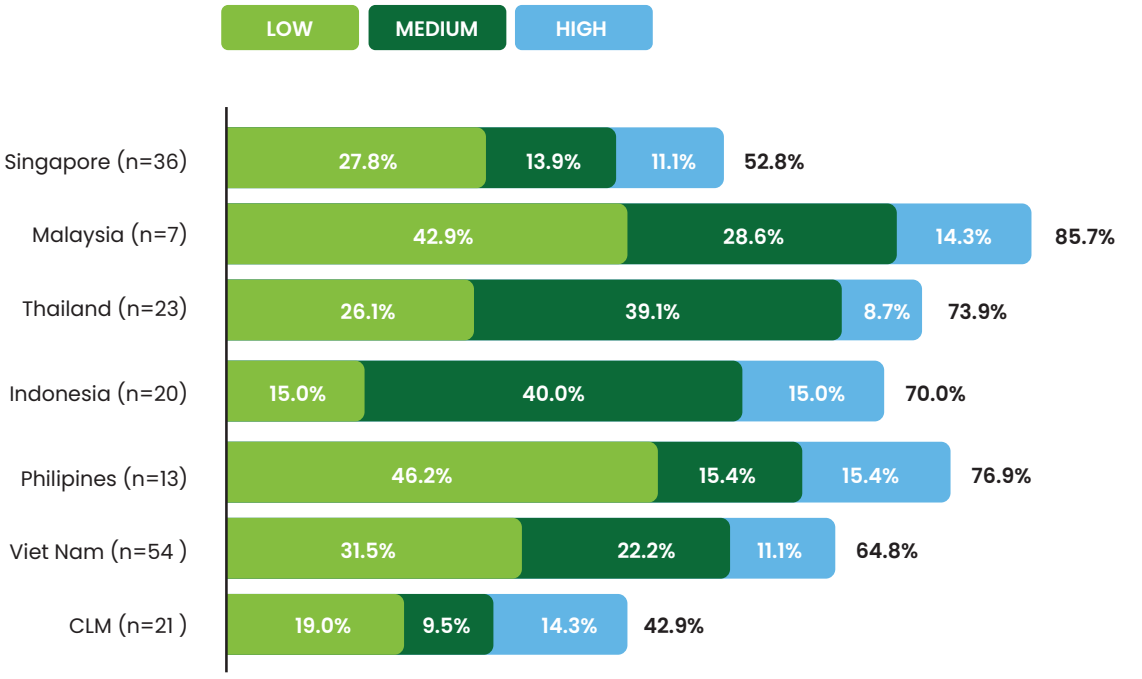
The regional trade environment can be improved to avoid customs clearances becoming bottlenecks for doing business in the region. By promoting trade liberalisation, businesses can trade more efficiently, which will then facilitate the distribution of ASEAN–Japanese products in the region. Improving supply 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.

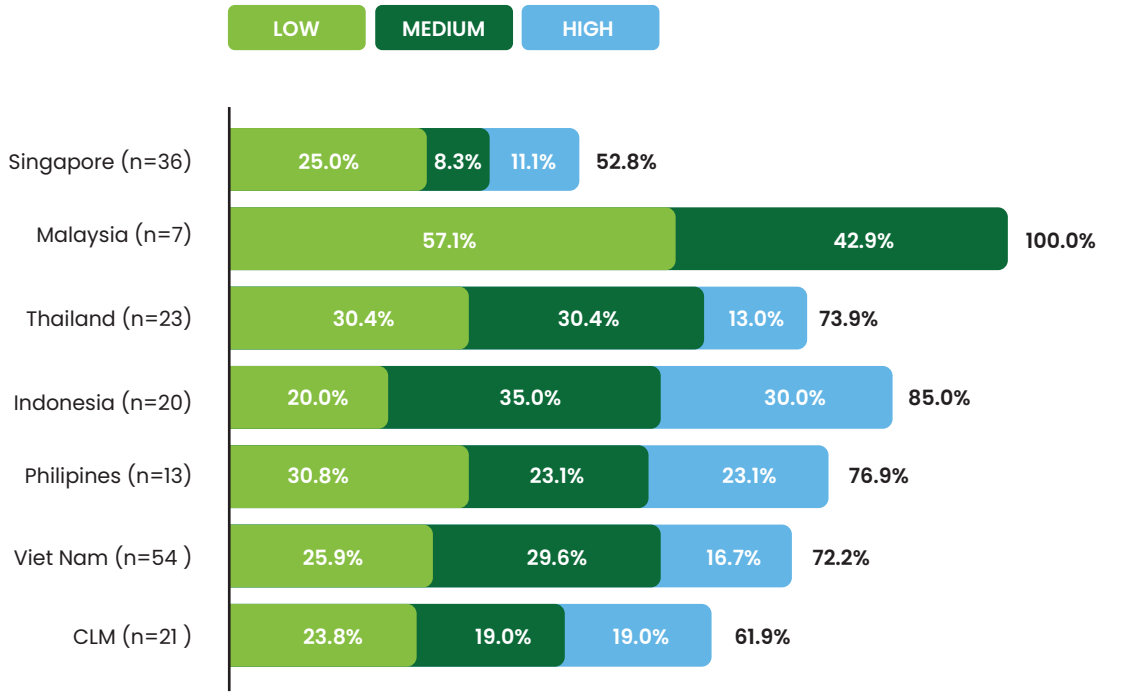
Figure 5.1: Applying Favourable Tariffs through Economic Partnership Agreements or Free Trade Agreements



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.

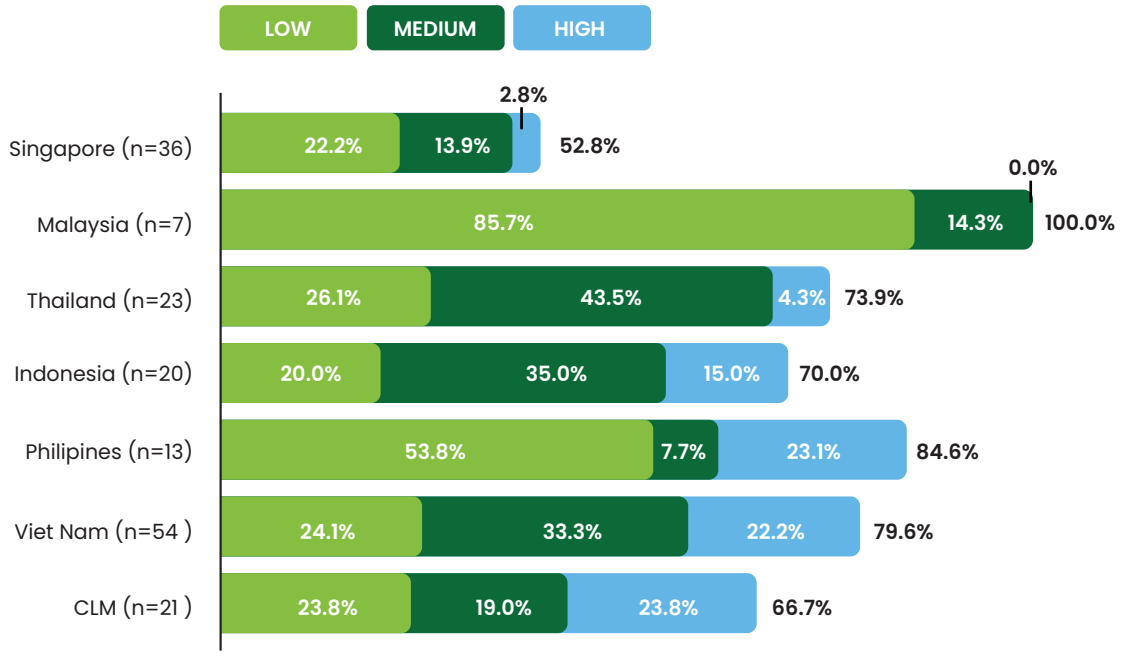
Figure 5.2: Unexpected Costs Due to the Lack of Customs Operational Standards on Applying Harmonized System Codes



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

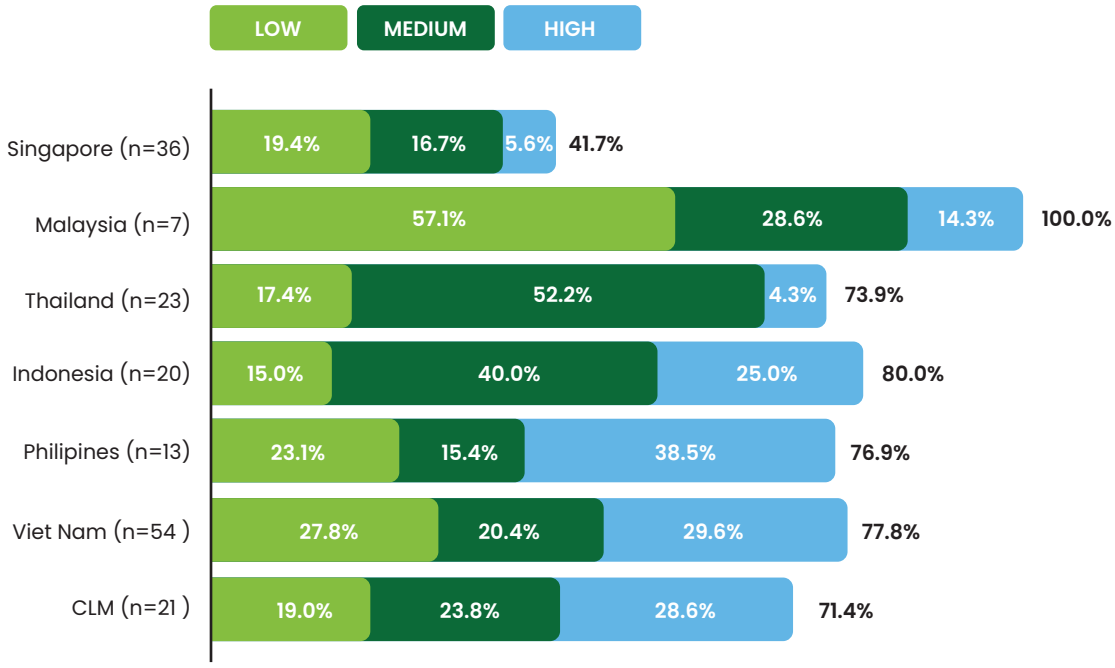


CLM = Cambodia, Lao People's Democratic Republic, and Myanmar.
Notes: The figure shows the difficulty in trading across borders focussing on one of the answer options (i.e. 'corruption or lack of compliance of customs officers [e.g. facilitation payment]') and its impact on respondents' business profits 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/

