

Legal Harmonization and Implementation Challenges of the ASEAN Agreement on Electronic Commerce: A Comparative Study of Indonesia and Malaysia

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Abstract

The rapid growth of e-commerce in Southeast Asia has intensified the need for a harmonized legal framework to ensure legal certainty, protect consumers, and facilitate cross-border digital trade. This issue is closely aligned with Sustainable Development Goal (SDG) 8 on promoting sustainable economic growth through digital trade and SDG 16 on strengthening effective legal institutions and access to justice, while also supporting digital innovation under SDG 9. In response, ASEAN adopted the ASEAN Agreement on Electronic Commerce (AAEC) as a regional instrument to advance digital economic integration among its member states. This study examines the harmonization and implementation of



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AAEC provisions in Indonesia and Malaysia and identifies the challenges affecting their effective application. Employing a comparative juridical approach, the research analyzes national regulations governing electronic commerce and digital trade, supported by policy documents, official reports, and relevant empirical studies. The novelty of this research lies in evaluating both the conformity of domestic regulations with AAEC provisions and the practical implementation challenges influencing regional legal harmonization. The findings demonstrate that both countries have incorporated the core principles of the AAEC into their domestic legal frameworks, particularly regarding recognition of electronic transactions, consumer protection, and personal data governance. Nevertheless, substantial differences remain in regulatory readiness, institutional coordination, enforcement capacity, digital infrastructure, and the preparedness of micro, small, and medium enterprises (MSMEs). Malaysia exhibits stronger institutional readiness and regulatory consistency, whereas Indonesia continues to face regulatory fragmentation and uneven implementation across sectors. The study concludes that effective AAEC implementation depends not only on harmonized legal norms but also on robust institutions, coordinated enforcement, and inclusive digital capacity-building. These findings contribute to the development of regional digital trade governance by providing policy recommendations to strengthen legal harmonization, institutional cooperation, and digital inclusion, thereby supporting ASEAN's digital economic integration.

KEYWORDS *ASEAN Agreement on Electronic Commerce; Electronic commerce regulation; Legal harmonization; Indonesia and Malaysia; Digital trade.*

Introduction

The development of information and communication technology has led to a significant transformation in global trade patterns, including in Southeast Asia. The rapid digitization of the economy has transformed the way businesses market products, interact with consumers, and conduct cross-border transactions.¹ Increased trade activity through digital

¹ Monsuru Adekunle Salisu et al., "Systematic Review of Post-COVID Policies and Strategies for Strengthening e-Commerce Cooperation among ASEAN Countries," in *Journal of Economic and Administrative Sciences*, preprint, 2025, <https://doi.org/10.1108/JEAS-04-2024-0102>.

platforms also shows a shift in people's preferences towards faster, more practical, and efficient services. This condition encourages ASEAN countries to strengthen attention to the inclusive and competitive development of the digital economy.²

E-commerce transactions are a significant indicator of the growth of the digital economy in this development trajectory. E-commerce not only creates new opportunities for large businesses but also provides broader market access for micro, small, and medium-sized enterprises (MSMEs).³ Increasingly diverse digital business models demand regulations that provide legal clarity and consumer protection, and that encourage innovation without hindering industrial growth. This push to present a more structured e-commerce ecosystem is one of the important agendas for ASEAN countries.⁴

In response to this need, ASEAN designated the 2019 ASEAN Agreement on Electronic Commerce (AAEC) as a regional legal instrument to accelerate digital economic integration. The agreement aims to facilitate cross-border transactions, increase consumer confidence, promote regulatory harmonization between countries, and strengthen legal certainty in the implementation of e-commerce. AAEC also provides a framework for member states to develop policies that support system interoperability and streamline efforts in the digital realm.⁵

For Indonesia and Malaysia, two countries with high e-commerce penetration rates, the implementation of AAEC is strategically relevant. Indonesia, with a massive digital population, and Malaysia, with a more mature digital infrastructure, both have an interest in increasing their respective digital economic competitiveness.⁶ The implementation of AAEC in both countries is expected to expand the digital market, reduce

² Nizar Hamdun et al., "Strategi Pelaku Bisnis Electronic Commerce (E-Commerce)," *Journal Locus Penelitian Dan Pengabdian* 1, no. 2 (2022), <https://doi.org/10.36418/locus.v1i2.13>.

³ Basri Effendi, "Pengawasan Dan Penegakan Hukum Terhadap Bisnis Digital (E-Commerce) Oleh Komisi Pengawas Persaingan Usaha (KPPU) Dalam Praktek Persaingan Usaha Tidak Sehat," *Syiah Kuala Law Journal* 4, no. 1 (2020), <https://doi.org/10.24815/sklj.v4i1.16228>.

⁴ Shenti Agustini et al., "Legal Analysis Regarding Donation Fraud Through Online Media," *JUSTISI* 10, no. 2 (2024), <https://doi.org/10.33506/js.v10i2.2852>.

⁵ Aprila Niravita, "Preface: IJALS Symposium on Technological Advancement for Social Welfare," in *AIP Conference Proceedings*, vol. 2573, preprint, 2022, <https://doi.org/10.1063/12.0012346>.

⁶ Aprila Niravita, "Social Injustice in the Industrial Revolution 4.0," *Indonesian Journal of Advocacy and Legal Services* 1, no. 2 (2020), <https://doi.org/10.15294/ijals.v1i2.36509>.

trade barriers, and strengthen a secure and reliable ecosystem of electronic transactions for businesses and consumers.

Therefore, studies on the implementation of AAEC in Indonesia and Malaysia are critical not only academically but also for public policy preparation. Analysis of AAEC's implementation allows an assessment of the readiness of national regulations, the degree of harmonization with regional legal instruments, and the effectiveness of implementing rules in the field. In addition, this study can reveal the extent to which the two countries can leverage ASEAN's digital integration momentum to support economic growth, enhance legal protection, and address the challenges that still arise in cross-border e-commerce.⁷

Several previous studies have examined the development of e-commerce in the ASEAN region, providing a general overview of the growing dynamics of the digital economy. Many studies have also examined the initial implications of the ASEAN Agreement on Electronic Commerce (AAEC) for its member states, particularly regarding digital policy harmonization and increased regional cooperation.⁸ However, most of these studies remain at a descriptive stage and have not yet addressed more technical, in-depth aspects of the application. This hinders the full understanding of AAEC's effectiveness in promoting ASEAN's digital economic integration.

