

Digital Compliance in Action: A Comparative Study of AML Strategies in Malaysia and Indonesia's Financial Sectors

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Abstract

This paper presents a comparative analysis of digital anti-money laundering (AML) compliance strategies in Malaysia and Indonesia, two major financial hubs in Southeast Asia. Using institutional theory and innovation diffusion as analytical lenses, the study explores differences in regulatory frameworks, institutional readiness, and adoption of digital tools such as e-KYC, AI-based monitoring, and RegTech. Through qualitative content analysis of national policies, FATF evaluations, and official reports, the research reveals that Malaysia exhibits greater digital maturity, policy coordination, and regulatory innovation, supported by initiatives like the Fintech Regulatory Sandbox and e-KYC guidelines. In contrast, Indonesia's AML transformation remains constrained by institutional fragmentation, limited digital infrastructure, and uneven implementation. Despite these differences, both countries face shared challenges, including data siloes, talent shortages, and emerging risks from fintech platforms. The findings offer key insights into how ASEAN economies can strengthen AML efforts through digital innovation, cross-border cooperation, and harmonized regulatory approaches.

Keywords: Digital Compliance in Action, Comparative Study, AML Strategies, Indonesia's Financial Sectors

Background

Money laundering is a persistent global threat that facilitates illicit financial flows, weakens regulatory systems, and undermines economic development and financial stability. The United Nations Office on Drugs and Crime (UNODC) estimates that between USD 800 billion and USD 2 trillion, or 2 to 5 percent of global gross domestic product, is laundered annually (UNODC, 2023). This challenge is further magnified in Southeast Asia, where rapid digital transformation, cross-border trade, and growing fintech ecosystems contribute to increased exposure to transnational financial crimes.

Malaysia and Indonesia have strategic importance and contrasting characteristics within the Southeast Asian financial landscape. Both countries are among the largest economies in ASEAN and play influential roles in shaping regional financial governance. However, they differ significantly in terms of regulatory maturity, institutional capacity, and adoption of digital compliance mechanisms. Malaysia, a founding member of the Financial Action Task Force-Style Regional Body (FSRB), the Asia/Pacific Group on Money Laundering (APG), has developed a more centralized and structured AML/CFT enforcement system, supported by Bank Negara Malaysia (BNM), the Securities Commission (SC), and inter-agency coordination under the National Coordination Committee to Counter Money Laundering (NCC). In contrast, Indonesia, while also a member of the APG and actively reforming its AML framework, operates within a more decentralized and fragmented institutional setting, with oversight spread across PPATK, OJK, and Bank Indonesia.

The selection of these two countries also reflects their rising regional influence in promoting financial inclusion, digital innovation, and economic resilience. As Indonesia chairs key ASEAN platforms such as the ASEAN Working Committee on Capital Market Development, and Malaysia leads several fintech regulatory initiatives under the ASEAN Financial Innovation Network, their policy directions carry implications for broader regional harmonization. Comparing their approaches to digital AML compliance provides valuable insights into how regulatory ambition, institutional arrangements, and technological readiness converge or diverge in shaping anti-money laundering outcomes across Southeast Asia.

In the ASEAN region, Malaysia and Indonesia represent two of the largest and most influential economies, both of which play a pivotal role in regional financial governance and AML/CFT (Anti-Money Laundering and Countering the Financing of Terrorism) enforcement. Both countries face distinct vulnerabilities in dealing with money laundering, including trade-based laundering, the use of shell companies, and emerging threats in digital financial channels. These risks are compounded by evolving typologies that exploit financial technology (fintech), cryptocurrencies, and weaknesses in beneficial ownership disclosure.

To mitigate these threats, AML compliance is experiencing a fundamental shift driven by digital transformation. Traditional rule-based systems for transaction monitoring and customer due diligence are increasingly being replaced or supplemented by digital tools such as artificial intelligence (AI), machine learning, biometric identification, blockchain-based KYC solutions, and real-time transaction screening. These developments fall under the broader category of Regulatory Technology (RegTech), which aims to enhance the speed, accuracy, and efficiency of compliance within financial institutions (Arner et al., 2017). The demand for RegTech solutions is rising as financial institutions strive to meet rising regulatory

expectations, reduce the cost of compliance, and better detect complex and concealed laundering activities.

Malaysia and Indonesia have each developed national AML/CFT frameworks in alignment with global standards, especially those set by the Financial Action Task Force (FATF). However, both countries differ significantly in terms of regulatory maturity, digital infrastructure, supervisory strength, and institutional coordination.

In Malaysia, the core legal instrument is the Anti-Money Laundering, Anti-Terrorism Financing and Proceeds of Unlawful Activities Act 2001 (AMLATFPUAA). The primary regulator, Bank Negara Malaysia (BNM), works in coordination with the Securities Commission (SC), the Companies Commission of Malaysia (SSM), and other agencies under the National Coordination Committee to Counter Money Laundering (NCC). Malaysia's National AML/CFT Strategic Plan 2021–2023 prioritizes the integration of digital tools and inter-agency cooperation for more effective compliance.

Indonesia, on the other hand, enforces AML through Law No. 8 of 2010 on the Prevention and Eradication of Money Laundering. Oversight is led by the Indonesian Financial Intelligence Unit (PPATK) and the Financial Services Authority (OJK), with coordination from Bank Indonesia. Indonesia has adopted its own National Strategy for AML/CFT 2020–2024, which includes objectives for financial digitalization, inclusive compliance systems, and strengthened public-private partnerships in AML enforcement.

