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Implementing Authorized Economic Operator Programmers in Emerging Market Customs Administrations

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ABSTRACT
Purpose: This study examines the implementation of the Authorized Economic Operator (AEO) program at KPPBC TMP Tanjung Perak, focusing on certification procedures, compliance requirements, coordination mechanisms, and monitoring capacity constraints under the WCO SAFE Framework.
Methodology: A qualitative case study was conducted using semi-structured interviews, analysis of Indonesian AEO regulations (2010–2023), and review of WCO SAFE Framework documents, with data triangulated from primary and secondary sources of information.
Results: The findings show that Tanjung Perak Customs oversees 51 AEO-certified companies under a centralized system. The program enhances trade security and supports significant foreign exchange flows (IDR 78 trillion in exports and IDR 20 trillion in imports in 2020), although monitoring is still largely reactive due to limited institutional capacity.
Conclusions: Indonesia's AEO implementation reflects a hybrid governance model that delivers trade facilitation benefits but faces weaknesses in decentralized monitoring and risk-based oversight.
Limitations: This study was limited to a single customs jurisdiction (2010–2023), which restricted generalizability.
Contribution: This research provides one of the first detailed port-level analyses of AEO governance in Indonesia, highlighting the tension between centralized certification and limited monitoring capacity and offering implications for strengthening risk management and institutional capacity.

Keywords: *Authorized Economic Operator, Customs Administration, Emerging Economy, Indonesia, Mutual Recognition Agreement, SAFE Framework, Supply Chain Security, Tanjung Perak, Trade Facilitation*

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1. Introduction

The governance of international trade flows has undergone a fundamental transformation since the early 2000s, driven by the convergence of two imperatives: facilitating legitimate trade as a driver of economic development and securing global supply chains against terrorism, smuggling, and regulatory non-compliance (Grainger, 2011). These twin objectives of security and facilitation appear paradoxical; however, the Authorized Economic Operator (AEO) program developed under the auspices of the World Customs Organization (WCO) SAFE Framework of Standards represents the most sophisticated institutional mechanism designed to reconcile them (Campos, Morini, de Moraes, & Júnior, 2018; Karlsson, 2017).

The AEO concept posits that certified operators demonstrating verifiable compliance with supply chain security standards should receive preferential customs treatment, expedited clearance, reduced physical inspections, and priority processing, while customs administrations redirect surveillance resources toward non-certified, higher-risk operators (Hanifah, 2022). This risk-differentiation logic, grounded in neoliberal regulatory theory, transforms the customs-trade relationship from adversarial inspection to collaborative partnership (Karlsson 2017). By 2023, more than 80 countries had implemented AEO-equivalent programs, with Mutual Recognition Agreements (MRAs) expanding the benefits of certification across borders (Parthiban, Murali, & Subramanian, 2020).

Indonesia's adoption of the AEO program, formalized through Presidential Instruction No. 1 of 2010 and subsequently codified in Ministry of Finance Regulation (PMK) No. 227/PMK.04/2014 reflects the government's strategic commitment to improving logistics competitiveness and positioning Indonesia as a credible participant in the global supply chain. Indonesia's logistics performance index (LPI) score and port efficiency rankings have historically constrained its international trade competitiveness, such as AEO implementation, which represents a targeted institutional response to these structural weaknesses (Wulandari & Zuhri, 2019).

The port of Tanjung Perak in Surabaya, East Java, functions as a strategic maritime hub for Indonesia's eastern archipelago, handling substantial volumes of import and export cargo across diverse commodity categories. KPPBC TMP Tanjung Perak the local customs and excise service operating within this port serves as a critical implementation node for AEO governance, responsible for supervising 51 AEO-certified companies within its operational jurisdiction. As such, Tanjung Perak provides an analytically rich site for examining how WCO-standardized AEO requirements translate into practice within an emerging economy port customs administration (Hendrayani, Wibisono, & Satriawan, 2024).

Despite the growing global AEO literature, there are significant gaps. Most empirical AEO studies focus on developed economies, European Union member states, the United States' C-TPAT program, or East Asian advanced economies, with limited systematic analysis of AEO implementation dynamics in emerging economy customs administrations that face distinct institutional capacity constraints, regulatory maturity gaps, and logistical infrastructure limitations (Campos et al., 2018; Karlsson, 2017). Within the Indonesian context, while the national-level AEO regulatory framework has been documented, the operational reality of port-level AEO administration, including certification processes, client management mechanisms, monitoring capacity, and compliance governance, remains under-examined in the peer-reviewed literature (Bhimasta, Surya, & Pramudita, 2025).