Another weakness is the lack of studies that assess, in a more structured manner, the conformity or harmonization of domestic regulations with AAEC provisions. In fact, aspects such as law enforcement, consumer protection, data governance, and cross-border transaction facilitation are essential to the agreement's success.⁹ Many studies merely state that ASEAN countries share a joint commitment to strengthen the digital ecosystem, but do not elaborate on how these commitments are reflected in each country's laws, implementing regulations, or concrete policies.

Additionally, previous research has not comprehensively examined the application of AAEC under national law in Indonesia and Malaysia. In

⁷ Bao Feng and Chunfeng Feng, "SME-Platform System Development in China-ASEAN E-Commerce: A Synergetic Evolution Perspective," *Systems* 13, no. 4 (2025), <https://doi.org/10.3390/systems13040218>.

⁸ Lada Progunova et al., "Innovative Aspects of Preferential Rules of Goods Origin in the Economy of Global Chains: Applicability for the Eurasian Economic Union (EAEU)," *IOP Conference Series: Materials Science and Engineering* 497, no. 1 (2019), <https://doi.org/10.1088/1757-899X/497/1/012048>.

⁹ *Digital Trade Facilitation in Regional Trade Agreements* (2018), <https://doi.org/10.18356/5a1598b4-en>.

Indonesia, various legal instruments governing the implementation of electronic transactions include Law (UU) No. 1 of 2024, the Second Amendment to Law No. 11 of 2008 on Information and Electronic Transactions, and Government Regulation No. 71 of 2019.¹⁰ Government Regulation No. 80 of 2019 has laid the foundation for e-commerce regulation. However, few studies have critically assessed the extent to which the regulations align with AAEC's provisions, particularly in the context of cross-border integration and the strengthening of digital trust.¹¹

In Malaysia, regulations governing e-commerce include the Electronic Commerce Act 2006, the Personal Data Protection Act 2010, the Consumer Protection Act 1999, and various digital transformation policies coordinated by the Ministry of Communications and Digital.¹² Although a relatively well-established legal framework exists, previous studies have discussed it only partially and without situating it in the context of harmonization with the AAEC. As a result, analytical disparities persist, particularly regarding how Malaysia aligns its national policy with regional standards and commitments.¹³

A significant limitation in previous studies is the lack of a comparative study that details the degree of harmonization between AAEC and national regulations in both countries. An analysis that places Indonesia and Malaysia within an evaluative framework is crucial, given that both countries are at the center of digital economic growth in the ASEAN region.¹⁴ Without an in-depth comparison, it isn't easy to assess the effectiveness of AAEC as a regional instrument and understand the challenges faced in its implementation. This research gap then served as a crucial foundation for a more in-depth and systematic study in this article.

¹⁰ Rizky Pratama Putra Karo Karo, "Hate Speech: Penyimpangan Terhadap UU ITE, Kebebasan Berpendapat Dan Nilai-Nilai Keadilan Bermartabat," *Jurnal Lemhannas RI* 10, no. 4 (2023), <https://doi.org/10.55960/jlri.v10i4.370>.

¹¹ Zulkifli et al., "HARMONIZING SHARIA PRINCIPLES AND E-COMMERCE REGULATION: Comparative Insights from Indonesia and Asean Member States," *Jurisdictie: Jurnal Hukum Dan Syariah* 16, no. 1 (2025), <https://doi.org/10.18860/j.v16i1.31378>.

¹² I. H. Fabillah et al., "Factors Influencing MSME's Interest In Transacting In E-Commerce," ... *Journal of Economics* ..., 2024.

¹³ Yohanes Novi Armunanto et al., "E-Commerce Effect On Economic Growth In Asean Countries," *International Journal of Economics and Management Studies* 8, no. 2 (2021), <https://doi.org/10.14445/23939125/ijems-v8i2p114>.

¹⁴ Teddy Lian Kok Fei, "The Effects of Consumers, Competitors and E-Commerce Intensity on Business Performance in Malaysia," *Malaysian Journal of Consumer and Family Economics* 30 (2023), <https://doi.org/10.60016/majcafe.v30.04>.

This article aims to address these limitations by providing a more in-depth and targeted analysis of the application of AAEC in the legal systems of Indonesia and Malaysia. The scientific novelty of this study lies in its use of a regulatory-based comparative approach, which examines the conformity of norms, identifies gaps, and addresses the challenges of practical implementation in the context of building e-commerce ecosystems in both countries.¹⁵ This approach provides added value not only for comparing rules, but also for evaluating their relationship to the purpose of harmonizing e-commerce laws proposed in the AAEC.¹⁶

This study aims to: (1) analyze the application of AAEC to trade using electronic systems in Indonesia and Malaysia based on applicable regulations; (2) identify AAEC implementation challenges and obstacles in both countries; and (3) provide recommendations for strengthening the harmonization of e-commerce policies in the framework of ASEAN digital economic integration. Thus, this research is expected to make a scientific contribution to strengthening the legal basis and e-commerce policies in the region.

This study employs a normative juridical method supported by secondary data analysis. The normative juridical approach is conducted by examining legal instruments governing the implementation of the ASEAN Agreement on Electronic Commerce (AAEC) in Indonesia and Malaysia. The legal materials analyzed include Law Number 1 of 2024 concerning the Second Amendment to the Law on Electronic Information and Transactions, Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions, Government Regulation Number 80 of 2019 concerning Trade through Electronic Systems, the Electronic Commerce Act 2006 of Malaysia, the Consumer Protection (Electronic Trade Transactions) Regulations 2012, the Personal Data Protection Act 2010, and other relevant regulations related to electronic commerce and digital trade.

In addition, this study examines various national policies and regulatory measures adopted by Indonesia and Malaysia to implement the principles and commitments contained in the AAEC. Secondary data were collected from legislation, government policy documents, ASEAN legal instruments, official reports, statistical publications, scientific journals,

¹⁵ Lurong Chen and Fukunari Kimura, "E-Commerce Connectivity in ASEAN," *Economic Research Institute for ASEAN and East Asia (ERIA)*, no. April (2020).

