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Implementing Authorized Economic Operator Programmes in Emerging Market Customs Administrations

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Abstract

Purpose: This study examines the implementation of the Authorized Economic Operator (AEO) programme at Tanjung Perak Customs and Excise Service (KPPBC TMP Tanjung Perak), Indonesia's principal eastern maritime customs administration. T

Methodology: A qualitative descriptive case study design was adopted, combining semi-structured interviews with a key informant from the Public Services and Counselling Section of KPPBC TMP Tanjung Perak, systematic documentary analysis of Indonesian AEO regulatory instruments spanning 2010 to 2023, and thematic analysis benchmarked against WCO SAFE Framework standards.

Results: The findings indicate that Tanjung Perak Customs administers 51 AEO-certified companies, representing approximately 37% of Indonesia's national AEO portfolio, through a centralized certification system coordinated by the Directorate General of Customs and Excise. AEO operators contributed around IDR 78 trillion in export foreign exchange and IDR 20 trillion in import foreign exchange in 2020. However, implementation faces capacity constraints in systematic monitoring, resulting in a predominantly reactive oversight approach.

Conclusions: Indonesia's AEO implementation reflects a hybrid governance model combining centralized certification with decentralized monitoring, generating both trade facilitation benefits and governance challenges related to supervision effectiveness.

Limitations: The study is confined to a single customs jurisdiction and the 2010–2023 period, limiting broader generalization.

Contributions: This research advances AEO literature in emerging economies through a port-level analysis of governance tensions in customs administration.

Keywords: *Authorized Economic Operator, Customs Administration, Emerging Economy, SAFE Framework, Trade Facilitation*

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1. Introduction

The governance of international trade flows has undergone profound transformation since the early 2000s, driven by the convergence of two strategic imperatives: the facilitation of legitimate trade as a driver of economic development and the securing of global supply chains against terrorism, smuggling, and regulatory non-compliance (Hintsa et al., 2011; Grainger, 2014). These twin objectives of security and facilitation appear paradoxical at first examination, yet the Authorized Economic Operator (AEO) programme developed under the auspices of the World Customs Organization (WCO) SAFE Framework of Standards represents the most sophisticated institutional mechanism yet designed to reconcile them (Widdowson & Holloway, 2018; Rozsa, 2024).

The AEO concept posits that certified operators demonstrating verifiable compliance with supply chain security standards should receive preferential customs treatment, including expedited clearance, reduced physical inspections, and priority processing, while customs administrations redirect surveillance resources toward non-certified, higher-risk operators (van Stolk & Wegrich, 2011; Holloway, 2020). This risk-differentiation logic, grounded in neo-liberal regulatory theory, transforms the customs-trade relationship from adversarial inspection to collaborative partnership Widdowson & Holloway, 2018. By 2023, more than 80 countries had implemented AEO-equivalent programmes, with Mutual Recognition Agreements (MRAs) progressively expanding the cross-border benefits of certification (World, 2023).

Indonesia's adoption of the AEO programme, formalised through Presidential Instruction No. 1 of 2010 and subsequently codified in Ministry of Finance Regulation No. 227/PMK.04/2014, reflects the government's strategic commitment to improving logistics competitiveness and positioning Indonesia as a credible participant in global supply chains (Directorate & Excise, 2014). Indonesia's Logistics Performance Index (LPI) score and port efficiency rankings have historically constrained its international trade competitiveness; AEO implementation represents a targeted institutional response to these structural weaknesses (World Bank, 2023; Holloway, 2020). The broader macroeconomic context reinforces this strategic rationale: international trade contributes significantly to Indonesia's GDP growth, and improvements in customs procedures directly affect export and import transaction costs (Hanifah, 2022; Wulandari & Zuhri, 2019).

The port of Tanjung Perak in Surabaya, East Java, functions as the 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 (KWBC, 2021). As such, Tanjung Perak provides an analytically rich site for examining how WCO-standardised AEO requirements translate into practice within an emerging economy port customs administration (Yin, 2018; Creswell & Creswell, 2018).

