









ALLIANCE FOR ETRADE DEVELOPMENT

DESIGNING AND IMPLEMENTING THE ASEAN DIGITAL ECONOMY FRAMEWORK AGREEMENT (DEFA)

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DESIGNING AND IMPLEMENTING THE ASEAN DIGITAL ECONOMY FRAMEWORK AGREEMENT (DEFA)

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I. Introduction

Association of Southeast Asian Nations (ASEAN)'s digital economy and trade have grown rapidly in the past decade. In August 2023, ASEAN Economic Ministers took a step toward cementing and expanding these gains, by endorsing the study on the ASEAN Digital Economy Framework Agreement (DEFA). The study identified nine core elements that would be pertinent to the agreement – digital trade, cross-border ecommerce, cybersecurity, digital ID, digital payments, cross-border data flows, competition policy, digital skills development, and other emerging topics that will be discovered through the DEFA negotiations.

The talks toward the DEFA were launched during the 10th ASEAN Economic Community dialogue at the end of November 2023.² The DEFA is expected to be the world's first regional digital economy agreement once implemented.

The purpose of this brief is to support the ASEAN Members and other key stakeholders on the optimal deign of the DEFA – one that would align with the provisions of the many digital trade agreements in the Asia-Pacific, and promote digital trade, especially among the region's micro, small and medium enterprises (MSMEs). This paper reviews design of other Asia-Pacific digital trade agreements and chapters for good policies and practices, examines ASEAN economies' readiness to implement the DEFA, and provides a roadmap for the agreements' implementation to be effectively monitored.

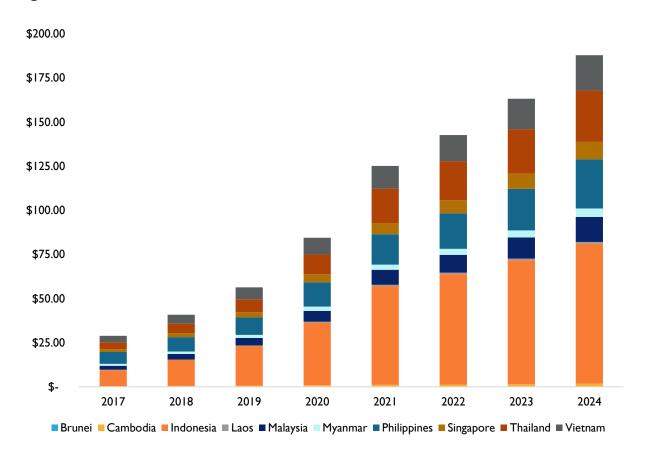
The following section reviews the state of digital trade in the region. Section three discusses the potential contents of the DEFA and ASEAN members' readiness to implement the agreement. Section four highlights ways to monitor the agreement. Section five concludes.

II. State of Digital Trade in the ASEAN

The onset of the COVID-19 pandemic accelerated digital transformation across the ASEAN region. Lockdowns and social distancing mandates prompted businesses and consumers to rely more heavily on digital technologies in their daily lives. This resulted in the growth of ecommerce purchases and use of online education, telemedicine, digital payments, and more – and growth of digital trade. What then is the baseline today, that DEFA can help expand? There are four areas:

First, ecommerce use has soared in the ASEAN region. Online transactions in goods have grown by nearly five-fold in 2017-23 to a total of \$163 billion in 2023, and are predicted to reach \$217 billion by the end of 2024 (Figure 1). Per capita online purchases have similarly soared (Figure 2).

Figure 1: Ecommerce in Goods in ASEAN economies, 2017-2024, in billions of USD



Source: Nextrade Group on the basis of Statista

\$414

\$199

\$2,000.00 \$1,500.00 \$1,000.00

\$423

Malaysia Myanmar Philippines Singapore Thailand

Figure 2: Per capita spending on ecommerce in goods in ASEAN economies, 2017-2024

Source: Nextrade Group on the basis of Statista.

\$470

Brunei

\$500.00

Note: Per capita spending is measured by total ecommerce revenue in a country divided by total population

■ 2017 **■** 2018 **■** 2019 **■** 2020 **■** 2021 **■** 2022 **■** 2023 **■** 2024

\$283

\$93

Cambodia Indonesia

Second, exports of digitally deliverable services have grown at an annual average of 9 percent and imports at an annual average of 16 percent between 2007 and 2022 to a total of \$236 million and \$228 million, respectively, outpacing the growth of commercial services trade (Figures 3 and 4, Appendix I). By 2022, digitally deliverable exports made up almost 70 percent of all commercial service exports in the Philippines, 57 percent in Singapore, and around 40 percent in Indonesia, Malaysia, and Thailand.

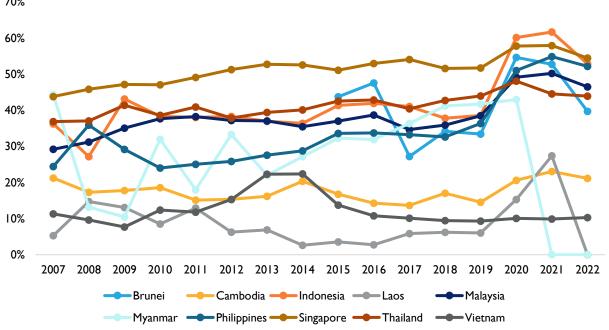
90% 80% 70% 60% 50% 40% 30% 20% 10% 0% 2010 2012 2013 2014 2015 2018 2019 2020 2021 2022 2007 2008 2009 Malaysia Cambodia Indonesia Laos Myanmar — Philippines — Singapore — Thailand **──**Vietnam

Figure 3: Digitally Deliverable Exports from ASEAN Members as a Share of Total Services Exports

Source: Authors' on the basis of World Trade Organization data.

Figure 3: Digitally Deliverable Imports from ASEAN Members as a Share of Total Services Imports

70%



Source: Authors' on the basis of World Trade Organization data.

