

References

- Abidi, N., M. El Herradi, and S. Sakha (2023), 'Digitalization and Resilience during the COVID-19 Pandemic', *Telecommunications Policy*, 4(47), 102522, <https://doi.org/10.1016/j.telpol.2023.102522>
- Al-Khatib, A.W. (2022), 'Can Big Data Analytics Capabilities Promote a Competitive Advantage? Green Radical Innovation, Green Incremental Innovation and Data-Driven Culture in a Moderated Mediation Model', *Business Process Management Journal*, 28(4), pp.1025–46, <https://doi.org/10.1108/BPMJ-05-2022-0212>
- Alliance for Affordable Internet (A4AI) (2021), *Affordability Report 2021: A New Strategy for Universal Access*, Washington, DC, https://a4ai.org/wp-content/uploads/2021/12/A4AI_2021_AR_AW.pdf
- The Asia Foundation and Google.org (2020), 'GO Digital Asia: Digital Skills to Address the Economic Impact of COVID-19 Project', *Factsheets*, June, <https://asiafoundation.org/wp-content/uploads/2020/06/Factsheet-Go-Digital-ASEAN-as-of-19-June-2020.pdf>
- Asian Development Bank (ADB) (2021), *Capturing the Digital Economy—A Proposed Measurement Framework and Its Applications: A Special Supplement to Key Indicators for Asia and the Pacific 2021*, Manila, <https://doi.org/10.22617/FLS210307-3>
- ADB and Asian Development Bank Institute (ADBI) (2015), *Connecting South Asia and Southeast Asia*, Tokyo: ADBI, <https://www.adb.org/sites/default/files/publication/159083/adbi-connecting-south-asia-southeast-asia.pdf>
- Association of Southeast Asian Nations (ASEAN) (1997), *ASEAN Vision 2020*, <https://asean.org/asean-vision-2020/>
- (1998), *Ha Noi Plan of Action*, <https://asean.org/hanoi-plan-of-action/>
- (2000), *e-ASEAN Framework Agreement*, <https://agreement.asean.org/media/download/20140119121135.pdf>
- (2001), *Ministerial Understanding on ASEAN Cooperation in Telecommunications and Information Technology*, <https://www.lawforasean.krisdika.go.th/File/files/1496220748.5a0ef10ecaf3dd12187a223c69b5f2c3.pdf>
- (2003), *Declaration of ASEAN Concord II (Bali Concord II)*, <https://asean.org/speechandstatement/declaration-of-asean-concord-ii-bali-concord-ii/>
- (2004a), *Roadmap for Integration of e-ASEAN Sector*, <https://asean.org/wp-content/uploads/2012/05/19426.pdf>
- (2004b), *Vientiane Action Programme*, <https://asean.org/wp-content/uploads/images/archive/VAP-10th%20ASEAN%20Summit.pdf>
- (2006), *Brunei Action Plan 'Enhancing ICT Competitiveness: Capacity Building'*, <https://asean.org/brunei-action-plan-enhancing-ict-competitiveness-capacity-building/>

- (2007), *ASEAN Economic Community Blueprint*, Jakarta, <https://www.asean.org/wp-content/uploads/images/archive/5187-10.pdf>
- (2009), *ASEAN Socio-Cultural Community Blueprint*, Jakarta, <https://asean.org/wp-content/uploads/images/archive/5187-19.pdf>
- (2011a), *Master Plan on ASEAN Connectivity*, Jakarta, <https://asean.org/wp-content/uploads/2021/08/Master-Plan-on-ASEAN-Connectivity.pdf>
- (2011b), *Memorandum of Understanding on the Implementation of the ASEAN Single Window Pilot Project*, <https://asean.org/wp-content/uploads/2020/12/Memorandum-of-Understanding-on-the-Implementation-of-the-ASEAN-Single-Window-Pilot-Project-1.pdf>
- (2012b), *ASEAN Sectoral Integration Protocol for e-ASEAN*, <https://asean.org/asean-sectoral-integration-protocol-for-e-asean/>
- (2015a), *ASEAN Economic Community Blueprint 2025*, Jakarta, https://asean.org/wp-content/uploads/2021/08/AECBP_2025r_FINAL.pdf
- (2015b), *ASEAN ICT Masterplan 2015 Completion Report*, Jakarta, <http://103.58.148.245/wp-content/uploads/2018/04/ASEANICTCompletionReport.pdf>
- (2015c), *Protocol on the Legal Framework to Implement the ASEAN Single Window*, <https://agreement.asean.org/media/download/20150915020056.pdf>
- (2016a), *ASEAN Framework on Personal Data Protection*, <https://asean.org/wp-content/uploads/2012/05/10-ASEAN-Framework-on-PDP.pdf>
- (2016b), *Master Plan on ASEAN Connectivity 2025*, Jakarta, <https://asean.org/wp-content/uploads/2018/01/47.-December-2017-MPAC2025-2nd-Reprint-1-1.pdf>
- (2016c), *The ASEAN ICT Masterplan 2020*, https://asean.org/wp-content/uploads/images/2015/November/ICT/15b%20--%20AIM%202020_Publication_Final.pdf
- (2017a), *ASEAN Economic Community 2025 Consolidated Strategic Action Plan*, <https://asean.org/wp-content/uploads/2012/05/Consolidated-Strategic-Action-Plan-endorsed-060217.rev.pdf>
- (2017b), *ASEAN Work Programme on Electronic Commerce*, https://asean.org/wp-content/uploads/2021/09/ASEAN-Work-Programme-on-Electronic-Commerce_published.pdf
- (2018a), *ASEAN Digital Integration Framework*, <https://asean.org/wp-content/uploads/2020/12/Adopted-ASEAN-Digital-Integration-Framework.pdf>
- (2018b), *ASEAN Smart Cities Framework*, <https://asean.org/wp-content/uploads/2019/02/ASCN-ASEAN-Smart-Cities-Framework.pdf>
- (2018c). *Framework on Digital Data Governance*. https://asean.org/wp-content/uploads/2012/05/6B-ASEAN-Framework-on-Digital-Data-Governance_Endorsedv1.pdf
- (2019a), *ASEAN Agreement on Electronic Commerce*, <https://agreement.asean.org/media/download/20190306035048.pdf>
- (2019b), *ASEAN Digital Integration Framework Action Plan (DIFAP) 2019–2025*, https://asean.org/wp-content/uploads/2018/02/AECC18-ASEAN-DIFAP_Endorsed.pdf

- (2020a), *ASEAN Comprehensive Recovery Framework*, https://asean.org/wp-content/uploads/2021/08/ACRF-Implementation-Plan_Pub-2020.pdf
- (2020b), *Final Review of ASEAN ICT Masterplan 2020*, https://asean.org/wp-content/uploads/2021/02/V4.-Final-Draft_-_AIM2020_Review_Final_Draft_19Nov2020.pdf
- (2020c), *Review of IAI Work Plan III and the Monitoring Reporting, and Evaluation (MRE) System*, <https://asean.org/wp-content/uploads/2021/12/Review-of-IAI-Work-Plan-III-and-the-Monitoring.pdf>
- (2021a), *ASEAN Data Management Framework*, https://asean.org/wp-content/uploads/2-ASEAN-Data-Management-Framework_Final.pdf
- (2021b), *ASEAN Digital Masterplan 2025*, Jakarta, <https://asean.org/wp-content/uploads/2021/08/ASEAN-Digital-Masterplan-2025.pdf>
- (2021c), *ASEAN Leaders' Statement on Advancing Digital Transformation in ASEAN*, <https://asean.org/wp-content/uploads/2021/10/7.-ASEAN-Leaders-Statement-on-Digital-Transformation.pdf>
- (2021d), *Consolidated Strategy on the Fourth Industrial Revolution for ASEAN*, Jakarta, <https://asean.org/wp-content/uploads/2021/10/6.-Consolidated-Strategy-on-the-4IR-for-ASEAN.pdf>
- (2021e), *The Bandar Seri Begawan Roadmap: An ASEAN Digital Transformation Agenda to Accelerate ASEAN'S Economic Recovery and Digital Economy Integration*, https://asean.org/wp-content/uploads/2021/10/Bandar-Seri-Begawan-Roadmap-on-ASEAN-Digital-Transformation-Agenda_Endorsed.pdf
- (2021f), *Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce*, https://asean.org/wp-content/uploads/2022/03/Work-Plan-E-commerce-Agreement_endorsed_logo.pdf
- (2022a), 'ASEAN, Canada Remain Committed to Enhance Their Long-Standing Partnership for Mutual Benefit', press release, 28 March, <https://asean.org/asean-canada-remain-committed-to-enhance-their-long-standing-partnership-for-mutual-benefit/>
- (2022b), Chairman's Statement of the 40th and 41st ASEAN Summits. <https://asean.org/wp-content/uploads/2022/11/01-Chairmans-Statement-of-the-40th-and-41st-ASEAN-Summits-rev.pdf>
- (2023), 'ASEAN Legal Instruments', <https://agreement.asean.org/>
- Bain & Company (2018), *Advancing towards ASEAN Digital Integration: Empowering SMEs to Build ASEAN's Digital Future*, https://www.bain.com/contentassets/37a730c1f0494b7b8dac3002fde0a900/report_advancing_towards_asean_digital_integration.pdf
- Baldwin, R. (2011), '21st Century Regionalism: Filling the Gap between 21st Century Trade and 20th Century Trade Rules', *World Trade Organization (WTO) Staff Working Papers*, No. ERSD-2011-08, Geneva: WTO, https://www.wto.org/english/res_e/reser_e/ersd201108_e.pdf
- Baldwin, R. (2016), *The Great Convergence: Information Technology and the New Globalization*. Cambridge, MA: Belknap Press.
- Banna, H. and M.R. Alam (2021), 'Impact of Digital Financial Inclusion on ASEAN Banking Stability: Implications for the Post-COVID-19 Era', *Studies in Economics and Finance*, 38(2), pp.504–23, <https://doi.org/10.1108/SEF-09-2020-0388>