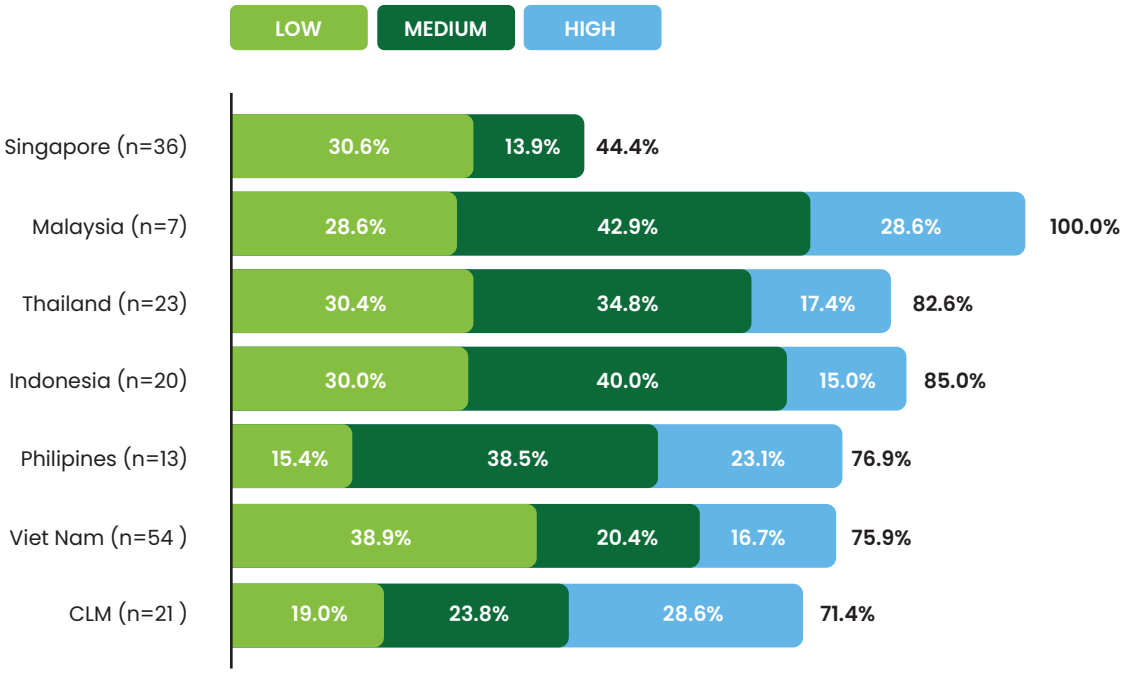
Figure 5.4: Time-Consuming Manual or Onsite Procedures Due to Unclear or Unofficial Customs Procedures



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.

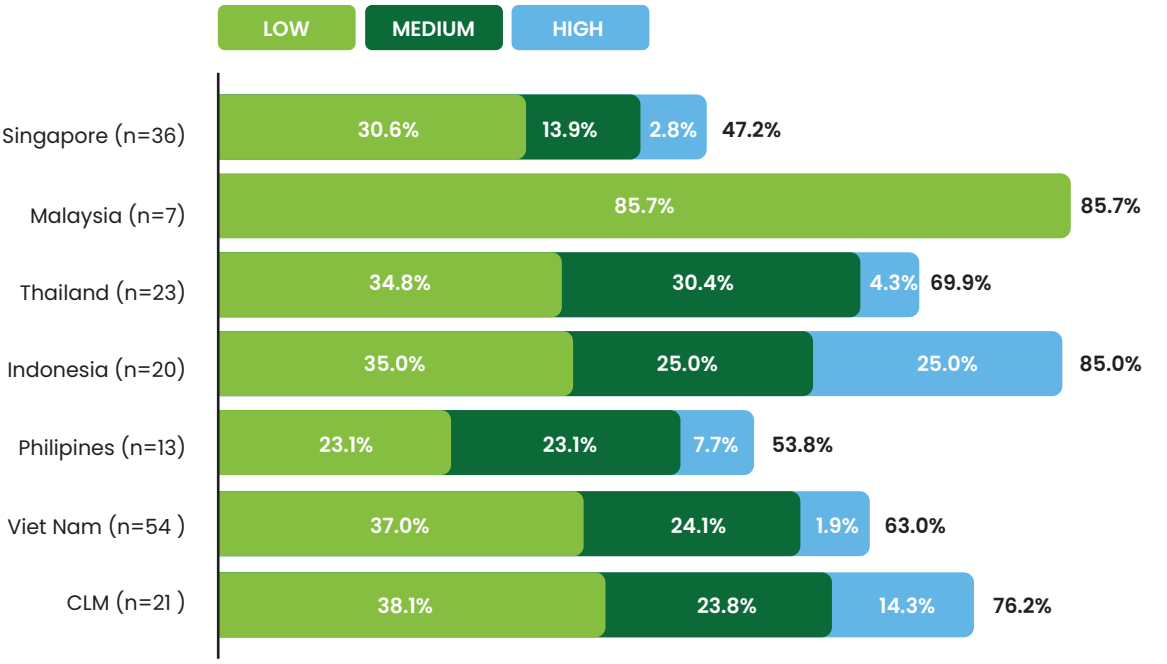
Figure 5.5: Time-Consuming Manual or Onsite Procedures Due to Limited Scope of Electronic Services



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.

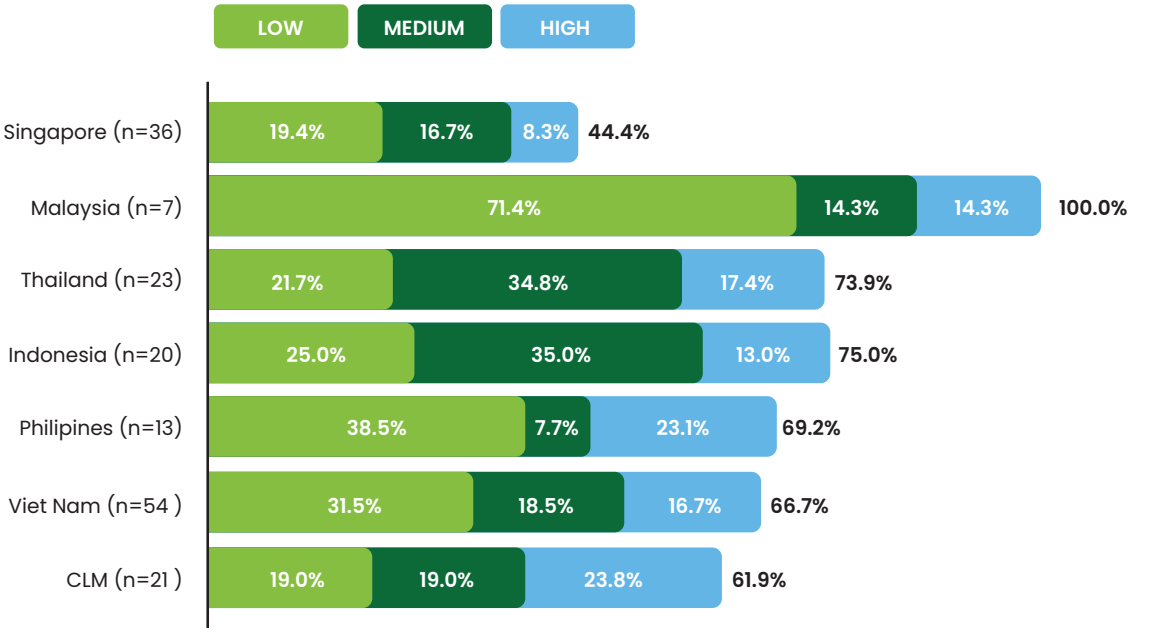
Figure 5.6: Long Lead Time in Trading Due to Unconnected Electronic Services between Countries



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.

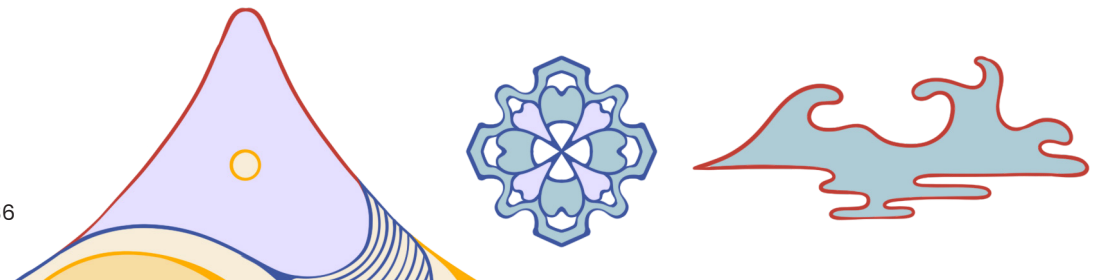
Of these four factors, data connectivity is the most crucial – yet challenging – component in the region. A state where data flow freely – with trust – can be considered a state where data are well-connected. Another formidable obstacle is thus establishing rules that facilitate the free flow of data 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.

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[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, he 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 divide[11] 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.

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[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

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[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.

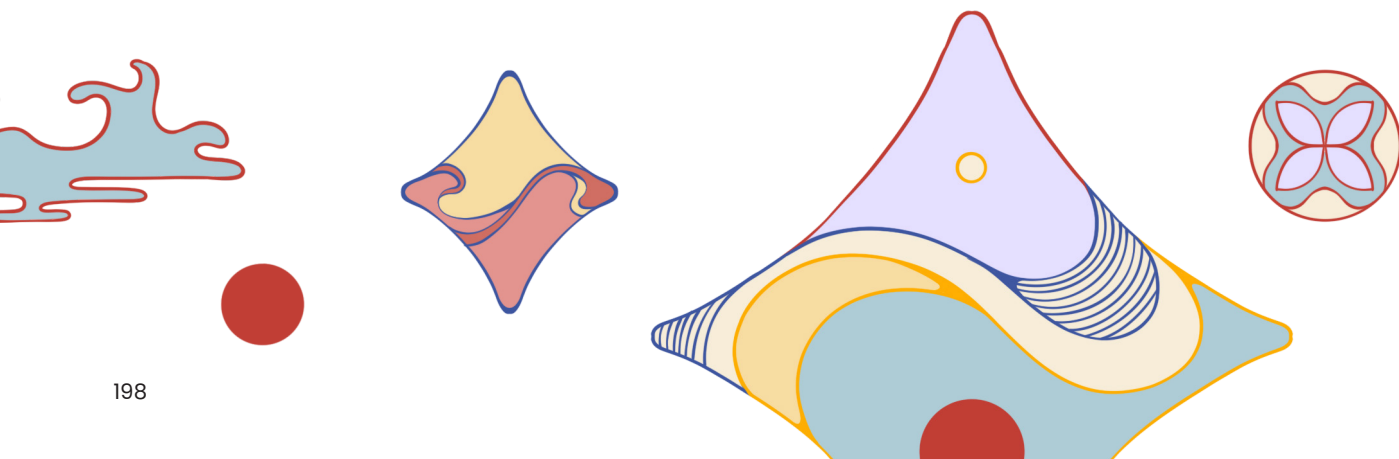
To achieve resource circulation within the region, Japan can support some AMS to establish rules on handling waste by leveraging its historical efforts over the decades. Recycling certification bodies can also be established throughout the region to develop the market, with reference to EU certification 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