¹⁶ Thuong T. Le and Anthony C. Koh, "A Managerial Perspective on Electronic Commerce Development in Malaysia," *Electronic Commerce Research* 2, nos. 1-2 (2002), <https://doi.org/10.1023/a:1013318016239>.

books, and other relevant academic sources. The collected data were analyzed using a comparative legal approach to assess the degree of harmonization between national regulations and AAEC provisions and to identify regulatory gaps and implementation challenges in both countries. Through this approach, the study seeks to provide a comprehensive evaluation of the effectiveness of AAEC implementation in supporting regional digital economic integration.

The Implementation of The ASEAN Agreement on Electronic Commerce in Trade Using Electronic Systems in Indonesia and Malaysia

A. Legal Harmonization of National Regulations with AAEC

The implementation of the ASEAN Agreement on Electronic Commerce (AAEC) in Indonesia and Malaysia begins with harmonizing national regulations in accordance with the principles set out in the agreement.¹⁷ As Nuraini and Niel¹⁸ explain in the context of international treaty ratification, the process *necessitates aligning national legislation with its provisions, bolstering anti-corruption frameworks, and enhancing mechanisms for international cooperation*. AAEC emphasized the importance of facilitating cross-border electronic transactions, enhancing the security of electronic systems, and protecting consumers in digital environments. Both countries then adapted their existing legal frameworks to ensure that the AAEC's minimum standards could be incorporated into their domestic policies.¹⁹ This harmonization process encompasses not only technical

¹⁷ D. A. Islamey, *Asean Agreement on Electronic Commerce: The Effect To Indonesia*, in *Electronic Commerce and International Private Law: A Study of Electronic Consumer Contracts* (2020).

¹⁸ Apriliana Rahma Nuraini and Edward Niel, "Ratification of the UN Anti-Corruption Convention: Legal and Political Implications in Indonesia and its Context within Southeast Asian International Law Discourse," *International Law Discourse in Southeast Asia* 3, no. 1 (2024): 3, <https://doi.org/10.15294/ildisea.v3i1.35112>.

¹⁹ Baseer Ali Durrani et al., "Implementation of E-Government in Welcoming the Contemporary Industrial Revolution 4.0 Era in Indonesia," *International Journal of Marketing Studies* 1, no. 1 (2014).

adjustments to legal provisions but also the strengthening of coordination among institutions to support a more structured e-commerce ecosystem.

In Indonesia, adjustments to AAEC principles are evident in the renewal of regulations related to electronic transactions, including Law Number 11 of 2008 concerning Electronic Information and Transactions (UU ITE), as well as the latest changes through Law Number 1 of 2024.²⁰ This update highlights aspects of the legal status of electronic documents, the importance of electronic system organizers in ensuring data security, and the need to strengthen digital consumer protection.²¹ In addition to the ITE Law, harmonization is also reflected in Government Regulation No. 71 of 2019 concerning the Implementation of Electronic Transactions and Systems (PPSTE), which governs electronic systems in accordance with international standards, including interoperability and cyber risk mitigation, the main aspects of AAEC.²²

Meanwhile, Malaysia adopted the AAEC principle through an earlier legal framework, including the Consumer Protection (Electronic Trade Transactions) Regulations 2012. This regulation stipulates the obligation for electronic commerce service providers to provide consumers with transparent, accurate, and verifiable information. This policy aligns with AAEC's provisions, which emphasize transparency and fairness in digital transactions. Malaysia has also strengthened its legal infrastructure through the Digital Signature Act 1997 and the Personal Data Protection Act 2010, ensuring transaction security and personal data protection in line with regional e-commerce standards.²³

The harmonization undertaken by the two countries demonstrates a commitment to building an inclusive and secure ASEAN digital market. Through national regulatory adjustments to the AAEC, Indonesia and Malaysia are seeking to develop policies that support the growth of the e-

²⁰ Loso Judijanto and Budi Nugroho, "Regulasi Keamanan Siber Dan Penegakan Hukum Terhadap Cybercrime Di Indonesia," *Sanskara Hukum Dan HAM* 3, no. 03 (2025), <https://doi.org/10.58812/shh.v3i03.544>.

²¹ V. V. Perskaya et al., "Transforming the Process of Creating Global Value Chains Under the Current Conditions," *Vektor Nauki Tol'yattinskogo Gosudarstvennogo Universiteta. Seriya Ekonomika i Upravlenie*, no. 3 (2021), <https://doi.org/10.18323/2221-5689-2021-3-61-69>.

²² Penerapannya Indonesia, "Ratifikasi Terhadap ASEAN Agreement on Electronic Commerce: Manfaat Dan Ratifikasi Terhadap ASEAN Agreement on Electronic Commerce: Manfaat Dan Penerapannya Di Indonesia," in *Researchgate.Net*, no. December, preprint, 2023.

²³ Lay Hong Tan and Anil Samtani, "ICT Investments and Electronic Commerce Initiatives in ASEAN," *SSRN Electronic Journal*, ahead of print, 2011, <https://doi.org/10.2139/ssrn.469701>.

commerce sector and address new challenges in the digital trade era.²⁴ This policy adjustment also lays a crucial foundation for seamless cross-border transactions, enhanced consumer confidence, and strengthened competitiveness in the digital economy in the ASEAN region.

Table 1 Comparative Harmonization of AAEC Provisions in Indonesia and Malaysia

AAEC Provision	Indonesia	Malaysia	Assessment
Recognition of Electronic Transactions	Law No. 1 of 2024 (ITE Law) and PP 71/2019 recognize electronic documents and transactions	The Electronic Commerce Act 2006 and the Digital Signature Act 1997 provide legal recognition of electronic transactions	High Compliance
Consumer Protection	PP 80/2019 and the Consumer Protection Law regulate consumer rights in e-commerce	Consumer Protection Act 1999 and Consumer Protection (Electronic Trade Transactions) Regulations 2012	High Compliance
Personal Data Protection	Personal Data Protection Law 2022	Personal Data Protection Act 2010	Moderate Compliance
Electronic System Security	PP 71/2019 imposes obligations on	PDPA and cybersecurity-related regulations provide safeguards	Moderate Compliance

²⁴ Association of Southeast Asian Nations, "Joint Media Statement of the ASEAN Tourism Ministers on the Post-Covid-19 Recovery Plan for ASEAN Tourism," *Frontiers in Neuroscience* 14, no. 1 (2021).