Despite these efforts, challenges persist. According to the FATF mutual evaluation, Indonesia struggles with effective supervision of financial institutions and designated non-financial businesses and professions (DNFBPs), limitations in the use of financial intelligence, and inconsistencies in enforcement (FATF, 2018). Malaysia, while ahead in digital integration and supervision, still faces challenges related to beneficial ownership transparency and risk-based supervision (FATF, 2021).

Further comparative insights are offered by the Basel AML Index 2023, which measures countries' risks of money laundering and terrorist financing. Malaysia scored 4.10, indicating a moderate level of risk, while Indonesia scored 5.56, placing it in the high-risk category (Basel Institute on Governance, 2023). These scores reflect structural and operational gaps in both countries, particularly in relation to institutional capacity, inter-agency coordination, enforcement, and the scale of digital compliance uptake.

As financial systems continue to digitize rapidly, understanding how Malaysia and Indonesia are adapting their AML compliance efforts in the digital era is essential. These two countries offer contrasting experiences that can illuminate best practices, policy shortcomings, and potential pathways for harmonizing AML compliance strategies across Southeast Asia.

To build a solid foundation for the study, this paper proceeds with a review of the relevant literature to contextualize key concepts, theoretical perspectives, and prior findings. The literature review helps to frame the research within existing scholarly discourse and identify gaps that this study aims to address. Following this, the paper outlines the research methodology, detailing the conceptual approach adopted to explore the subject matter. The

subsequent section presents the main findings and discussion, offering thematic insights drawn from the analysis. Finally, the paper concludes by summarizing key arguments, highlighting implications, and proposing directions for future research.

Problem Statement

The persistent threat of money laundering in Southeast Asia continues to challenge the integrity of financial systems and the effectiveness of institutional controls in both advanced and developing economies. As regional financial hubs, Malaysia and Indonesia face increasing pressure to demonstrate compliance with international AML/CFT standards while adapting to the complexity of digitized financial services. Despite notable policy improvements in recent years, both countries remain exposed to illicit financial flows, systemic regulatory gaps, and uneven institutional capacity to enforce digital compliance.

In Malaysia, although the Anti-Money Laundering, Anti-Terrorism Financing and Proceeds of Unlawful Activities Act 2001 (AMLATFPUAA) provides a comprehensive legal framework, implementation remains fragmented. While Bank Negara Malaysia (BNM) has actively promoted RegTech solutions through initiatives such as the Financial Technology Regulatory Sandbox and the National Coordination Committee (NCC) to Counter Money Laundering, the country still faces challenges in ensuring sector-wide adoption and consistent enforcement. The Financial Action Task Force (FATF) follow-up report noted that Malaysia has only achieved moderate effectiveness in risk-based supervision, legal person transparency, and targeted financial sanctions related to terrorism (FATF, 2021).

Moreover, the Malaysian National Risk Assessment 2020 identified real estate, wholesale trade, and cash-intensive businesses as high-risk sectors for money laundering, with digital monitoring systems in these sectors remaining underdeveloped (Bank Negara Malaysia, 2021). Although major banks in Malaysia are relatively advanced in adopting digital compliance tools such as e-KYC, AI-driven transaction monitoring, and blockchain-led identity verification, smaller institutions and DNFBPs often lack the technological infrastructure or financial capacity to implement such systems effectively.

In Indonesia, Law No. 8 of 2010 and relevant regulations by the Financial Intelligence Unit (PPATK) and the Financial Services Authority (OJK) establish the AML legal framework. However, the country faces deeper institutional and technological limitations. The FATF mutual evaluation report highlighted significant weaknesses, including limited financial intelligence utilization, lack of enforcement in higher-risk sectors, and underperformance in STR (Suspicious Transaction Report) submission by non-bank and informal financial actors (FATF, 2018). These shortcomings are further exacerbated by Indonesia's large informal economy, decentralized enforcement landscape, and a still-maturing fintech ecosystem.

The 2022 Annual Report by PPATK revealed that although digital financial services are expanding, compliance reporting from fintech and DNFBPs remains disproportionately low. Contributing factors include lack of technical training, minimal automation in reporting workflows, and vague guidance on regulatory obligations for new digital market entrants (PPATK, 2022). As a result, Indonesia's digital AML readiness lags behind its financial digitalization growth.

The Basel AML Index 2023 reinforces these concerns, ranking Indonesia with a risk score of 5.56 and Malaysia at 4.10. Both countries remain above the global average AML/CFT risk threshold of 3.85, indicating persistent institutional weaknesses and enforcement gaps (Basel Institute on Governance, 2023).

In light of these challenges, there is a clear research gap regarding how AML compliance is being transformed digitally in real-world institutional contexts in both countries. Most academic and policy discussions to date focus on the legal provisions or high-level regulatory frameworks without a detailed understanding of the readiness, adoption, and barriers that financial institutions face in implementing digital compliance systems. A comparative, document-based analysis of Malaysia and Indonesia's approaches can help uncover lessons learned, emerging risks, and policy pathways for ASEAN-level harmonization of AML compliance.