- Basaev, Z.V. (2019), 'The Digitalisation of the Economy: Russia in the Context of Global Transformation', *The World of New Economy*, 12(4), pp.32–8, <https://doi.org/10.26794/2220-6469-2018-12-4-32-38>
- Bazarhanova, A. and K. Smolander (2020), 'The Review of Non-Technical Assumptions in Digital Identity Architectures', *Proceedings of the 53rd Hawaii International Conference on System Sciences*, pp.6407–6417, <https://hdl.handle.net/10125/64527>
- Bellon, M., J. Chang, E. Dabla-Norris, S. Khalid, F. Lima, E. Rojas, and P. Villena (2019), 'Digitalization to Improve Tax Compliance: Evidence from VAT e-Invoicing in Peru', *IMF Working Paper* WP/19/231.
- Bhatti, S.H. et al. (2022), 'Big Data Analytics Capabilities and MSME Innovation and Performance: A Double Mediation Model of Digital Platform and Network Capabilities', *Annals of Operations Research*, <https://doi.org/10.1007/s10479-022-05002-w>
- Bliedy, D., S. Mazen, and E. Ezzat (2018), 'Cost Model for Establishing a Data Center. International Journal of Computer Science', *Engineering and Applications*, 8(2/3/4), pp.11–30. <https://doi.org/10.5121/ijcsea.2018.8402>
- Bouncken, R.B., S. Kraus, and N. Roig-Tierno (2021), 'Knowledge- and Innovation-Based Business Models for Future Growth: Digitalized Business Models and Portfolio Considerations', *Review of Managerial Science*, 15(1), pp.1–14, <https://doi.org/10.1007/s11846-019-00366-z>
- Bukht, R. and R. Heeks (2017), 'Defining, Conceptualising and Measuring the Digital Economy', *Development Informatics Working Papers*, No. 68, Manchester, UK: University of Manchester, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3431732
- Casado-Aranda, L.A., F. Liébana-Cabanillas, and J. Sánchez-Fernández (2018), 'A Neuropsychological Study on How Consumers Process Risky and Secure E-Payments', *Journal of Interactive Marketing*, 43(1), pp.151–64, <https://doi.org/10.1016/j.intmar.2018.03.001>
- Cashmore, A. and N. Crosta (2022), 'Technology and Disability: Trends and Opportunities in the Digital Economy in ASEAN', *Economic Research Institute for ASEAN and East Asia (ERIA) Research Project Reports*, No. 14, Jakarta: ERIA.
- Chen, Z. (2007), 'A Scenario for Identity Management in Daidalos', paper presented at the Fifth Annual Conference on Communication Networks and Services Research, Fredericton, New Brunswick, Canada, 14–17 May, <https://doi.org/https://doi.org/10.1109/CNSR.2007.6>
- Chia, S.Y. (2016), 'ASEAN Economic Integration and Physical Connectivity', *Asian Economic Papers*, 15(2), pp.198–215, https://doi.org/10.1162/ASEP_a_00438
- Chung, J. (2014), 'Philippine Internet Slowest in ASEAN', 29 Jul, *Korea Herald*, <https://www.koreaherald.com/view.php?ud=20140729000465>
- Cong, L.W., X. Yang, and X. Zhang (2021), 'SMEs amidst the Pandemic and Reopening: Digital Edge and Transformation', *The SC Johnson College of Business Applied Economics Working Papers*, <https://thedocs.worldbank.org/en/doc/d7ae353de7f8ca67f9f9d794caa14711-0050022022/original/SMEs-Amidst-the-Pandemic-and-Reopening.pdf>
- Corning, G.P. (2022), 'ASEAN and the Regime Complex for Digital Trade in the Asia-Pacific', *Journal of World Trade*, 56(6), pp.915–38, <https://doi.org/10.54648/TRAD2022038>

- Dessemond, E. G. (2019), 'Restoring competition in "winner-took-all" digital platform markets', UNCTAD *Research Paper* No.40, https://unctad.org/system/files/official-document/ser-rp-2019d12_en.pdf
- Economic Research Institute for ASEAN and East Asia (ERIA) (2019), *Study on MSMEs Participation in the Digital Economy in ASEAN: Nurturing ASEAN MSMEs to Embrace Digital Adoption*, Jakarta, <https://www.eria.org/uploads/media/Books/2019-October-ERIA-ASEAN-Study-On-MSMEs-Participation.pdf>
- (2022), *The Comprehensive Asia Development Plan 3.0 (CADP 3.0): Towards Integrated, Innovative, Inclusive, and Sustainable Economy*, Jakarta, <https://www.eria.org/uploads/media/Books/2022-CADP-3/CADP-3.0-full-report-new3.pdf>
- European Union (EU) (2021), 'ASEAN and EU Work Together towards Establishing an ASEAN Digital Index', press release, 24 May, https://www.eeas.europa.eu/eeas/asean-and-eu-work-together-towards-establishing-asean-digital-index_en
- G20 Digital Economy Task Force (2016), G20 Digital Economy Development and Cooperation Initiative. <https://www.mofa.go.jp/files/000185874.pdf>
- Gagliardi, J. P., A. Ruiz, and J. Renaud (2008), 'Space Allocation and Stock Replenishment Synchronization in a Distribution Center', *International Journal of Production Economics*, 115(1), pp.19–27. <https://doi.org/10.1016/j.ijpe.2008.04.006>
- Gilani, K., E. Bertin, J. Hatin, and N. Crespi (2020), 'A Survey on Blockchain-Based Identity Management and Decentralized Privacy for Personal Data', paper presented at the *2nd Conference on Blockchain Research and Applications for Innovative Networks and Services (BRAINS)*, Paris, 28–30 September.
- Gojek (2023), 'GoFood Terms of Use', <https://www.gojek.com/en-id/terms-and-condition/gofood/>
- Goodman, M.P. and M. Wayland (2022), Securing Asia's Subsea Network. bit.ly/3nL07Tb
- Google, Temasek, and Bain & Company (2021). *e-Economy SEA 2021 — Roaring 20s: The SEA Digital Decade*, https://www.bain.com/globalassets/noindex/2021/e_economy_sea_2021_report.pdf
- (2022), *e-Economy SEA 2022 — Through the Waves, Towards a Sea of Opportunity*, https://www.temasek.com.sg/content/dam/temasek-corporate/news-and-views/resources/reports/e_Economy_SEA_2022_report.pdf
- Haini, H. (2021), 'Examining the Impact of ICT, Human Capital and Carbon Emissions: Evidence from the ASEAN Economies', *International Economics*, 166, pp.116–25, <https://doi.org/10.1016/j.inteco.2021.03.003>
- Halaweh, M. (2017), 'Intention to Adopt the Cash on Delivery (COD) Payment Model for E-Commerce Transactions: An Empirical Study', paper presented at the 16th IFIP TC8 International Conference, Bialystok, Poland, 16–18 June, https://doi.org/10.1007/978-3-319-59105-6_54
- Hapsari, I. (2018), 'Moderating Role of Size in the Effect of Loan to Deposit Ratio and Non Performing Loan toward Banking Financial Performance', paper presented at the 5th International Conference on Community Development, Quezon City, Philippines, 19–20 July.
- Huang, B., W. Liu, T. Wang, X. Li, H. Song, and A. Liu (2019), 'Deployment Optimization of Data Centers in Vehicular Networks', *IEEE Access*, 7, pp.20644–63. <https://doi.org/10.1109/ACCESS.2019.2897615>
- Huawei and Oxford Economics (2017), *Digital Spillover: Measuring the True Impact of the Digital Economy*, <https://www.huawei.com/minisite/gci/en/digital-spillover/index.html>