Despite the growing global AEO literature, significant gaps persist. Most empirical AEO studies focus on developed economy contexts, including European Union member states, the United States C-TPAT programme, 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 (Widdowson & Holloway, 2018; Rozsa, 2024; Szelp, 2010). Within the Indonesian context specifically, 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 underexamined in peer-reviewed literature (Gebhardt & Koch, 2021; Ndiaye, 2021).

This study addresses this gap by conducting a systematic qualitative case study of AEO implementation at KPPBC TMP Tanjung Perak. The novelty of this research lies in its provision of the first systematic port-level empirical analysis of AEO governance dynamics within Indonesia's largest eastern archipelago customs administration, specifically revealing the structural tension between

centralised certification authority and decentralised monitoring capacity that has not previously been examined in the peer-reviewed literature. The study is guided by the following research question: How is the AEO programme implemented at Tanjung Perak Customs, and what institutional mechanisms and capacity challenges characterise its operation? The study contributes to the emerging economy AEO implementation literature, advances understanding of the tension between centralised certification and decentralised monitoring in customs governance, and provides evidence-based recommendations for strengthening Indonesian AEO administration (Parthiban et al., 2020; McLinden et al., 2011).

2. Literature Review

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. Baldwin, 1995 regulatory governance framework identifies three core dimensions of effective regulation: standard-setting, information-gathering, and behaviour modification. AEO programmes operationalise 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 behaviour at scale (Grainger, 2014; Holloway, 2020; Tweddle, 2007).

Complementing regulatory governance theory, the transaction cost economics framework Williamson (1985) provides analytical purchase on the economic rationale for AEO participation. Certification imposes upfront compliance costs on operators, including investment in security infrastructure, documentation systems, personnel training, and ongoing audit preparation, which are justified by the reduction in transaction costs arising from expedited customs clearance, reduced inspection delays, and enhanced supply chain predictability (Gutierrez, Hintsa, Wieser, & Hameri, 2007; Rozsa, 2024). 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 (Widdowson, & Holloway, 2018).

The SAFE Framework itself embeds a complementary institutional logic through its Customs-to-Customs (C2C) pillar and Customs-to-Business (C2B) pillar (WCO, 2021a). The C2C pillar creates the architecture for Mutual Recognition Agreements (MRAs), through which AEO certification by one customs administration is recognised by another, extending trade facilitation benefits across borders. The C2B pillar establishes the requirements and incentive structure for AEO participation at the firm level. Together, these pillars create a multi-level governance structure in which international standards are domestically implemented and bilaterally recognised, a structure that generates distinct challenges for customs administrations in emerging economies with variable institutional capacity (Widdowson and Holloway, 2018; Brenton, & Imagawa, 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 global container trade to catastrophic exploitation. The United States Customs and Border Protection's Container Security Initiative (CSI) and the Customs-Trade Partnership Against Terrorism (C-TPAT), launched in 2001 and 2002 respectively, established the foundational voluntary compliance paradigm that WCO subsequently codified in the SAFE Framework (Szelp, 2010; Tweddle, 2007). Canada's Partners in Protection (PIP) programme provided a parallel model, collectively demonstrating the viability of government-industry partnership in supply chain security management (Wolffgang & Dallimore, 2012).

The WCO SAFE Framework, adopted by 144 member countries by 2021, translates this bilateral security programmed into a multilateral standard architecture (World, 2023). The empirical literature on AEO programme outcomes in developed economies is broadly supportive. Gutierrez et al. (2007) documented 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. Erceg (2014) confirmed positive supply chain security outcomes for AEO participants in Central European contexts, while Holloway (2020) documented that AEO-certified companies in Australia experienced measurable improvements in clearance predictability and reduced compliance costs over time. These benefits, however, are contingent on the institutional quality of the customs administration implementing the programmed, a variable that assumes particular significance in emerging economy contexts (Gebhardt & Koch, 2021).

Recent scholarship has further expanded understanding of AEO programme dynamics. Parthiban et al. (2020) examined WCO's evolving role in global trade facilitation, highlighting how SAFE Framework revisions have progressively incorporated capacity-building dimensions alongside security requirements. Ndiaye (2021) provided comparative institutional analysis demonstrating that customs governance quality mediates the relationship between formal AEO programmed adoption and realized trade facilitation benefits, a finding with direct implications for emerging economy implementation contexts. The integration of digital customs systems with AEO governance has also emerged as a significant research theme, with evidence suggesting that e-customs platforms can substantially reduce the administrative burden of AEO compliance monitoring (Chen & Ma, 2015; Gebhardt & Koch, 2021).