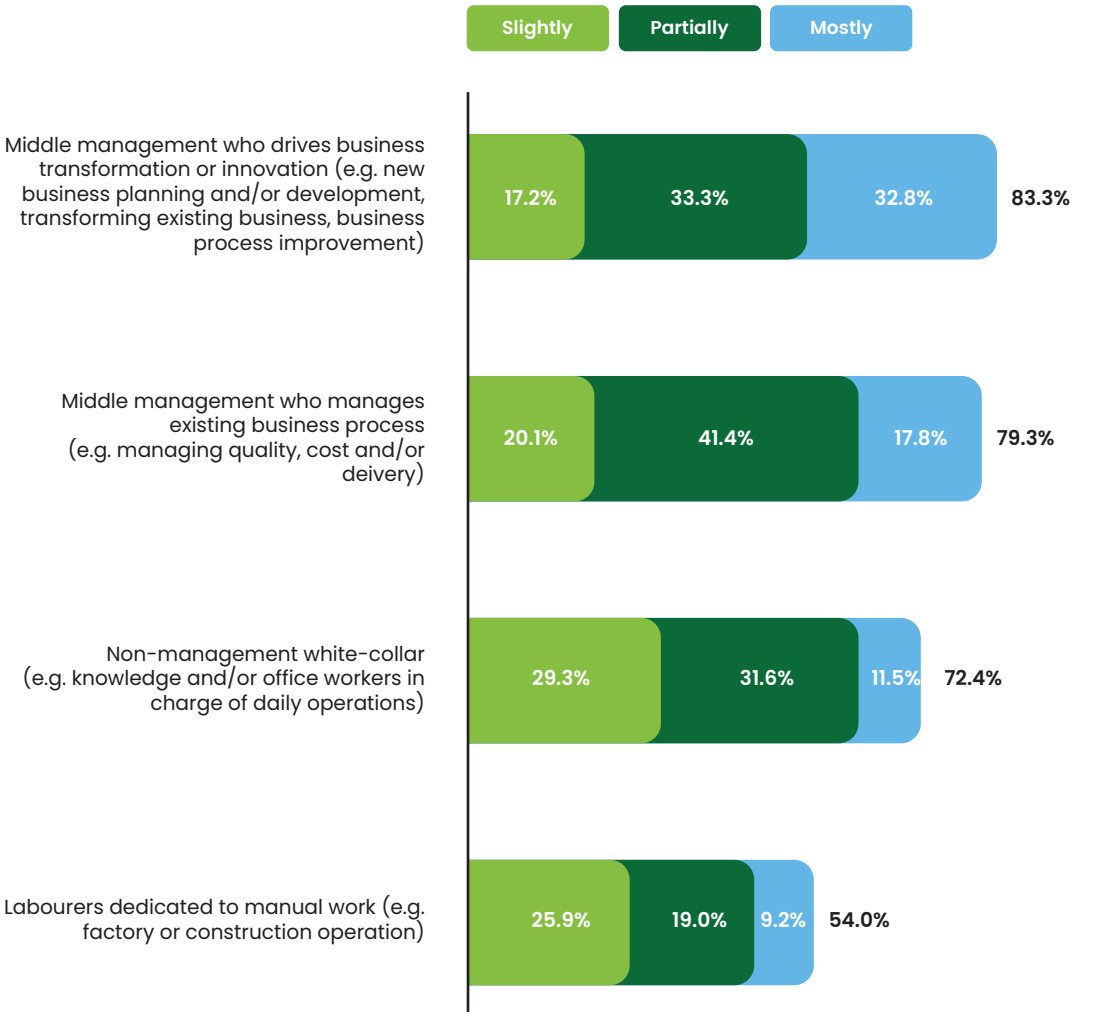
The onset of Industry 4.0, coupled with the swift development and adoption of new technologies in various sectors, has led to rapid changes in the business environment. To sustain the growth of the ASEAN–Japan economy, it is essential to ensure that the necessary human resources for the Industry 4.0 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.

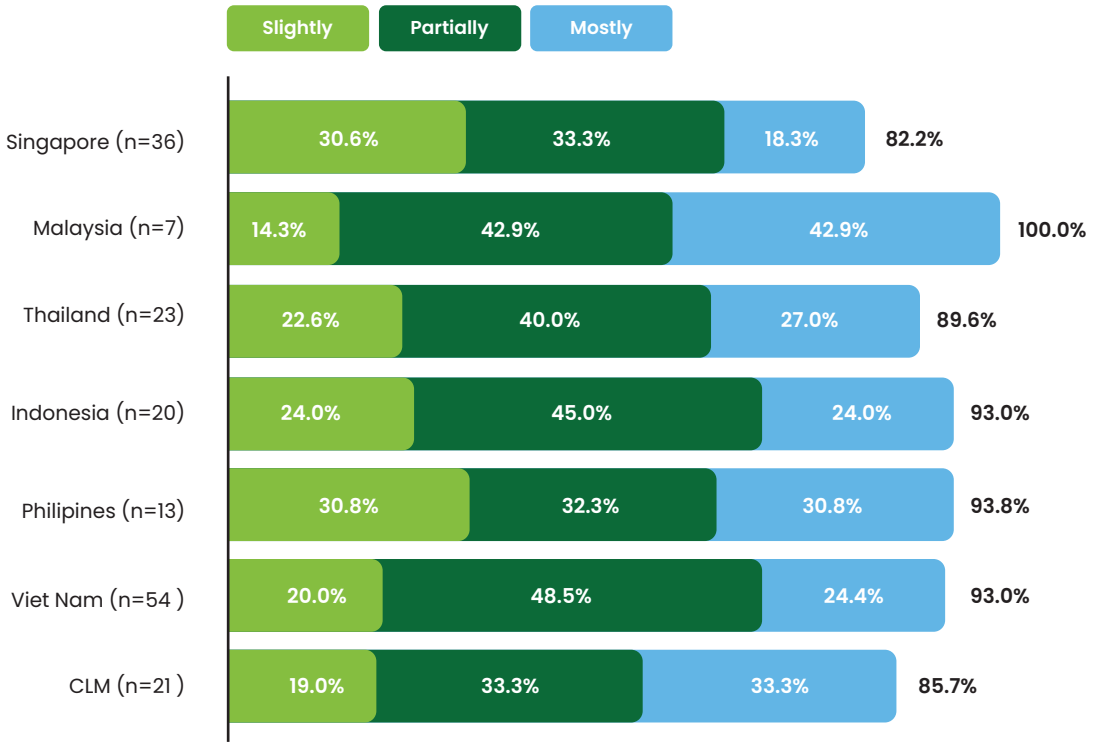
Figure 5.8: Types of Human Resources Insufficient to Achieve Business Growth



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.

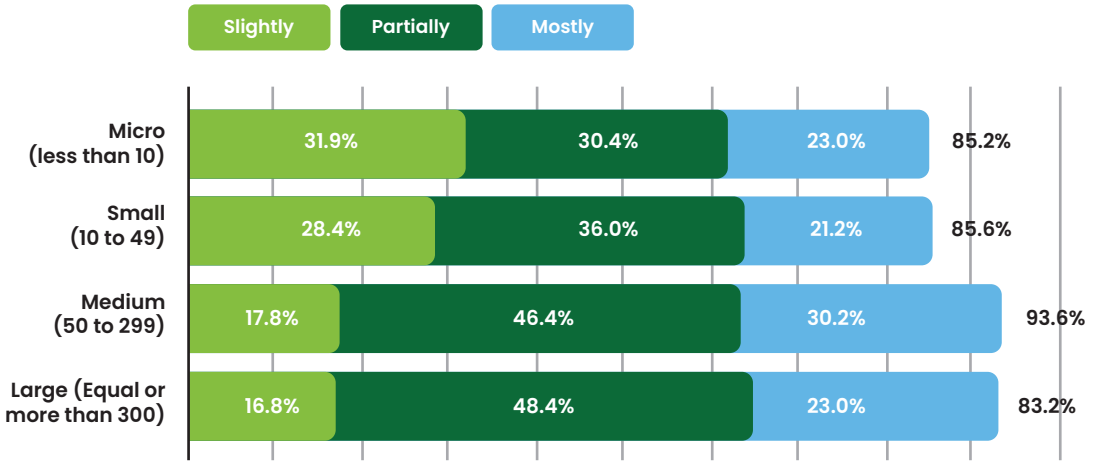
Figure 5.9: Shortages of Skills Required for Middle Management by Country



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

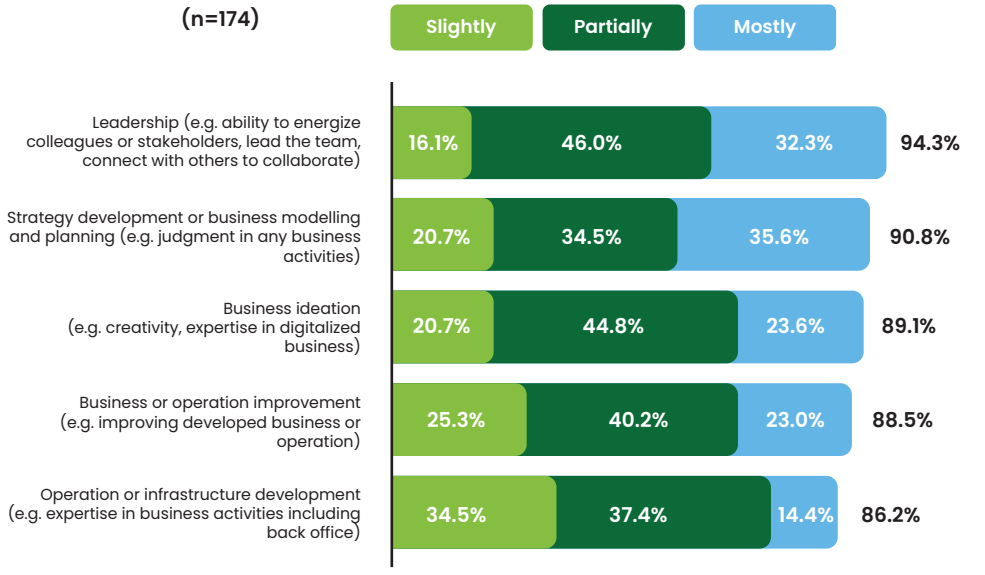


Notes: Q13. Please indicate the degree of shortage of the following skills required for middle management to drive business transformation or innovation: (1) mostly, (2) partially, (3) slightly, and (4) never recognised the lack.
Source: Authors based on the data collected in the Chapter 2 survey.

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.