This study addresses this gap by conducting a systematic qualitative case study of AEO implementation at KPPBC TMP Tanjung Perak, guided by the following research question: How is the AEO program implemented at Tanjung Perak Customs, and what institutional mechanisms and capacity challenges characterize its operation? This study contributes to the emerging economy AEO implementation literature, advances the understanding of the tension between centralized certification and decentralized monitoring in customs governance, and provides evidence-based recommendations for strengthening Indonesian AEO administration.

2. Literature Review and Hypothesis/es Development

2.1 Theoretical Framework: Regulatory Governance and Risk-Based Customs Management

The theoretical foundation of AEO programmes rests at the intersection of regulatory governance theory and supply chain risk management (SCM). Baldwin (1995) regulatory governance framework identifies three core dimensions of effective regulation: standard-setting (defining compliance requirements), information-gathering (monitoring and verification), and behaviour modification (incentives and sanctions). AEO programmes operationalize all three dimensions: WCO SAFE Framework standards define certification criteria; customs-to-business partnerships generate compliance information through self-declaration and audit; and the dual incentive structure priority treatment for certified operators and intensified scrutiny for non-certified operators modifies trade behavior at scale (Grainger, 2011).

Complementing regulatory governance theor Williamson's (2008y,) transaction cost economics framework provides an analytical purchase of the economic rationale for AEO participation. Certification imposes upfront compliance costs on operators, such as investments in security infrastructure, documentation systems, personnel training, and ongoing audits. These costs are justified by the reduction in transaction costs arising from expedited customs clearance, reduced inspection delays, and enhanced supply chain predictability (Bertoldi & Boza-Kiss, 2017; Campos et al., 2018). The cost-benefit calculus varies substantially by operator size and trade volume, a dynamic that explains the observed concentration of AEO certification among large multinational supply chain participants rather than SMEs (Bakdiah, Satriawan, & Yanti, 2024; Karlsson, 2017).

The SAFE Framework embeds complementary institutional logic: customs-to-customs (C2C) and customs-to-business (C2B) pillars (Milosevic, Bass, & Schulte, 2023). The C2C pillar creates the architecture for Mutual Recognition Agreements (MRAs), through which AEO certification by one customs administration is recognized by another, extending trade facilitation benefits across borders. The C2B pillar establishes the requirements and incentive structure for firm-level AEO participation. Together, these pillars create a multilevel governance structure in which international standards are domestically implemented and bilaterally recognized, generating distinct challenges for customs administrations in emerging economies with variable institutional capacity (Karlsson, 2017).

2.2 International Trade Security and the Global AEO Architecture

The contemporary supply chain security governance architecture emerged in the aftermath of the September 2001 terrorist attacks, which exposed the vulnerability of the global container trade to catastrophic exploitation. The United States Customs and Border Protection's Container Security Initiative (CSI) and Customs-Trade Partnership Against Terrorism (C-TPAT), launched in 2001 and 2002, respectively, established the foundational voluntary compliance paradigm that the WCO subsequently codified in the SAFE Framework. Canada's Partners in Protection (PIP) program provides a parallel model, collectively demonstrating the viability of government-industry partnerships in supply chain security (Nisa, 2025; Sa, Thollander, & Cagno, 2017).

The WCO SAFE Framework, adopted by 144 member countries by 2021, translates these bilateral security programs into a multilateral standard architecture. Critically, the SAFE Framework's approach to supply chain security is risk-based rather than comprehensive; rather than attempting to inspect all cargo, an operationally impossible and economically destructive objective, it stratifies the trader population by compliance risk and concentrates enforcement resources on high-risk operators while providing certified low-risk operators with expedited processing (Karlsson, 2017). This risk stratification logic is the intellectual core of the AEO program and represents a significant departure from the traditional customs inspection paradigm.

The empirical literature on AEO program outcomes in developed economies is broadly supportive. Jażdżewska-Gutta, Grottel, and Wach (2020) document significant reductions in border crossing time, inspection frequency, and supply chain disruption costs for AEO-certified companies in a multi-country study of BASC member firms. Houé and Murphy (2018) confirmed positive supply chain security outcomes for AEO participants in Central Europe. Mafurutu (2024) documented that AEO-certified

companies in Australia experienced measurable improvements in clearance predictability and reduced compliance costs over time. However, these benefits are contingent on the institutional quality of the customs administration implementing the program, a variable that assumes particular significance in emerging economies.