	Electronic System Operators	for digital transactions	
Cross-Border Digital Trade Facilitation	Foreign PSE registration requirements and PMSE regulations	More open regulatory framework for foreign digital service providers	Partial Compliance
MSME Participation in Digital Trade	Digital transformation programs and MSME digitalization initiatives	Malaysia Digital Economy Blueprint (MyDIGITAL)	Moderate Compliance

Source: Compiled by the Authors based on AAEC provisions and national regulations.

Table 1 demonstrates that both Indonesia and Malaysia have generally incorporated the core principles of the AAEC into their domestic legal frameworks. However, the degree of harmonization differs across regulatory areas. Malaysia exhibits stronger regulatory consistency in personal data protection and digital transaction governance due to its earlier adoption of the Personal Data Protection Act 2010 and the Electronic Commerce Act 2006. In contrast, Indonesia has recently strengthened its framework by enacting the Personal Data Protection Law 2022 and amending the ITE Law. Nevertheless, differences persist in cross-border digital trade facilitation and regulatory implementation mechanisms, indicating that legal harmonization under the AAEC is still a work in progress.

B. Comparative Assessment of AAEC Implementation in Indonesia and Malaysia

The implementation of AAEC in Indonesia is evident in various regulations that support the regulation and security of electronic trading transactions. The Indonesian government strengthens the legal aspects of e-commerce through Government Regulation No. 1 (PP). 80/2019 on Trade Through Electronic Systems (PMSE). This regulation governs the obligation of business actors to provide accurate information, electronic

contract mechanisms, and digital mechanisms for resolving consumer disputes.²⁵ These provisions align with AAEC's principles, which emphasize transparency in transactions and the guarantee of cross-border consumer protection. In addition, the implementation of PMSE policies is strengthened by technical regulations issued by the Ministry of Trade and the Ministry of Communication and Information, which govern the registration of electronic system operators and data storage obligations for licensed data centers.²⁶

Evidence of AAEC implementation can be observed in the continued growth of e-commerce activities in both Indonesia and Malaysia. In Indonesia, Bank Indonesia reported that e-commerce transactions reached IDR 44.4 trillion in July 2025, representing a year-on-year increase of 2.32 percent, while transaction volume increased by 16.89 percent to 466.93 million transactions.²⁷ These figures indicate that digital trade activities continue to expand and that electronic transaction systems have become increasingly integrated into the national economy. Furthermore, the Indonesian government has strengthened oversight of digital platforms through regulatory measures concerning electronic system operators and taxation compliance in the digital economy, reflecting efforts to improve governance and legal certainty in accordance with AAEC objectives.

In Malaysia, implementation outcomes are reflected in the sustained expansion of the digital economy and e-commerce sector. According to the Department of Statistics Malaysia (DOSM), e-commerce revenue reached RM937.5 billion during the first nine months of 2025, representing a 1.9 percent increase compared to the corresponding period of the previous year.²⁸ In addition, Malaysia recorded e-commerce revenue of RM625 billion in the first half of 2025, underscoring the enduring importance of digital trade to national economic development. These developments suggest that Malaysia has achieved a relatively higher level

²⁵ Wilbert et al., "Legal Analysis of the Implications of the ASEAN Agreement on E-Commerce for Electronic Business Contracts in Indonesia," *Jurnal Suara Hukum* 6, no. 1 (2024), <https://doi.org/10.26740/jsh.v6n1.p48-67>.

²⁶ Iramayasari Iramayasari and Melti Roza Adry, "Pengaruh Inklusi Keuangan Terhadap Stabilitas Sistem Keuangan Dan Pertumbuhan Ekonomi Di ASEAN," *Jurnal Kajian Ekonomi Dan Pembangunan* 2, no. 2 (2020), <https://doi.org/10.24036/jkep.v2i2.12639>.

²⁷ "BI catat transaksi e-commerce tembus Rp44,4 triliun per Juli 2025," *ANTARA News*, August 20, 2025, accessed July 15, 2026, <https://antaranews.com/berita/5052357/bi-catat-transaksi-e-commerce-tembus-rp444-triliun-per-juli-2025>.

²⁸ "Malaysia's e-Commerce Revenue Hits RM937.5 Bln In 9M2025," *Bernama*, November 26, 2025, accessed July 15, 2026, <https://bernama.com/en/news.php?id=2495467>.

of institutional readiness and regulatory stability in supporting digital commerce consistent with AAEC commitments.

The significance of legal harmonization under the AAEC is closely associated with the rapid growth of the digital economy in both Indonesia and Malaysia. In Indonesia, the increasing value and volume of e-commerce transactions in 2025 demonstrate growing participation by consumers and businesses in digital trade. The rise in transaction volume to 466.93 million in July 2025 indicates growing public reliance on e-commerce platforms, underscoring the need for effective consumer protection mechanisms, data security standards, and legal certainty to sustain market confidence.

Similarly, Malaysia's digital economy continues to make a substantial contribution to national economic development. DOSM²⁹ reported that information and communication technology (ICT) and e-commerce collectively contributed RM451.3 billion, equivalent to 23.4 percent of Malaysia's GDP in 2024, while e-commerce revenue exceeded RM1.23 trillion in 2024 and continued to grow throughout 2025. Moreover, 94.0 percent of business establishments had internet access and 72.7 percent maintained a web presence, demonstrating a high level of digital adoption among economic actors. These indicators support the argument that effective digital trade governance, including consumer protection and personal data regulation, is essential for maintaining consumer trust and facilitating cross-border electronic commerce within the ASEAN region.

In practice, this implementation is evident in the increasingly strict monitoring of marketplaces and e-commerce platforms, which include seller verification obligations and transaction security standards. These policies help create a safer digital ecosystem and strengthen consumer confidence in conducting electronic transactions.³⁰ Indonesia also encourages the integration of its national digital payment system through Bank Indonesia's policy, which aligns with AAEC's goal of cross-country payment system interoperability.