Third, behind these patterns is the growth of online sales among millions of MSMEs that use platforms to sell online – and leverage their ecommerce use to export (Figures 5 and 6).³

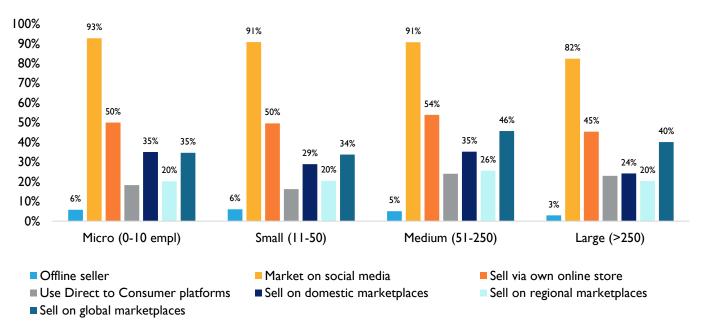
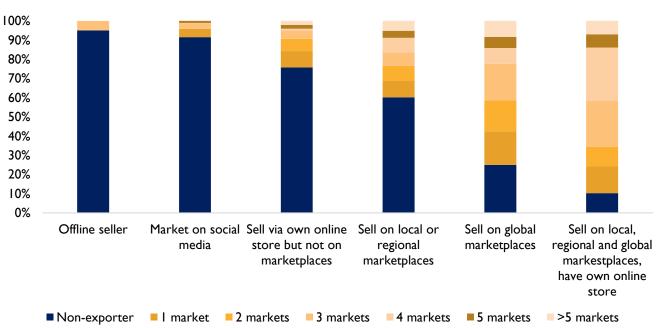


Figure 5: % of ASEAN MSMEs' use of online sales channels

Source: Suominen (2021).

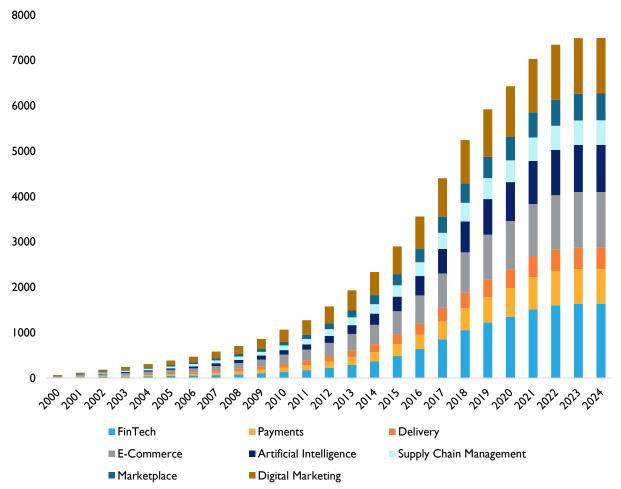




Source: Suominen (2021).

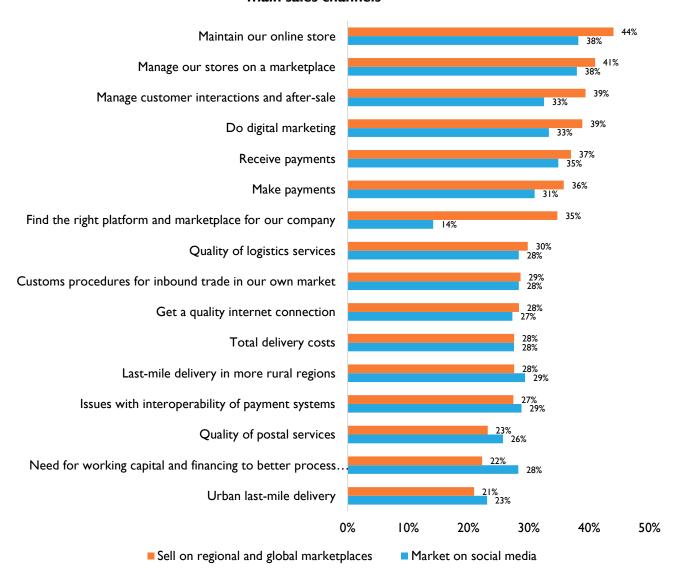
Fourth, there has been a rapid rise of a vibrant e-commerce ecosystem in the ASEAN, with ecommerce marketplaces, various digital, logistics, payments, financial service providers more than tripling in numbers since 2014 to more than 7,000 (Figure 7).

Figure 7: Cumulative E-Commerce Ecosystem Firms by Industry in the ASEAN Members, 2000-2024



DEFA can further expand and shape the region's digital trade and many players that engage in it and support it. For example, DEFA can solve various challenges that ASEAN regional firms face to engage in digital trade: mature online sellers that engage in trade find market access issues, international delivery costs, and access to talent as especially challenging, while less digitized "social sellers" struggle with cybersecurity, gaining buyers' trust, cross-border payments, and funding their digital transformation (Figure 8).⁴

Figure 8: % of ASEAN MSMEs highlighting a significant barrier to digital trade, by MSMEs' main sales channels



Source: Suominen (2021).

III. Where are ASEAN Members on the road toward DEFA?

The ASEAN Membership has a chance to use the DEFA to solve challenges to digital trade, promote ecommerce sellers and ecosystem, and generate new growth and development gains.