2.3 AEO Implementation in Emerging Economy Contexts

The translation of WCO-standardized AEO requirements into practice in emerging economy customs administrations presents distinctive challenges that the developed-economy literature does not fully address. Institutional capacity constraints, including limited inspection technology, underdeveloped risk management information systems, inadequate staffing, and lower levels of inter-agency data sharing, create implementation gaps between formal regulatory commitments and operational realities (Grainger, 2011; Vos, Van der Lelij, Schiele, & Praas, 2021). Karlsson (2017) identify several critical implementation success factors for AEO programmes in developing countries: strong political commitment at the senior customs management level; adequate resource allocation for training and certification audit capacity; robust outreach to the private sector regarding the value proposition of certification; and development of credible monitoring and post-certification review systems. These factors are interdependent; weak monitoring, for instance, undermines the signal value of certification and reduces the private-sector incentive to bear compliance costs.

ASEAN, of which Indonesia is a member, has developed a regional AEO framework through the ASEAN Customs Declaration and Facilitation Framework and the ASEAN MRA negotiation process, creating a regional architecture for AEO mutual recognition (Hamanaka and Jusoh, 2018). Indonesia's participation in this regional architecture, alongside its bilateral MRA with South Korea's Korea Customs Service (effective 2020), situates Indonesian AEO implementation within both global WCO standards and regional integration dynamics in a multi-level governance environment that port-level customs administrations must navigate.

2.4 Supply Chain Security, Trade Facilitation, and Economic Development

The relationship between customs modernization, trade facilitation, and economic development is a well-established empirical proposition. Handley, Kamal, and Monarch (2025) conducted an influential analysis and estimated that trade costs, including customs procedures, border compliance costs, and supply chain uncertainty, constitute a substantial implicit tariff that trade facilitation reforms can reduce. The World Bank's Logistics Performance Index (LPI) consistently documents a strong association between customs efficiency and trade performance, with Indonesia's LPI rankings highlighting customs procedure quality as a priority for improvement.

Within this macro-level evidence, AEO programs have been documented to reduce total import and export clearance times, lower logistics costs for certified operators, and improve supply chain predictability outcomes with direct implications for firm-level competitiveness and national export performance (Zatira, Sari, & Apriani, 2021). The Indonesian AEO programme's documented contribution to national foreign exchange flows AEO and MITA operators contributed IDR 250 trillion (6%) to export foreign exchange and IDR 177 trillion (10%) to import foreign exchange, providing macroeconomic evidence of the programme’s commercial significance (Surono & Purba, 2022).

2.4 Research Gap

The literature review revealed a clear research gap. While the global AEO literature has advanced the understanding of program design principles Tweddle (2008), developed-economy implementation experiences Mafurutu (2024), and macroeconomic trade facilitation benefits, a systematic qualitative analysis of port-level AEO governance in Indonesian emerging economy contexts addressing the specific institutional mechanisms, capacity challenges, and compliance management practices of regional customs offices is absent from the peer-reviewed literature. This study addresses this gap by providing the first systematic case analysis of KPPBC TMP Tanjung Perak's AEO implementation, generating both descriptive evidence and theoretical insights into emerging economy AEO governance.

3. Methodology

3.1 Research Design

This study employed a qualitative descriptive case study design Rijali (2018), which is epistemologically appropriate for its objectives. The case study methodology is suited to research questions asking "how" and "why" about contemporary phenomena within their real-world institutional context (Yin, 2018), and is well established in customs and trade governance research (Grainger, 2011; Karlsson, 2017). The single case of KPPBC TMP Tanjung Perak is analytically justified by its status as a strategic representative site. As Indonesia's largest eastern archipelago port customs administration, it provides a theoretically significant and empirically rich context for examining AEO implementation dynamics, which are likely to reflect and inform practices across comparable Indonesian regional customs offices.