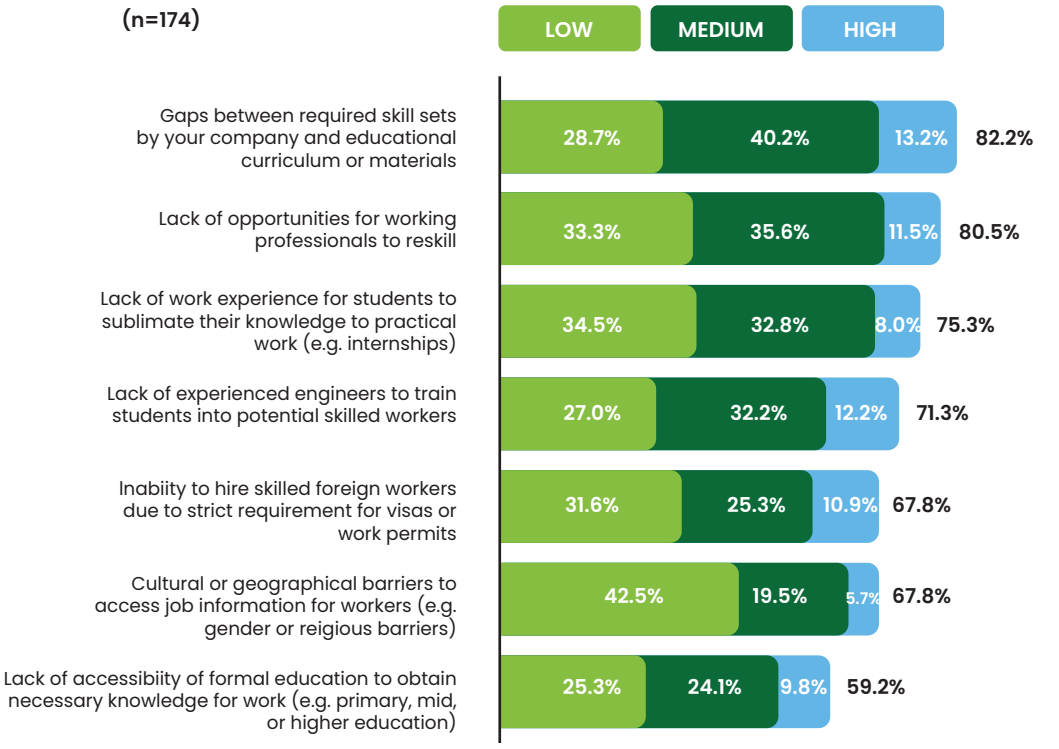
Figure 5.11: Shortages of Skills Required for Middle Management



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).

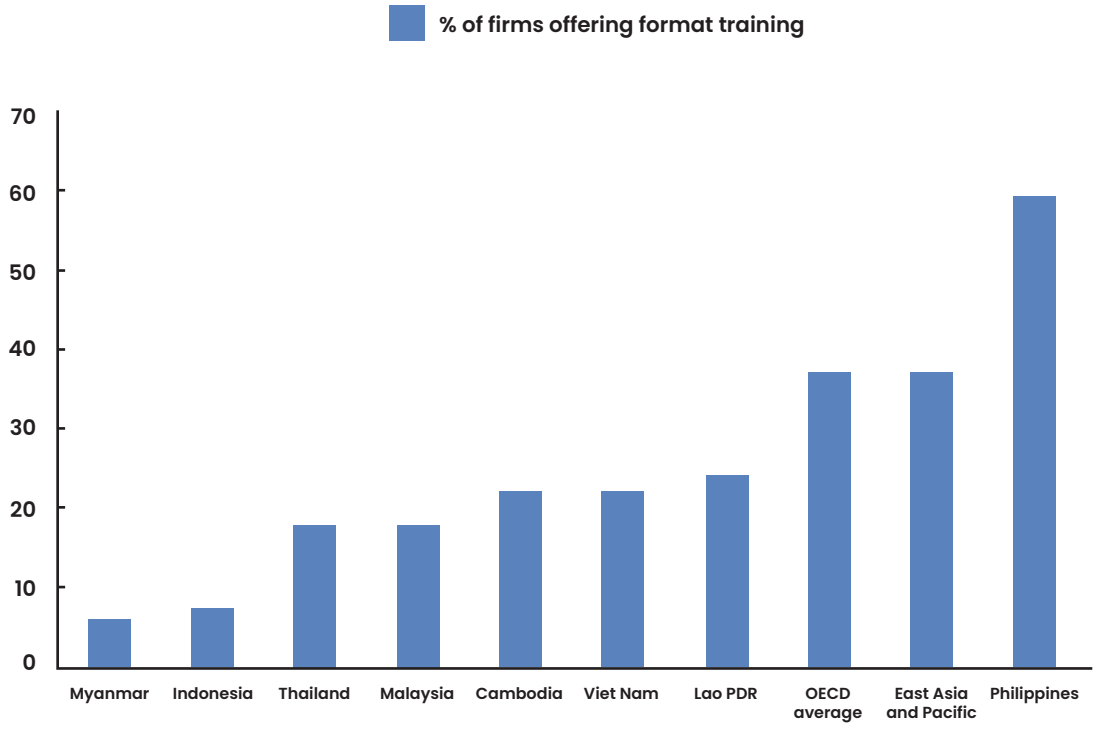
Figure 5.12: Difficulties in Hiring and Training New Graduates and Professionals



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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CHAPTER 6

Recommendations for the ASEAN–Japan Economic Partnership for a Sustainable and Resilient Future

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In light of the 50th anniversary of Association of Southeast Asian Nations (ASEAN)–Japan friendship and cooperation in 2023, the following measures are proposed to strengthen future ASEAN–Japan cooperation. Although they range from easily implementable to more arduous, these policy recommendations provide a clear, decisive path for ASEAN and Japan to collaborate in the future.

6.1. Promote Trade and Investment

6.1.1. Deepen ASEAN–Japan Economic Integration

6.1.1.1. Upgrade the ASEAN–Japan Comprehensive Economic Partnership

One way to promote trade and investment amongst ASEAN and Japan is to upgrade the ASEAN–Japan Comprehensive Economic Partnership (AJCEP). As stated in Chapter 1, this can occur through the following three actions.

First, the AJCEP should expand its coverage to include provisions of the Regional Comprehensive Economic Partnership (RCEP) agreement to maximise the benefits of both agreements. The comprehensive provisions of the RCEP aim to enhance regional production networks and to improve competitiveness, while the mechanisms of the AJCEP – such as higher tariff concession rates and the creation of sub-committees for sanitary and phytosanitary standards and technical barriers to trade – aim to facilitate trade liberalisation and develop the capacity of ASEAN Member States (AMS). By ensuring compatibility between the two agreements, ASEAN and Japan can strengthen their competitiveness of production networks through their deep economic integration.

Second, the AJCEP should be upgraded to expedite the development of trade in services, investment, and other provisions between ASEAN and Japan. The

AJCEP currently lacks provisions on e-commerce, the application of information technology, performance requirements, competition, ratchet mechanisms, and non-conforming measures. It also lacks mechanisms for negotiations across chapters, such as the investment chapter and trade-in-services chapter. Further, the AJCEP does not have appropriate measures against anti-competitive activities, the confidentiality of information, and consumer protection. Addressing the lack of ideal provision, the AJCEP should promote a digital transformation in ASEAN and Japan and effectively and efficiently utilise digital technology in trade liberalisation and facilitation.

Lastly, establishing the AJCEP Secretariat should be considered. Given the complexity of creating a single, continent-wide market for goods, services, and investment, the establishment of the AJCEP Secretariat would provide institutional support to enforce rules and to monitor implementation of the agreement.

6.1.1.2. Equip Companies with Relevant Information on Economic Partnership Agreements and Free Trade Agreements

As observed in the Chapter 2 survey, optimising the application of complex economic partnership agreements (EPAs) and free trade agreements (FTAs) can contribute significantly to improving the ease of doing business for companies. Presently, the application of EPAs or FTAs is at the sole discretion of companies throughout ASEAN. According to JETRO (2022), only around 60% of Japanese companies importing and exporting in ASEAN have used EPAs or FTAs, and some did state that they do not utilise them due to 'not knowing the schemes and procedures (37.1%)' and '[being] not sure the goods can be applied [under] the scheme (31.9%)'. The same survey showed that some businesses cannot decide on the application of EPAs or FTAs; they eventually fail to apply for any of them.

A mechanism should thus be introduced to enable companies to optimise trade costs using EPAs or FTAs. As in Japan, providing a consultation service for businesses on this subject would be useful.[1] It would also be convenient if application decisions could be made automatically. The use of private-sector trading platforms in determining which EPAs or FTAs are applicable can also be considered, although such cases have not yet been observed.

6.1.1.3. Introduce Fast-Track Trading Schemes under Certain Conditions

ASEAN and Japan should introduce a multinational fast-track trading scheme to expedite customs clearance procedures for specific goods under certain conditions. This would benefit intraregional economic activities in two ways.

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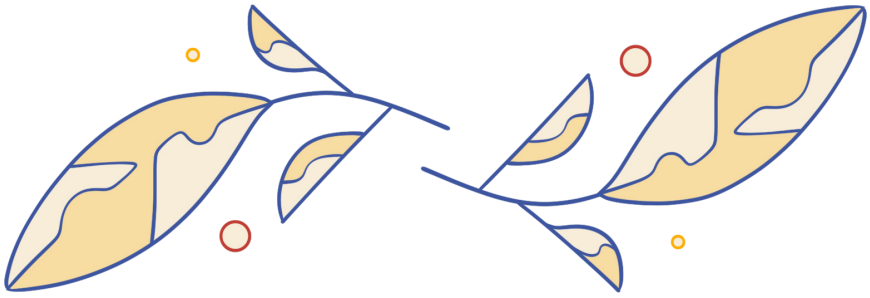
[1] For example, the Japan External Trade Organization (JETRO) consults on EPAs for Japanese companies located overseas. See JETRO Malaysia, Our Services, https://www.jetro.go.jp/malaysia/services.html

The first benefit would be the rapid supply of goods in emergencies. As in the European Union (EU), consideration in ASEAN and Japan should be given to items of extreme urgency, including drugs and daily life support supplies, due to the region's proclivity towards disasters. A study should be conducted, focussing on goods that should be considered in accordance with the existing customs clearance rules in each country.

The second benefit is for the stimulation of business activity in specific industries. Indeed, the fast-track mechanism does not have to be an initiative that applies only to emergency relief supplies; it can also help distribute components and goods in specific industries to support substantial industrial development. As indicated in the Chapter 2 survey, some respondents pointed out the long lead times for customs clearance for various parts and goods. The implementation of an ASEAN–Japan fast track for goods to specific industries and technology areas where business needs are high could encourage rapid research and development in the region. Such an initiative within ASEAN–Japan could foster specific industries and technology areas throughout the region, improving the doing business environment and enhancing the region's attractiveness as an environment for creating innovation. Early development of successful cases will make it easier to expand to other areas of interest and to implement fact tracks multilaterally.