Research Objectives

This study aims to examine and compare the regulatory frameworks and digital anti-money laundering (AML) compliance strategies in Malaysia and Indonesia. It explores how institutional readiness, legal structures, and policy alignment influence the adoption of digital AML tools such as e-KYC, AI-based monitoring, and RegTech platforms. The key objectives are to identify the main AML laws and digital initiatives in both countries, assess the preparedness of financial institutions for adopting digital compliance tools, and evaluate the challenges and opportunities that arise from national policy documents and FATF evaluations. By employing a directed content analysis approach, the study seeks to uncover trends in regulatory coordination, digital transformation efforts, and public-private collaboration. Ultimately, this research contributes to a deeper understanding of digital compliance trajectories in two ASEAN economies, offering insights for policymakers, regulators, and practitioners striving to strengthen financial integrity and align with global AML/CFT standards through effective digital innovation.

This paper begins with a review of relevant literature on institutional theory and innovation diffusion to provide a conceptual foundation for the study. It then outlines the qualitative methodology used, focusing on content analysis of policy documents, AML laws, and regulatory reports. The findings are presented in three thematic areas: the regulatory frameworks of Malaysia and Indonesia, institutional readiness for digital AML adoption, and emerging trends, barriers, and opportunities. The discussion highlights differences in digital maturity, policy clarity, and institutional coordination, offering insights into how each country aligns with global AML/CFT standards. The paper concludes by reflecting on the implications of these findings for regulatory reform, digital innovation, and regional cooperation in strengthening financial crime prevention across Southeast Asia.

Literature Review

Global Trends in Anti-Money Laundering and Digital Transformation

Digital transformation into financial services has significantly influenced the global anti-agent recycling efforts (AML), in particular through the adoption of emerging technologies and regulatory adaptations. Ozako (2024) highlights the evolution of AML laws, underlining a comparative study that illustrates how the various jurisdictions responded to technological progress. The rise of digital trade has requested new regulatory strategies, with Khan et al.

(2025) claiming that regulators must innovate to face the complexities introduced by currencies and digital platforms. Emerging technologies such as automatic learning and blockchain offer promising solutions to detect and prevent financial crimes, underlining the importance of IT security as detailed by Ahmed et al. (2025). They support a solid IT security framework to strengthen AML initiatives in the digital banking scene.

The integration of technologies also presents unique challenges for financial institutions. Pramanik et al. (2025) discuss the bibliometric analysis of the role of cryptocurrency in financial crimes, suggesting that while these technologies can improve transparency, they also complicate efforts of conformity. In addition, Chattaraj (2025) supports the need for international coordination to strengthen AML practices. The dynamic nature of global financial systems requires continuous regulatory adaptation and collaboration between institutions to mitigate the risks associated with digital transformation. Collectively, these studies clarify the multifaceted impact of digital transformation on AML, highlighting the interaction between technology, regulation and institutional challenges that shape the global struggle against money laundering in the modern era.

The Role of RegTech and AI in AML Compliance

The intersection of regulatory technology (regtech) and artificial intelligence (AI) has emerged as a transformative force in improving anti-money laundering compliance (AML) in the financial sector. Innovative regtech solutions are increasingly used to simplify compliance processes, reducing time and operational costs at the same time increasing the accuracy of the mechanisms of detection and prevention of fraud (Kurum, 2023). As these technologies evolve, they offer a sophisticated response to the challenges posed by financial crime, allowing institutions to better adapt to regulatory changes and manage the risk effectively (El Khoury, Alshater and Joshipura, 2024).

The role of AI in the automation of conformity activities marks a significant change in the way in which institutions approach regulatory obligations. By exploiting automatic learning algorithms, organizations can analyze vast data sets to identify suspicious behaviors and transactions in real time, substantially improving the efficiency of conformity operations (Kothandapani, 2024). This innovation serves to mitigate the risks by improving the accuracy of the risk assessments, thus reducing false positives and allowing teams of conformity to concentrate on authentic threats (Rajpoot & Raffat, 2024).

In addition, the systematic review of the literature conducted by Yıldırım (2023) indicates that the implementation of Regtech not only meets the needs of immediate conformity, but also opens the path to more proactive approaches and based on risk to financial regulation. The double advantages of improved efficiency and skills allow financial institutions to keep up with emerging threats, thus strengthening the importance of continuous investments in these technologies.

Overall, the integration of Regtech and Ai presents a convincing solution to the multifaceted challenges of AML conformity, promoting a more resilient financial environment. While the panorama continues to evolve, the research and adaptation in progress will be crucial for both regulators and financial institutions to navigate in the complexities of the modern financial crime.

Malaysia's Regulatory and Institutional Approach to Digital AML

The Malaysian regulatory framework to combat digital money laundering reflects a multifaceted approach designed to adapt to the rapid evolution of technology. Literature highlights the interaction between regulatory technology measures (Regtech) and anti-laundering of money (AML) as a vital component of this framework. Rafiq and Sohail (2023) provide a systematic overview of how Regtech can improve compliance and monitoring, thus improving the effectiveness of AML practices.

Despite these advances, several challenges persist within the regulatory landscape of Malaysia. Mohamed et al. (2023) argue that customer protection measures in the context of digital currencies are insufficient, which raises concerns about the adequacy of existing regulations to combat sophisticated money laundering techniques. These concerns are echoed by Bin Azero et al. (2024), who emphasize the growing link between cyber crime and money laundering, noting that technological advances can overcome regulatory adaptations, which leads to significant vulnerabilities.