- Indira, A. and B. Kusumasari (2020), 'Boosting Logistics in Indonesia and Vietnam through Staged Development of the Single Window System: A Government Innovation', *Public Policy and Administration*, 19(4), pp.92–113, <https://doi.org/10.13165/VPA-20-19-4-07>
- Intentilia, A.A.M., P.E. Haes, and G. Suardana (2022), 'Utilizing Digital Platforms for Diplomacy in ASEAN: A Preliminary Overview', *COMMUSTY Journal of Communication Studies and Society*, 1(1), pp.1–7. <https://doi.org/10.38043/commusty.v1i1.3685>
- International Telecommunication Union (ITU), Economic Impact of Broadband, Digitization and ICT Regulation, <https://www.itu.int/en/ITU-D/Regulatory-Market/Pages/Economic-Contribution.aspx>
- (2022), *The Affordability of ICT Services 2021*, Geneva, https://www.itu.int/en/ITU-D/Statistics/Documents/publications/prices2021/ITU_A4AI_Price_Brief_2021.pdf
- Ismail, A.F.M.F. et al. (2022), 'Artificial Intelligence in Healthcare Business Ecosystem: A Bibliometric Study', *International Journal of Online and Biomedical Engineering*, 18(9), pp.100–14, <https://doi.org/10.3991/ijoe.v18i09.32251>
- Jovanović, M., J. Dlačić, and M. Okanović (2018), 'Digitalization and Society's Sustainable Development – Measures and Implications', *Zbornik Radova Ekonomskog Fakultet Au Rijeci*, 36(2), pp.905–28, <https://doi.org/10.18045/zbefri.2018.2.905>
- Jugurnath, B., P. Hemshika, and S. Štraupaitė (2023), 'Fintech Challenges and Opportunities in Banking', *Journal of Management*, 39(1), pp.47–57, <https://doi.org/10.38104/vadyba.2023.1.05>
- Khan, N., M.I. Qureshi, H. Ahmad, and N.H. Al-Kumaim (2020), 'A Systematic Review on Emergence of Digital Marketing in ASEAN Region', *Journal of Computational and Theoretical Nanoscience*, 17(2), pp.570–82, <https://doi.org/10.1166/jctn.2020.8727>
- Kim, W.J. (2022), 'AI-Integrated Science Teaching through Facilitating Epistemic Discourse in the Classroom', *Asia-Pacific Science Education*, 8(1), pp.9–42, <https://doi.org/10.1163/23641177-bja10041>
- Kimura, F. (2018), 'Unbundlings and Development Strategies in ASEAN: Old Issues and New Challenges', *ERIA Discussion Paper Series*, No. 14, Jakarta: ERIA, <https://www.eria.org/uploads/media/ERIA-DP-2017-14.pdf>
- Knickrehm, M, B. Berthon, and P Daugherty (2016), *Digital disruption: The growth multiplier*, Accenture Strategy.
- Kusumastuti, A. and A. Nuryani (2020), 'Digital Literacy Levels in ASEAN (Comparative Study on ASEAN Countries)', paper presented at the 13th International Interdisciplinary Studies Seminar, Malang, Indonesia, 30–31 October, <https://doi.org/10.4108/eai.23-10-2019.2293047>
- Lane, N. (2019), 'Understanding the Digital Economy: Data, Tools, and Research', White House, https://clintonwhitehouse4.archives.gov/WH/EOP/OSTP/html/99_6_9.html
- Lauriks, S. et al. (2007), 'Review of ICT-Based Services for Identified Unmet Needs in People with Dementia', *Ageing Research Reviews*, 6(3), pp.223–46, <https://doi.org/10.1016/j.arr.2007.07.002>
- Lee, M.H. et al. (2018), 'How to Respond to the Fourth Industrial Revolution, or the Second Information Technology Revolution? Dynamic New Combinations between Technology, Market, and Society through Open Innovation', *Journal of Open Innovation: Technology, Market, and Complexity*, 4(3). <https://doi.org/10.3390/joitmc4030021>

- Lima, A., M. Júnior, R. Nascimento, and F. Neto (2022), 'Digital Business Transformation Methodologies: A Quasi-systematic Review of Literature', *Annals of Computer Science and Information Systems*, 32, pp.217–21. <https://doi.org/10.15439/2022F29>
- Marsan, G.A. and A. Sey (2021), 'Women's Participation in the Digital Economy: Improving Access to Skills, Entrepreneurship, and Leadership Across ASEAN', ERIA Policy Brief 2020-09.
- Maebara, K., A. Yamaguchi, T. Suzuki, and A. Imai (2022), 'A Qualitative Study on the Function of Information and Communication Technology Utilization in Teaching Students with Intellectual Disabilities: Implications for Techniques of Teaching/Job Coaching', *Journal of Intellectual Disability-Diagnosis and Treatment*, 10(1), pp.13–20, <https://doi.org/10.6000/2292-2598.2022.10.01.2>
- Marcinkevicius, G. and M. Vilkas (2023), 'The Affordances of Digital Technologies for Business Processes Integration', *Journal of Systems and Information Technology*, 25(1), pp.74–90, <https://doi.org/10.1108/JSIT-06-2022-0149>
- Mendoza, X.L.D. and J.B. Tadeo (2023), 'Analysis of Micro, Small, Medium Enterprises: The Cases of Singapore, Malaysia, Philippines, Thailand and Vietnam', *Journal of Management, Economics, and Industrial Organization*, 7(1), pp.1–15, <https://doi.org/10.31039/jomeino.2023.7.1.1>
- Ministry of Trade and Industry, Singapore (2023), 'Digital Economy Agreements', <https://www.mti.gov.sg/Trade/Digital-Economy-Agreements>
- (2022), 'The UK–Singapore Digital Economy Agreement (UKSDEA)', <https://www.mti.gov.sg/Trade/Digital-Economy-Agreements/UKSDEA>
- (2020), 'Singapore-Australia Digital Economy Agreement', <https://www.mti.gov.sg/Trade/Digital-Economy-Agreements/The-Singapore-Australia-Digital-Economy-Agreement>
- Mirakyan, D.G. (2021), 'Digitalization Processes Development in ASEAN Regional Integration Association', *International Trade and Trade Policy*, 7(1), pp.101–12, <https://doi.org/https://doi.org/10.21686/2410-7395-2021-1-101-112>
- Mizan, N.S.M., M.Y. Ma'arif, N.S.M. Satar, and S.M. Shahar (2019), 'CNDS-Cybersecurity: Issues and Challenges in ASEAN Countries', *International Journal of Advanced Trends in Computer Science and Engineering*, 8(1.4 S1), pp.113–19, <https://doi.org/10.30534/ijatcse/2019/1781.42019>
- Mogaji, E., T.O. Soetan, and T.A. Kieu (2021), 'The Implications of Artificial Intelligence on the Digital Marketing of Financial Services to Vulnerable Customers', *Australasian Marketing Journal*, 29(3), pp.235–42, <https://doi.org/10.1016/j.ausmj.2020.05.003>
- Moretti, E. (2012), *The New Geography of Jobs*, New York: Harper Business.
- Mueller, L.M. (2019), 'ASEAN Centrality under Threat – The Cases of RCEP and Connectivity', *Journal of Contemporary East Asia Studies*, 8(2), pp.177–98, <https://doi.org/10.1080/24761028.2019.1691703>
- Najib, M. and F. Fahma (2020), 'Investigating the Adoption of Digital Payment System through an Extended Technology Acceptance Model: An Insight from the Indonesian Small and Medium Enterprises', *International Journal on Advanced Science Engineering and Information Technology*, 10(4), p.1702–8.
- Narmanov, U. (2021), 'Role and Importance of the Digital Economy in the Development of Innovative', *Linguistics and Culture Review*, 6(S1), pp.121–33, <https://doi.org/10.21744/lingcure.v6ns1.1957>

