

Policy Brief

Fostering Inclusive Growth in ASEAN's Digital Economy Through the DEFA and Regional Cooperation

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Key Messages:

- Unequal internet access and affordability continue to hinder digital inclusion, especially in rural and low-income areas, with fixed broadband costs and device affordability being major challenges.
- Women, persons with disabilities, and rural populations face systemic barriers to digital participation, underscoring the need for targeted initiatives that address digital literacy, biases, and accessibility.
- Micro, small, and medium-sized enterprises (MSMEs) lag larger firms in adopting advanced digital tools, leaving them vulnerable to cyberthreats and limiting their contributions to the digital economy.
- Expanding digital financial services for the unbanked population requires overcoming barriers like limited digital literacy, complex know your customer (KYC) policies, and connectivity constraints.
- The Digital Economy Framework Agreement (DEFA) and complementary digital agreements offer a pathway to align national and regional initiatives, promote inclusivity, and support capacity building in less digitally advanced Association of Southeast Asian Nations (ASEAN) Member States.

Digital transformation of the Association of Southeast Asian Nations (ASEAN), particularly its rapidly evolving digital economy, could create significant socio-economic transformation, yet persistent obstacles limit widespread and equitable digital engagement across the region. Amongst others, unequal connectivity, high broadband costs, limited digital literacy, and disparities in access for underserved groups such as women, persons with disabilities, and rural communities may exacerbate the digital divide. This policy brief highlights the digital divide, its impact on financial inclusion, the challenges faced by underserved groups, and the unequal distribution of benefits from digital trade across ASEAN. Despite progress under regional frameworks and external agreements, achieving digital inclusion requires more targeted, development-oriented approaches. The Digital Economy Framework Agreement (DEFA) presents an opportunity to harmonise policies, support capacity-building initiatives, and align national and regional objectives for inclusive growth. Policy recommendations include provisions to enhance access, improve digital literacy, and foster public-private partnerships to address the needs of underserved populations.

While digital transformation offers the Association of Southeast Asian Nations (ASEAN) tremendous socio-economic opportunities, structural barriers in connectivity, accessibility, and affordability hinder ASEAN's digital inclusion,¹ especially in rural areas. A lack of digital skills amongst micro, small, and medium-sized enterprises (MSMEs) and underserved populations also limits the meaningful use of technology. Despite broadband expansion, affordability remains an issue for the poorest 40% in rural areas where income inequalities are more pronounced (ITU, 2023). In 2022, over half of ASEAN Member States (AMS) met the International Telecommunication Union (ITU) target of 2% of monthly gross national income (GNI) per capita for 1 gigabyte (GB) of mobile data for the poorest 40%, but only Europe and Central Asia achieved affordability for the poorest 20% for 5 GB (Shanahan and Bahia, 2023).

Internet penetration and speed vary across AMS, with some still striving for 90% mobile broadband coverage (World Bank, 2024a). While mobile broadband is more accessible, it lacks the reliability of fixed broadband. However, the high costs associated with fixed broadband in low-income AMS consequently restrict adoption. Fixed broadband also faces speed disparities in lower-income AMS where speeds are three to five times slower than in high-income AMS (Ookla, 2024). Although 5G could address connectivity gaps with faster speeds, (Nokia, n.d.), the high costs of compatible devices and subscriptions may limit access for lower-income users (ITU, 2023). Affordable broadband is important to avoid widening the digital divide across income groups.

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¹ Digital inclusion refers to providing everyone, everywhere, with fair, meaningful, and secure access to use, lead, and create digital technologies, services, and related opportunities (United Nations, n.d.).

Where internet access is available, the rate of digital adoption differs for MSMEs compared with larger firms. In terms of usage, MSMEs primarily utilise basic digital tools, unlike larger companies that adopt digital solutions across management, procurement, logistics, sales, marketing, and security to support efficiency and data protection. MSMEs face greater challenges, with low adoption of internal communication tools and minimal cybersecurity, leaving them vulnerable to cyberthreats. This is in addition to limited business knowledge and resources, low information and communication technology (ICT) skills, and weak localised support, which impede their digital inclusion (Oikawa et al., 2024).