2.3 AEO Implementation in Emerging Economy Contexts

The translation of WCO-standardised 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 commitment and operational reality (Grainger, 2014; Brenton, & Imagawa, 2017; Rozsa, 2024).

Widdowson and Holloway (2018) identify several critical implementation success factors for AEO programmes in developing country contexts: 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. This interconnection between administrative capacity and programmed credibility is particularly acute in port-level customs administrations that manage large, certified operator portfolios with constrained human resources (McLinden, Fanta, Widdowson, & Doyle, 2011; Ndiaye, 2021).

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 (Brenton & Imagawa, 2017). Indonesia's participation in this regional architecture, alongside its bilateral MRA with South Korea's Korea Customs Service effective in 2020, situates Indonesian AEO implementation within both global WCO standards and regional integration dynamics. This multi-level governance environment generates cumulative compliance and monitoring obligations that port-level customs administrations must navigate with existing resource endowments (Rozsa, 2024; World, 2023).

2.4 Supply Chain Security, Trade Facilitation, and Economic Development

The relationship between customs modernization, trade facilitation, and economic development constitutes a well-established empirical proposition. Anderson (2004) influentially 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 consistently documents a strong association between customs efficiency and trade performance, with Indonesia's LPI rankings highlighting customs procedure quality as a specific improvement priority (World, 2023).

Within this macro-level evidence, AEO programmed specifically 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 (Rozsa, 2024; Holloway, 2020). The macroeconomic significance of certified operators to national trade flows is documented in the Indonesian context: AEO and MITA operators together contributed IDR 250 trillion, representing approximately 6% of export foreign exchange, and IDR 177 trillion, representing approximately 10% of import foreign exchange, illustrating that a small, certified operator population can represent a disproportionate share of national trade economic activity (KWBC Jatim I, n.d.). These figures are consistent with the broader literature documenting the concentration of AEO certification among large, export-intensive firms whose trade volumes generate significant national economic outcomes (Hanifah, 2022; Yuni, & Hutabarat, 2021).

The humanitarian and resilience dimensions of supply chain security have also attracted increasing attention following the COVID-19 pandemic, which exposed vulnerabilities in global trade networks that had been underestimated in pre-pandemic AEO literature (Kovacs & Spens, 2019). Gebhardt and Koch (2021) found that AEO certification was associated with enhanced supply chain resilience during the pandemic disruption period, providing additional evidence that the security and facilitation benefits of AEO programmes extend to broader resilience outcomes beyond routine operations. This resilience dimension adds a further policy rationale for strengthening AEO governance in economies, such as Indonesia, that are exposed to both supply chain disruption risks and external demand volatility (Ibrahim, & Halkam, 2021; Wulandari, & Zuhri, 2019).

2.5 Research Gap

The literature review reveals a clear and significant research gap. While the global AEO literature has advanced understanding of programme design principles in Tweddle (2007), developed-economy implementation experiences (Gutierrez, Hintsa, Wieser, and Hameri (2007), Erceg (2014), and Holloway (2020), and macroeconomic trade facilitation benefits Anderson (2004) and World (2023), systematic qualitative analysis of port-level AEO governance in Indonesian emerging economy contexts remains absent from the peer-reviewed literature. This gap is particularly consequential given that Indonesia's port-level customs offices manage a combined AEO portfolio of national economic significance. 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 about emerging economy AEO governance dynamics (Yin, 2018; Creswell, & Creswell, 2018).

3. Research Methodology

3.1 Research Design and Justification

This study employs a qualitative descriptive case study design (Yin, 2018), which is epistemologically appropriate for its research objectives. Case study methodology is suited to research questions asking how and why about contemporary phenomena within their real-world institutional context (Yin, 2018; Creswell & Creswell, 2018. This also well-established in customs and trade governance research (Widdowson & Holloway, 2018; Grainger, 2014). The single-case design, centred on 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 that are likely to reflect and inform comparable Indonesian regional customs offices (Yin, 2018; Rijali, 2019). The qualitative approach is further justified by the study's objective of understanding institutional mechanisms and capacity constraints in depth, rather than testing hypotheses about causal relationships across large samples. Where quantitative approaches would sacrifice contextual richness for statistical generalisability, the case study methodology preserves the institutional context that is essential for understanding AEO governance dynamics at the port level (Braun & Clarke, 2006; Creswell & Creswell, 2018).