- Nengsi, F. (2019), 'Women's Participation in the Digital Economy in ASEAN', *Islamic World and Politics*, 3(1), pp.516–36.
- Nizam, R., Z.A. Karim, T. Sarmidi, and A.A. Rahman (2020), 'Financial Inclusion and Firms Growth in Manufacturing Sector: A Threshold Regression Analysis in Selected ASEAN Countries', *Economies*, 8(4), <https://doi.org/10.3390/ECONOMIES8040080>
- Ookla, Speedtest, <https://www.speedtest.net>
- Organisation for Economic Co-operation and Development (OECD) (2016), *Rebooting Public Service Delivery: How Can Open Government Data Help to Drive Innovation?* Paris, <https://www.oecd.org/gov/Rebooting-Public-Service-Delivery-How-can-Open-Government-Data-help-to-drive-Innovation.pdf>
- (2020), *A Roadmap toward a Common Framework for Measuring the Digital Economy*, Paris, <https://www.oecd.org/sti/roadmap-toward-a-common-framework-for-measuring-the-digital-economy.pdf>
- (2022), *Tax Administration 3.0 and the Digital Identification of Taxpayers: Initial Findings*, Paris, <https://www.oecd.org/tax/tax-administration-3-0-and-the-digital-identification-of-taxpayers-3ab1789a-en.htm#:~:text=This%20report%2C%20Tax%20Administration%203.0,related%20to%20cross%2Dborder%20processes.>
- Osinde, N.O., J.B. Byiringiro, M.M. Gichane, and H. Smajic (2019), 'Process Modelling of Geothermal Drilling System using Digital Twin for Real-time Monitoring and Control', *Designs*, 3(3), pp.1–12. <https://doi.org/10.3390/designs3030045>
- Paganelli, E. and A. Polzonetti (2007), 'The e-Government Digital Credentials', *International Journal of Electronic Governance*, 1(1), pp.17–37, <https://doi.org/10.1504/IJEG.2007.014341>
- Piccarozzi, M., B. Aquilani, and C. Gatti (2018), 'Industry 4.0 in Management Studies: A Systematic Literature Review', *Sustainability*, 10(10). <https://doi.org/10.3390/su10103821>
- Poel, K., W. Marneffe, and W. Vanlaer (2016), 'Assessing the Electronic Invoicing Potential for Private Sector Firms in Belgium', *International Journal of Digital Accounting Research*, 16, DOI:10.4192/1577-8517-v16_1
- Polyakova, T.A. (2021), 'The Concept and Legal Nature of Digital Maturity', *Gosudarstvo i Pravo*, 9, p.107. <https://doi.org/10.31857/S102694520016732-6>
- Pratamasari, A. (2020), 'Cybersecurity and Custom Regulations as Trade Barriers in ASEAN e-Commerce: Case of Indonesian e-Commerce', *Global Strategis*, 14(1), <https://doi.org/https://doi.org/10.20473/jgs.14.1.2020.1-16>
- Purnama, Y.P. (2018), 'Fixed Broadband Penetration and Economic Growth', *Journal of Telecommunications and the Digital Economy*, 6(3), pp.1–16, <https://doi.org/10.18080/jtde.v6n3.151>
- Reale, F. (2021), 'Mission-Oriented Innovation Policy and the Challenge of Urgency: Lessons from Covid-19 and beyond', *Technovation*, 107, <https://doi.org/10.1016/j.technovation.2021.102306>
- Rocha, M. (2022), 'Policy Forum: How Canada Could Benefit from E-Invoicing for GST/HST Purposes', *Canadian Tax Journal*, 70(2), pp.361–73. <https://doi.org/https://doi.org/10.32721/ctj.2022.70.2.pf.rocha>
- Ruijter, E. and A. Meijer (2020), 'Open Government Data as an Innovation Process: Lessons from a Living Lab Experiment', *Public Performance and Management Review*, 43(3), pp.613–35, <https://doi.org/10.1080/15309576.2019.1568884>

- Salamova, A., L. Khatsieva, and K.U. Gishlakaeva (2021), 'Organization Management in the Digital Economy', paper presented at the 2nd Conference on Sustainable Development: Industrial Future of Territories, Yekaterinburg, 24 September.
- Sari, Y. (2023), 'Sharia e-Commerce in Indonesia: Sharia Peer to Peer Lending', *Review of Islamic Social Finance and Entrepreneurship (RISFE)*, 2(1), pp.90–102, <https://doi.org/10.20885/RISFE>
- Saunavaara, J. and M. Salminen (2023), 'Geography of the Global Submarine Fiber-Optic Cable Network: The Case for Arctic Ocean Solutions', *Geographical Review*, 113(1), pp.1–19. <https://doi.org/10.1080/00167428.2020.1773266>
- Sefrina, M. (2023), 'Understanding the ASEAN Digital Economy Framework Agreement: A Means to Support ASEAN Integration', *ERIA Policy Briefs*, No. 1, Jakarta: ERIA, <https://www.eria.org/uploads/media/policy-brief/FY2023/Understanding-the-ASEAN-Digital-Economy-Framework-Agreement.pdf>
- Setiawan, B., et al. (2021), 'User Innovativeness and Fintech Adoption in Indonesia', *Journal of Open Innovation: Technology, Market, and Complexity*, 7(3), p.188, <https://doi.org/10.3390/joitmc7030188>
- Sey, A. and S. Kingsley (2022), 'Women and Leadership in the ASEAN Digital Economy: Mapping the Rhetorical Landscape', *ERIA Discussion Paper Series*, No. 464, Jakarta: ERIA, <https://www.eria.org/uploads/media/discussion-papers/FY22/Women-and-Leadership-in-the-ASEAN-Digital-Economy-Mapping-the-Rhetorical-Landscape.pdf>
- Thuy, N. (2020), 'Vietnam applies automatic customs management system at Noi Bai Airport', Hanoi Times. <https://hanoitimes.vn/vietnam-applies-automatic-customs-management-system-at-noi-bai-airport-314372.html>
- Tong, S.Y., Y. Li, and T.Y. Kong (2021), 'Exploring Digital Economic Agreements to Promote Digital Connectivity in ASEAN', *ERIA Discussion Paper Series*, No. 24, Jakarta: ERIA, <https://www.eria.org/uploads/media/discussion-papers/ERIA-Research-on-COVID-19/Exploring-Digital-Economic-Agreements-to-Promote-Digital-Connectivity-in-ASEAN.pdf>
- Tran, L.Q.T., D.T. Phan, and M.T. Nguyen (2022), 'Digital Economy: A Comparative Study in ASEAN', *Theory, Methodology, Practice*, 18(2), pp.83–92, <https://doi.org/10.18096/tmp.2022.02.05>
- Troilo, G., L.M. De Luca, and P. Guenzi (2017), 'Linking Data-Rich Environments with Service Innovation in Incumbent Firms: A Conceptual Framework and Research Propositions', *Journal of Product Innovation Management*, 34(5), pp.617–39, <https://doi.org/10.1111/jpim.12395>
- Tsaples, G. and J. Papathanasiou (2022), 'Digital Transformation and Sustainable Development for Private and Public Organizations: Barriers and Opportunities', Conference paper on the 27th International Scientific Conference Strategic Management and Decision Support Systems in Strategic Management.

- United Nations Conference on Trade and Development (UNCTAD), (2017), *Information Economy Report 2017: Digitalization, Trade and Development*, Geneva, https://unctad.org/system/files/official-document/ier2017_en.pdf
- (2022), *Digital Economy Report Pacific Edition 2022: Towards Value Creation and Inclusiveness*, Geneva, <https://unctad.org/publication/digital-economy-report-pacific-edition-2022>
- United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), (2020), *Regional Integration for Sustainable Development in Asia and the Pacific: ESCAP Digital and Sustainable Regional Integration Index and Indicator Framework: DigiSRII 1.0*.
- United States Agency for International Development (USAID) and US-ASEAN Connect (2021), *ASEAN Digital Integration Index*, <https://asean.org/wp-content/uploads/2021/09/ADII-Report-2021.pdf>
- Wang, G. and Z. Cao (2021), 'An Empirical Study on the Trade Impact of Cross-Border e-Commerce on ASEAN and China under the Framework of RCEP', paper presented at the International Conference on Economic Innovation and Low-Carbon Development, Qingdao, China, 28–30 May, <https://doi.org/10.1051/e3sconf/202127501039>
- Wayuparb, S. et al. (2014), *Intra-ASEAN Secure Transactions Framework*, Bangkok: Ministry of ICT, <https://www.mdes.go.th/law/download/1289>
- Weerakkody, V. et al. (2017), 'Open Data and Its Usability: An Empirical View from the Citizen's Perspective', *Information Systems Frontiers*, 19(2), pp.285–300, <https://doi.org/10.1007/s10796-016-9679-1>
- World Bank (2019), *The Digital Economy in Southeast Asia: Strengthening the Foundations for Future Growth*, Washington, DC, bit.ly/3zWQoh4
- Yang, L. and Y. Zhang (2020), 'Digital Financial Inclusion and Sustainable Growth of Small and Micro Enterprises – Evidence Based on China's New Third Board Market Listed Companies', *Sustainability*, 12(9), 3733, <https://doi.org/10.3390/su12093733>
- Yang, Q. et al. (2022), 'Recommendations for Ethical and Responsible Use of Artificial Intelligence in Digital Agriculture', *Frontiers in Artificial Intelligence*, 5, <https://doi.org/10.3389/frai.2022.884192>
- Yean, T.S. (2021), 'Digital Commitments in ASEAN's Free Trade Agreements', *Yusof Ishak Institute Perspective*, No. 163, Singapore: ISEAS–Yusof Ishak Institute, https://www.iseas.edu.sg/wp-content/uploads/2021/11/ISEAS_Perspective_2021_163.pdf