Granted, the DEFA is hardly ASEAN's first instrument to promote digital trade: it is preceded by several actions by the ASEAN to promote digitization, ecommerce development, and digital trade integration. However, it can set binding rules that companies can rely on, to enable digital trade in the region, improve the interoperability of the region's digital markets, establish a secure online environment, and increase the participation of MSMEs in trade.

a. Digital Trade Agreement designs

As one starting point, DEFA would ideally contain the core provisions of existing digital trade and digital economy agreements that many DEFA members already belong to, in order to facilitate adoption, and to put in place what are considered gold-standard digital trade rules, and ensure the agreement is compatible and interoperable with other digital economy agreements. Among these agreements are the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) among by now 12 agreements formed in 2018; the Digital Economic Partnership Agreement (DEPA) of 2020 between Singapore, New Zealand, and Chile; the Singapore-Australia Digital Economy Agreement (SADEA); and the Regional Comprehensive Economic Partnership (RCEP), which many ASEAN countries belong to, but whose digital trade rules are not binding. Some of the core provisions across these agreements include:

- Electronic authentication and validity of electronic signatures.
- Moratorium on electronic transmissions, which prohibits members of the agreement from imposing customs duties on electronic transmissions.⁶
- Promotion of data privacy and consumer protection.
- Rules to facilitate cross-border data flows.
- Ban on computing facilities, which prevents governments from requiring the use or location of computing facilities inside the country as a condition of supplying a service in that country.⁷
- Non-discriminatory treatment of digital products.
- Protecting source code which prohibits governments and their agencies from requiring the transfer of, or access to, source code.⁸
- Anti-spam laws that protect individuals and businesses from receiving unwanted and deceptive electronic messages.

- Promoting cybersecurity capabilities and cooperation.
- Promoting paperless trade.

DEPA and SADEA, among other agreements, go beyond these core provisions to include provisions on Al, data innovation, digital identities, personal information protection, e-invoicing, trade facilitation, and e-certification of agricultural commodities, among others.

Table I lays out the coverage of the various Asia-Pacific Digital trade and economy agreements by the various areas of DEFA.

Table I: Digital Trade Provisions in Leading Trade Agreements in the Asia-Pacific

		Korea- United States (2011)	CPTPP (2018)	USMCA (2019)	US-Japan Digital Trade Agreeme nt (2020)	RCEP (2020)	DEPA (2020)	Singapore- Australia Digital Economy Agreement (SADEA) (2020)	Korea- Singapore Digital Partnership Agreement (KSDPA) (2022)	-	UK FTA (Digital Trade	Zealand FTA (Digital Trade	nt (Digital Trade	Free Trade Area	ASEAN Agreement on Electronic Commerce (2021)	Uruguay FTA
	Electronic signatures valid	• 2	• 2	• 2	• 2	0.5	• 2	• 2	• 2	• 2	• 2	• 2	• 2			• 2
Digital trade	Paperless trade		0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Prohibit parties from forcing transfer of source code as a condition for market access		• 2	• 2	• 2			• 2	• 2	• 2	• 2	• 2				Q 2
Crossborder	Moratorium on customs duties on electronic transmissions	• 2	• 2	• 2	• 2	0.5	• 2	• 2	• 2	• 2	• 2	• 2	• 2			• 2
ecommerce	Non-discriminatory treatment for digital products	• 2	• 2	• 2	• 2		• 2	• 2	• 2							• 2
	Interoperable electronic payments system						•	• 2	• 2	•					•	
Payments and e- Invoicing	Cooperation in fintech sector						•	•	•							
	Interoperable electronic invoicing						• 2	• 2	•	• 2	•	• 2	• 2			
Digital ID and	Interoperable digital identities						•	•	•	•	•	•	•			
authentication	Electronic authentication	•	•	•	•	0	•	•	•	•	•	•	•			•
Online safety and cybersecurity	Consumer protection laws	• 2	• 2	• 2	• 2	0.5	• 2	• 2	2	• 2	• 2	• 2	(•	2	• 2
	Measures against spam or unsolicited messages		• 2	Q 2	Q 2	0.5	Q 2	• 2	• 2	• 2	• 2	• 2	• 2			• 2
	Collaboration on cybersecurity management		•	•	•	0.5	•	•	•	0	0	•	•		•	• 2

Binding provisions

Binding provisions with aspirational provisions

Non-binding

Source: Nextrade Group

		Korea- United States (2011)	CPTPP (2018)	USMCA (2019)	US-Japan Digital Trade Agreeme nt (2020)	RCEP (2020)	DEPA (2020)	Singapore- Australia Digital Economy Agreement (SADEA) (2020)	Korea- Singapore Digital Partnership Agreement (KSDPA) (2022)		UK FTA (Digital Trade	Zealand FTA (Digital Trade	UK-New Zealand Free Trade Agreeme nt (Digital Trade Chapter)	Free Trade Area	Electronic Commerce (2021)	Uruguay FTA
	Crossborder transfer of data of personal information	•	•	•	•	0	•	•	•	•	•	•	•	. ,	•	•
Crossborder data flows and protection	Ban on data localization (localizing "computing facilities" such as servers)		•	•	•	0	•	•	•	•	•	•	•		•	•
	Protect consumers' personal information		•	•	•	0	•	•	•	•	•	•	•	•	•	•
	Ethical governance of Al						•	•	•	•			•			
	Data innovation						•	•	•	•	•					
	Digital innovation and emerging technologies									•			•			
Cooperation on	Logistics best practices						•		•	•					•	
emerging topics	Standards and technical regulations								•	•						
	Open internet access to consumers	•	•	•			•	•	•		•	•	•			
	Cooperation on digital inclusion						•			•			•			
	Open government data			•	•		•	0	0	•	•		•			

Binding provisions

Binding provisions with aspirational provisions

Non-binding

Source: Nextrade Group

What impacts have these agreements had? This is still an underexplored question. Surveys run by Nextrade in 2021-23 in the CPTPP region show that ecommerce provisions are valuable for the CPTPP region's firms as a means to open new market access in goods and services and in terms of setting the ground rules for ecommerce. Firms especially value such commitments as consumer protection, cybersecurity, free cross-border data flows, and ban on server localization.

In addition, Suominen (2021) performed a gravity model to estimate digital trade agreements' impact and value added discovers that these agreements promote trade in digitally deliverable services more than traditional FTAs; and that CPTPP-style "Super-FTAs" or agreements with digital trade chapters drive trade and especially digital trade perhaps because these agreements liberalize trade in goods, services, and data and thus accommodate modern production models that leverage data and digital services and require market access for goods, services and digital services.⁹

b. ASEAN Members' DEFA Readiness

Assuming the DEFA did contain the core provisions included for example in the CPTPP and rules on AI and movement of digital talent, how far along would the various ASEAN Members be in implementing it? And which Members would require capacity-building to implement DEFA, and in which disciplines?