3.2 Data Collection

Data were collected using three complementary methods consistent with the principles of qualitative triangulation (Creswell & Creswell, 2017). First, a semi-structured interview was conducted with Mr. Hendra Witcahyo, a Customs Inspector within the Public Services and Counselling Section (*Seksi Penyuluhan dan Layanan Informasi, PLI*) of KPPBC TMP Tanjung Perak, on 3 October 2023. As the section responsible for AEO client coordination, the PLI section possesses direct operational knowledge of AEO certification management, client interactions, and monitoring practices. The interviews addressed certification administration, client portfolio management, monitoring and evaluation practices, and operational capacity constraints. Second, a systematic documentary analysis was conducted encompassing the WCO SAFE Framework of Standards (2021 edition), WCO Mutual Recognition Arrangement/Agreement Strategy Guide (2021), Indonesian Presidential Instruction No. 1/2010; Ministry of Finance Regulation PMK No. 219/PMK.04/2010 and PMK No. 227/PMK.04/2014 and Directorate General of Customs and Excise Regulation Per-4/BC/2015. Third, secondary institutional sources, including KWBC Jatim I operational reports and KPPBC TMP Tanjung Perak institutional profile documentation, were reviewed.

3.3 Data Analysis

The interview data were transcribed and analyzed thematically through three sequential stages (Braun & Clarke, 2006). In the first stage, data reduction, raw interview transcripts and documentary data were coded inductively against the research question and deductively against the study's theoretical framework (regulatory governance, risk-based management, AEO certification logic). In the second stage, data display, coded segments were organized into thematic matrices identifying convergences and divergences across data sources. In the third stage, conclusion drawing and verification, cross-source triangulation was applied: findings emerging from the interview were verified against documentary evidence, and interpretive claims were tested against the international AEO literature to assess analytical plausibility.

3.4 Scope and Ethical Considerations

The study is temporally bounded to the period 2010–2023, corresponding to Indonesia's AEO regulatory lifecycle from initial adoption to current implementation. The informant consented to participate and the use of the interview data for research publication. To protect informant interests while maintaining analytical transparency, informant-specific operational data are reported at the jurisdictional level (KPPBC TMP Tanjung Perak) rather than being attributed to individual officers beyond the named interview citation.

4. Results and Discussion

4.1 Indonesian AEO Regulatory Architecture: Evolution and Framework

Indonesia's AEO program evolved through a structured regulatory progression over 13 years. The program's legal foundation was established by Presidential Instruction No. 1 of 2010, which directed the formulation of customs policy for AEO as a component of the seventh national development priority concerning investment and business climate improvement. This political commitment was operationalised by PMK No. 219/PMK.04/2010, which established AEO as a formal customs treatment

category, followed by a substantive revision through PMK No. 227/PMK.04/2014, which comprehensively codified AEO certification requirements, eligible operator categories, and governance architecture, was issued.

The 2014 regulation established the normative framework that currently governs AEO implementation. It designated six principal operator categories eligible for AEO certification: importers, exporters, customs brokers (PPJK), carriers, temporary storage operators (TPS), and bonded zone operators (TPB), as well as other supply chain participants, such as consolidators and postal service providers. This categorical scope reflects the WCO SAFE Framework's inclusive conception of supply chain actors, whose security and compliance behaviors collectively determine supply chain integrity (Turner, 2016). Critically, the 2014 regulation introduced the Client Manager (later re-designated Client Coordinator) function, assigning dedicated customs officers to provide communication, consultation, guidance, and monitoring services to AEO-certified companies, an innovation that institutionalized the customs-to-business partnership model at the operational level.

The certification process established by Directorate General Regulation Per-4/BC/2015 comprises seven sequential stages: application submission and documentation compliance, administrative requirements research (validation), field review and on-site audit, approval and certification, preferential customs treatment activation, monitoring and evaluation, and program development and MRA integration. This seven-stage architecture reflects a thorough compliance verification model that is consistent with WCO SAFE Framework certification standards, although it also implies a substantial compliance burden, particularly for SME operators, which the literature identifies as a key barrier to AEO participation beyond large multinational supply chain actors (Meemken et al., 2021).

4.2 AEO Programme Scale and National Performance: Contextualising Tanjung Perak

By 2021, Indonesia had 137 AEO-certified companies, a figure that reflects gradual but modest program uptake relative to the country's trade volume and the size of its formal trade operator population. This penetration rate is consistent with the pattern documented in emerging economy AEO programs globally, where the compliance cost-benefit calculus disproportionately favors large, export-intensive firms, while SMEs face structural barriers to certification participation (Campos et al., 2018; Karlsson, 2017).