Appendix



Topics and Actions of Five Digital Integration Framework Documents in ASEAN

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
Priority Area 1: Facilitating Seamless Trade				
Trade Facilitation				
<p>Action:</p> <ol style="list-style-type: none"> 1. Ratify the ASEAN Trade in Goods Agreement (ATIGA). 2. Fully operationalise the ASW. 3. Implement ASEAN-Wide Self-Certification (AWSC) 4. Ratify the ASEAN Framework Agreement on Facilitation of Goods in Transit (AFAFGIT). 5. Ratify the AAEC. 6. Review the elements of the ASEAN e-commerce framework, and develop an ASEAN agreement on e-commerce. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Ratify the ATIGA, and enter it into force. 2. Continue to upgrade ASEAN+1 FTAs to seek further liberalisation, where possible, and deepen and broaden economic integration. 3. Enhance ATIGA provisions with a view to increase intraregional trade and investment, including incorporating provisions into the ATIGA to strengthen supply chain connectivity and resilience; continue to upgrade ASEAN+1 FTAs to adopt more trade facilitative measures; and seek further liberalisation, where possible, to enhance economic integration. 4. Develop work plans for inclusion of the origin self-certification mechanism in the upgrade of ASEAN+1 FTAs. 5. Expand the ASW system to cover all international ports or points of entry in 10 AMS by the end of 2021. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Encourage inward investment in digital and ICT. 2. Facilitate compliance, and secure the benefits of telecommunications services and e-commerce in line with relevant ASEAN trade agreements. 3. Support trade digitalisation through seamless and efficient flow of e-trade documents (e.g. invoices) and goods within ASEAN. 4. Assess the net benefits of Industry 4.0 technologies into trade facilitation processes. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Establish ASEAN Single Window connections to ASEAN's Dialogue Partners, while ASEAN continues parallel work to expand the number of trade documents to be exchanged electronically. 2. Provide insights on the emerging trends in the global digital economy, identifying priority areas, international best practices, and initiatives for the effective implementation of the ASEAN Agreement on Electronic Commerce to promote e-commerce in the region as well as to help AMS boost their economic growth through e-commerce for the post-pandemic period. Identify and establish interoperable standards that support trade facilitation and digitalisation, including for smart manufacturing and supply chain solutions. 3. Develop and adopt common e-invoicing standards to facilitate business transactions. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Support Establishment of the ASEAN Authorized Economic Operator Mutual Recognition Arrangement (AAMRA). 2. Improve collaboration amongst public-private e-commerce facilitators. 3. Expand the use of paperless trade by driving single window interoperability across ASEAN and beyond. 4. Align AMS with the UNESCAP Framework Agreement on Facilitation of Cross-Border Paperless Trade. 5. Conduct a technical study on ASW interoperability with ASEAN dialogue partners. 6. Supplement interoperability with a technical guide for the ASW. 7. Conduct annual business surveys to include questions on paperless trade tool utilisation. 8. Share information on cross-border digital trade revenue laws.

ASEAN Digital Integration Framework Action Plan 2019–2025	ASEAN Comprehensive Recovery Framework and Its Implementation Plan	ASEAN Digital Masterplan 2025	Bandar Seri Begawan Roadmap	Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce
	<ol style="list-style-type: none"> 6. Maximise the use of the ASEAN-Wide Self-Certification (AWSC) to further enhance the utilisation of ATIGA commitments, and promptly address implementation issues faced by traders and relevant stakeholders. 7. Develop guidelines for smart ports to promote digitalisation at the ship-port interface and to minimise personal interaction and paper-based exchange. 8. Adopt the ASEAN Declaration on Digital Tourism in view of the necessity to apply digital technology and innovation in tourism development to enhance competitiveness, facilitate growth, develop sustainable tourism, and provide opportunities and capabilities for related stakeholders in the tourism sector. 9. Encourage Digital Trade Connect – ASEAN Business Advisory Council's 2019 Legacy Project. 10. Sign the RCEP agreement. 11. Ratify and implement the <i>ASEAN Agreement on Electronic Commerce</i>. 12. Exchange trade-related documents with dialogue partners 			

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
--	---	--------------------------------------	------------------------------------	--

Customs Procedures

Action:	Action:	Action:	Action:
<ol style="list-style-type: none"> 1. Simplify clearances, procedures, documentation, and returns in line with WTO and WCO guidelines. 2. Implement Authorized Economic Operators (AEO) programme. 3. Implement an ASEAN AEO-mutual recognition arrangement with corresponding output and timeline. 4. Review the simplification of customs procedures, including through exchange of e-certificates, at land and air borders for e-commerce deliveries. 5. Develop national websites providing comprehensive updated information on customs procedures, taxes, and duties for e-commerce delivery. 6. Review the de minimis threshold and duty drawback procedures for e-commerce deliveries and product returns. 	<ol style="list-style-type: none"> 1. Expand the ASW system for electronic exchange of other trade-related documents, such as ASEAN Customs Declaration Document (ACDD), e-phytosanitary (e-Phyto) certificate, e-animal health (e-AH) certificate, and e-food safety (e-FS) certificate. 2. Address unnecessary Non-Tariff Measures (NTMs) holistically. 3. Create a framework to address cost and effectiveness of existing NTMs in ASEAN (NTM Toolkit). 	<ol style="list-style-type: none"> 1. Accelerate the full implementation and promote the use of the ASEAN Customs Transit System (ACTS). 	<ol style="list-style-type: none"> 1. Identify and quantify the impact of customs procedures on efficient cross-border e-commerce.

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
--	---	--------------------------------------	------------------------------------	--

Broadband Accessibility

<p>Action:</p> <ol style="list-style-type: none"> 1. Identify gaps in internet access, affordability, and network interoperability. 2. Promote affordable access to international mobile roaming services in ASEAN. 3. Provide broadband access to rural and underserved areas. 4. Adopt an ASEAN framework to provide affordable intra-ASEAN mobile voice, SMS, and data-roaming services. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Provide broadband access to remote, rural, and underserved areas through the implementation of the next generation Universal Service Obligation (USO 2.0) framework. 2. Promote transparent and affordable international mobile data-roaming services, with a view to further enhance regional integration and to benefit consumers in the region. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Move towards best practice permission and access rights for local and national infrastructure, including submarine cable repair. 2. Ensure adequate international internet connectivity. 3. Ensure increased and harmonised spectrum allocation across the region. 4. Establish a centre of excellence for best-practice rural connectivity. 5. Reduce regional business travel costs by lowering common roaming rates for mobile data services across ASEAN. 6. Reduce affordability barriers to getting online. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Accelerate the full implementation and promote the use of the ASEAN Customs Transit System (ACTS). 	<p>Action:</p> <ol style="list-style-type: none"> 1. Identify and quantify the impact of customs procedures on efficient cross-border e-commerce.
---	---	--	--	--

E-Commerce Platform Fostering

<p>Action:</p> <ol style="list-style-type: none"> 1. Develop ASEAN guidelines on accountability and responsibilities of online intermediaries (i.e. platform providers). 2. Develop coordination mechanisms to enhance enforcement of intellectual property rights in the digital environment. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Build a more robust intellectual property system in the region to contribute to enhancing the AEC (i.e. ASEAN Intellectual Property Rights Action Plan, 2016–2025) to support and meet businesses' needs. 2. Explore the development of a platform to harness the contribution of creative industries towards innovations, generating livelihoods and supporting economic development in AMS. 3. Organise an annual ASEAN Online Sales Day to promote and facilitate cross-border e-commerce. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Promote e-commerce in ASEAN, enhance last-mile fulfilment cooperation, and improve competitiveness in the digital economy. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Improve intellectual property services of AMS as well as management and access to intellectual property-related information and databases via a centralised digital portal. 2. Access updated intellectual property resources and information. 3. Conduct intellectual property training programmes, including through a virtual ASEAN academy. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Ensure intellectual property protection in the digital setting through review of ongoing activities and capacity building development. 2. Conduct annual business surveys to include questions on the perceived adequacy and effectiveness of existing intellectual property rights protection and enforcement in an online or digital setting.
--	---	--	---	--