We seek to answer these question via the DEFA Implementation Readiness Index that measures DEFA members' progress to date to implement the CPTPP template, plus provisions on digital mobility and AI policy. The readiness index follows methodology developed in Suominen (2022) and includes 18 indicators, as follows:¹⁰

- Step I: Adopt Suominen (2022) scoring system for assessing national laws, policies, and regulations surrounding areas of cybersecurity, cross-border data transfer, data privacy, consumer protection, AI, and more.
- Step 2: Score each ASEAN member's laws and practices in terms of meeting these
 provisions (the scoring system is in Appendix II). Provisions that are binding and oblige a
 member to have in place a law or regulation are scored by looking at the law in
 question. (Here, we source code protection and nondiscriminatory treatment of digital
 goods are not coded as they would require business surveys).
- Step 3: Bring data together to create a "traffic light" system. Each of the ten ASEAN economies received either a red, yellow, or green traffic light to indicate whether they do not meet provisions, partially meet provisions, or fully meet provisions, respectively.

The results suggest that Singapore is the most prepared to implement DEFA and already meets all of the provisions (Figure 9, Table 2; methodology is in Appendix II). In turn, Laos and Myanmar are the least prepared, meeting only 61 percent and 55 percent, respectively, of the anticipated provisions. ASEAN Members are most prepared in the areas of electronic authentication, electronic transaction frameworks, digital acceptance of trade documents electronically, and cooperation on cybersecurity. However, they are least prepared in data emerging topics like AI governance and mobility of high-skilled talent, and more commonplace policies like anti-spam laws and cybersecurity capabilities (Figure 10).

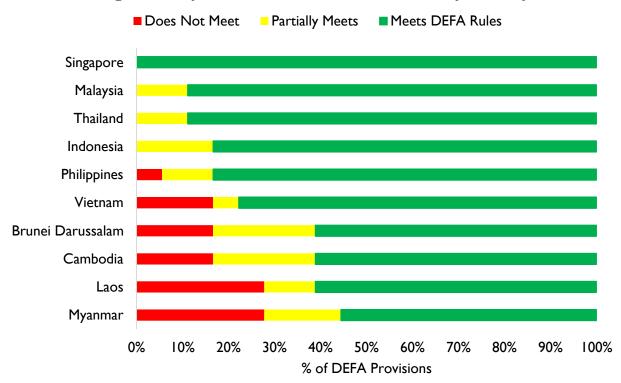


Figure 9: Implementation of DEFA Provisions by Country

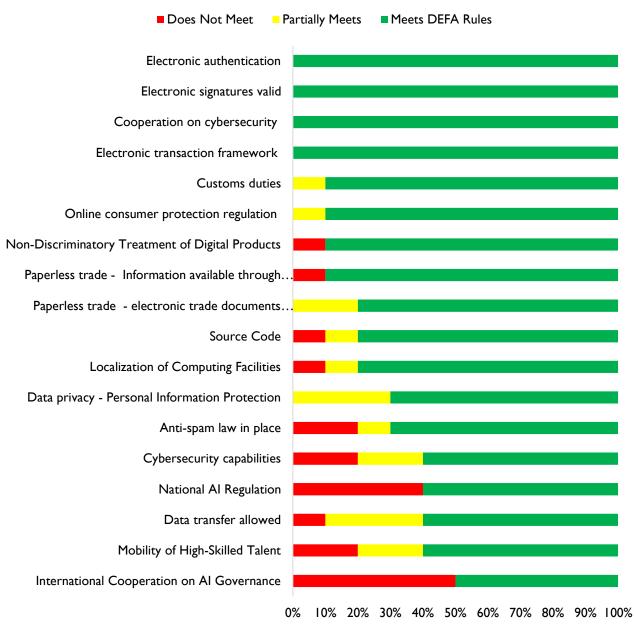


Figure 10: Implementation of DEFA Provisions by Provision

Table 2: Scoring Results for Implementation of DEFA

Policy Area	Provision	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Thailand	Vietnam	Singapore
	Electronic signatures admissible, legal, and enforceable	•	•	•	•	•	•	•	•	•	•
	Localization of Computing Facilities	•	•	0	•	•	•	•	•	•	•
Digital Trade	Paperless trade - Information available through internet	•	•	•	•	•	•	•	•	•	•
	Paperless trade - accept trade documents submitted electronically	•	0	•	•	•	0	0	•	•	•
	Source Code	•	•	0	•	•	•	•	•	•	
Crossborder	Non-Discriminatory Treatment of Digital Products	•	•	•	•	•	•	•	•	•	•
Ecommerce	Customs duties	•	•	0	•	•	•	•	•	•	•
Payments and e- invoicing	Electronic transaction framework	•	•	•	•	•	•	•	•	•	•
Digital Authentication	Electronic authentication	•	•	•	•	•	•	•	•	•	•

Meets DEFA Provisions

Partially Meets DEFA Provisions

Does Not Meet DEFA Provisions

Policy Area	Provision	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Thailand	Vietnam	Singapore
	Online consumer protection regulation in place	•	•	•	•	•	•	•	•	•	•
Online Safety and	Anti-spam law in place	•	•	•	•	•	•	•	•	•	•
Cybersecurity	Cooperation on cybersecurity	•	•	•	•	•	•	•	•	•	•
	Cybersecurity capabilities	•	•	•	•	•	•	•	•	•	•
Crossborder Data Flows and	Data privacy - Personal Information Protection	•	•	•	•	•	•	•	•	•	•
Protection	Data transfer allowed	•	•	•	•	•	•	•	•	•	•
	National AI Regulation	•	•	•	•	•	•	•	•	•	•
Cooperation on Emerging Topics	International Cooperation on Al Governance	•	•	•	•	•	•	•	•	•	•
	Mobility of High Skilled Talent	•	0	•	•	•	•	•	•	•	•

Meets DEFA Provisions

Partially Meets DEFA Provisions

Does Not Meet DEFA Provisions

Source: Author's research and analysis.