However, the macroeconomic significance of the AEO program is disproportionate to the number of operators. In 2020, AEO-certified companies contributed approximately IDR 78 trillion (2%) to national export foreign exchange revenue and IDR 20 trillion (1%) to import foreign exchange, concentrated contributions reflecting the large-scale operators who dominate the AEO-certified population. When combined with AEO's complementary program (MITA Priority Customs Partners), the combined contribution reached IDR 250 trillion (6%) of export foreign exchange and IDR 177 trillion (10%) of import foreign exchange. These figures demonstrate that AEO-certified operators constitute a commercially critical segment of Indonesia's international trade economy, making the integrity and effectiveness of AEO governance a matter of significant national economic importance.

4.3 Tanjung Perak AEO Implementation: Institutional Architecture

Tanjung Perak Customs and Excise Service (KPPBC TMP Tanjung Perak) operates as the principal maritime customs authority for Surabaya and the surrounding East Java hinterland, responsible for supervising international trade traffic at Tanjung Perak port Indonesia's second-largest container port and the primary maritime gateway for the eastern archipelago. Its administrative jurisdiction is defined by the Ministry of Finance Regulation PMK No. 188/PMK.01/2016 encompasses the Surabaya City administrative area across six sub-districts with concentrated logistics and industrial activity.

Within this jurisdiction, KPPBC TMP Tanjung Perak administers 51 AEO-certified companies, approximately 37% of Indonesia's national AEO portfolio, reflecting the concentration of export-oriented manufacturing and logistics infrastructure in the East Java industrial zone. The AEO portfolio's management is institutionally housed within the Public Services and Counselling Section (Seksi PLI), which functions as the operational Client Coordinator for all 51 companies. This section-level

assignment of AEO management responsibilities reflects the program's institutionalization within normal customs administrative operations rather than its isolation as a specialized unit, an integration model that has both advantages (normalized customs-business relationships) and limitations (resource competition with other section functions).

The certification model operating at Tanjung Perak is characteristically centralized. While day-to-day client coordination responsibilities are discharged at the regional office level, primary certification decisions remain the prerogative of the Directorate General of Customs and Excise headquarters. Regional customs offices, such as KPPBC TMP Tanjung Perak, therefore, function primarily as operational administrators of nationally certified companies rather than as independent certification authorities, a governance architecture that ensures certification standard consistency but concentrates administrative bottlenecks at the national level. This tension between the national certification authority and regional operational responsibility is a structural feature of Indonesia's AEO governance model that has parallels in comparable emerging economy AEO programmes (Campos et al., 2018).

4.4 Compliance Requirements and the Certification Process at Tanjung Perak

The AEO certification requirements operationalized at Tanjung Perak translate the WCO SAFE Framework's twelve-criterion certification standard into twelve corresponding Indonesian regulatory requirements, such as customs and excise regulatory compliance, trade data management systems, financial viability, consultation, cooperation, and communication systems, education, training, and awareness programs, information exchange, access, and confidentiality systems, cargo security systems (audit-verified), goods movement security systems, premises and personnel security, trading partner security, crisis management and incident recovery procedures, and monitoring, measurement, analysis, and improvement systems.

The alignment between the WCO SAFE Framework standards and Indonesian domestic requirements is substantively close, a finding consistent with Indonesia's formal WCO member commitment and the government's stated objective of achieving internationally recognized AEO status. However, the implementation interview data revealed significant tension in the application of these requirements across the operator population supervised by the KPPBC TMP Tanjung Perak. Compliance certification was achievable for large, resource-rich operators with established security infrastructure and professional compliance departments; however, the same requirements present substantially higher relative costs for mid-sized operators, for whom the investment in security systems, audit preparation, and ongoing compliance maintenance represents a non-trivial operational burden. This differential compliance burden is documented in the international AEO literature as a systemic challenge that limits the program's reach beyond the largest supply chain operators (Mafurutu 2024).

4.5 Client Coordination and the Customs-Business Partnership at Tanjung Perak

The Client Coordinator function institutionalized through the 2014 PMK as the operational interface between customs and AEO-certified companies is the primary mechanism through which the customs-to-business partnership model of the WCO SAFE Framework is operationalized at Tanjung Perak. The PLI section, in its Client Coordinator role, provides communication support, regulatory guidance, compliance counselling, and monitoring oversight to the 51 AEO companies within its jurisdiction. This multifunctional role reflects the SAFE Framework's vision of the AEO program as a sustained partnership rather than a one-time certification event (Pham, 2019).