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
--	---	--------------------------------------	------------------------------------	--

4. Develop coordination mechanisms to enhance enforcement of intellectual property rights in the digital environment. (Inherited from DIFAP)

E-Commerce Legal Framework

<p>Action:</p> <ol style="list-style-type: none"> 1. Conduct voluntary internal and peer reviews of national laws/regulations on e-commerce. 2. Provide comprehensive updated information on domestic e-commerce-related laws and regulations. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Voluntary internal and peer reviews of national laws/regulations on e-commerce. 	<p>Action:</p> <ol style="list-style-type: none"> 1. All AMS to adopt laws and regulations governing electronic transactions, considering applicable international conventions or model laws relating to e-commerce. 2. Strengthen AMS ability to implement laws and regulations governing electronic transactions based on international conventions or model laws. 3. Ensure all AMS have laws that accept the legal validity of a signature even when the signature is in electronic form. 4. Create law-reporting schemes under which AMS provide national plans to align e-transaction laws and regulations with any prescribed UNCITRAL legislative texts. 5. Conduct law incorporation workshops with AMS to solve common problems in adopting the UN Convention on Electronic Communications in domestic law and regulations. 6. Conduct capacity-building programmes for relevant AMS authorities requiring technical and legal assistance in the implementation of e-transaction laws.
--	---	--

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
--	---	--------------------------------------	------------------------------------	--

7. Conduct annual business surveys that include questions on businesses' perceptions on whether electronic or online transactions have equivalent commercial treatment to offline transactions.

Digital Industry Competition

Action:

1. Build and strengthen capacity of competition authorities to identify/detect and to address anti-competitive activities in the digital industry.

Action:

1. Deepen collaboration between ICT and competition regulatory authorities across ASEAN on the ICT sector and digital economy.
2. Monitor developments in regulation of digital platforms in other jurisdictions.

Action:

1. Establish an ASEAN-wide approach to addressing competition issues in e-commerce and the digital environment.
2. Develop an ASEAN investigation manual on competition policy and law for the digital economy.
3. Conduct annual business surveys to measure the perceived adequacy of existing competition laws and policies in the e-commerce sector, with particular attention to the views of MSMEs.

ASEAN Logistics Services to Facilitate E-Commerce

Action:

1. Coordinate with relevant ASEAN sectoral bodies and logistics service providers to identify measures to improve ASEAN logistics services' support for e-commerce.

Action:

1. Moderate an information-sharing forum on e-commerce logistics best practices including exploring prospects for a new rapid e-commerce time release study (TRS) for e-commerce goods.

Digital Identity

Action:

1. Encourage adoption of digital identities of business and consumers.
2. Conduct a workshop to exchange information, best practices on standards, and compatibility of digital identities.

Action:

1. Explore how to introduce digital identities in each AMS in a way that safeguards civil liberties.

Action:

1. Establish ASEAN-wide unique business identification numbers (UBIN) and further work on business digital identities.

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
--	---	--------------------------------------	------------------------------------	--

Priority Area 2: Protecting Data While Supporting Digital Trade and Innovation

Data Protection

Action:	Action:	Action:	Action:	Action:
<p>1. Harmonise domestic data protection policies, strengthen the data ecosystem, achieve legal and regulatory alignment of data regulations and governance frameworks, and foster data-driven innovation across AMS in line with the <i>ASEAN Framework on Personal Data Protection (PDP)</i> and best practices of the advanced economies.</p> <p>2. Consider establishing an ASEAN data classification scheme to define and categorise data and establish their level of sensitivity that will determine corresponding safeguards when data are used, shared, or transferred across borders.</p> <p>3. Encourage the free flow of cross-border data for conducting business objectives while respecting domestic laws and regulations.</p> <p>4. Develop a ASEAN framework on digital data governance by engaging actively with industry to design high-standard, workable data management policies that protect security and privacy while also enabling business use and regulatory access domestically and across borders.</p>	<p>1. Develop an ASEAN data management framework under the <i>ASEAN Framework on Digital Data Governance</i>.</p> <p>2. Build capacity for authorities responsible for data protection in implementing data management and cross-border data flow frameworks.</p> <p>3. Enhance the implementation of the ASEAN Data Management Framework and Cross-Border Data Flow Mechanism comprising ASEAN Model Contractual Clauses and Certification under the ASEAN Framework on Digital Data Governance.</p>	<p>1. Identify improvements in legal and regulatory measures on the management of the protection of data and other data-related activities that could be harmful.</p> <p>2. Continue to identify opportunities to harmonise digital regulation to facilitate cross-border data flows.</p>	<p>1. Promote and monitor the adoption of the implementing guidelines of the ASEAN Data Management Framework, and recognise the <i>ASEAN Model Contractual Clauses</i> as important tools in data governance and facilitation of cross-border data flow.</p>	<p>1. Monitor emerging issues related to data protection and privacy.</p> <p>2. Conduct law incorporation workshops with AMS to solve common problems in adopting data protection laws that protect the personal information of the users of e-commerce, and consider international principles, guidelines, and criteria.</p>

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
--	---	--------------------------------------	------------------------------------	--

Cybersecurity

Action:	Action:	Action:	Action:	Action:
<p>1. Establish a regional coordination mechanism amongst cybersecurity agencies to share best practices, exchange information on policies, and cooperate in response to cybersecurity incidents, as tasked by ASEAN leaders in the ASEAN Leaders' Statement on Cybersecurity Cooperation.</p>	<p>1. Develop the ASEAN Cybersecurity Cooperation Strategy, 2021–2025.</p> <p>2. Cooperate ensure cyber resilience amongst ASEAN central banks in accordance with the Digital Technology Network and ASEAN ASEAN Cybersecurity Resilience and Information Sharing Platform (CRISP).</p>	<p>1. Enable trust through greater and broader use of online security technologies.</p> <p>2. Build trust through enhanced security for finance, health care, education, and government.</p> <p>3. Improve coordination and cooperation for regional computer incident response teams.</p>	<p>1. Establish an ASEAN Regional CERT as a mechanism to facilitate incident response coordination and information exchanges amongst AMS CERTs to ensure a safer regional cyberspace for digital transformation.</p> <p>2. Implement the memorandum of understanding of the ASEAN CRISP to complement the work on digitalisation by promoting cybersecurity through information exchange on cyber threats and cybersecurity best practices.</p>	<p>1. Establish a cooperation mechanism amongst competent authorities to facilitate prompt investigation and resolution of fraudulent incidents related to e-commerce transactions.</p> <p>2. Build the capacities of national entities responsible for cybersecurity.</p> <p>3. Create an action plan for the implementation of the ASEAN Cybersecurity Cooperation Strategy, 2021–2025.</p> <p>4. Develop guidelines for the implementation of the ASEAN Cybersecurity Coordinating Committee. (ASEAN Cyber-CC)</p> <p>5. Create the ASEAN Self-Assessment Toolkit on Cybersecurity Capacity.</p> <p>6. Develop a progress reporting scheme under which AMS report progress and compliance with the <i>ASEAN Plan of Action in Combating Transnational Crime</i>.</p> <p>7. Establish an ASEAN cybersecurity forum.</p>

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
--	---	--------------------------------------	------------------------------------	--

Personal Data/Privacy Protection

Action:

1. Identify best practices in personal data protection (PDP) to promote the implementation of the *ASEAN Framework on Personal Data Protection*.

Action:

1. Encourage all AMS to adopt measures that protect the personal information of e-commerce users that are aligned with the *ASEAN Framework on Personal Data Protection* and consider international principles, guidelines, and criteria.
2. Strengthen AMS ability to actively engage relevant stakeholders to ensure implemented laws and regulations effectively protect the personal information of e-commerce users.
3. Create the ASEAN Business Self-Assessment Toolkit on Personal Data Protection and Data Security Standards for Businesses.
4. Review the questionnaire for ASEAN Consumer Empowerment Index to include consumer's confidence on personal data protection in ecommerce settings.
5. Elaborate ASEAN B2G and B2B data-sharing principles and guidelines.

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
--	---	--------------------------------------	------------------------------------	--

Electronic Authentication

Action:

1. Study suitable mechanisms for authentication of e-signatures and trade documents, based on internationally recognised practices.
2. Voluntarily adopt e-authentication mechanisms for cross-border e-trade documents.