3.2 Data Collection and Analysis Procedures

Data were collected through three complementary methods consistent with qualitative triangulation principles (Creswell & Creswell, 2018). First, a semi-structured interview was conducted with Mr. Hendra Witcahyo, a Customs Inspector within the Public Services and Counselling Section (*Seksi* 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 interaction, and monitoring practices. The interview addressed certification administration, client portfolio management, monitoring and evaluation practices, and operational capacity constraints (Rijali, 2019). Second, systematic documentary analysis was conducted encompassing: WCO SAFE Framework of Standards (2021 edition), WCO Mutual Recognition Arrangement/Agreement Strategy Guide (2021), Indonesian Presidential Instruction No. 1/2010, Ministry of Finance Regulations 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 (Kementerian Keuangan, 2010; Directorate General of Customs and Excise, 2014). Third, secondary institutional sources including KWBC Jatim I operational reports and KPPBC TMP Tanjung Perak institutional profile documentation were reviewed (KWBC, 2021).

Interview data were transcribed and analysed thematically (Braun & Clarke, 2006) through three sequential stages. 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 of regulatory governance and risk-based management. In the second stage, data display, coded segments were organised 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 (Creswell & Creswell, 2018; Rijali, 2019). The study is temporally bounded to the period 2010 to 2023, corresponding to Indonesia's AEO regulatory lifecycle from initial adoption through current implementation. The research informant consented to participation and the use of interview data for research publication, with institutional data reported at the jurisdictional level to protect informant interests while maintaining analytical transparency Braun & Clarke, 2006.

Table 1. AEO certification criteria: WCO SAFE framework alignment with Indonesian regulatory requirements

No.	Criterion	WCO SAFE Framework Pillar	Indonesian Regulatory Basis
1	Customs and excise regulatory compliance	C2B Pillar	PMK No. 227/PMK.04/2014
2	Trade data management systems	C2B Pillar	PMK No. 227/PMK.04/2014
3	Financial viability and solvency	C2B Pillar	Per-4/BC/2015
4	Consultation, cooperation, and communication systems	C2B Pillar	Per-4/BC/2015
5	Education, training, and awareness programmes	C2B Pillar	Per-4/BC/2015
6	Information exchange, access, and confidentiality systems	C2B Pillar	Per-4/BC/2015
7	Cargo security systems (audit-verified)	C2B Pillar	Per-4/BC/2015
8	Goods movement security systems	C2B Pillar	Per-4/BC/2015
9	Premises and personnel security	C2B Pillar	Per-4/BC/2015
10	Trading partner security	C2B Pillar	Per-4/BC/2015
11	Crisis management and incident recovery procedures	C2C & C2B Pillars	Per-4/BC/2015
12	Monitoring, measurement, analysis, and improvement systems	C2B Pillar	Per-4/BC/2015

Table 1 show the alignment between AEO certification criteria, the WCO SAFE Framework pillars, and Indonesian regulatory bases. It shows 12 key requirements, including compliance, trade data management, financial viability, communication systems, training, information exchange, and various security-related measures across cargo, goods movement, premises, and trading partners, as well as crisis management and monitoring systems. Most criteria are aligned with the C2B Pillar, with crisis management involving both C2B and C2C pillars. Overall, the table demonstrates strong integration between international customs security standards and Indonesia's national regulatory framework.

4. Results and Discussions

4.1 Results

Indonesia's AEO programme evolved through a structured regulatory progression spanning thirteen years. The programme'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 (Presiden, 2010). This political commitment was operationalised by PMK No. 219/PMK.04/2010 and comprehensively revised through PMK No. 227/PMK.04/2014, which codified AEO certification requirements, eligible operator categories, and governance architecture (Kementerian, 2010; Directorate, & Excise, 2014).