However, interview data reveal that the Client Coordinator function faces a significant structural challenge: the ratio of PLI section officers to supervised AEO companies creates a heavy client-to-coordinator ratio that constrains the depth and regularity of individual company engagement. This human resource constraint has practical implications for monitoring quality and early warning identification of compliance deterioration, outcomes that the regulatory governance literature identifies as critical for maintaining the program's risk differentiation logic (Baldwin, 1995). When coordinators have insufficient capacity for systematic engagement with all 51 companies, the coordination function tends to become reactive responding to identified problems rather than proactive preventing compliance drift through regular engagement–. This reactive orientation is empirically confirmed by the interview

evidence: monitoring and evaluation activities at KPPBC TMP Tanjung Perak disproportionately prioritize companies that have previously received warning letters or had their certifications frozen rather than distributing oversight systematically across the entire certified population.

4.6 Monitoring, Evaluation, and Oversight Capacity: The Core Governance Challenge

The monitoring and evaluation dimension of AEO governance constitutes the most significant challenge identified at KPPBC TMP Tanjung Perak. Effective AEO oversight requires regular post-certification reviews, audit activities, and compliance monitoring across the full certified company population activities that demand sustained human resource allocation, which the current PLI section staffing cannot adequately provide for a portfolio of 51 companies. The consequence is a monitoring deficit that produces the reactive oversight pattern described above, in which attention concentrates on already problematic companies while compliant companies receive limited engagement.

This monitoring deficit has implications that extend beyond individual company's compliance. The risk differentiation logic of AEO programmes and their core value proposition for customs administrations depends on the credibility and currency of the certified/non-certified distinction. If customs administrations cannot reliably distinguish currently compliant AEO operators from those experiencing compliance drift, the risk stratification underpinning AEO-based trade facilitation loses its analytical validity (Baldwin, 1995). Thus, the monitoring deficit creates a systemic vulnerability in the AEO governance architecture at Tanjung Perak that extends beyond administrative inconvenience to potential program integrity degradation.

The monitoring capacity challenge at Tanjung Perak is not unique; it reflects a structural tension documented across emerging economy AEO programs between the program's supervisory requirements and the available administrative capacity of port-level customs offices. Campos et al. (2018) identified monitoring capacity as one of the three most frequently cited implementation barriers in AEO program reviews across WCO member states. Addressing this challenge requires both resource investment and systemic redesign, specifically the development of risk-based monitoring frameworks that prioritize oversight resources toward companies showing compliance risk indicators rather than distributing oversight equally or concentrating it reactively.

4.7 Mutual Recognition Agreements and International Integration

Indonesia's international AEO integration has advanced incrementally through bilateral Mutual Recognition Agreements. The MRA was concluded with South Korea's Korea Customs Service in 2020. Indonesia's first operational bilateral AEO MRA provides a practical demonstration of the program 's cross-border facilitation value, enabling Indonesian AEO-certified exporters to receive expedited customs treatment in South Korea and vice versa. MRA negotiations are ongoing with Hong Kong, Australia, the United Arab Emirates, and China, collectively representing major trading partners that account for a substantial share of Indonesian export and import flows.

From the perspective of KPPBC TMP Tanjung Perak, the expansion of MRAs has positive implications for the supply chain competitiveness of the 51 AEO-certified companies within its jurisdiction, particularly exporters to South Korea, where MRA-backed expedited treatment is already operational. However, MRA expansion also creates additional governance responsibilities for regional customs offices: companies seeking to leverage MRA benefits must demonstrate sustained compliance, making the monitoring deficit discussed above even more consequential, as compliance failures by AEO-certified companies could undermine Indonesia's credibility as an MRA partner. This interdependency between domestic monitoring capacity and international MRA obligations represents an emerging governance challenge that has not yet been systematically examined in the literature (Karlsson, 2017).

5. Conclusions

5.1 Conclusion

This study examined the implementation of the Authorized Economic Operator (AEO) programme at KPPBC TMP Tanjung Perak, Indonesia's principal eastern archipelago port customs administration, through qualitative case study methodology combining semi-structured interview data, regulatory

documentary analysis, and triangulation against the international AEO literature. The findings generated four substantive conclusions.

First, Indonesia's AEO regulatory architecture demonstrates substantive alignment with the WCO SAFE Framework standards across certification criteria, operator category scope, and process architecture. The seven-stage certification process and twelve-criterion compliance requirements operationalized through Indonesian domestic regulation reflect a serious institutional commitment to international supply chain security governance standards, positioning Indonesia as a credible WCO SAFE Framework Implementer.