Some of the key findings are as follows:

- Basic provisions on electronic transactions: ASEAN Members have largely implemented provisions related to non-discriminatory treatment of digital products, ban on customs duties on electronic transmissions, put in place an electronic transactions framework, make electronic signatures legal and enforceable, allow parties to decide on appropriate electronic authentication methods, and adopt online consumer protection laws.
- **Preventing spam:** Using the CPTPP as a guide, the agreement calls on parties to "adopt or maintain measures regarding unsolicited commercial electronic messages." Of the ASEAN countries, Brunei and Laos lack anti-spam laws. Malaysia does not have a specific anti-spam law in place, but Section 233 of the Communications and Multimedia Act in 1998 states that it is an offense for a person to "use network facilities or network services to send communications that are intended to annoy, abuse, threaten, or harass another person," In this law, there are no provisions to allow a person to opt in or out of receiving unsolicited messages. There is no requirement that the messages must contain accurate details like sender's name and address. There is also no financial penalties or ability to seek enforceable ways to minimize spamming.
- Data Privacy: In this index, the data privacy provision was determined by whether a member adopted a legal framework that provides for the protection of personal information of ecommerce users. Brunei, Cambodia, and Myanmar do not have a data privacy law currently in place, but they do have draft laws in development. In Myanmar's case, there are e-commerce guidelines that touch on personal data protection, which limits collection of data, use for only specified purposes, restrictions on use, and more.¹²

Cross-Border Data Transfer: Digital trade agreements call for allowing personal information to be transferred across borders when the purpose is related to the business of a covered person. Vietnam's Law on Cybersecurity (N0.24/2018/QH14) contains strict data localization requirements for domestic and foreign firms. In 2022, Decree 53 (No.53/2022/ND-CP) took effect, stating that all domestic firms must store regulated data within Vietnam, while foreign firms must store data when they meet two "triggering" conditions: (1) the firm operates in any of the 10 business areas designated by the government, including ecommerce, and (2) the firm has been warned by the government that the services it provides have been used to commit a breach of the law on cybersecurity and the firm as not properly dealt with the breach of law. 13 Cambodia currently does not have a law in place, but a draft law on personal data protection limits data transfer. 14 In the Philippines, under the Data Privacy Act, personal data can only be transferred to another country or territory if that country or territory ensures an adequate level of protection comparable to Philippine law. 15 Thailand has a similar standard where transferred data but reach data protection standards in Thailand, but there are a few exemptions. 16

- Localization of computing facilities: Another provision that was examined was server localization, where countries might require a Party to store their data servers in their country. Vietnam has significant server localization requirements, while Indonesia only requires it in the financial sector. In Vietnam, data and server localization is governed under Decree No. 53/2022/ND-CP, where companies must store data locally and have a physical presence in Vietnam.¹⁷
- Paperless Trade: Promotion of paperless trade was measured through two indicators. First, DEFA could, like the CPTPP, require Members to make trade administration documents available to the public in electronic form and accept trade administration documents submitted electronically as the legal equivalent of the paper version. This is measured through implementation of Measure 1.2 of the Trade Facilitation Agreement, which measures whether certain documents are made available to the public. Most of the ASEAN countries implemented Measure 1.2.¹⁸ Myanmar is standing at a current rate of implementation commitments at 9.7%.¹⁹ The second way paperless trade was measured was through The UN Global Survey on Digital and Sustainable Trade Facilitation. This indicator measured whether countries accepted trade documents submitted electronically in a few different areas. These criteria included electronic submission of customs declarations, electronic application and issuance of import and export permits, electronic submission of air cargo manifests, and electronic application of issuance of preferential certificate of origin. Indonesia and Singapore were the only countries that have fully implemented all four criteria.
- Cybersecurity: The cybersecurity provisions promote Members' cybersecurity capabilities and cooperation with others. Here, readiness to implement cybersecurity capabilities was measured by the scores from the International Telecommunication Union's most recent Global Cybersecurity Index. Cambodia and Laos ranked on the lower end, while Malaysia, Singapore, Indonesia, Philippines, and Thailand ranked higher. All ASEAN countries are parties to the United Nations Convention Against Transnational Organized Crime (UNCTOC) and its Protocols and have ratified the agreement and includes its cybersecurity provisions. The UN is currently negotiating a Convention of Cybercrime, which is scheduled in conclude in 2024. ASEAN members are involved in the negotiations and these discussions can help harmonize everyone's understanding of cybercrime.
- Mobility of High-Skilled Talent: The mobility of high-skilled talent assesses the ease in which a person that possesses high skills in specific industries can work outside of their home country. Some countries offer a specific visa for foreign professionals that have a high level of expertise in a specific field or industry. These visas allow them to legally reside in a country for an extended period of time. They might also offer other benefits like a fast-track to permanent residency, work authorization for their spouses, and possible tax benefits as well. Some of these visas are also tied to high foreign investment. Those who meet a threshold of investment into a country could also be considered. Several ASEAN countries have a similar visa that allows top talent to work in their country. Many applicants have to reach certain education level requirements, salary requirements, or be invited by the government to apply.

• Al: Readiness to implement potential Al commitments was measured by whether a country had a National Al regulation or strategy and whether the regulation or strategy called for international coordination or interoperability in Al governance. Brunei, Cambodia, Laos, and Myanmar do not have Al strategies in place. However, Indonesia, Malaysia, Philippines, Thailand, Vietnam, and Singapore have adopted Al strategies and all but the Philippines call for international coordination on Al governance. ASEAN economies have also already progressed on collaboration on Al with each other, announcing in February 2024 the ASEAN "Guide on Al Governance and Ethics," which provides a framework for Al interoperability among ASEAN nations and suggests best practices for how to implement trustworthy Al in the region. It includes national and regional-level recommendations for stakeholders to consider when trying to implement responsible Al.