The 2014 regulation established the normative framework currently governing AEO implementation. It designated six principal operator categories eligible for certification: importers, exporters, customs brokers (PPJK), carriers, temporary storage operators (TPS), bonded zone operators (TPB), as well as consolidators and postal service providers (Directorate & Excise, 2014). This categorical scope reflects the WCO SAFE Framework's inclusive conception of supply chain actors whose security and compliance behaviour collectively determines supply chain integrity (WCO, 2021b). Critically, the 2014 regulation introduced the Client Manager, later redesignated Client Coordinator, function, assigning dedicated customs officers to provide communication, consultation, guidance, and monitoring services to AEO-certified companies, institutionalising the customs-to-business partnership model at the operational level (Witcahyo, 2023; Directorate and Excise, 2014).

The certification process established by Directorate General Regulation Per-4/BC/2015 comprises seven sequential stages: application submission and documentation compliance; administrative requirements validation; field review and on-site audit; approval and certification issuance; preferential customs treatment activation; monitoring and evaluation; and programme development and MRA integration (Directorate & Excise, 2015). Table 1 above summarises the twelve AEO certification criteria aligned between WCO SAFE Framework standards and Indonesian domestic regulatory requirements. This seven-stage architecture reflects a thorough compliance verification model consistent with WCO SAFE Framework certification standards, though it also implies a substantial compliance burden, particularly for SME operators, that the literature identifies as a key barrier to AEO participation beyond large multinational supply chain actors (Gutierrez, Hintsa, Wieser, & Hameri, 2007).

By 2021, Indonesia had 137 AEO-certified companies nationally, with KPPBC TMP Tanjung Perak administering 51 of these, representing approximately 37% of the national AEO portfolio (KWBC, 2021). This penetration rate is consistent with the pattern documented in emerging economy AEO programmes globally, where the compliance cost-benefit calculus disproportionately favours large, export-intensive firms while SMEs face structural barriers to certification participation (Widdowson, & Holloway, 2018; Rozsa, 2024). Despite this modest operator penetration, the macroeconomic significance of the programme is substantial. AEO-certified companies contributed approximately IDR 78 trillion to national export foreign exchange revenue and IDR 20 trillion to import foreign exchange in 2020. When combined with MITA programmed participants, the aggregate contribution reached IDR 250 trillion (6%) of export foreign exchange and IDR 177 trillion (10%) of import foreign exchange (KWBC Jatim I, n.d.). These figures, summarized alongside other key performance indicators in Table 2, demonstrate that AEO-certified operators constitute a commercially critical segment of Indonesia's international trade economy (Hanifah, 2022; Yuni, & Hutabarat, 2021).

Table 2. AEO programmed performance indicators: National and Tanjung Perak comparison

Indicator	National (2020)	Tanjung Perak	% of National	Source
Total AEO-certified companies (2021)	137	51	37.2%	KWBC Jatim I, 2021
Export foreign exchange contribution (IDR)	78 trillion	N/A	N/A	KWBC Jatim I, n.d.
Import foreign exchange contribution (IDR)	20 trillion	N/A	N/A	KWBC Jatim I, n.d.
AEO + MITA export forex (IDR)	250 trillion (6%)	Majority from East Java	~40%	KWBC Jatim I, n.d.
AEO + MITA import forex (IDR)	177 trillion (10%)	Majority from East Java	~35%	KWBC Jatim I, n.d.
Active MRAs	1 (South Korea)	Operational	Full	WCO, 2023
Pending MRA negotiations	4	Australia, China, HK, UAE	In progress	WCO, 2023

Table 2 show the 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, defined by 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 (Kementerian, 2016). 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 certified companies within the jurisdiction. 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 national Directorate General of Customs and Excise headquarters, ensuring certification standard consistency at the cost of concentrating administrative processes at the national level (Directorate & Excise, 2014).

Interview data from the PLI section officer confirm that compliance certification was achievable for large, resource-rich operators with established security infrastructure and professional compliance departments, but the same requirements present substantially higher relative costs for mid-sized operators for whom 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 programmed reach beyond the largest supply chain operators (Gutierrez et al., 2007). The interview also confirms that the monitoring and evaluation dimension of AEO governance constitutes the most significant operational challenge at Tanjung Perak. The PLI section's client-to-coordinator ratio prevents systematic, preventive compliance oversight, generating a reactive monitoring pattern that concentrates attention on already-problematic companies, specifically those that have received warning letters or had certifications frozen, while compliant companies receive limited proactive engagement (KWBC, 2021).