Action:

1. Use digital solutions to issue, endorse, store, display, and verify digital COVID-19 test and vaccination certificates to provide assurance of the authenticity of test and vaccination records to facilitate certificate verification, ensure proper health protocols are followed, build confidence in travel, and advance digitalisation efforts, by taking into consideration relevant official guidelines set by the World Health Organization (WHO). To this end, the Task Force on the Operationalization of the ASEAN Travel Corridor Arrangement Framework (TFATCAF) should work towards enabling a common approach on verifying the authenticity of digital certificates taking into consideration, where relevant, official guidelines set by WHO. This approach could encompass the verification of COVID-19 PCR test results, COVID-19 vaccination certifications, and other health status-related documents that may be required.

Action:

1. Ensure all AMS maintain, or adopt as soon as practicable, measures based on international norms for the use of interoperable e-authentication technologies.
2. Ensure stakeholder socialisation and compliance with e-authentication approaches.
3. Create a law-reporting scheme under which AMS provide a national plan to align its e-signatures laws and regulations with any of the prescribed UNCITRAL legislative texts.
4. Conduct law incorporation workshops with AMS to solve common problems in adopting UNCITRAL model laws and possibly other international conventions like the UN Convention on Electronic Communications in domestic law and regulations.
5. Conduct annual business surveys to include questions on businesses' perceptions on whether e-signatures have equivalent legal treatment as offline ones.

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
--	---	--------------------------------------	------------------------------------	--

6. Publish a collaborative repository list of approved and/or other commonly utilised entity authentication technologies.
7. Publish and adopt guidance on authentication levels of assurance of e-authentication methods and technologies.
8. Create a framework for interoperability of e-authentication technologies.
9. Develop an interoperability pilot project to create mutual recognition between two or more AMS of chosen authentication approaches.
10. Conduct capacity-building workshops to address knowledge and expertise gaps on e-authentication in alignment with the agreement.

Priority Area 3: Enabling Seamless Digital Payments

Safe, Secure, Efficient, and Interoperable E-Payment Systems

<p>Action:</p> <ol style="list-style-type: none"> 1. Support an open ecosystem to enable regulated payment service providers and operators to operate efficiently and to compete fairly, subject to controls to mitigate risks of disruption to payment systems or to financial stability. This is expected to encourage payment service providers and operators to invest and innovate payment solutions for both consumers and merchants. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Implement an interoperable cross-border real-time retail payment system based on the <i>ASEAN Payments Policy Framework for Cross-Border Real-Time Retail Payment Systems</i>. 2. Enable digital payment infrastructure. 3. Create the ASEAN e-Payment Readiness Index. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Focus on the development of an ASEAN interoperable QR code framework by 2022. 2. Implement interoperable cross-border real-time retail payment system based on the <i>ASEAN Payments Policy Framework for Cross-Border Real Time Retail Payment Systems</i> and its implementing policy guidelines with at least two AMS in 2021, and additional jurisdictions thereafter (three AMS in 2022, four AMS in 2023, and at least five AMS in 2024). 	<p>Action:</p> <ol style="list-style-type: none"> 1. Cooperate in considering readiness for the implementation of safe, secure, efficient, and interoperable e-payment systems. 2. Accelerate progress on e-payment solutions by building on existing ASEAN initiatives. 3. Develop solutions to remove emerging digital payment obstacles. 4. Coordinate with other sectoral bodies to ensure that discussion on the ASEAN E-Payments Readiness Index.
--	---	--	---

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
<p>2. Promote the use of safe, efficient, and affordable e-payment and payment innovation to support regional payment integration.</p> <p>3. Develop guidelines on e-payment solutions that cover security requirements and privacy principles.</p> <p>4. Develop a work plan to foster interoperability between real-time retail payment systems by adopting international standards.</p>				<p>5. Conduct annual business surveys to include questions on the safety, security, efficiency, and interoperability of cross-border e-payment systems.</p>

Priority Area 4: Broadening Digital Talent Base

Digital Education and Skills

Action:	Action:	Action:
<p>1. Prepare ASEAN readiness for industrial transformation to Industry 4.0 by enhancing cooperation amongst AMS in common targeted industries.</p> <p>2. Define specific ICT/digital skills requirements and road maps for MSMEs.</p> <p>3. Enhance human capital development in ASEAN for embracing Industry 4.0.</p> <p>4. Develop skills at all levels to maximise competency in e-commerce for relevant industry regulators, consumer protection officials, and law enforcement officials.</p>	<p>1. Define learning outcomes related to the promotion of digital and 21st century skills.</p> <p>2. Generate evidence on thematic areas such as understanding 21st century skills development through the education system; pathways for girls' empowerment through 21st century skills and innovation, industry, digitalisation and youth engagement; development of typologies for public-private partnerships for skills development; and impact of social and environmental factors on the educational attainment of adolescents.</p> <p>3. Promote media literacy and information literacy to combat fake news.</p>	<p>1. Develop regional mechanisms to encourage skills in integrated and end-to-end services.</p> <p>2. Continue to support the advancement and harmonisation of ICT qualifications across ASEAN.</p> <p>3. Promote development of advanced digital skills, such as coding, hackathons, and innovative challenges.</p> <p>4. Ensure that citizens and businesses have the skills and motivation to use digital services.</p> <p>5. Encourage deeper adoption and use of vertical digital services.</p>

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
<p>5. Disseminate to businesses, especially MSMEs, best practices in the use of the internet for the improvement of their business, including essential tools for business management, as well as information on the available training providers and their range of courses.</p> <p>6. Provide education to the public with regard to safe use of the internet, on the availability of self-regulatory options, screening and filtering technologies, and dispute resolution mechanisms.</p>	<p>4. Consult on human rights and the impact of Industry 4.0 in the context of pandemics and health emergencies.</p> <p>5. Develop online learning for tourism professionals through the ASEAN Tourism Professional Registration System.</p> <p>6. Engage the private sector for possible capacity-building training/workshops on digital tourism.</p> <p>7. Promote innovative digital finance and digital financial literacy.</p> <p>8. Provide digital-related contents on the ASEAN SME Academy, and widen the outreach of the academy.</p> <p>9. Implement Go Digital ASEAN, a collaborative initiative by the ASEAN Coordinating Committee on MSMEs (ACCMSME) and The Asia Foundation with support from Google.org</p> <p>10. Propose a project on developing digital approaches to ensure inclusive education delivery for CLMV.</p> <p>11. Develop cross-border school models and action plans to provide increased education access for marginalised children.</p>			

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
	<ol style="list-style-type: none"> 12. Promote greater access to higher education, information, and learning opportunities through the ASEAN Cyber University initiative. 13. Support the development of teacher competencies with respect to remote teaching and learning 14. Strengthen efforts to build ICT capacity and capabilities through crosscutting initiatives, including vulnerable groups. 15. Promote increased investment in remote learning. 			

Consumer Protection

<p>Action:</p> <ol style="list-style-type: none"> 1. Integrate e-commerce considerations into ASEAN high-level consumer protection principles. 2. Conduct regular consumer rights awareness training for consumers and consumer associations. 3. Develop a framework of cross-border cooperation in addressing consumer protection issues. 4. Participate in the UN Intergovernmental Experts Consumer Protection Law (IGE Consumer Protection). 5. Participate in the UN Intergovernmental Experts Consumer Protection Meetings. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Develop e-learning modules on consumer protection. 2. Develop training modules to apply good consumer protection practices. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Promote consumer protection and rights in relation to e-commerce. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Create a law-reporting scheme under which AMS determine a plan of action to ensure that existing consumer protection laws and regulations contain clear references to e-commerce. 2. Integrate e-commerce considerations in the <i>Handbook on ASEAN Consumer Protection Laws and Regulations</i>. 3. Conduct capacity-building activities on consumer law and e-commerce, looking into online scams, and online consumer law investigation training.
--	--	---	---

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
--	---	--------------------------------------	------------------------------------	--

Code of Conduct for Online Business

<p>Action:</p> <ol style="list-style-type: none"> 1. Develop guidelines/ codes of good online business practices based on self-regulation best practices. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Promote the application of the Code of Good Online Business Practice. 2. Foster the application of the Guidelines on Accountability and Responsibilities of E-Marketplace Providers.
--	---

Alternative Dispute Resolution/Online Dispute Resolution Availability

<p>Action:</p> <ol style="list-style-type: none"> 1. Establish alternative dispute resolution (ADR) mechanisms, including online dispute resolution systems, to facilitate the resolution of claims over e-commerce transactions, with special attention to low-value or cross-border transactions based on the best practice for fair, easy-to-use, transparent, and effective ADR mechanisms. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Enhance capacity of MSMEs in alternative dispute resolution including settlement of disputes through mediation. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Develop and implement an ASEAN online dispute resolution mechanism for cross-border consumer complaints. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Strengthen knowledge and facilitate discussions on alternative dispute resolution mechanisms to address e-commerce issues. 2. Create a law-reporting scheme under which AMS provide national plans of action to ratify/adopt international alternative dispute resolution-related legislative texts. 3. Conduct law incorporation workshops with AMS to solve common problems in adopting international alternative dispute resolution-related legislative text.
--	---	--	--