IV. Agreeing to and Implementing the Agreement

a. Getting to Yes

ASEAN is a complex region with wide disparities among economies in digital capabilities and readiness to implement the agreement. However, there are several potential means to find common ground and facilitate the conclusion of the DEFA talks, such as:

- Commitment by all members to make the agreements binding and implement it well.
- Technical assistance to the poorer economies, for example to support selected Members in writing laws required for conforming with the DEFA.
- Systematic efforts to enable ASEAN MSMEs to take advantage of the DEFA. Good practices to support MSMEs in digital trade and comply with digital trade regulations already exist in the region and these could be replicated (Case I).

Case I: Regional MSME Capacity-Building and Export Promotion for Ecommerce Programs

The ASEAN region has several MSME capacity-building and export promoting for ecommerce programs that can help ASEAN MSMEs take advantage of DEFA.

- In Brunei, its Ministry of Energy, Manpower, and Industry (MEMI) oversees a broad range of policy interventions related to industry, energy, and labor. This also includes science and technology matters. MEMI works with private sector partners to promote capacity development the growth of local industries in Brunei, including MSMEs. MEMI promotes these capacity-building programs to generate further capital investment through FDI and its comprehensive goal is to create a probusiness environment in Brunei.²⁵
- Cambodia has implemented a two-year project called Improving Small Package E-Trade for SMEs
 (SeT4SME) through the Global Alliance for Trade Facilitation. The project was implemented by
 Swisscontact in partnership with the Ministry of Commerce (MoC) and aimed to support Cambodian
 SMEs by improving their trade performance and driving inclusive growth in the country. Their goal is
 to provide more transparency in trade practices and reduce the time and cost of cross-border etrade for SMEs.²⁶
- Laos has an SMEs Ecommerce Export Enablement Development Program (SEED). The program created Plaosme.com, to encourage and facilitate trade and investment between Lao PDR SMEs and ASEAN countries and help Lao SMEs export.²⁷ According to UNCTAD, Laos has over 125,000 enterprises, and about 93% of them are small businesses with less than five workers. Training SMEs to export is an essential part of increasing the Lao economy.²⁸
- Myanmar has a project called Innovative Trade Promotion in Myanmar through the Asian Development Fund to help establish part of the \$65 million corpus of the Myanmar Trade Promotion Fund within the Ministry of Commerce. The fund will lend to qualified financial institutions who will then lend to exporters. The funds will be used to cover capital costs to expand value-added export sections and expand market access.²⁹

Enterprise Singapore, a government agency that supports SME development in Singapore, has a Go
Digital Program that offers grants and subsidies to Singaporean SMEs to adopt digital solutions and
technologies to further facilitate international trade. The program helps SMEs implement digital
solutions while ensuring compliance with regulatory requirements in different policies.³⁰ Outside

These are just a few examples of export promotion and MSME capacity-building programs in the ASEAN region. The programs show good practices that countries can engage in to strengthen their digital skills and even decrease the digital divide and competencies between countries, making implementing DEFA more harmonious across the region.

By empowering SMEs to leverage digital technologies and participate in the global digital economy, these programs contribute to sustainable economic development, further job creation, and inclusive growth. Enhancing digital competencies, facilitating access to global markets, encouraging innovation, promoting entrepreneurship, building resilience, and strengthening policy frameworks will help create a stronger baseline of DEFA implementation.

b. Monitoring the DEFA's implementation

After concluding the DEFA, the members also need to promote and monitor its implementation. In 2021, the CPTPP membership launched an E-commerce Committee to discuss any issues related to the implementation and operationalization of the agreement's high-quality rules. This process and Committee can also be adopted in DEFA and made more robust, perhaps through a public-private dialogue and third-party monitoring.

The DEFA Committee could create a systematic process for monitoring the agreements' implementation. This could consist of (Figure 11):

- Legal reviews of members' laws and their conformity with the CPTPP;
- Industry and think-tank opinions of the various laws and law initiatives;
- Interviews with industry associations and SMEs on the agreements' function;
- Peer review process to discuss findings; and
- Promotion of technical assistance to members that need it and mediation and dispute settlement process with members that intentionally fail to meet their commitments.

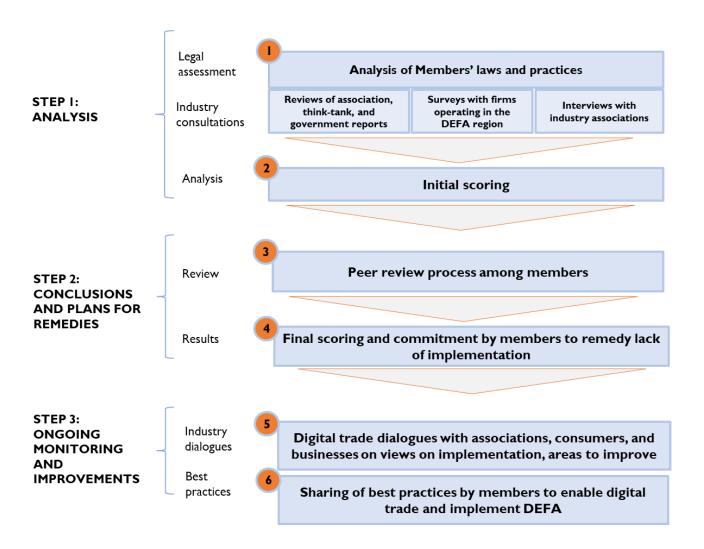
Members should also annually discuss improvements in the methodologies to measure members' implementation of their commitments.

In addition, there should be public-private dialogue on the functioning of the DEFA. Stakeholder engagement is crucial to DEFA's implementation by helping all parties understand how the agreement is working, share concerns, and mitigate emerging risks and thereby ensure the

sustainability and resilience of the ASEAN digital economy. These public-private dialogues can also focus on potential new provisions to the DEFA as technologies and policy issues evolve.