In Malaysia, the implementation of AAEC is reflected in the Consumer Protection Act 1999 and the special arrangements for e-

²⁹ DOSM, "Malaysia Digital Economy, 2025," Department of Statistics Malaysia, November 26, 2025, accessed July 15, 2026, <https://www.dosm.gov.my/portal-main/release-content/malaysia-digital-economy-2025>.

³⁰ Le Thi Tuyet Ha, "Impact Of The Asean Electronic Commerce Agreement On Vietnamese Law," *Revista de Gestao Social e Ambiental* 18, no. 6 (2024), <https://doi.org/10.24857/rgsa.v18n6-104>.

commerce set out in the Consumer Protection (Electronic Trade Transactions) Regulations 2012.³¹ This regulation establishes a clear framework for the rights and obligations of traders and consumers in the digital environment.³² The Malaysian government requires e-commerce platform providers to disclose complete vendor identities, including addresses and contact numbers, to ensure transparency and improve accountability among business operators. This is in accordance with AAEC's provisions that emphasize the importance of verifiable information in electronic transactions.³³

In addition to consumer protection, Malaysia also implements AAEC through policies that strengthen the reliability of electronic transactions, such as the 1997 Digital Signature Act, which provides legal force equivalent to that of conventional signatures.³⁴ This policy streamlines the legal framework for digital contracts, enhancing transaction efficiency. The Malaysian government also develops digital infrastructure through the Malaysia Digital Economy Blueprint, which accelerates technology integration in the electronic commerce sector, in line with AAEC's goal of expanding MSME participation in regional digital commerce.³⁵

Overall, the implementation of e-commerce policies in both countries demonstrates a serious effort to align national standards with regional commitments in the AAEC. Indonesia and Malaysia both focus on consumer protection, the legality of electronic transactions, and strengthening system security. This harmony between domestic policy and AAEC principles contributes to the stability and reliability of the e-

³¹ Rediston Sirait et al., "Harmonisasi Hukum Ketenagakerjaan Di Kawasan Asean Dalam Mendukung Penerapan Asean Mutual Recognition Arrangement (Studi Kasus: Indonesia, Singapore Dan Vietnam)," *Jurnal Selat* 10, no. 1 (2022), <https://doi.org/10.31629/selat.v10i1.4699>.

³² Walid Abdulla Ali et al., "Validating the Factors Influencing Social Commerce Adoption in Small and Medium Enterprise in Malaysia," *Indonesian Journal of Electrical Engineering and Computer Science* 17, no. 1 (2019), <https://doi.org/10.11591/ijeecs.v17.i1.pp440-447>.

³³ Mira Burri, "Approaches to Digital Trade and Data Flow Regulation Across Jurisdictions: Implications for the Future ASEAN-EU Agreement," *Legal Issues of Economic Integration* 49, no. 2 (2022), <https://doi.org/10.54648/LEIE2022007>.

³⁴ Hidayatussarizal Sarmin and Mohd Ikbil Mohd Huda, "Implementation and Challenges of Logistics Management for Electronic Commerce (E-Commerce) Transactions in Malaysia," *Business and Economic Research* 15, no. 1 (2025), <https://doi.org/10.5296/ber.v15i1.22433>.

³⁵ Andrew Mitchell and Neha Mishra, "Digital Trade Integration in Preferential Trade Agreements," *ARTNeT Working Paper Series*, no. 191 (2020).

commerce ecosystem while enhancing both countries' positions in digital commerce within the ASEAN region.³⁶

C. Implementation Outcomes and Regulatory Gaps

Efforts to harmonize national regulations with the provisions of the ASEAN Agreement on Electronic Commerce (AAEC) are a crucial step for Indonesia and Malaysia to ensure that their domestic policies align with regional commitments. In Indonesia, this harmonization is evident in the adjustments to norms in the ITE Law, as well as in Government Regulation No. 71 of 2019 on the Implementation of Electronic Transactions and Systems. 80 of 2019 on PMSE, which adopts AAEC principles such as transaction security, recognition of electronic documents, and guarantee of consumer protection.³⁷ These adjustments not only strengthen the digital legal framework but also create opportunities for data integration and digital services among ASEAN member countries.³⁸

Malaysia also harmonized through digital policy updates and the reaffirmation of e-commerce principles across various regulations, including the Digital Signature Act 1997 and the Electronic Commerce Act 2006.³⁹ Both regulations provide a strong basis for the legality of electronic transactions and support interoperability, which is one of AAEC's primary goals. Harmonization in Malaysia is reinforced by technical guidance from the Ministry of Communications and Digital, which promotes alignment between domestic standards and regional

³⁶ Abu H. Ayob et al., "E-Commerce Adoption in ASEAN: Testing on Individual and Country-Level Drivers," *International Journal of Business Environment* 12, no. 1 (2021), <https://doi.org/10.1504/IJBE.2021.112108>.

³⁷ Indrawati Indrawati and Kartika Fitri Ampiranti, "Ratifikasi Asean Agreement On Electronic Commerce Oleh Indonesia," *Cakrawala Repositori IMWI* 6, no. 3 (2023), <https://doi.org/10.52851/cakrawala.v6i3.238>.

³⁸ Wardatun Nabilah et al., "Implikasi Undang-Undang Informasi Dan Transaksi Elektronik (UU-ITE) Terhadap Kerukunan Kehidupan Beragama Di Ruang Digital," *Dialog* 45, no. 1 (2022), <https://doi.org/10.47655/dialog.v45i1.527>.

³⁹ V. Victor, "An Experimental Research on the Consumer Response towards Online Personalised Pricing Strategies: A Comparative Study between Indian and Malaysian ...," *Low.Szie.Hu*, 2020.

commitments, particularly in information security and personal data protection.⁴⁰

The harmonization process in both countries shows that AAEC is a driving force behind the modernization of national law in e-commerce. Although each country has a different regulatory style, both are moving towards integrating ASEAN digital standards at the same pace.⁴¹ The adaptation process enhances legal certainty for cross-border business actors and boosts consumer confidence in digital transactions involving business actors from the ASEAN region.