6.1.1.4. Accelerate Efforts to Prevent Corruption amongst Customs Officials

According to the Chapter 2 survey, companies conducting business in various AMS continue to be concerned about corruption, particularly facilitation payments. ASEAN and Japan should thus promote initiatives to improve customs compliance in each country to combat corruption. This can be done by developing anti-corruption manuals and training programmes to raise awareness of corruption amongst customs officials.

Corruption is facilitated by human intervention in trade operations. Corruption will fall, therefore, by minimising face-to-face interactions. Expanding the electronic scope of national single windows (NSWs) and strengthening connectivity with private-sector trading platforms are therefore effective anti-corruption measures, as they promote the digitalisation of a series of trade operations. Efforts towards digitalisation should thus be encouraged.

6.1.2. Strengthen Supply Chain Resilience

6.1.2.1 Build a Data Supply Chain Ecosystem to Strengthen Competitiveness of International Production Networks

As discussed in Chapter 3, three trends effect supply chains: the rising diversity of consumers and technological advancement of industry, growing supply chain risks, and emerging social values. These trends are leading to more complex supply chains that require distinct models to address customer preferences, technological advancements, and risks such as global pandemics and disputes between economic giants. Moreover, environmental regulations, human rights measures, and climate change now impact business activities, and achieving carbon neutrality will shape future supply chains. Companies are now required to comply with green procurement standards, human rights protections, and regulations on chemicals contained in products.

To establish a competitive digital supply chain ecosystem in ASEAN, the Economic Research Institute for ASEAN and East Asia (ERIA) initiated a project on the digital supply chain ecosystem in ASEAN and Japan by convening a study group of experts from business associations and academia. Without efficient data sharing, companies cannot understand what is happening in emergencies, such as disasters and pandemics, and cannot meet global requirements on sustainability and human rights issues. Companies need to participate in these discussions on data sharing, the benefits of sharing data, and how it can create more competitive business operations. Governments also need to be included, as supply chains are international. ASEAN and Japan should thus seek to build a data supply chain ecosystem to efficiently respond to these supply chain shifts and to maintain their competitiveness.

6.1.2.2. Expand the Scope of Digitisation of the Intraregional Trading System

The initiative to expand the scope of digitised operations in NSWs is ongoing, and the ASEAN Single Window – to which NSWs are connected – should also be continued. The connectivity between the ASEAN Single Window and Japan must be enhanced for the trading environment within the region, as the complete online processing of bills of lading and certificates of origin falls under this link.

In particular, the electronic exchange of certificates of origin, which has been successfully demonstrated between Japan (TradeWaltz) and Thailand (National Digital Trade Platform), is improving the ease of ASEAN–Japan trade customs clearance operations. Thus, system connectivity amongst the ASEAN Single Window, NSWs, and Japan through private-sector trading platforms should be encouraged. It is important to promote intracountry and multilateral digitisation using the same protocols and with the necessary financial assistance and human resources.

6.1.2.3. Provide Information on Alternative Sources of Parts and Materials for Supply Chain Resilience

As the Chapter 2 survey indicated, supply chain disruptions are a concern for companies. It is desirable to have a network domestically or internationally that allows for alternative sources of materials and inventory supply if the typical supply chain is shut down in an emergency. A supply chain will be more resilient if it can better manage the domestic shortage of commodities and distribute them to the businesses that require them when needed.

Advanced technologies (e.g. blockchain) can help achieve a resilient supply chain. TradeWaltz's supply chain management functions are backed by blockchain as a core technology. Those functions enable user companies to track their trading items. TradeWaltz (2021) announced its successful real-time tracking of package delivery status; the private-sector trading platform can provide faster, more accurate information on the location of cargo both domestically and internationally. As the number of users of this platform increases, the scope of visibility of the inventory situation in Japan will expand. It may be thus possible to minimise the impact of supply chain disruptions by using such inventory information, even in the event of customs closures in an emergency.

As stated previously, the linkage between private-sector trading platforms and NSWs is ongoing (i.e. Japan and Thailand). In addition to promoting NSW operations, necessary knowledge should be transferred on the implementation of these private-sector trading platforms in AMS.

6.2. Encourage a Digital and Innovative Economy

6.2.1. Promote Start-ups

6.2.1.1. Build an ASEAN–Japan-Wide Entrepreneurial Ecosystem

To achieve sustainable growth, innovative activities and entrepreneurship in both ASEAN and Japan must be fostered. The concept of innovation encompasses two phases: the production of scientific knowledge or technology, followed by its deployment. ASEAN and Japan possess complementary strengths in terms of innovation. According to Kimura and Oikawa (2022), Japan has accumulated significant research and development stock, while ASEAN boasts an energetic entrepreneurship culture based on its abundant young population. Collaborative efforts between ASEAN and Japan, therefore, can facilitate sustainable growth in both economies.

According to Rosiello, Vidmar, and Ajmone Marsan (2022), several factors are necessary for a thriving entrepreneurial ecosystem. Access to markets for new goods and services is vital, with geographic location or positioning within global value chains affecting access to buyers. Networks of entrepreneurs enable

knowledge, skills, and capital to flow, while leadership provides vision and role models, requiring engagement from serial entrepreneurs committed to their local areas. Access to finance – preferably from investors with entrepreneurial knowledge – ensures investments in uncertain and long-term business projects. Finally, diverse and synergetic human resources, including well-functioning universities, can serve as significant sources of new spin-offs that support ecosystem development. ERIA established the new Centre for Digital Innovation and Sustainable Economy to serve as a platform for start-ups and other relevant stakeholders, both virtually (e.g. knowledge centre) and physically (e.g. co-working space). This centre can serve as a catalyst for the development of an ASEAN–Japan-wide entrepreneurial ecosystem.

6.2.2. Encourage Innovative Smart Cities

6.2.2.1. Promote Citizen-Driven Smart Cities

ASEAN needs an innovation hub to promote economic development and to compete globally. Smart cities can play a role, as they can drive innovation. Innovation is not solely driven by technology but also by people. To ensure that smart cities are successful and sustainable, they must prioritise the needs and desires of their residents who want access to good urban amenities and a better place to live and work; therefore, citizen-driven smart cities, which emphasise resident-centred urban development, are crucial.

As the global trend is shifting towards people-driven smart cities, it is essential to focus on democratic, inclusive, and resident-centred urban development in Asia. Japan is already making advanced efforts towards this goal, prioritising liveability and well-being through its Society 5.0 concept, a human-centered, 'super-smart' society that balances economic advancement with social problem-solving.[2] Although cities in ASEAN face various challenges – such as insufficient responses to digitalisation and basic infrastructure development – they do possess unique, people-centred social characteristics that increase interest in citizen-driven city planning.

ERIA, in collaboration with Kyoto University and various universities in AMS, organised the Asian Inclusive Smart Cities conference. There, it is crucial to showcase city planning projects that respect Asian values, involve the business community, and develop new city evaluation indicators and standardisation to realise democratic, inclusive, and resident-centred urban development unique to Asia.

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

6.2.3. Secure Intellectual Property Rights

6.2.3.1. Introduce a Unified Scheme to Enable Intellectual Property Protection

A unified ASEAN–Japan scheme for intellectual property protection should be introduced to ensure that innovative technologies and products created by companies and research institutes are protected wherever they are developed in the region. The EU system example, in which a standard patent application is filed and examined by a common patent office in the region, should be emulated. The single European patent system, scheduled to be introduced in 2023, is another form of intellectual property rights integration that ASEAN should model.

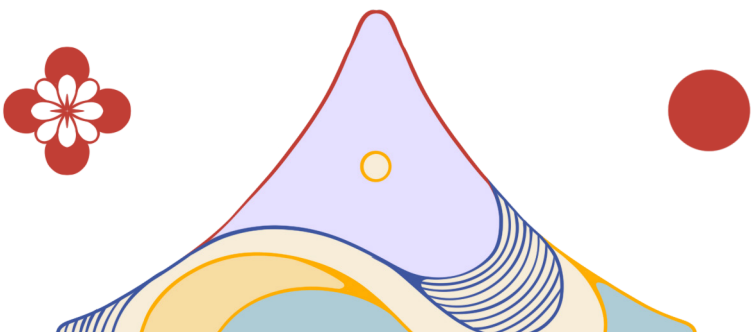
In addition, the intellectual property application process should be operated online as much as possible. The application platform should be accessible to applicants located in AMS as well as Japan. Developed AMS can take the lead in establishing such a scheme by leveraging their deep and wide knowledge of intellectual property right schemes, which has been attractive to foreign entities.

The patent examination process in AMS should also be sped up. Japan already provides support for the dispatch of human resources to improve patent examination in some AMS (e.g. Indonesia and Viet Nam). Similarly, countries with knowledge should provide assistance to less-developed countries where patent examination work is still in its infancy. Japan and Singapore can advise on how new technologies, products, and services should be subjected to patent examination in accordance with local patent rules.

6.2.4. Ensure Regulatory Reform

6.2.4.1. Introduce a Regulatory Sandbox System

ASEAN–Japan regulatory sandboxes should be promoted to prevent current regulations from hindering business creation for innovation activities in the region. By introducing regulatory sandboxes, regulatory authorities can authorise the demonstration of new technologies to entities in a particular case. Based on the output of the demonstration, regulators can decide whether to implement regulatory reform in each country.



As in Singapore, a regulatory sandbox can be pursued first in each AMS to encourage innovation activities. Global entities can participate in demonstration projects from outside of the AMS in which the demonstration site is located to welcome innovative ideas and other resources with diversified backgrounds. For example, a consortium involving companies and parties from multiple countries could be required for demonstration projects so that foreign-affiliated enterprises with innovative and challenging technologies can be involved.

As in Spain, AMS should consider implementing pilot projects in which the content demonstrated in a specific country can lead to regulatory reform throughout ASEAN. The establishment of such a demonstration scheme and support for regulatory reform after the demonstration can be supported by developed countries. It is also important to build a scheme enhancing information sharing regarding the results of these regulatory sandboxes.

6.3. Aim for a Sustainable Future

6.3.1. Support Carbon Neutrality

6.3.1.1. Prioritise Technology Development, Demonstration, and Supply Chain Creation towards Carbon Neutrality

To achieve carbon neutrality in ASEAN, policymakers must prioritise technology development, demonstration, and supply chain creation towards this goal. Given the diverse economic development levels amongst AMS and their need for affordable electricity to support further growth, policymakers should also consider a mix of fossil fuel-fired power generation and clean energy options.

Recent research, such as Kimura et al. (2022), highlighted the importance of utilising various low-carbon technologies – including combined-cycle gas turbine; coal and ammonia co-combustion; gas and hydrogen co-combustion; storage batteries; and carbon capture, utilisation, and storage – in addition to renewable energy installations throughout the region. However, the cost of these technologies is currently high for ASEAN, which has limited funds to invest in them. Therefore, policymakers must identify more cost-effective technologies by prioritising investments in technologies that have lower costs, higher efficiency, and greater scalability. By doing so, policymakers would ensure that the transition to a carbon-neutral economy in ASEAN is both feasible and financially sustainable.