When examining the institutional strategies used by the financial institutions of Malaysia, Yusoff et al. (2024) identify key factors that influence the effectiveness of AML practices. They suggest that the lack of integral training and allocation of resources can hinder the ability of these institutions to combat money laundering effectively. In addition, Yusoff et al. (N.D.) highlights that commercial banks face unique challenges, such as maintaining compliance while promoting innovation in their digital services.

Addressing these limitations requires a critical evaluation of the regulatory framework of Malaysia and a commitment to continuous improvement. Potential strategies could imply improve coordination between regulatory agencies, update the legislation to cover emerging technologies and promote collaboration between public and private sectors. As the technological panorama evolves, strategies to combat digital money laundering should also combat, ensuring that Malaysia remains resistant to threats raised by increasingly sophisticated financial crimes.

Indonesia's AML Framework and Digital Readiness

Indonesia has made great strides in its anti-laundering framework (AML) to face the challenges posed by a rapidly evolving digital panorama. Latuihamallo and Cahyaningtyas (2024) provide a thorough comparative analysis, highlighting the gaps within the AML of Indonesia regimes compared to stronger frameworks in the United Kingdom and in the United States. Their discoveries suggest that while Indonesia has established fundamental laws, the integration of digital readiness remains inadequate, affecting general effectiveness.

In response to these challenges, Prayogi and Riwayat (2025) propose a strategic roadmap aimed at aligning the AML initiatives of Indonesia with modern technological progress. Their research underlines the need to adapt the regulatory measures that can respond to both money laundering and the risks of financing of terrorism, thus improving the resilience of financial safety in the digital age. This study underlines the importance of regulatory compliance, which remains an urgent concern, in particular in a dynamic digital environment.

Also, Suwardiyati et al. (2024) They discuss the legal readiness essential for the implementation of the digital currency of the Central Bank (CBDC) in Indonesia, a company in a complex way linked to AML efforts. The research outlines expectations for regulatory paintings that must be in place to support these digital innovations, suggesting that a proactive approach will be vital in the management of potential risks associated with digital financial transactions.

However, as highlighted by Majid and Pangenstituti (2024), emerging markets such as Indonesia face unique challenges in regulatory compliance and risk management. The inability to fully adapt to digital changes can hinder the effectiveness of the indesseia in detecting and preventing money laundering. In particular, recycling (2024) underlines the importance of tracing fingerprints, claiming that improved investigative tools are fundamental for the recovery of state losses and the achievement of justice within the financial system. Consequently, the ongoing struggle of Indonesia to balance digital readiness with solid practices AML places significant implications for its financial safety and regulatory compliance.

Theoretical Perspectives: Institutional Theory and Innovation Diffusion

Institutional Theory provides a framework for understanding how organizations adapt their structures and practices not solely based on efficiency or profit but in response to the norms, rules, and cultural expectations within their institutional environment. Organizations tend to conform to external pressures to gain legitimacy and social acceptance, which is essential for their long-term survival. These pressures come in various forms: coercive (such as laws and regulations), normative (such as professional standards), and mimetic (such as imitating more successful organizations during periods of uncertainty). Over time, these influences lead to similarities across organizations in the same field, even if the adopted practices are not always the most efficient. This phenomenon is known as institutional isomorphism. DiMaggio and Powell's (1983) foundational work outlines these mechanisms and illustrates how conformity shapes organizational behavior across sectors.

On the other hand, Innovation Diffusion Theory (IDT), introduced by Everett Rogers, explains how new ideas, technologies, or practices spread within a social system over time. The theory focuses on how potential adopters evaluate innovations based on characteristics such as their relative advantage, compatibility with existing values, complexity, trialability, and observability. Individuals and organizations are categorized according to how quickly they adopt innovations—from innovators and early adopters to laggards. The communication channels used to disseminate information, the time taken to adopt, and the broader social system all influence the rate and success of diffusion. IDT is widely applied in fields like education, healthcare, and technology, helping scholars and practitioners understand the patterns of adoption and the barriers that slow down innovation uptake. Rogers' work remains a cornerstone in understanding change processes across diverse settings.

Institutional theory offers a crucial lens through which to analyze the diffusion of innovation in money laundering strategies (AML), particularly in the context of digital compliance structures. In essence, institutional theory explores how institutional structures, including regulatory structures and social norms, influence behaviors and practices in organizations. Financial institutions, facing a scenario in constant evolution of regulatory expectations and

technological advances, are required to innovate their LBC strategies as a means of achieving compliance and maintaining legitimacy (Menon, 2023).

The adoption of LBC policies can be understood through the institutional pressures that forced organizations to comply with certain standards. For example, understanding the motivations behind the adoption of LBC policies in Singapore of 1989-2021 highlights how institutional dynamics shape regulatory compliance practices (Menon, 2023). These dynamics manifest themselves in various forms, including coercive, normative and mimetic pressures that shape organizational responses to regulatory change. In this sense, financial institutions must navigate not only in the regulatory scenario, but also in social and cultural expectations that inform the answers of stakeholders to the challenges of compliance.

The case of Lebanon presented by Bakhos Douaihy and Rowe (2023) emphasizes the complexities of institutional pressures regarding digital compliance structures. The introduction of regtech's solutions in the banking sector illustrates a double challenge: although technologies offer innovative paths to compliance, they also have unique challenges rooted in institutional contexts. Financial institutions must face varying degrees of regulatory pressure and institutional stability, which can make it difficult to implement AML technologies.