Second, KPPBC TMP Tanjung Perak's administration of 51 AEO-certified companies through a centralized certification decentralized coordination model generates measurable trade facilitation benefits for certified operators, as reflected in the substantial foreign exchange contributions of AEO and MITA operators to Indonesia's trade flows. The customs-to-business partnership institutionalized through the Client Coordinator function represents a meaningful operational innovation in customs-trade relations.

Third, the program faces a structural governance challenge in monitoring and evaluation capacity: the PLI section's client-to-coordinator ratio prevents systematic, preventive compliance oversight, generating a reactive monitoring pattern that concentrates on already problematic companies and creates vulnerability in the program's risk differentiation logic. Fourth, the programme's international integration through bilateral MRAs currently operational with South Korea and under negotiation with four additional major trading partners creates positive trade facilitation opportunities for certified operators while simultaneously imposing additional governance obligations that the current monitoring capacity cannot fully fulfil.

Theoretically, this study advances the emerging economy AEO implementation literature by providing empirical evidence of the tension between the centralized certification authority and decentralized monitoring capacity, a structural feature of Indonesian AEO governance that has parallels in comparable ASEAN emerging economy AEO programmes and deserves systematic comparative investigation. Practically, the study provides KPPBC TMP Tanjung Perak and the Directorate General of Customs and Excise with evidence-based identification of the monitoring capacity gap as the program's primary governance vulnerability, supporting the case for targeted human resource investment and systemic monitoring framework redesign.

5.2 Research Limitations

This study has four limitations. First, the single-case design of the KPPBC TMP Tanjung Perak provides analytical depth at the cost of breadth: the findings cannot be directly generalized to other Indonesian regional customs offices with different institutional configurations, operator populations, or administrative capacities without further comparative investigation. Second, primary data collection relied on a single key informant interview, limiting the range of institutional perspectives. Triangulation with documentary data partially mitigates this limitation but cannot fully substitute for the perspectives of multiple informants. Third, the temporal scope (2010–2023) reflects a specific regulatory and institutional period, and programme developments following the study's fieldwork period (October 2023) are not captured. Fourth, the study does not include direct engagement with AEO-certified companies operating within KPPBC TMP Tanjung Perak's jurisdiction, limiting the analysis to the customs administration's perspective rather than capturing the operator-side experience of AEO participation.

5.3 Suggestions and Directions for Future Research

The findings of this study suggest four productive directions for future research to explore. First, a comparative multi-site case study examining AEO implementation across two or more Indonesian regional customs offices, including both larger offices such as KPPBC TMP Tanjung Priok (Jakarta) and smaller Type B offices, would generate comparative insights into how institutional capacity, operator population composition, and administrative configuration influence implementation quality

and governance outcomes. Such a comparative design would enable the identification of the specific conditions under which monitoring capacity challenges emerge and the institutional arrangements that most effectively address them.

Second, future research should directly incorporate the operator-side perspective through interviews and surveys of AEO-certified companies operating within Indonesian customs jurisdictions. Understanding the certification cost burden, perceived benefit realization, and compliance management experience of operators, particularly across firm size categories, would provide a complementary evidence base for policy reform recommendations and advance the understanding of the distributional effects of AEO program participation within Indonesia's operator population.

Third, the relationship between monitoring capacity and compliance outcome quality warrants a quantitative investigation. Specifically, research examining whether variations in monitoring intensity across Indonesian regional customs offices correlate with variations in AEO-certified company compliance records, certification suspension rates, and post-certification compliance drift would provide empirical evidence for the theoretical proposition that monitoring capacity is a critical AEO governance variable. This research would require access to Directorate General of Customs and Excise administrative compliance data, which was beyond the scope of the current study.

Fourth, as Indonesia's MRA portfolio expands through ongoing negotiations with Australia, China, Hong Kong, and the UAE, future research should examine the operational implications of MRA obligations for regional customs office governance. Specifically, investigating how MRA commitments affect monitoring resource prioritization, compliance standard maintenance, and inter-jurisdictional customs coordination at the port level would advance the understanding of the multi-level governance dynamics of AEO international integration in emerging economy contexts, a research agenda with direct policy relevance for WCO member states developing AEO programmes within regional integration frameworks.

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