Limited digital inclusion is also evident amongst women and persons with disabilities. Fewer women than men use mobile internet (ITU, n.d.) and access advanced digital skills and jobs in the digital economy (E-DISC, 2024). While 48% of tech-related degree graduates in ASEAN are women – above the global average of 37% – in some AMS, women make up less than 30% of technical applicants and hold only 23% of leadership positions in tech companies, with just 9% in technical leadership roles (Rastogi et al., 2024). Low digital literacy and gender biases also contribute to limiting women's participation (Shanahan, 2022). Meanwhile, digital opportunities remain limited to an estimated 62 million persons with disabilities in ASEAN (Mufida, 2023). Despite initiatives like the ASEAN Human Rights Declaration and the ASEAN Enabling Masterplan 2025, the economic potential of persons with disabilities remains underutilised, and they often face stigma, discrimination, and limited access to education and employment (Cashmore and Crosta, 2022). Financial inclusion is another aspect of digital inclusion, as an estimated 60% of ASEAN's population remains unbanked. Digital financial solutions are essential (Lim, 2022), but unbanked individuals face barriers like limited internet access and digital literacy and complex know your customer (KYC) policies. Indonesia's Laku Pandai branchless banking system shows how regulators and financial institutions can integrate the unbanked into financial services (Nuryakin et al., 2017). Fintech has expanded credit and loans for individuals and MSMEs, though its growth is mainly in the ASEAN-6 countries.² The Working Committee on Financial Inclusion and the ASEAN Financial Integration Network foster financial cooperation and tackle regulatory challenges. Nonetheless, consumer protection and data governance need refinement of financial inclusion strategies (Sefrina, 2024).

As mentioned above, the digital divide is exacerbated by low digital literacy. While the ASEAN workforce has computer use and coding skills, these are often self-taught – with limited formal science, technology, engineering, and mathematics (STEM) training (ASEAN and USAID, 2021). Despite growing demand for STEM graduates to

drive industries, their numbers remain insufficient. STEM graduates comprise 43.5% and 36.3% of tertiary degrees in Malaysia and Singapore, respectively, supported by policies fostering STEM graduation rates (Buchholz, 2023). However, across AMS, the low number of STEM graduates highlights the need to enhance formal digital skills training (World Bank, 2024b).

When AMS lag in digital technology adoption, they miss the opportunities offered by e-commerce. At present, some AMS are well positioned to leverage digital trade, while others face barriers due to limited digital infrastructure and skills. As shown in Figure 1, AMS with less advanced digital ecosystems have lower shares of exports and imports of digitally delivered services in the region, highlighting the urgency to address the digital divide across AMS for more equitable contributions to and benefits from digital trade.

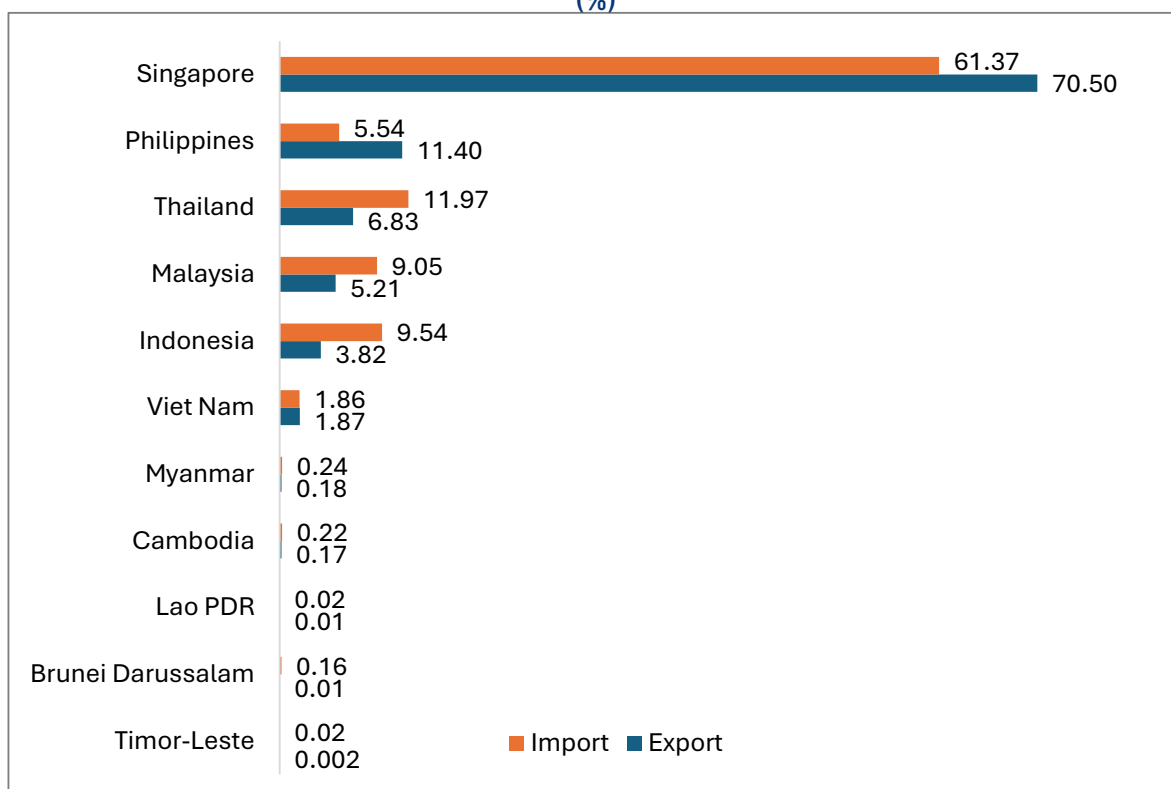
ASEAN recognises the importance of digital inclusion. The ASEAN Digital Integration Framework Action Plan, 2019–2025 and ASEAN Digital Masterplan 2025 aim to facilitate seamless digital-enabled trade within and across AMS, and improve the affordability of and access to digital technologies, while fostering a digitally literate and empowered society (ASEAN, 2019, 2021). In line with the Digital Economy Framework Agreement (DEFA), the ASEAN Leaders' Statement on the Development of the DEFA also commits to fostering a digitally inclusive society (ASEAN, 2023).