The advancement of digital innovations in conformity highlights a conceptual structure that highlights the intersection between regulatory compliance and risk management in emerging markets. Alex -omiogbemi et al. (2024) present a comprehensive view of how digital transformation can promote best regulatory practices, but emphasizes that divergent institutional abilities can prevent this progress. Effective implementation of LMA digital strategies depends on the degree to which institutions can align their operational capabilities with regulatory expectations. The challenges faced by the institutions in the implementation of these innovations are often exacerbated by the lack of institutional support and the inertia of inherited systems.

As innovations such as AI and Blockchain technologies appear in the LBC regulatory scenario, financial institutions deal with the compliance paradox. Liang et al. (2025) Explore the tensions between innovation and regulation, arguing that while these technologies can reinforce compliance efforts, they also raise new regulatory concerns that must be addressed. Fights to balance sophisticated technological solutions and adherence to LBC regulations require institutional adjustments that are usually behind the rapid technological advances. This gap illustrates broader questions in institutional theory, particularly about how organizations can quickly adapt to new standards when regulatory structures evolve at a different pace.

A qualitative pragmatic investigation of Johnson (2025) emphasizes the importance of effective business strategies within fintechs aimed at achieving regulatory compliance. The results emphasize that fintech companies, usually in the forefront of technological innovation, should navigate complex institutional structures that are considerably influenced by traditional financial institutions. This requires collaborative efforts between innovative companies and regulatory bodies to ensure that emerging technologies can meet compliance needs without compromising regulatory integrity.

The elucidated institutional theory of the complete ways in which financial institutions sail in the diffusion of innovation in the LBC strategies. The pressures exerted by regulatory bodies, along with the need for compliance with social norms, create a challenging environment for the adoption of digital compliance structures. The implications for financial institutions are profound, as they should reconcile innovative technologies with existing regulatory structures, maintaining organizational legitimacy and the confidence of stakeholders. As the scenario continues to evolve, the understanding of these institutional dynamics will be fundamental to the successful integration of LBC innovations in the financial sector.

Methodology

This study adopts a qualitative review approach to explore and compare how Malaysia and Indonesia are responding to digital innovation in anti-money laundering (AML) efforts. Instead of gathering new field data, the study draws on publicly available documents, including legislative texts such as the Anti-Money Laundering, Anti-Terrorism Financing and Proceeds of Unlawful Activities Act 2001 (AMLATFPUAA 2001) in Malaysia and Law No. 8 of 2010 in Indonesia. It also reviews relevant materials from key institutions such as Bank Negara Malaysia, the Financial Intelligence Unit of Indonesia (PPATK), and related regulatory authorities.

The study focuses on content that reflects institutional frameworks, policy initiatives, and indicators of digital readiness. Reports, national AML strategies, speeches, mutual evaluations, and related policy documents are read closely to understand the context and direction of each country's AML efforts. These documents are then grouped and discussed according to broad themes such as legal structure, institutional support, and the introduction of digital tools.

Rather than using a formal coding software, the review applies general categories inspired by institutional and innovation diffusion perspectives. These include regulatory framework, institutional readiness, adoption of digital tools, and policy orientation. The intention is to interpret patterns and priorities as they appear in the documents and to highlight areas of convergence and divergence between Malaysia and Indonesia.

A basic comparative approach is used to summarize key differences, such as the presence of regulatory sandboxes, training programs, and cross-sector cooperation efforts. Attention is also paid to mentions of specific technologies like KYC automation, AI tools for monitoring, and the development of RegTech platforms. These elements are considered in light of documented challenges, including data fragmentation and talent shortages.

While this approach is limited to secondary sources and may not reflect the full reality of implementation, it provides a grounded view of institutional developments in AML digital transformation. The findings are intended to offer useful insights for scholars, policymakers, and practitioners interested in regulatory adaptation and governance in Southeast Asia.

Regulatory Frameworks in Malaysia and Indonesia

The regulatory frameworks for anti-money laundering (AML) in Malaysia and Indonesia have evolved in response to increasing financial complexity, cross-border illicit activities, and global compliance expectations, particularly under the Financial Action Task Force (FATF)

recommendations. Both countries have sought to strengthen institutional capacity, legal mandates, and coordination mechanisms to address money laundering risks. However, the development, structure, and implementation of these frameworks vary significantly, reflecting different stages of regulatory maturity and institutional alignment.

In Malaysia, the cornerstone of AML legislation is the *Anti-Money Laundering, Anti-Terrorism Financing and Proceeds of Unlawful Activities Act 2001* (AMLATFPUAA 2001). This law empowers Bank Negara Malaysia (BNM) as the central authority responsible for implementing AML/CFT obligations, including supervising reporting institutions, issuing guidelines, and enforcing compliance. It also designates the Securities Commission Malaysia (SC) and other sectoral regulators with specific oversight roles, particularly in sectors such as capital markets, insurance, and money services businesses (Bank Negara Malaysia, 2020). A key feature of Malaysia's approach is its inter-agency coordination through the National Coordination Committee to Counter Money Laundering (NCC), chaired by BNM and comprising over 13 agencies, including the Royal Malaysia Police (PDRM), the Malaysian Anti-Corruption Commission (MACC), and the Inland Revenue Board (IRB). This multi-agency framework promotes strategic collaboration on AML/CFT enforcement, policy formulation, and international cooperation.