Japan needs to develop and to demonstrate these technologies; it had one of the highest number of renewable energy patents in the world from 2015 to 2020.[3] As

[3] According to Statista, of the top 100 companies that filed the green patents between 2015 and 2020, those in Japan accounted for the largest share, at more than 30%. See Statista, Distribution of Green Patent Filings Worldwide as of 2020, by Select Country, https://www.statista.com/statistics/859805/share-green-patent-filings-globally-by-country/ (accessed 1 May 2023).

part of Japan's vision of an Asia Zero Emission Community, Japan plans to develop more energy transition technologies, including carbon capture, utilisation, and storage, in cooperation with AMS. By promoting these technologies, it is contributing to an environmentally friendly Asia while gaining new business opportunities. For example, Japanese companies are involved in carbon capture, utilisation, and storage projects in Australia, which aims to provide 50% of the co-firing energy of coal-fired power plants with ammonia by 2028 (Nemoto, 2022). Such a technology should be used help promote the energy transition in ASEAN.

Additionally, ASEAN and Japan must work collaboratively to promote the development of supply chains that establish the foundation for the energy transition as well as cost savings. By prioritising technology development, demonstration, and supply chain development, ASEAN can move closer to achieving its goal of carbon neutrality.

6.3.1.2. Promote Financial Support for Energy Transition Technologies

The current green taxonomy being developed in the EU and Singapore focusses mainly on green technologies, leaving out some of the phased transition technologies that AMS still require, such as ammonia co-firing. To ensure that the necessary technologies for ASEAN's energy transition are appropriately funded, a common taxonomy should be established for ASEAN.

The Asia Transition Finance Study Group (2022) published the first version of the taxonomy, and ERIA (2022) also released a transition finance technology list. To facilitate transition finance in Asia, however, these documents must be updated regularly, and stakeholder relationships should be expanded and strengthened. By establishing a common taxonomy, ASEAN can effectively fund and implement the necessary technologies for its energy transition.

6.3.1.3. Improve Energy Efficiency and Connectivity

Improving energy efficiency and enhancing energy connectivity are crucial steps for ASEAN to achieve its energy transition goals. In terms of energy efficiency, there is much potential for improvement in ASEAN, particularly in the industrial, transport, and construction sectors. However, there is a shortage of experts capable of developing and managing energy efficiency projects. Therefore, continuous support for capacity building is essential to spread energy efficiency and savings knowledge and skills throughout ASEAN, such as through the ASEAN–Japan Energy Efficiency Partnership.

Enhancing energy connectivity through regional cooperation, such as through the ASEAN Power Grid (APG), is also key to optimising electricity through the efficient

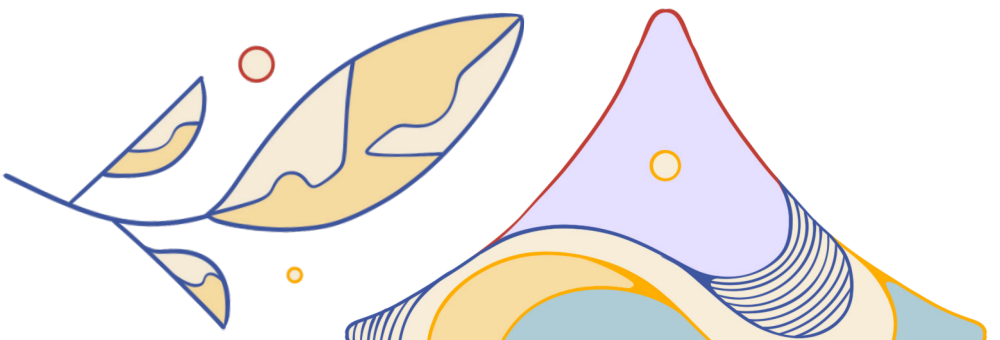
use of low-carbon technologies, including renewables. The APG offers numerous benefits, including heightening investments on a regional scale, balancing excess supply and demand, and accelerating the development and deployment of renewable power generation. To realise the APG, ASEAN needs to engage in continuous discussions from a long-term perspective while involving countries with relevant expertise, such as Japan, those in Europe, and the United States. However, realising the APG requires resolving complex issues such as building consensus amongst stakeholders, establishing a power trading institution, designing a power market, and developing the necessary infrastructure. To this end, ERIA has made recommendations for a multilateral power trading institution and a road map for its establishment, which should be pursued (Noord Pool Consulting, 2018).

Japan would also benefit from the APG, as the efficient supply of renewable energy through the grid would enable many Japanese companies in ASEAN to conduct their business activities using green energy, enhancing their social reliability and brand. In addition, the ability to connect large amounts of renewable energy to the grid would create more opportunities for Japanese companies to penetrate ASEAN as power producers.

6.3.1.4. Introduce Emissions Trading Schemes

Consideration should be given to establishing an intraregional emissions trading scheme between ASEAN and Japan that would allow carbon dioxide emissions to be traded between companies, thereby achieving regional harmonisation. First, AMS should consider introducing emissions trading schemes within their own countries. It would be effective to transfer the knowledge of Japan, which is already conducting demonstration experiments in its domestic market. In addition, they should form common rules for the future harmonisation of such schemes.

Then, ASEAN and Japan – which has had difficulty establishing a huge market on its own like China – should aim to create an integrated market like that of the EU. International standards and best practices should be adopted as a preliminary basis for further communication and cooperation. Furthermore, a fund could be established between ASEAN and Japan to support the establishment of a carbon trading market in AMS by promoting it as a regional initiative. Indeed, ASEAN and Japan should deepen the dialogue on the development of carbon trading markets and establish a common language for all countries to design market mechanisms (Liu and Nedopil Wang, 2021).



6.3.1.5. Promote Carbon Credit Initiatives

Japan announced its bilateral carbon credit efforts, which have been operating since November 2022, as an international initiative. In addition to the four AMS that are already taking part, it is hoped that Japan will promote cooperation with the six other AMS in the future. By making these bilateral carbon credit initiatives an international standard, further promotion of ASEAN–Japan initiatives can be expected.

6.3.2. Foster a Circular Economy

6.3.2.1. Provide Technology and Know-How Related to Resources Recovery and Reuse

The adoption of EU-type uniform rules can facilitate resources recovery and reuse initiatives in the region in a single step. The progress of such initiatives varies amongst AMS, underscoring the importance of supporting institutional design and operation specific to each country. In this regard, Japan's technology and knowledge in resources recovery and reuse, refined through years of rules-making and operational experience, can be instrumental.

Effective waste collection rules and their proper implementation are imperative. The design of such rules should be predicated on the principles of extended producer responsibility (EPR) practiced by the EU, Japan, and other nations. With the growing concern over marine plastics, many developing countries are exploring the adoption of EPR for packaging and container waste (Johannes et al., 2021). In this context, Japan's experience with the Containers and Packaging Plastics Law could provide valuable insights to ASEAN.

Governments should formulate strategies for expanding waste collection and ensuring sound waste disposal (Johannes et al., 2021). Defining the roles and responsibilities of the entities involved in the recycling process, as seen in Japan's laws and regulations, can prove effective in AMS.

6.3.2.2. Develop a More Efficient System for Distributing Recycled Products

To promote the widespread use of recycled products, industry standards should be established between ASEAN and Japan. To foster the participation of private companies and other stakeholders, an integrated market should be established that spans across borders. When devising product and service standards, established standards from the EU, other countries, and relevant international organisations should be referenced. Additionally, these standards must be readily applicable to all businesses to create a larger market and to attract more private sector participants.

6.3.3. Reform the Food and Agriculture Sector

6.3.3.1. Prioritise Dissemination of Innovative Technologies and Human Resources for Resilient Food and Agriculture Systems

To realise a resilient and sustainable agriculture and food system throughout ASEAN, innovative technologies should be developed and disseminated between ASEAN and Japan. Ongoing projects, such as Greenhouse Gas Mitigation in Irrigated Rice System in Asia (MIRSA), Accelerating Application of Agricultural Technologies for Resilient and Sustainable Agriculture and Food System in the Asia Monsoon Region, and Smart Agriculture Pilot Project, are expected to facilitate the dissemination of innovative technologies and be scaled up in the future. However, as each AMS's priorities, policies, and technical circumstances for application of innovative technologies differ, it is important to note that there are no 'one-size-fits-all' solution.

Human resources development for officials and stakeholders engaged in resilient and sustainable agriculture is also essential. Ongoing projects such as the Capacity Building Project for Farmer's Organizations to Support the Development of Food Value Chains in ASEAN Countries, Human Resource Development Project in Food-Related Areas through Partnership Program with Universities in ASEAN Region, and Project for Enhancing the Understanding of Good Agricultural Practices by Japan-ASEAN Partnership are capacity-building projects featuring ASEAN–Japan cooperation. These projects have already trained many ASEAN officials and stakeholders, have been highly evaluated by AMS, and should continue.

6.3.3.2. Facilitate ASEAN Regional Guidelines for Sustainable Agriculture in ASEAN

ASEAN and Japan should intensify their partnership to facilitate the implementation of the *ASEAN Regional Guidelines for Sustainable Agriculture in ASEAN* (ASEAN, 2022). The Japan International Research Center for Agricultural Science recently launched the Green Asia initiative to support the realisation of these guidelines, which includes disseminating knowledge on basic agricultural technologies and sustainable practices in the Asia Monsoon region. The active involvement of AMS is strongly recommended. Moreover, ERIA initiated a research project that aims to enhance sustainable agriculture and food systems in AMS with support from Japan. This project includes a scoping study that identifies key sustainable priorities and strategies for agriculture and food systems in each AMS, as well as assesses each country's readiness in implementing the guidelines. Reporting the outcomes of these projects to the relevant ASEAN sectoral body is crucial to realise the guidelines, including formulating action plans for their implementation.

6.3.3.3. Expand the Scope of the ASEAN Plus Three Emergency Rice Reserve

The recent occurrence of external shocks, such as the COVID-19 pandemic and the escalation of geopolitical tensions, have had a negative impact on food security globally and regionally. This, in turn, has led to an unprecedented increase in food prices. 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. As stated in Chapter 3, the APTERR has recently released 7,138 metric tonnes of rice from Japan and the Republic of Korea to mitigate emergency situations, including the COVID-19 pandemic, in Cambodia, Lao People's Democratic Republic, Myanmar, and the Philippines. Given the APTERR's success in addressing these short-term crises, the possibility of expanding its scope beyond rice to include other key crops warrants consideration.

6.3.3.4. Establish a New Framework for Food and Agriculture Cooperation

Given the increasing number and diversity of ASEAN–Japan cooperation projects, a new framework should be established for the ASEAN Plus Japan Ministers on Agriculture and Forestry (AMAF+Japan) to further enhance food and agriculture cooperation, in addition to the existing ASEAN Plus Three Ministers on Agriculture and Forestry (AMAF+3) framework. This is particularly relevant as ASEAN–Japan cooperation approaches its 50th anniversary; therefore, the first meeting of AMAF+Japan should be held during this year to commemorate the occasion.