These discussions should also include assessments of the needs for MSMEs to take advantage of DEFA and how to meet those needs, as well as on ways to enable MSMEs to comply with digital trade rules. One example could be Hong Kong's Trade and Development Council (HKTDC) whose SME Center supports Hong Kong SMEs that want to engage in digital trade. It offers workshops, seminars, and mentorship on ecommerce strategies as well as intellectual property rights protection, and regulatory compliance for cross-border transactions.³¹

Figure 11: Potential Monitoring Framework for the DEFA's Implementation³²



Source: Derived from Suominen (2022) proposal for the CPTPP.

c. Complementary policies and programs to translate DEFA's aspirations to economic gains

The implementation of the ASEAN DEFA needs to be paralleled by complementary policies that enable the region to harness the transformative potential of the agreement and digital technologies for economic growth, innovation, and inclusion, including:

- Digital infrastructures and connectivity. There are significant disparities in digital
 infrastructure among ASEAN countries. While some economies have advanced
 broadband networks and robust digital connectivity, others face significant
 disparities. There are also within many ASEAN countries digital divides between
 urban and rural regions.
- Digital skilling. Many ASEAN countries face a shortage of skilled professionals with expertise in digital technologies required for taking advantage of digital trade. Addressing the digital skills gap and promoting digital literacy and education among the population are crucial for building a workforce capable of driving digital innovation and participating in digital economy effectively. This can include basic skills like learning how to use computer and the internet, but also more advanced skills such as critical thinking, media literacy, cybersecurity awareness, and even creating digital content if necessary.
- Digital inclusion and accessibility. ASEAN needs to continue to promote digital inclusion and access to digital technologies for marginalized segments, such as rural communities, women, and persons with disabilities, as central to equitable digital trade.

ASEAN Members have already pursued extensive work programs in these areas that can now be built upon.³³

V. Conclusion

The DEFA is a pivotal framework for facilitating the Southeast Asia region's digital transformation and trade.

This brief has sought to support the ASEAN Members and other key stakeholders on the optimal design and implementation of the DEFA. This study has proposed the DEFAs; core provisions be aligned with the provisions of the many digital trade agreements in the Asia-Pacific, and that ASEAN Members create a process for monitoring the DEFA's implementation. This study has also accomplished the first such monitoring exercise by developing the DEFA Implementation Readiness Index – which for now assumed the DEFA contained the core provisions included for example in the CPTPP and rules on AI and movement of digital talent.

The results suggest that ASEAN Members are most prepared in the areas of electronic authentication, electronic transaction frameworks, digital acceptance of trade documents electronically, and cooperation on cybersecurity. However, they are least prepared in data emerging topics like AI governance and mobility of high-skilled talent, and more commonplace policies like anti-spam laws and cybersecurity capabilities.

Appendix I

Figure I-I: Digitally Deliverable Exports from ASEAN Members (USD, millions)

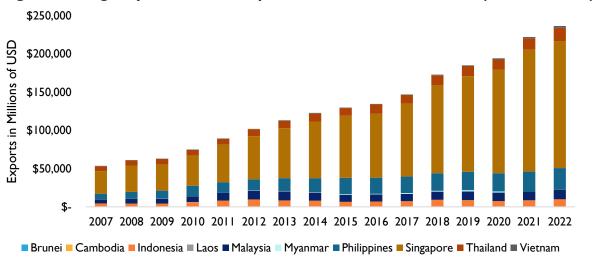
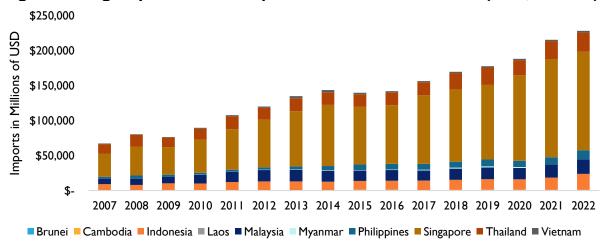


Figure I-2: Digitally Deliverable Imports from ASEAN Members (USD, millions)



Appendix II: Scoring Criteria

Provision	Basis for Scoring Provision	Criteria
Electronic signatures valid	This criterion was measured by whether a country accepts electronic signatures as legally binding.	 0 = no electronic signatures admissible, legal, and law – red 2 = electronic signatures admissible, legal - green
Localization of computing facilities	This criterion was measured by whether a country had server localization requirements in place or requirements that had discriminatory effects.	0 = significant localization requirements exist in law or with discriminatory effects (at least 3 associations issuing statements of concern and/or 50% or fewer of ASEAN region SMEs report compliance with server localization provisions to be good) — red I = localization requirements in law or with some or potentially discriminatory effects (at least 2 associations issue statements of concern and/or 51-75% of SMEs report good compliance) — yellow 2 = no complaints about localization (zero or maximum one expression of concern and >75% of SME report good compliance) - green

Paperless trade - Information available through internet	This criterion was measured by whether a country has implemented the World Trade Organization's Trade Facilitation Agreement Measure 1.2 on Information available through internet. Through this measure, members must "make available, and update to the extent possible and as appropriate" electronic trade administration documents on the internet. ³⁴	0 = Has not implemented Measure 1.2 of TFA - Information available through internet – red I = Partially implemented Measure 1.2 of TFA - Information available through Internet – yellow 2 = Has implemented Measure 1.2 of TFA - Information available through internet - green
Paperless trade - accept trade administration documents submitted electronically	This criterion was measured by whether a country accepts trade administration documents submitted electronically as the legal equivalent of the paper version of those documents. ³⁵	Has implemented below: - Electronic submission of Customs declarations - Electronic application and issuance of import and export permit - Electronic Submission of Air Cargo Manifests - Electronic application and issuance of Preferential Certificate of Origin 3 = Fully 2 = Partially 1 = Planning 0 = None
Source Code	This criterion was measured by whether a country offered source code protection to those who own software. Article 14.17 of the CPTPP Agreement: Source Code defines this as: I. No Party shall require the transfer of, or access to, source code of software owned by a person of another Party, as a condition for the import, distribution, sale or use of such software, or of products containing such software, in its territory. [Law or complaints about] 2. For the purposes of this Article, software subject to paragraph 1 is limited to mass-market software or	0 = law for or significant complaints about practice of requiring transfer of source code (at least 3 associations issuing statements of concern and/or 50% or fewer of ASEAN region SMEs report compliance with source code protections to be good) – red I = No law but some complaints about practice or requiring transfer of source code (at least 2 associations issue statements of concern and/or 51-75% or fewer of SMEs report good compliance) – yellow 2 = party does not require source code as pre-requisite for market access (zero or maximum one expression of concern and >75% of

products containing such software and does not include software used for critical infrastructure.