Malaysia's regulatory efforts are recognized in its latest FATF mutual evaluation (2015), where the country was commended for having a well-established legal framework and high levels of technical compliance in areas such as risk-based supervision, targeted financial sanctions, and financial intelligence gathering. Nonetheless, challenges remain in ensuring consistent enforcement across sectors and improving beneficial ownership transparency (FATF, 2015). In Indonesia, the primary legislation is *Law No. 8 of 2010 on the Prevention and Eradication of Money Laundering*, which replaced earlier regulations to comply more closely with FATF standards. The law empowers the Indonesian Financial Transaction Reports and Analysis Center (PPATK) as the financial intelligence unit responsible for receiving and analyzing suspicious transaction reports, coordinating with law enforcement, and advising government agencies. Additionally, Otoritas Jasa Keuangan (OJK), Indonesia's financial services authority, plays a supervisory role across banking, capital markets, and non-bank financial institutions. Indonesia's national AML/CFT framework is guided by its National Strategy for the Prevention and Eradication of Money Laundering and Terrorism Financing 2023–2027 (STRANAS PPU-PPT), which outlines six strategic pillars, including legal harmonization, institutional strengthening, digital integration, and public-private collaboration (PPATK, 2023).

While Indonesia has made significant progress in enhancing its AML framework, including revising its criminalization standards and expanding reporting coverage, its effectiveness in implementation and coordination is still a work in progress. The FATF's mutual evaluation of Indonesia (2018) noted moderate levels of effectiveness in several key areas, including preventive measures and the use of financial intelligence in investigations (FATF, 2018). Institutional fragmentation and capacity gaps at the provincial and local levels also continue to challenge implementation.

Both Malaysia and Indonesia have responded to regional threats and international pressures, including the need to comply with FATF recommendations and United Nations Security Council Resolutions (UNSCRs) on terrorism financing. However, Malaysia's institutional

arrangement reflects a more centralized and mature regulatory structure, with greater digital preparedness through initiatives like the Fintech Regulatory Sandbox. In contrast, Indonesia's evolving structure is marked by ambitious planning but faces practical constraints such as uneven capacity and slower uptake of digital tools, especially outside major urban centers. In summary, while both countries have laid down strong legal and institutional foundations for AML enforcement, their differing trajectories reflect varying levels of integration, coordination, and readiness for digital transformation. These contrasts provide a meaningful backdrop for examining how institutional and technological factors influence AML adoption and effectiveness in Southeast Asia.

Table 1

Summary of AML Framework Comparison – Malaysia vs. Indonesia

Feature	Malaysia	Indonesia
Primary Legislation	AMLATFPUAA 2001	Law No. 8/2010 on Money Laundering
Lead FIU	Bank Negara Malaysia (BNM)	PPATK (Pusat Pelaporan dan Analisis Transaksi Keuangan)
Key Regulators	BNM, Securities Commission (SC), NCC	OJK, PPATK
Coordination Mechanism	National Coordination Committee (NCC)	Multi-agency coordination, led by PPATK and OJK
Scope of Reporting Entities	Broad (banks, DNFBPs, legal firms, dealers)	Broad but less coverage of non-bank actors
Penalties	Fines, imprisonment, license suspension	Fines, imprisonment, asset seizure
FATF Membership	Member since 2016	Member since 2012
Last Mutual Evaluation	2015 (rated largely compliant)	2018 (rated moderately effective in many areas)
Strategy Document	AML/CFT Sectoral Guidelines, Digital Sandbox Policies	National Strategy STRANAS PPU-PPT 2023–2027
Digital Integration	Advanced (e.g., Fintech Sandbox, RegTech support)	Emerging (e.g., BI Fast, Digital Finance Literacy)

Institutional Readiness for Digital AML Tools

The institutional readiness of Malaysia and Indonesia to adopt digital anti-money laundering (AML) tools can be assessed through a close review of publicly available reports, policy speeches, regulatory initiatives, and pilot programs. A key indicator of readiness is the extent to which AML efforts align with each country's broader digital transformation agenda. In this regard, Malaysia demonstrates a more structured and proactive approach. The central bank, Bank Negara Malaysia (BNM), has integrated financial technology into its supervisory framework through the introduction of the Financial Technology Regulatory Sandbox Framework, launched in 2016. This initiative allows financial institutions and startups to test new AML-related digital solutions in a controlled environment under regulatory oversight (Bank Negara Malaysia, 2016). This has encouraged innovation in areas such as electronic Know Your Customer (e-KYC), artificial intelligence in transaction monitoring, and RegTech development for compliance automation.

Malaysia's institutional push is further supported by capacity-building programs aimed at regulators and financial service providers. BNM, in collaboration with industry associations, regularly conducts training sessions and publishes digital risk management guidelines. Additionally, Malaysia's national AML/CFT policy explicitly acknowledges the role of digital tools and public-private collaboration in enhancing detection and reporting mechanisms (Bank Negara Malaysia, 2020). These initiatives reflect a strong institutional alignment between AML objectives and digital governance strategies, reinforcing Malaysia's position as a regional leader in Fintech regulation and RegTech adoption.