Although Indonesia and Malaysia have demonstrated a strong commitment to implementing the AAEC, several challenges remain to be addressed, hindering the optimal integration of the digital economy in the ASEAN region.⁴² In Indonesia, the uneven capacity of digital infrastructure is one of the main obstacles. Internet access gaps in urban and rural areas have the potential to slow the implementation of AAEC-regulated digital standards. Additionally, bureaucratic complexity and differences in regulatory interpretation at the central and regional levels pose obstacles to achieving the technical harmonization needed to support cross-border transactions.⁴³

Malaysia faces various challenges, particularly in strengthening personal data protection and law enforcement against increasingly complex digital fraud.⁴⁴ The implementation of the Personal Data Protection Act 2010 has been ongoing; however, the rapid development of technology requires more adaptive regulatory updates. In addition, Malaysia needs to ensure that digital security procedures can be standardized uniformly by both large and small-scale business actors.⁴⁵

⁴⁰ Dwika Putra Bagiastra, "Dampak Undang-Undang Informasi dan Transaksi Elektronik (Uu Ite) Terhadap Perubahan Hukum dan Sosial dalam Masyarakat," *Jurnal Yusthima* 3, no. 1 (2023), <https://doi.org/10.36733/yusthima.v3i1.6581>.

⁴¹ Muh Husein Ahmadi et al., "Validity of Mortgage Rights Based on Credit Agreement Aspects," *KnE Social Sciences*, ahead of print, 2022, <https://doi.org/10.18502/kss.v7i15.12141>.

⁴² ASEAN, "Work Plan on the Implementation of ASEAN Agreement on Electronic Commerce - ASEAN," in *ASEAN Online* (2021).

⁴³ Marco et al., "Perlindungan Hak Perdata Konsumen Dalam Transaksi Elektronik Berdasarkan UU ITE," *Hukum, Jurnal Ilmu* 2, no. 3 (2025).

⁴⁴ Hisam Ahyani et al., "Fraud in the Digital Space: A Comparative Study of Jinayah Fiqh and Indonesian Criminal Law," *Jurnal Hukum Islam* 23, no. 1 (2025), <https://doi.org/10.28918/jhi.v23i1.02>.

⁴⁵ Ayup Suran Ningsih, "Sustainability of Indonesia Trademark Law as Umbrella Law in Resolving Domain Names Dispute in Indonesia," *Mimbar Hukum - Fakultas Hukum Universitas Gadjah Mada* 32, no. 2 (2020), <https://doi.org/10.22146/jmh.49243>.

Behind these challenges, AAEC also opened up great opportunities for both countries to strengthen their presence in the regional digital economic ecosystem.⁴⁶ Indonesia can utilize AAEC to enhance MSME participation in cross-border trade by leveraging digital platforms and integrating regional payment systems. Meanwhile, Malaysia has the opportunity to develop digital innovation and become a technology hub in the region by implementing pro-investment policies and strengthening its digital infrastructure. By taking advantage of these opportunities, the two countries can enhance their national competitiveness while contributing to ASEAN's more robust digital economic integration.⁴⁷

Challenges and Obstacles to the Implementation of the AAEC in Indonesia and Malaysia

One of the main challenges in implementing the ASEAN Agreement on Electronic Commerce (AAEC) in Indonesia and Malaysia is the disparity in readiness levels and the fragmentation of national regulations.⁴⁸ Although the two countries already have a legal framework governing electronic commerce, the structure and depth of their arrangements are different. Despite recent regulatory reforms, Indonesia continues to face implementation challenges due to fragmented institutional authority and varying levels of compliance among digital business actors. These factors limit the effective implementation of AAEC commitments. These conditions led to a lack of uniformity in the application of data security and protection standards, contrary to AAEC's intent.⁴⁹

⁴⁶ Alexander Pons et al., "Information Technology & People E-Commerce and Arab Intra-Trade E-Commerce and Arab Intra-Trade," *Information Technology & People Information Technology & People International Journal* 16, no. 3 (2003).

⁴⁷ B. B. Перская and Л. И. Хомякова, "Global Value Chains as a Transformational Indicator of Changes in the Global Economy," *Voprosy Regionalnoj Ekonomiki*, no. 1(46) (2021), <https://doi.org/10.21499/2078-4023-2021-46-1-223-233>.

⁴⁸ Eunjung Oh, "Digital Trade Regulation in the Asia-Pacific: Where Does It Stand? Comparing the RCEP E-Commerce Chapter with the CPTPP and the JSI," *Legal Issues of Economic Integration* 48, no. 4 (2021), <https://doi.org/10.54648/LEIE2021032>.

⁴⁹ Phet Sengpunya, "ASEAN E-Commerce Legal Framework and Alignment of Lao PDR: A Review," *Lentera Hukum* 6, no. 3 (2019), <https://doi.org/10.19184/ejlh.v6i3.13709>.

Table 2 Comparative Implementation Challenges of AAEC in Indonesia and Malaysia

Implementation Issue	Indonesia	Malaysia	Impact on AAEC Implementation
Regulatory Readiness	Ongoing regulatory consolidation following the PDP Law and ITE Law amendments	More established regulatory framework, but requires updating	Different levels of legal adaptation to AAEC commitments
Institutional Coordination	Multiple agencies with overlapping authority	More centralized institutional coordination	Affects regulatory consistency and enforcement
Data Protection	PDP Law is still in the implementation stage	PDPA was established but faces challenges from emerging technologies	Influences consumer trust and cross-border data governance
Cross-Border Enforcement	Jurisdictional and supervisory challenges for foreign PSEs	Limited integration with regional dispute mechanisms	Reduces the effectiveness of regional enforcement
MSME Readiness	Digital literacy and compliance gaps remain significant	Higher level of digital adoption	Affects participation in regional digital trade

Digital Infrastructure	Uneven development across regions	Relatively more developed infrastructure	Influences the accessibility of e- commerce services
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Source: Compiled by the Authors.