6.3.4. Increase Inclusive Health Care

6.3.4.1. Evolve Universal Health Coverage Schemes

ASEAN and Japan should collaborate to evolve their universal health coverage (UHC) schemes to align with the region's modern demographic and epidemiological needs. Japan's successful deployment of a composite approach,[4] implemented in a stepwise manner while keeping premiums low for socio-economically disadvantaged individuals, is an example to follow. It is therefore recommended that ASEAN consider a composite approach to existing UHC scheme options to ramp up coverage penetration, particularly for the informal sector and primary

[4] The composite approach refers to an amalgamation of two UHC models that emerged in the early 20th century: the Bismarck model, centred on social insurance and employer-based coverage; and the Beveridge model, funded through taxation. Japan successfully integrated these models into its UHC framework in the latter part of the 20th century. In contemporary usage, the composite approach has taken on a broader connotation, signifying the use of diverse best practices culled from developed and developing countries worldwide. These practices may encompass national health insurance, pooling and redistribution mechanisms, cross-subsidisation, and public–private partnerships. While a UHC template may provide a useful starting point, it is incumbent upon countries to identify and to implement best practices that align with their distinct cultural and contextual exigencies.

care. Additionally, aiming for administrative efficiencies and preparing for the shift towards mandatory UHC enrolments should be priorities. Building the collaboration scheme between the public and private sector is also necessary. To provide long-term care for as many people as possible, for example, the private sector must be utilised. Research and development on antimicrobials and to ensure the supply chain of medical devices and drugs are additional significant topics.

ERIA has commenced projects aiming to establish mutually beneficial relationships through the formulation of an industry–government–academia–medicine collaboration mechanism.

6.3.4.2. Develop the Health Care Workforce, and Deploy Technology

ASEAN and Japan should focus on boosting the region's health care workforce and embracing a technology strategy to address regional health disparities and to improve patient outcomes. To achieve this goal, they need to leapfrog the UHC model through technology by providing base enablers such as internet access and mobile wallets. Additionally, they should continue digitalisation efforts in various areas, including cloud; electronic medical records; and low-bandwidth health care apps for telehealth, decentralised patient education, and social media. Viet Nam's successful issuance of 97 million digitalised social security numbers through the VssID mobile app should serve as an example under which UHC design could be revolutionised.

Data should be collected to provide insights required to construct policies and to monitor implementation outcomes effectively. Creating consolidated health care databases, implementing digital transformation best practices, and integrating diverse health care information such as vaccine records and newborn screenings are necessary steps to provide better health care outcomes.

6.3.4.3. Tackle Chronic Diseases, and Step up Preventative Efforts against Infectious Diseases

To effectively address lifestyle and chronic diseases, which inevitably grow as economies develop, ASEAN and Japan should consider equipping more institutions with faculty to boost the number of available physicians. They should also prepare the primary care community for more specialty training, which is a proven technique in Japan. This means providing educational materials and incentivising wearable medical technologies for improved data sharing, particularly for diabetes. For more niche domains like rare diseases and cancers, they should consider increasing the volume of screening and establishing cross-border specialist-to-specialist networks.

To step up preventative efforts for infectious diseases, which will continue to be a challenge for ASEAN and Japan, they should increase the availability of and access to immunisation programmes, which are one of the most cost-effective public health interventions available. For example, the Ministry of Health, Labour, and Welfare in Japan collaborates with the Ministry of Education on vaccine awareness programmes. Additionally, ASEAN should ensure population vaccine records become digitised to help governments track and manage future outbreak scenarios.

6.3.4.5.Utilise Public–Private Partnerships to Achieve Universal Health Coverage

Japan's successful implementation of UHC was largely due to the collaboration between the government and private primary care providers, including small hospitals, which effectively managed the demand on the health care system. Therefore, it is essential to leverage the private sector for global best practices, particularly in areas such as supply chain and logistics, as seen during the COVID-19 pandemic.

As the middle class develops in ASEAN, models for the privatised provision of health care services should be leveraged. Moreover, the private sector can serve as a valuable source of innovation and financial contributions, such as through taxation, employment, and other joint investment schemes. To further promote UHC, a new flagship programme should be undertaken, establishing national preventative care centres, to share lessons beyond AMS and to train the next generation of leaders.

The potential of private financial resources should also be explored. One approach is to capitalise on underutilised private insurance, which can serve as financial security for populations, provided that essential health care is publicly available. Additionally, social impact bonds can be a viable strategy to promote preventive health measures, as demonstrated by the Hiroshima Prefecture, where social impact bonds increased colorectal cancer screening rates, leading to cost savings in downstream medical expenses and a return on investment for private investors. Another option to explore is the adoption of public–private financial schemes from other regions, which can be adapted to the specific UHC context of the ASEAN region.

To improve health care outcomes by collaborating with the private sector, health care literacy should be emphasised, preventative health behaviours should be promoted, and self-care capabilities in AMS should be enabled. Employers can also lead by example by supporting UHC programmes to achieve scale. For instance, in Japan, employers are required to provide annual medical check-ups for their employees, which can serve as a model for other countries to follow.

6.3.5. Endorse Sustainable Tourism

6.3.5.1. Promote and Manage Tourism as a Tool for Regional and Local Development and Revitalisation

Japan can assist ASEAN in achieving sustainable economic growth, especially in local and rural areas, as well as in safeguarding the environment and cultural heritage by promoting community-based and people-centred tourism. Japan has a history of utilising domestic and national tourism to stimulate regional development and revitalisation, which was aided by the development of its extensive transport infrastructure. More recent policies aimed at domestic tourism have sought to leverage the country's abundant natural and cultural resources to promote sustainable economic growth. Horita and Kato (2018) noted that two key terms, Kankō and Machizukuri, are used in Japanese tourism. Kankō refers to the specific role of tourism in regional/local destination development, while Machizukuri, which is one of the most prominent concepts in the Japanese approach to tourism, refers to sustainable community development focussed on social capital; community unity; and resilience based on regional knowledge, wisdom, and sense of place. By highlighting such ideas, ASEAN can achieve sustainable economic growth, particularly at the local level and in rural areas, while also promoting and preserving the environment and its rich cultural heritage. Japan's experience in this area could be valuable in assisting ASEAN in achieving these goals.

6.3.5.2. Engage Local Communities

Japan can support ASEAN's pursuit of sustainable tourism development by sharing its experience of actively engaging local communities in the development and use of spaces for tourism and leisure. Oura (2018) studied the development of national forest management and policy in Japan and its relationship to tourism policy, finding that collaboration in forest management under the concept of 'forests for people' has brought about wider public participation in management. Further implementation of such initiatives is necessary to promote the development of forest tourism in Japan.

Similarly, Horita (2018) noted the engagement of local communities in the development and use of urban spaces for tourism and leisure in larger metropolises and small and medium-sized cities in Japan. However, there are still tensions between development-oriented approaches based on economic growth and collaborative management approaches based on valuing the locality and promoting citizen participation in local management. ASEAN is also emphasising the need for greater citizen engagement and empowerment in pursuing sustainable tourism development.

6.3.5.3. Prepare for Disasters

Japan can share its experiences with ASEAN in promoting tourism development in the aftermath of disasters. Kato (2018) emphasised the importance of tourism in the recovery process following the 2011 Tōhoku earthquake and tsunami, particularly in helping affected communities maintain their connection to their places. Traditional ecological knowledge-based tourism played a crucial role in supporting communities and enhancing resilience.

Additionally, Japan's experience in reducing the vulnerability of international visitors to disasters, such as earthquakes, tsunamis, typhoons, and floods, is instructive. National and local governments and the tourism industry have utilised digital technologies, such as mobile safety apps and social media, to disseminate up-to-date and accurate multilingual information. ASEAN's emphasis on digital technologies as an enabler for sustainable tourism development makes this aspect particularly relevant.

6.3.5.4. Measure Sustainable Tourism

Japan has extensive experience in establishing the necessary governance structures and generating relevant information to support the design of appropriate tourism policies. This experience can be leveraged to help AMS facing similar challenges. In Japan, building cooperative arrangements involving various stakeholders in the tourism sector, including local public bodies, residents, and the tourism industry, has been crucial to ensuring environmental protection as the core of sustainable growth in the tourism sector. This approach has been effective in creating more efficient management and promotion of regional tourism, with increased numbers of destination management organisations.

To benchmark the state of sustainability nationally, the Japan Tourism Agency (JTA) conducted a national survey amongst Japan's local governments in 2018, focussing on key elements such as transport, accommodations, and infrastructure (JTA, 2019). Following the survey results, JTA established the Sustainable Tourism Promotion Office and developed a set of internationally recognised sustainable tourism indicators to serve as a national guideline and to facilitate local implementation. This resulted in the creation of the Japan Sustainable Tourism Standard for Destinations (JSTS-D) (JTA, 2019), based on Global Sustainable Tourism Council (GTSC) standards adapted to the Japanese context, which is now used to certify industry operators as sustainable to an international standard.

The JTA experience in developing and implementing its version of the GSTC criteria can provide useful insights on how AMS can adapt the criteria to their contexts. ASEAN recognises that partnerships formed amongst intergovernmental departments, tourism businesses, civil society, local communities, tourists, international organisations, and other stakeholders are essential building blocks for sustainable tourism development. Therefore, the Japanese experience in establishing appropriate governance structures and monitoring mechanisms to support sustainable tourism development is ideal for AMS.

6.3.6 Address the Digital Divide amongst Micro, Small, and Medium-Sized Enterprises

6.3.6.1. Close the Gap

ERIA's ongoing studies have demonstrated that bridging the digital divide amongst micro and small and medium-sized enterprises (SMEs) requires more than just improving information and communications technology (ICT) infrastructure and financial resources. A skilled workforce with both ICT expertise and fundamental business knowledge is essential to utilise these ICT tools. To address these challenges in an efficient manner, ASEAN and Japan should collaborate with private companies, such as Japan's multinational ICT solution providers.

One issue that requires attention is the business knowledge gap that many micro and SMEs face. This is a fundamental issue that must be addressed if micro and SMEs are to improve their businesses using digital tools. Enhancing the business knowledge of micro and SMEs is a difficult task, but ASEAN and Japan can work together to share knowledge and lessons learned from their respective micro and SME policy experiences. For instance, Japan's Small and Medium Enterprise Agency and METI have launched an evidence-based policymaking initiative for micro and SME policies, which can serve as a useful model for ASEAN.