Beyond ASEAN's frameworks, free trade agreements and digital economy agreements (DEAs) like the upgraded ASEAN–Australia–New Zealand Free Trade Area (AANZFTA), United Kingdom (UK)–Singapore DEA (UKSDEA), European Union (EU)–Singapore Digital Partnership (EUSDP), Digital Economy Partnership Agreement (DEPA), and New Zealand–UK FTA (NZUKFTA) also embed measures to support digital inclusion. The AANZFTA identifies barriers and develops tailored approaches for people and businesses excluded from digital commerce by engaging relevant stakeholders (MFAT, 2023). The NZUKFTA aligns with AANZFTA efforts by removing digital trade barriers for low-income and rural groups, focusing on access to digital tools, data-driven strategies for identifying barriers, and fostering SME growth (MFAT, 2022). Meanwhile, the UKSDEA enhances digital skills and labour protections, and supports economic participation through best-practice sharing (MTI, 2022). Likewise, the EUSDP advances digital inclusion with a human-centric focus, sharing educational resources to enhance digital literacy amongst underserved groups (MTI, 2023). The DEPA also targets specific needs of women, rural populations, and indigenous groups, to improve digital skills and use data to monitor inclusion (MTI, n.d.).

Given the varying state of digital readiness in ASEAN, the DEFA should embed a development-oriented perspective, with explicit provisions to assist economies

² Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam.

Figure 1: Export and Import Values of Digitally Delivered Services in AMS as a Share of Total ASEAN Trade in Digitally Delivered Services, 2023 (%)



AMS = ASEAN Member State/s, ASEAN = Association of Southeast Asian Nations.
Source: WTO (n.d.).

with lower levels of digital advancement in implementing the agreement. In complementing ASEAN sectoral activities, the DEFA also provides an opportunity for AMS to develop structured and targeted programmes to enhance the digital participation of MSMEs and underserved groups, leveraging the support of ASEAN External Partners. Lastly, aligning regional initiatives with national objectives can enable AMS to leverage the DEFA to advance national digital inclusion goals, fostering a pathway for inclusive growth.

Policy Recommendations

Addressing the gaps requires a comprehensive approach. The following policy recommendations aim to foster a more inclusive digital economy in ASEAN:

- Consider provisions to support the participation of AMS in the digital economy, particularly for AMS at earlier stages of digital development – Article 20 of the WTO Joint Statement Initiative on Electronic Commerce can serve as a reference.
- Consider a broader perspective of digital inclusion provisions in the DEFA that integrates universal access to technologies, digital literacy and skills, and social equality for digital trade and e-commerce participation, focusing on women, persons with disabilities, MSMEs, and rural populations and other underserved groups.

- Establish and monitor key performance indicators (KPIs) for AMS digital inclusion programmes to track accessibility, digital literacy, and e-commerce engagement metrics.
- At the national level, AMS should strengthen regulatory frameworks and public-private partnerships to promote fair competition, broadband affordability, ICT access, and digital financial inclusion.
- Strengthen partnerships between the public sector, private companies, and tech incubators to fund and mentor innovative start-ups that provide digital inclusion solutions, especially for underserved groups.
- Develop data collection mechanisms, including segregated data in tracking disparities, for targeted policies on digital trade participation.
- Expand the reach and participants of initiatives on digital literacy and skills development for women-led entrepreneurship and other underserved groups, based on examples from existing programmes such as the ASEAN–Republic of Korea Cooperation Project on Enhancing Digital Economy Participation for ASEAN Women MSMEs, Go Digital ASEAN, and the United Nations Trade and Development (UNCTAD) eTrade for Women.

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