Regional/International Cooperation

<p>Action:</p> <ol style="list-style-type: none"> 1. Develop ASEAN guidelines on cross-border B2B complaints. 2. Develop informal/ formal mechanisms for cross-border cooperation such as a memorandum of understanding. 3. Interact with international organisations regularly to enhance understanding and learn best practices. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Develop the Consolidated Strategy on Industry 4.0 for ASEAN. 2. Develop ASEAN guidelines on the utilisation of digital technologies for the food and agricultural sector. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Facilitate the adoption of region-wide telecommunications regulation best practices by market players to provide regulatory certainty. 2. Reduce the carbon footprint of telecommunications operators in ASEAN. 3. Adopt regional policy to deliver best practice guidance on AI governance and ethics, IoT, and technology. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Review the progress in implementing the DIF, assist AMS in identifying regulatory gaps, and suggest a way forwards on accelerating digital transformation across sectors in line with COVID-19 recovery efforts and strengthening resilience for the digital era. 	<p>Action:</p> <ol style="list-style-type: none"> 1. Encourage application of the ASEAN Cross Border Data Flow Mechanism (CBDFM). 2. Keep the CBDFM model contractual clauses in compliance with international and other regional requirements and best practices to ensure cross-border interoperability of data transfers beyond the ASEAN or prepare additional data transfer guidelines, if needed.
---	--	--	---	---

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
		<ul style="list-style-type: none"> 4. Help make key government departments more productive through their internal use of ICT and e-services. 5. Improve the cohesion of AMS by making key government e-services interoperable across the ASEAN region. 	<ul style="list-style-type: none"> 2. Promote technology exchange and transfer across the region to have enough capacity for ASEAN integration and inclusive growth. 	<ul style="list-style-type: none"> 2. Identify and eliminate or minimise data localisation requirements imposed as conditions for business operation in accordance with existing international agreements. 3. Adjust the scope of work on technology neutrality beyond 2025.

Priority Area 5: Fostering Entrepreneurship

Digitalisation of ASEAN MSMEs

Action:	Action:
<ul style="list-style-type: none"> 1. Provide policy directions for formalisation and promotion schemes for digitalised micro enterprises. 2. Establish and promote a digital service hub that will enhance the trade supply chain and improve the competitiveness of ASEAN SMEs in a low-cost manner — planned for completion by 2021 in the ASEAN Strategic Action Plan for SME Development, 2016-2025, and continue efforts to simplify business registration process to enable less costly and faster business formation. 3. Promote MSME participation in e-commerce platforms, many of which have opened MSMEs to global markets, making them micro-multinationals that engage actively in micro-supply chains. 4. Enhance existing platforms to include the functionalities of the digital service hub. 	<ul style="list-style-type: none"> 1. Share information on business-related policies and measures introduced by AMS in response to COVID-19. 2. Develop innovative and scalable start-ups as part of efforts to address/adapt to new normal business conditions. 3. Explore the development of an ASEAN SME recovery facility as a multi-contributor and co-financing platform to provide financing facility and accelerate the recovery of SMEs in ASEAN. 4. Conduct an in-depth assessment to identify challenges and recommendations to support the awareness and adoption of relevant technology and digital tools amongst MSMEs, and support their integration into global value chains, including establishing mechanisms to help them increase exports.

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
5. Conduct capacity-building programmes for MSMEs to participate in e-commerce platforms.	5. Deploy the new ASEAN Access, which focusses on providing information to international-oriented SMEs. 6. Implement the <i>Action Agenda on Digitalisation of ASEAN MSMEs through Capacity Building Initiatives</i> to increase technology adoption amongst MSMEs, by providing access to skills and knowledge, technology solutions, and experts.			

Priority Area 6: Coordinating Actions and Review

Implementation and Coordination of the DIF

Action:	Action:	Action:	Action:	Action:
<ol style="list-style-type: none"> 1. Develop the DIFAP 2019–2025. 2. Review and revise the role of the ACCEC to include coordinating and tracking of the implementation of the DIF. 	<ol style="list-style-type: none"> 1. Develop a framework for strategic partnerships with relevant ASEAN sectoral bodies, +3 countries, dialogue partners, international organisations, and other stakeholders to promote good governance and accelerate an agile civil service in digital era. 2. Mainstream digitalisation to all priority areas of the <i>ASEAN Cooperation on Civil Service matters (ACCSM) Work Plan (2021–2025)</i>. 3. Develop concrete initiatives to help businesses in their digital transformations in the area of smart manufacturing. 	<ol style="list-style-type: none"> 1. Develop a framework that encourages the development and growth of digital start-ups in ASEAN. 2. Establish ASEAN-wide indicators of the level of use of e-government services in line with ITU requirements. 3. Help AMS improve the quality of their e-government e-services. 4. Make the economic case for prioritising ADM 2025 actions. 5. Assess the economic case for facilitating use of digital services that would help recovery from the COVID-19 pandemic. 	<ol style="list-style-type: none"> 1. Strengthen the ACCEC to monitor, coordinate effectively, and expedite the implementation of the DIFAP, <i>Work Plan for AAEC</i>, and BSBR. 	<ol style="list-style-type: none"> 1. Encourage all AMS to share information on cross-border digital trade revenue laws.

<i>ASEAN Digital Integration Framework Action Plan 2019–2025</i>	<i>ASEAN Comprehensive Recovery Framework and Its Implementation Plan</i>	<i>ASEAN Digital Masterplan 2025</i>	<i>Bandar Seri Begawan Roadmap</i>	<i>Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce</i>
--	---	--------------------------------------	------------------------------------	--

4. Harmonise digital trade standards in priority areas identified in Digital Trade Standards and Conformance Working Group (DTSCWG)'s Work Programme contributing to digital trade and digital economy.
5. Identify priorities for digital trade standards to promote cross-border digital trade transactions in ASEAN.

Review Mechanism

Action:	Action:	Action:
<ol style="list-style-type: none"> 1. Review and update elements or initiatives and other sectoral bodies identified in the DIFAP. 2. Develop a monitoring and reporting mechanism to measure the implementation of the DIFAP and progress in developing the ASEAN digital economy. 	<ol style="list-style-type: none"> 1. Conduct a comprehensive review of the <i>ASEAN Digital Integration Framework</i> and ASEAN DIFAP through the ADII. 2. Review and update initiatives to implement ASEAN Work Program on E-commerce (AWPEC). 	<ol style="list-style-type: none"> 1. Re-evaluate the implementation strategy under the DIFAP to ensure its relevancy and responsiveness to the post-COVID-19 world, and re-examine implementation timelines including accelerating delivery of outputs under the DIFAP as necessary especially in the areas of digital trade, digital payments, and entrepreneurship, and incorporating new priorities drawing from emerging developments in the digital ecosystem.

AAEC = ASEAN Agreement on Electronic Commerce; AAMRA = ASEAN Authorized Economic Operator Mutual Recognition Arrangement; ACCEC = ASEAN Coordinating Committee on Electronic Commerce; ACCMSME = ASEAN Coordinating Committee on E-Commerce and Digital Economy; ACDD = ASEAN Customs Declaration Document; ACTS = ASEAN Customs Transit System; ADM = ASEAN Digital Masterplan; AEC = ASEAN Economic Community; AEO = authorised economic operators; AFAFGIT = Agreement on Facilitation of Goods in Transit; AI = artificial intelligence; AMS = ASEAN Member State; ASW = ASEAN Single Window; ASWSC = ASEAN Single Window Steering Committee; ATIGA = ASEAN Trade in Goods Agreement; AWPEC = ASEAN Work Programme on Electronic Commerce; AWSC = ASEAN-Wide Self-Certification; B2B = business-to-business; B2G = business-to-government; BSBR = Bandar Seri Begawan Roadmap; CBDFM = cross-border data flow management; CERT = computer emergency response team; CLMV = Cambodia, Lao People's Democratic Republic, Myanmar, Viet Nam; CRISP = Cybersecurity Resilience and Information Sharing Platform; DIF = Digital Integration Framework; DIFAP = Digital Integration Framework Action Plan; FTA = free trade agreement; ICT = information and communications technology; IoT = internet of things; ITU = International Telecommunication Union; NTM = non-tariff measure; RCEP = Regional Comprehensive Economic Partnership; SMEs = small and medium-sized enterprises; UNCITRAL = United Nations Commission on International Trade Law; USO = universal service obligation; WCO = World Customs Organization; WHO = World Health Organization; WTO = World Trade Organization.