6.4. Build a Professional Workforce for the Future

6.4.1. Address the Mismatch between Human Resources Skills and Industry Needs

6.4.1.1. Define Human Resources Skills Standards

As a region, ASEAN–Japan must determine what type of human resources will be required in the future. By defining these skill sets, human resources development programmes can be developed that align with future industry requirements. Existing standards established by the International Labour Organisation (ILO) and the EU should be used as a reference where appropriate. In addition, Japan’s

Digital Skill Standard[5] focusses on the integration of business and digital skills, which is an approach that should be adopted in the future, as individuals who can utilise digital technology for business are in high demand.

The penetration of Industry 4.0 will drastically change the region's industrial structure. At the same time, new technologies will develop and spread quickly; the required skill sets will likely change as well. Therefore, the skill sets to be developed within the region should be a framework that is continually updated, responding flexibly to industry demands. Reskilling and upskilling are essential to keep up with the pace of change and to remain competitive.

6.4.1.2. Incorporate Common Skills into Educational Programmes

ILO and the EU initiatives provide relevant e-learning resources in addition to defining skill sets on their respective websites. Integrating the skill sets defined by ASEAN and Japan into educational programmes would ensure consistency between education and employment, especially since the Chapter 2 survey revealed skill gaps between human resources and skills required by companies. These skill sets should not be limited to specific engineers or occupations but should be applicable to a wide range of business professionals and candidates such as students in higher education or relevant educational institutions like technical and vocational education and training (TVET).

To provide education for these skill sets, a wide range of educational institutions should be involved, including primary and secondary schools, universities, graduate schools, and TVET institutions. For example, Japan's KOSEN programme,[6] which aims to produce highly skilled technical personnel, can be linked to the skill sets defined by ASEAN and Japan to supply the region's labour market with students who possess both advanced technical and business skills applicable to Industry 4.0. These initiatives can be conducted at specific educational institutions, and implementation can be widely publicised.

Education is not only for students and the younger generation. A scheme should also be developed to offer lifelong learning programmes according to a defined skill set, including post-employment reskilling and upskilling. This programme should be linked to the human resources exchange programme between ASEAN and Japan, which requires cooperation with a wide range of stakeholders, including educational, business, and research institutions.

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[5] Government of Japan, METI, Digital Skill Standards, https://www.meti.go.jp/policy/it_policy/jinzai/skill_standard/main.html [in Japanese].
[6] KOSEN is the colleges of technology in Japan that are established by National Institute of Technology and provides engineering education to students who graduated junior high school or the equivalent. KOSEN has academic exchange programmes with 11 universities in the Philippines, Singapore, Thailand, and Viet Nam. See National Institute of Technology, Academic Exchange Agreements, What Is KOSEN, https://www.kosen-k.go.jp/english/what/educationsystem/academic/

6.4.2. Foster Inclusive Education

6.4.2.1. Enhance Inclusive Education through Digital Technologies

The partnership programme between ASEAN and Japan aimed at providing inclusive education to individuals with limited access to education can be strengthened by improving network infrastructure and education programmes. EU assistance in improving the educational environment in neighbouring Eastern European countries and providing inclusive educational programmes through public–private partnerships in the Philippines could serve as models for ASEAN and Japan.

To improve the network infrastructure within ASEAN, advanced technologies such as 5G networks with high-speed connections could be utilised instead of the existing network system. 5G infrastructure should thus be widely implemented within ASEAN.

To provide inclusive education, collaboration between the government or public agencies and private sectors (e.g. EdTech start-ups) should be considered, following the example of CrowdSwyft. Many companies provide EdTech services in ASEAN and Japan, and collaborating with them may help promote digitalised education in AMS. Partnerships with regional stakeholders can be employed to teach students how to use tablets and to monitor their learning progress as well.

Moreover, it is essential to prepare educators to utilise digital technology. Enhancing their digital literacy and educating them about the potential of digital education are thus necessary.

6.4.3. Ease the Mobility of Human Resources

6.4.3.1. Expand Mutual Recognition Arrangements

ASEAN mutual recognition arrangements presently encompass eight domains,[7] which parallel those of Europe . Broadening the range of vocational qualifications in AMS would bolster the portability of human resources.

While mutual recognition arrangements are currently operating in AMS, their extension to Japan would amplify the mobility of qualified human resources

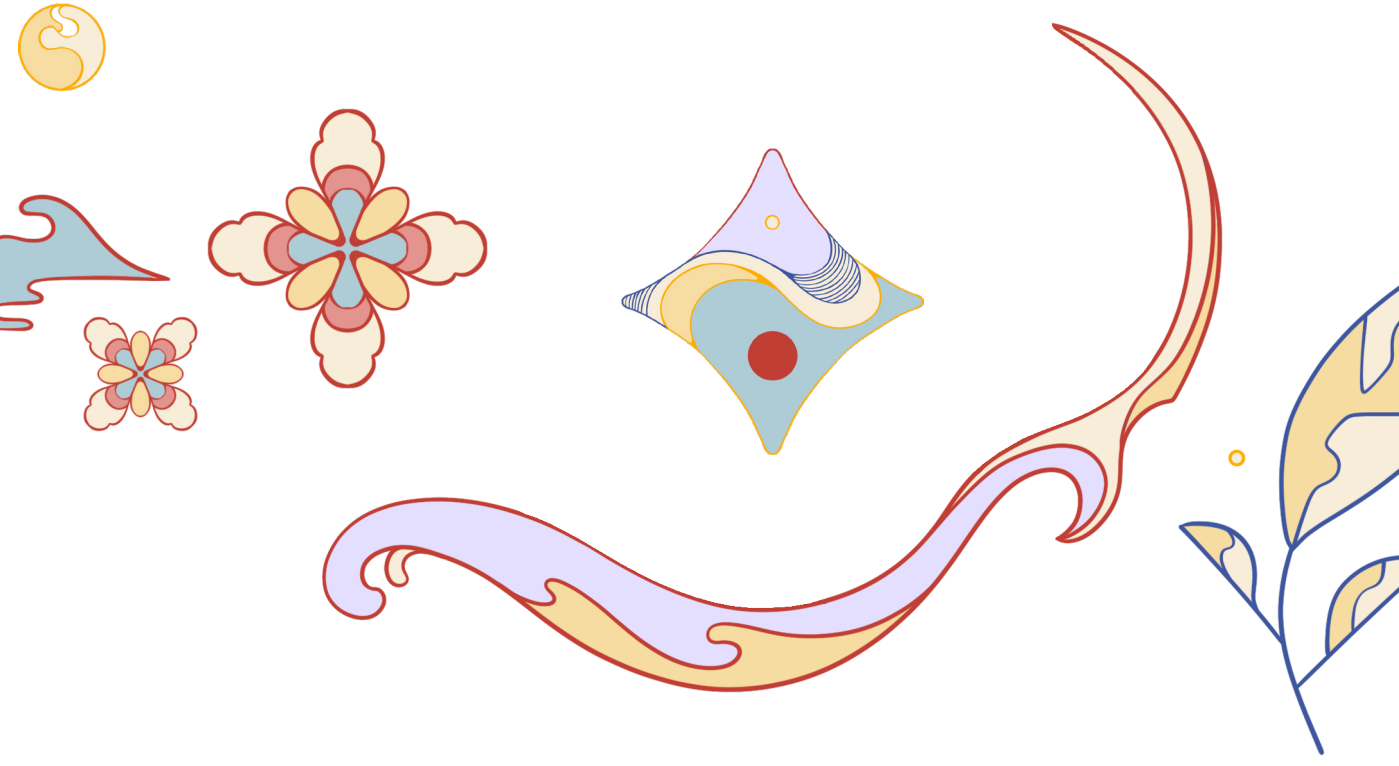
[7] ASEAN mutual recognition arrangements are the framework to support liberalising and easing trade in services with the aim of facilitating the mobility of professionals or skilled workers in ASEAN. It covers engineering services, nursing services, architectural services, surveying qualifications, dental practitioners, medical practitioners, tourism practitioners, and accountancy services. See ASEAN, ASEAN Mutual Recognition Arrangements, Invest in ASEAN, https://investasean.asean.org/asean-free-trade-area-agreements/view/757/newsid/868/mutual-recognition-arrangements.html

between ASEAN and Japan. Any effort to establish mutual recognition of qualifications between ASEAN and Japan must consider the recognition criteria, with due regard to the prerequisites of Japanese occupational qualifications to sustain their level of service and competitiveness in the labour market.

6.4.3.2. Mutually Recognise Academic Credits and Degrees

Standardising the educational qualifications and professional standards recognised by the ASEAN–Japan regional mutual recognition arrangement is imperative. Ensuring that vocational qualifications meet a minimum standard of quality would contribute to maintaining high levels of service quality.

The expansion of applicable personnel is desirable to provide a diverse range of human resources with specialised skills for the labour market. A continued expansion of schools, applicable faculties, and programmes within the ASEAN Credit Transfer System is also needed. Additionally, mutual recognition of credits and study plans for training programmes during training periods should be implemented, building upon the existing ASEAN Credit Transfer System.[8] A common academic credit transfer framework for Asia for use by universities in ASEAN is currently being built (SEAMEO RIHED, 2019). To expand the recognition of degrees, degree exchange programmes should be linked to the qualifications approved by the mutual recognition arrangements.



[8] AUN, ASEAN Credit Transfer System (AUN-ACTS), Thematic Networks, https://aunsec.org/discover-aun/thematic-networks/aun-acts

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The ASEAN–Japan relationship began in 1973 and gained significant momentum in the late 1980s with a surge in Japanese foreign direct investment (FDI) in ASEAN. Throughout the 1990s, Japanese multinationals further expanded their global production processes, capitalising on advancements in information and communication technology. This development transformed ASEAN into a key production hub, fostering substantial economic growth. As a result, ASEAN's GDP currently stands at approximately $3.62 trillion. Despite the challenges presented by the pandemic, it has served as a catalyst for the emergence and expansion of new digital services, such as e-commerce and cashless transactions. Notably, ASEAN has demonstrated its digital capabilities, with over 30 unicorn companies recorded in 2021 and a fast-growing number of youth-led start-ups.

ASEAN's remarkable economic growth, driven in part by its tech-savvy young generation, signifies the region's immense potential for future development. However, there are existing challenges that need to be addressed, including disparities in physical, human, and social capital development across countries, urban–rural divides, and disparities amongst industries.

Japan, despite having the world's oldest population, possesses advanced technologies and substantial human and social capital. These assets position Japan as a crucial partner in harnessing ASEAN's potential. It is evident that ASEAN and Japan possess unique advantages and complement each other. Their economic cooperation, therefore, should focus on deepening economic integration and co-creating innovative solutions for the mutual benefit of both ASEAN and Japan.

Recognising this collaborative synergy, ASEAN and Japan should regard each other as indispensable partners in their respective paths of economic development. With this understanding in mind, the report puts forth recommendations organised into four key themes: 'Promoting Trade and Investment', 'Encouraging a Digital and Innovative Society', 'Aiming for a Sustainable Future', and 'Building a Professional Workforce for the Future.' These recommendations are proposed within the context of the ASEAN–Japan Economic Partnership and aim to foster a sustainable and resilient future.

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