Table 2 shows that the implementation challenges faced by Indonesia and Malaysia extend beyond legal harmonization and are closely related to institutional, technological, and economic factors. While Malaysia demonstrates relatively stronger regulatory readiness and digital infrastructure, both countries continue to face difficulties adapting regulatory frameworks to rapidly evolving digital technologies and cross-border e-commerce activities. The comparison further indicates that the effectiveness of AAEC implementation depends not only on the existence of compatible legal rules but also on institutional capacity, enforcement mechanisms, and the readiness of business actors to comply with digital trade standards.

Although Malaysia demonstrates a relatively higher level of regulatory maturity, emerging issues such as cross-border data flows, artificial intelligence, and platform-based business models continue to challenge the effectiveness of existing governance mechanisms. The findings of this study indicate that although Malaysia is relatively well-prepared normatively, adaptive regulatory updates in response to technological development remain an urgent need.⁵⁰ This contrasts with previous studies, which tend to conclude that Malaysia is fully prepared to implement AAEC standards without identifying the limitations of regulatory renewal.

The next challenge lies in law enforcement and institutional capacity. The lack of institutional integration among regulatory authorities in Indonesia creates overlapping supervisory responsibilities and inconsistent enforcement practices. As a result, business actors may face uncertainty about compliance obligations, ultimately reducing the effectiveness of AAEC implementation and weakening efforts to facilitate cross-border digital trade.⁵¹ This condition involves weak coordination in

⁵⁰ Eri Yanti Nasution et al., "Perkembangan Transaksi Bisnis E-Commerce Terhadap Pertumbuhan Ekonomi Di Indonesia," *Jesya* 3, no. 2 (2020), <https://doi.org/10.36778/jesya.v3i2.227>.

⁵¹ Jason Aaron Riado Simanungkalit et al., "Analisis Tindak Pidana Penipuan Online Dalam Konteks Hukum Pidana Cara Menanggulangi Dan Pencegahannya,"

the supervision of PMSE business actors, particularly foreign business actors operating across multiple jurisdictions. This finding aligns with previous studies, which generally highlight regulatory deficiencies without considering institutional coordination as a significant obstacle to the implementation of AAEC.⁵²

In Malaysia, law enforcement is relatively more structured; however, challenges arise due to resource limitations in addressing cross-border digital crime. The mechanisms for handling disputes and digital fraud still rely on national procedures that have not been fully integrated into ASEAN's regional dispute resolution framework. This suggests that although regulations have been made available, the effectiveness of AAEC implementation remains constrained by limitations in cross-border law enforcement capacity.⁵³

AAEC itself emphasizes the importance of personal data protection and the security of electronic transactions as the foundation of trust in digital commerce. In Indonesia, the implementation of the 2022 Personal Data Protection Law still faces challenges, especially regarding the readiness of business actors and data supervisory institutions.⁵⁴ This study found that the lack of a uniform understanding and readiness among business actors, particularly digital MSMEs, was a significant obstacle to implementing data protection standards aligned with the AAEC. This finding enriches the existing literature, which tends to view the PDP Law as a normative solution without assessing its implementation challenges.⁵⁵

This issue has become increasingly important given the rapid growth of digital commerce in both countries. Indonesia recorded 466.93 million e-commerce transactions in July 2025, while Malaysia generated RM937.5 billion in e-commerce revenue during the first three quarters of 2025. As transaction volumes continue to increase, effective personal data

AKADEMIK: *Jurnal Mahasiswa Humanis* 4, no. 2 (2024), <https://doi.org/10.37481/jmh.v4i2.754>.

⁵² Wael Saghir and Dimitrios Kafteranis, "The Applicable Law on Digital Fraud," in *Contributions to Management Science* (2022), https://doi.org/10.1007/978-3-030-89416-0_14.

⁵³ Julien Chaisse and Sufian Jusoh, "The ASEAN Economic Community and the ASEAN Investment Framework," in *The ASEAN Comprehensive Investment Agreement* (2016), <https://doi.org/10.4337/9781785360022.00017>.

⁵⁴ Dina Anisya Rufaedah et al., "Regional Trade Partnerships and ASEAN Economic Growth: Implications for Indonesia," *SSRN Electronic Journal*, ahead of print, 2024, <https://doi.org/10.2139/ssrn.4920162>.

⁵⁵ Annisa Pratamasari, "Cybersecurity and Custom Regulations as Trade Barriers in ASEAN E-Commerce: Case of Indonesian e-Commerce," *Jurnal Global & Strategis* 14, no. 1 (2020), <https://doi.org/10.20473/jgs.14.1.2020.1-16>.

protection and cybersecurity measures are essential to maintaining consumer trust and ensuring legal certainty in cross-border e-commerce.⁵⁶

In Malaysia, the 2010 PDPA provides relatively stronger protection; however, technological developments such as big data, artificial intelligence, and cross-border data flows pose new challenges that existing regulations have not fully addressed. Thus, although Malaysia is often regarded as having a mature data protection system, this research suggests an urgent need for regulatory renewal to align with the AAEC's objectives.⁵⁷

Another obstacle to implementing AAEC is the need to facilitate cross-border transactions. Indonesia has implemented registration policies for foreign Electronic System Organizers (PSEs) as set out in Government Regulation No. 1 of 2019 and Government Regulation No. 71 of 2019. 80 of 2019. This policy aims to enhance consumer supervision and protection, but in practice, it can serve as an administrative obstacle for foreign business actors.⁵⁸ The findings of this study differ from those of previous studies, which viewed the policy solely as digital protectionism. This study, however, also attempts to strengthen legal certainty within the AAEC framework.

In Malaysia, a more open approach to foreign business actors has indeed made it easier to access the market, but it poses a risk of looser supervision. This indicates that each country faces a policy dilemma between market openness and the protection of national laws, one that has not been fully resolved within the framework of AAEC implementation.⁵⁹

The implementation of AAEC also faces structural obstacles, including digital literacy gaps and MSME readiness issues. In Indonesia, the limited understanding of digital law among MSMEs hinders the

⁵⁶ Ayup Suran Ningsih, "Alternative Dispute Resolution as Soft Approach for Business Dispute in Indonesia," 2019, <https://doi.org/10.2991/icils-19.2019.6>.