- 3. Nothing in this Article shall preclude:
- (a) the inclusion or implementation of terms and conditions related to the provision of source code in commercially negotiated contracts; or
- (b) a Party from requiring the modification of source code of software necessary for that software to comply with laws or regulations which are not inconsistent with this

Agreement.

4. This Article shall not be construed to affect requirements that relate to patent applications or granted patents, including any orders made by a judicial authority in relation to patent disputes, subject to safeguards against unauthorized disclosure under the law or practice of a Party.

ASEAN SMEs report good compliance) - green

Non-Discriminatory Treatment of Digital Products

The OECD has a digital trade database where they track a country's digital trade inventory. The inventory consists of existing rules, principles, and standards that are important to digital trade like participation in e-transaction frameworks, cross-border data transfer and privacy, non-discriminatory treatment of digital products, and more.³⁶

- 0 = discriminatory treatment on digital products created, produced, published, contracted for, commissioned or first made available on commercial terms in the territory of another Party - red
- I = concerns about potential discrimination yellow
- 2 = non-discriminatory treatment on digital products green

Customs duties on electronic transmissions	This criterion was scored on whether or not a country imposed customs duties on electronic transmissions, including content transmitted electronically.	0 = customs duties on electronic transmission - red I = establishment of HS lines or other reporting on electronic transmissions - yellow 2 = no customs duties on electronic transmissions - green
Electronic transaction framework	This criterion was measured by whether a country maintains a legal framework governing electronic transactions consistent with the principles of the UNCITRAL Model Law on Electronic Commerce 1996 or the United Nations Convention on the Use of Electronic Communications in International Contracts	0 = no electronic transactions law - red I = electronic transactions law obviously contradictory with UNCITRAL - yellow 2 = electronic transactions law in place and seems to be in conformity with UNCITRAL - green
Electronic authentication	This criterion was measured by whether a country adopted electronic authentication measures that prohibits parties from mutually determining the appropriate authentication methods.	0 = measures for electronic authentication that prohibit parties from mutually determining the appropriate authentication methods (at least 3 associations issuing statements of concern and/or 50% or fewer of ASEAN region SMEs report compliance with electronic authentication provisions to be good) – red I = some measures for electronic authentication that prohibit parties from mutually determining the appropriate authentication methods (at least 2 associations issue statements of concern and/or 51-75% of SMEs report good compliance) – yellow

		2 = no measures for electronic authentication that prohibit parties from mutually determining the appropriate authentication methods (zero or maximum one expression of concern and >75% of SME report good compliance) - green
Online consumer protection regulation in place	This criterion was measured by whether a country recognized the importance of adopting and maintaining transparent and effective measures to protect consumers from fraudulent and deceptive commercial activities when they engage in electronic commerce through an online consumer protection regulation.	0 = no law (red) I = law in place but no definition for fraudulent and deceptive commercial activities (yellow) 2 = law in place with regulations (green)
Anti-spam law in place	This criterion was measured by whether a country has a law against unsolicited commercial electronic messages in place. Anti-spam laws must require suppliers of unsolicited commercial electronic messages to facilitate the ability of recipients to prevent ongoing reception of those messages and require the consent, as specified according to the laws and regulations of each Party, of recipients to receive commercial electronic messages; or otherwise provide for the minimization of unsolicited commercial electronic messages.	0 = no law I = law in place but no recourse 2 = law in place with recourse - green

Cooperation on cybersecurity	This criterion was measured by whether a country is a party to the United Nations Convention Against Transnational Organized Crime and its Protocols.	0 = Not party to United Nations Convention against Transnational Crime and its Protocols I = Observer to United Nations Convention against Transnational Crime and its Protocols 2 = Yes has ratified United Nations Convention against Transnational Crime and its Protocols
Cybersecurity capabilities	This criterion was measured by a country's International Telecommunication Union's Global Cybersecurity Index score. These scores measure a country's commitments to cybersecurity through legal measures, technical measures, organizational measures, capacity development measures, and cooperation measures.	ITU cybersecurity index score 0= < 25 I = 25-75 2 = > 75
Data privacy - Personal Information Protection	This criterion was measured by whether a country has a data protection law in place that protects personal information. Countries must adopt or maintain a legal framework that provides for the protection of the personal information of the users of electronic commerce. In the development of its legal framework for the protection of personal information, each Party should consider principles and guidelines of relevant international bodies.	0 = no law (red) I = draft law (yellow) 2= law in place (green)

Data transfer allowed	This criterion was measured by whether a country had barriers to the transfer of data and information by electronic means. According to the CPTPP provision, the data transfer barriers: (a) is not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on trade; and (b) does not impose restrictions on transfers of information greater than are required to achieve the objective.	 0 = significant barriers exist in law or with discriminatory effects (red) I = barriers in law or with some or potentially discriminatory effects (yellow) 2 = no law or discriminatory effects identified (green)
National AI Regulation	This criterion was measured by whether a country had a national AI regulation, strategy, or guidance in place.	 0 = no regulation in place I = in development 2 = regulation in place
International Cooperation on Al Governance	This criterion was measured by whether a country's AI strategy or regulation calls for international coordination or interoperability in AI governance.	0 = No 2= Yes

Mobility of High- Skilled Talent whether a country offers a specific visa for skilled workers in specific industries.	: No : In development/similar visa : Yes
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