In contrast, Indonesia is still in the early stages of institutional digital transformation in the AML space. While the legal foundation is in place through Law No. 8/2010, and the financial intelligence unit (PPATK) has outlined digital priorities in its 2023–2027 National Strategy for AML/CFT (STRANAS PPU-PPT), the implementation remains relatively nascent. However, notable progress has been made with Bank Indonesia's BI-FAST system, a digital retail payment infrastructure that improves real-time transaction transparency and supports financial crime detection (Bank Indonesia, 2021). In addition, financial literacy campaigns have been promoted by the Financial Services Authority (OJK) to raise awareness on digital financial safety and responsible usage, particularly in rural and underserved areas (OJK, 2022). Despite these advances, Indonesia lacks a dedicated regulatory sandbox exclusively for AML innovation. The absence of structured pilot environments and coordinated digital training for AML officers indicates a slower institutional shift. Nevertheless, the national policy direction suggests growing momentum toward integrating digital tools, supported by strategic cooperation among PPATK, OJK, and Bank Indonesia. Continued efforts in institutional strengthening and infrastructure development will be essential for bridging the readiness gap between Indonesia and regional peers such as Malaysia.

Adoption Trends, Challenges, and Opportunities

Malaysia and Indonesia have begun to integrate various digital tools into their anti-money laundering (AML) frameworks as part of a broader shift towards regulatory modernization. Among the most widely adopted innovations are Know Your Customer (KYC) automation, artificial intelligence (AI) for transaction monitoring, and the emergence of Regulatory Technology (RegTech) platforms designed to streamline compliance processes. In Malaysia, the use of electronic KYC (e-KYC) has gained momentum following the release of Bank Negara Malaysia's e-KYC Policy Document in 2020. This policy outlines the legal and operational requirements for financial institutions to adopt digital identity verification technologies, contributing to more efficient onboarding processes and reducing reliance on manual documentation (Bank Negara Malaysia, 2020). AI-based systems are also increasingly used in Malaysian financial institutions to monitor real-time transaction patterns, enhancing the early detection of suspicious activities. Malaysia's RegTech ecosystem has benefited from the central bank's regulatory sandbox, which allows innovation to be tested under supervision (Ernst & Young, 2021).

Indonesia, while progressing at a slower pace, has also recognized the potential of digital solutions in AML. The Financial Services Authority (OJK) and the Financial Intelligence Unit (PPATK) have included digital transformation in their respective strategic agendas. One of the key developments is the BI-FAST initiative by Bank Indonesia, which facilitates instant payment settlements and enables improved transparency and traceability of transactions

(Bank Indonesia, 2021). Although the country does not yet have a dedicated sandbox for AML-related innovation, Fintech firms in Indonesia are collaborating with traditional banks to develop simplified digital KYC systems, especially for mobile-based financial services. However, widespread adoption of AI for AML remains limited and is mostly in exploratory phases.

Despite these advancements, several structural challenges continue to hinder full-scale implementation in both countries. One of the main barriers is data fragmentation, where financial institutions operate in siloed systems with limited interoperability. This reduces the effectiveness of integrated surveillance tools and weakens the overall AML response. In addition, regulatory frameworks for cybersecurity and data governance are still catching up with technological changes, creating uncertainty for institutions attempting to adopt digital solutions at scale (World Bank, 2022). Both Malaysia and Indonesia also face a shortage of skilled professionals who are trained in RegTech, compliance analytics, and cybersecurity, making it difficult to sustain innovation in this area.

On the other hand, there are promising opportunities that support further digital AML development. Regional collaboration platforms such as the ASEAN Wildlife Enforcement Network (ASEAN-WEN) and the Asset Recovery Interagency Network for Asia and the Pacific (ARIN-AP) are opening avenues for enhanced cross-border intelligence sharing and data integration. These networks, while not exclusively focused on AML, provide a foundation for multilateral cooperation that could be expanded through digital tools. In addition, public-private partnerships are emerging as a key mechanism to advance innovation. In both countries, regulatory authorities have shown increasing openness to working with Fintech firms and technology providers to pilot AML tools that are scalable and secure (Asian Development Bank, 2023). These collaborations not only reduce institutional resistance but also build a more inclusive ecosystem for AML technology deployment.

Table 2

Comparative Summary of Digital AML Adoption – Malaysia vs. Indonesia

Category	Malaysia	Indonesia
Digital AML Tools in Use	e-KYC, AI-based transaction monitoring, RegTech platforms	e-KYC (pilot phase), basic transaction monitoring tools
Regulatory Sandbox	Active Fintech Regulatory Sandbox by BNM since 2016	No dedicated AML sandbox, general Fintech oversight by OJK
Policy Framework	e-KYC Policy Document (BNM, 2020); clear alignment with national digital agenda	BI-FAST infrastructure supports digital payment transparency; digital agenda emerging
Institutional Support	BNM actively supports innovation through sandbox and capacity-building	OJK and PPATK involved; support limited to digital literacy and coordination
Talent Readiness	Moderate, but talent shortages in RegTech and compliance exist	Low to moderate; digital AML talent remains scarce
Barriers Identified	Data fragmentation, unclear cybersecurity laws, talent shortage	Data siloes, underdeveloped data governance, limited RegTech expertise

Category	Malaysia	Indonesia
Opportunities	Public-private RegTech pilots; regional collaboration (e.g., ARIN-AP)	Growing Fintech ecosystem; opportunities via ASEAN-WEN and BI collaboration
Level of AML Digital Maturity	Advanced and proactive	Emerging and reactive

The comparative summary reveals notable differences in the level of digital readiness and institutional maturity between Malaysia and Indonesia in adopting anti-money laundering (AML) technologies. Malaysia is clearly positioned as the more advanced actor, with a stronger policy foundation and more robust infrastructure supporting digital AML transformation. This is evident in the variety of tools already in active use, including e-KYC systems, artificial intelligence (AI) for transaction monitoring, and a growing ecosystem of Regulatory Technology (RegTech) solutions. These tools are supported by Bank Negara Malaysia's (BNM) regulatory sandbox, which was launched in 2016 to encourage innovation under a controlled and risk-managed environment. This sandbox model has facilitated real-world testing and scaling of compliance solutions, giving Malaysia a practical edge in RegTech adoption (Bank Negara Malaysia, 2020; Ernst & Young, 2021).