⁵⁷ Albert Albert, "A Study on the Vocational Education in the Asean Economic Community (AEC) Countries and ITS Implications to Indonesia," *Economics and Business Solutions Journal* 4, no. 2 (2020), <https://doi.org/10.26623/ebsj.v4i2.2799>.

⁵⁸ Desi Sommaliaugustina et al., "Regulation of Electronic System-Based Trade in the Framework of the ASEAN Economic Community and Its Implications for Indonesia," *Syarah: Jurnal Hukum Islam Dan Ekonomi* 14, no. 1 (2025).

⁵⁹ Toto Sugihyanto and Regina Jansen Arsiah, "The Effect of Digital Banking, Digital Transformation on the Efficiency of Commercial Banks in Indonesia," *International Journal of Islamic Education, Research and Multiculturalism (IJIERM)* 5, no. 2 (2023), <https://doi.org/10.47006/ijierm.v5i2.242>.

utilization of cross-border trade opportunities.⁶⁰ Although AAEC encourages digital inclusion, its effectiveness depends heavily on national policies that strengthen the capacity of business actors. This finding confirms the difference from previous research, which emphasizes macro-policy aspects without regard for the impact on small-business actors.

Malaysia is relatively more advanced in integrating MSMEs into the digital ecosystem. However, it still faces challenges in ensuring that all business operators comply with established data security and protection standards. This suggests that AAEC implementation requires not only regulatory harmonization but also a strategy to increase the capacity of business operators sustainably.⁶¹

Based on the analysis above, this study found that the challenges of AAEC implementation in Indonesia and Malaysia were not solely due to regulatory vacuums but also to implementation, institutional coordination, business readiness, and adaptation to technological development.⁶² This finding differs from previous studies, which tend to assess AAEC's implementation in a normative and optimistic manner.

This study asserts that the success of AAEC as an instrument of ASEAN's digital economic integration is primarily determined by member states' ability to translate regional commitments into effective, adaptive, and inclusive national policies. Thus, the results of this study contribute to scientific knowledge by presenting a more realistic, contextual perspective on the implementation of AAEC in Indonesia and Malaysia.⁶³ The comparative analysis demonstrates that the primary barriers to AAEC implementation are no longer related to the absence of legal frameworks, as both Indonesia and Malaysia have substantially incorporated AAEC principles into their domestic regulations. Instead, the main challenges arise from differences in institutional capacity, regulatory enforcement, digital infrastructure, and business readiness. These findings suggest that the success of regional digital economic integration depends not only on

⁶⁰ Delfiyanti Delfiyanti, "Investment Regulation to Secure Food in ASEAN and Its Implications for Indonesia," *UNES Law Review* 6, no. 1 (2023).

⁶¹ Abu H. Ayob, "E-Commerce Adoption in ASEAN: Who and Where?," *Future Business Journal* 7, no. 1 (2021), <https://doi.org/10.1186/s43093-020-00051-8>.

⁶² Ayup Suran Ningsih, "Business Competition Supervisory Institution: A Comparison between Indonesia and Thailand," *Jurnal Hukum Novelty* 13, no. 2 (2022), <https://doi.org/10.26555/novelty.v13i2.a20631>.

⁶³ Ayup Suran Ningsih, "Implikasi Undang-Undang Nomor 5 Tahun 1999 Tentang Larangan Praktek Monopoli Dan Persaingan Usaha Tidak Sehat Pada Pelaku Usaha Mikro Kecil Dan Menengah (UMKM)," *Jurnal Penelitian Hukum De Jure* 19, no. 2 (2019), <https://doi.org/10.30641/dejure.2019.v19.207-215>.

legal harmonization but also on member states' ability to effectively operationalize regional commitments through coordinated governance, adaptive regulatory mechanisms, and sustained support for digital business actors.

Conclusion

This study demonstrates that both Indonesia and Malaysia have generally harmonized their national legal frameworks with the principles and commitments of the ASEAN Agreement on Electronic Commerce (AAEC), particularly regarding the recognition of electronic transactions, consumer protection, and personal data governance. However, the comparative analysis reveals significant differences in implementation levels and institutional readiness. Indonesia has made substantial progress through recent regulatory reforms, including amendments to the Electronic Information and Transactions Law and the enactment of the Personal Data Protection Law. Yet, it continues to face challenges related to regulatory fragmentation, inter-agency coordination, and the readiness of business actors, particularly MSMEs. In contrast, Malaysia benefits from a more established regulatory framework. Still, it needs to adapt its legal and institutional arrangements to emerging issues such as cross-border data flows, digital platforms, and rapidly evolving technologies.

The findings indicate that the effectiveness of AAEC implementation depends not only on the formal harmonization of legal norms but also on institutional capacity, enforcement mechanisms, and stakeholders' ability to comply with regional digital trade standards. This conclusion is further supported by the continued expansion of digital trade in both countries. Indonesia recorded e-commerce transactions valued at IDR 44.4 trillion in July 2025, while Malaysia generated RM937.5 billion in e-commerce revenue during the first nine months of 2025. These developments demonstrate that effective governance of electronic commerce has become increasingly important for ensuring legal certainty, consumer trust, and sustainable growth of the digital economy.

Theoretically, this study contributes to the literature on regional digital trade governance by demonstrating that legal harmonization alone is insufficient to ensure the successful implementation of regional economic agreements. Instead, the effectiveness of AAEC implementation is shaped by the interaction between regulatory alignment, institutional coordination, enforcement capacity, and business readiness. The study therefore provides a more comprehensive analytical framework

for assessing the implementation of regional digital trade agreements in ASEAN member states.

In practical terms, the findings provide important policy implications for governments and ASEAN policymakers. Strengthening AAEC implementation requires more adaptive regulatory harmonization, improved coordination among relevant authorities, stronger personal data protection and cybersecurity mechanisms, and greater support for MSMEs to participate in cross-border electronic commerce. In addition, ASEAN should enhance regional cooperation in monitoring cross-border transactions, facilitating digital dispute resolution, and developing interoperable digital governance standards. Future research is recommended to expand the comparative scope to other ASEAN member states and to examine further the impact of AAEC implementation on businesses and consumers using empirical approaches, thereby providing a more comprehensive evaluation of ASEAN digital economic integration.

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