In contrast, Indonesia is still in an emerging phase of digital AML adoption. Although regulatory bodies such as OJK and PPATK have expressed strong support for digital innovation, their efforts remain focused on foundational infrastructure, such as the BI-FAST system launched by Bank Indonesia. While this initiative enhances transaction traceability and speed, it is more of a payment infrastructure reform than a dedicated AML solution. The absence of a specialized sandbox for AML or RegTech development has limited the opportunity for Fintech experimentation in this space, which in turn slows the pace of innovation (Bank Indonesia, 2021).

From an institutional perspective, Malaysia exhibits stronger alignment between policy, regulatory guidance, and technological advancement. The publication of the e-KYC Policy Document by BNM in 2020 is one example of this strategic alignment. It provides clear guidelines to financial institutions on digital onboarding, risk management, and data handling, which has accelerated adoption among Malaysian banks and digital service providers. In contrast, Indonesia's digital strategy is less structured, and although national strategies such as STRANAS PPU-PPT mention digital priorities, the implementation tends to be fragmented across agencies (PPATK, 2023).

Both countries face common barriers, such as data fragmentation and shortages of skilled professionals in RegTech, cybersecurity, and digital compliance. However, Malaysia's more developed financial sector and regulatory capacity allow it to manage these challenges more effectively. Indonesia, on the other hand, still grapples with siloed data systems and limited interoperability, especially across rural and provincial jurisdictions.

Importantly, the table also highlights opportunities for both nations. Malaysia is already leveraging public-private partnerships and regional cooperation platforms like ARIN-AP to strengthen cross-border enforcement and compliance. Indonesia, while not yet as integrated, stands to benefit from similar frameworks, particularly through ASEAN-wide initiatives such

as ASEAN-WEN. Both countries have Fintech ecosystems that are expanding, and continued engagement with industry players can drive innovation in AML technologies if guided by responsive regulation.

In summary, while Malaysia leads in digital AML adoption through structured policies and institutional readiness, Indonesia is laying the groundwork for future growth. The comparative analysis underlines the importance of strategic coordination, regulatory clarity, and investment in digital talent as key enablers of AML technology adoption in Southeast Asia.

Conclusion and Implications

This study set out to examine and compare the digital compliance strategies embedded within the anti-money laundering (AML) frameworks of Malaysia and Indonesia, two pivotal economies in Southeast Asia. Through a qualitative analysis of policy documents, regulatory reports, and national AML strategies, the findings reveal significant divergences in institutional readiness, regulatory coordination, and digital innovation maturity between the two countries. While both nations have demonstrated clear commitment to aligning with global AML/CFT standards, Malaysia has made more substantive progress in embedding digital tools into its compliance ecosystem. Initiatives such as the Bank Negara Malaysia (BNM) Fintech Regulatory Sandbox, the issuance of the e-KYC Policy Document, and broader public-private collaboration have enabled Malaysia to build a more adaptive, risk-responsive, and digitally enabled AML regime.

Conversely, Indonesia is still in the early stages of digital transformation within its AML infrastructure. Despite notable efforts such as the BI-FAST platform and the strategic focus articulated in the STRANAS PPU-PPT 2023–2027, the lack of an AML-specific regulatory sandbox, fragmented institutional arrangements, and limited digital capacity in key sectors have constrained implementation. Structural barriers such as data fragmentation, talent shortages, and inconsistent enforcement across regions further slow Indonesia's transition to a fully digital AML compliance landscape.

The comparative analysis not only identifies policy and institutional gaps but also illuminates valuable opportunities for regional harmonization and capacity-building. Both countries can benefit from strengthening their regulatory frameworks by enhancing inter-agency data integration, promoting RegTech talent development, and fostering cross-border public-private partnerships. Regional platforms such as ARIN-AP and ASEAN-WEN offer underutilized channels for cooperation, intelligence sharing, and joint capacity enhancement. Leveraging these networks can amplify the impact of national reforms and help ASEAN establish a more unified front in combating financial crime in the digital age.

For policymakers, the findings underscore the importance of coherent regulatory design that integrates technology policy with financial governance. Strategic investments in digital infrastructure, regulatory sandboxes, and AML training programs are essential for scalable compliance transformation. For financial institutions, the study highlights the need to invest in RegTech tools not merely as a compliance function but as a strategic capability for risk management and operational efficiency.

In conclusion, while Malaysia and Indonesia are at different points on the digital AML maturity curve, their shared challenges and regional relevance make their experiences highly instructive. Continued dialogue, benchmarking, and policy experimentation will be crucial to ensuring that AML efforts in Southeast Asia remain resilient, future-ready, and capable of responding to both traditional and emerging financial crime threats. This study contributes to the growing body of literature on digital governance and provides a practical reference point for regulators, institutions, and researchers working toward a more secure and compliant financial ecosystem in the region.

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