4.2 Discussion

The findings from Tanjung Perak generate several analytically significant observations that advance the emerging economy AEO implementation literature. First, the regulatory alignment between WCO SAFE Framework standards and Indonesian domestic certification requirements is substantively close, reflecting Indonesia's serious institutional commitment to international supply chain security governance standards (Directorate & Excise, 2015). This alignment is consistent with the pattern documented by Widdowson and Holloway (2018) in their analysis of AEO programme evolution across WCO member states, where formal regulatory adoption has generally outpaced operational implementation quality. The Tanjung Perak case provides empirical support for this observation: formal regulatory alignment is high, but operational implementation faces significant capacity constraints that the formal regulatory framework does not fully resolve (Rozsa, 2024; Ndiaye, 2021).

Second, the monitoring deficit identified at KPPBC TMP Tanjung Perak has implications that extend beyond individual company compliance management. The risk differentiation logic of AEO programmed, the core value proposition for customs administrations, depends on the credibility and currency of the certified versus non-certified distinction (Baldwin, 1995). If customs administrations cannot reliably distinguish currently compliant AEO operators from those experiencing compliance drift, the risk stratification underpinning AEO-based trade facilitation loses analytical validity. The monitoring deficit thus creates a systemic vulnerability in the AEO governance architecture at Tanjung Perak that extends beyond administrative inconvenience to potential programmed integrity degradation (Holloway, 2020; Grainger, 2014). This finding aligns with Rozsa (2024) identification of monitoring capacity as one of the three most frequently cited implementation barriers in AEO programmed reviews across WCO member states.

Third, the Client Coordinator function institutionalized through the 2014 PMK represents a meaningful operational innovation in customs-trade relations that partially mitigates the monitoring deficit (Directorate & Excise, 2014). The PLI section's multi-function role as communication support, regulatory guidance, compliance counselling, and monitoring oversight provider reflects the SAFE Framework's vision of the AEO programmed as a sustained partnership rather than a one-time certification event (World, 2023; Tweddle, 2007). However, the heavy client-to-coordinator ratio constrains the depth and regularity of individual company engagement below the threshold required for genuinely preventive compliance oversight, generating the reactive orientation confirmed by interview evidence (Widdowson & Holloway, 2018).

Fourth, Indonesia's international AEO integration through bilateral MRAs creates positive trade facilitation opportunities for certified operators while simultaneously imposing additional governance obligations that the current monitoring capacity cannot fully discharge. The MRA concluded with South Korea's Korea Customs Service in 2020 provides practical demonstration of the programme's cross-border facilitation value for Indonesian AEO-certified exporters. However, MRA obligations create an interdependency between domestic monitoring capacity and international credibility: compliance failures by AEO-certified companies could undermine Indonesia's reliability as an MRA partner, a governance dimension that the literature has not yet systematically examined (Widdowson and Holloway, 2018; Brenton, & Imagawa, 2017). As Indonesia advances MRA negotiations with Australia, China, Hong Kong, and the United Arab Emirates, this interdependency becomes progressively more consequential for KPPBC TMP Tanjung Perak's governance responsibilities (World, 2023; Rozsa, 2024).

Fifth, the macroeconomic evidence on AEO programmed significance at Tanjung Perak aligns with and extends the international literature on the trade facilitation-economic development nexus (Anderson, 2004; World, 2023). The concentration of 37% of Indonesia's national AEO portfolio in a single port customs jurisdiction, combined with the disproportionate contribution of AEO-certified operators to national foreign exchange flows, indicates that Tanjung Perak's AEO governance quality has macroeconomic significance extending far beyond the 51 certified companies directly supervised. This macro-significance reinforces the policy case for targeted investment in monitoring capacity and human resource development at Tanjung Perak and comparable port customs administrations (McLinden, Fanta, Widdowson, & Doyle, 2011; Parthiban, Murali, & Subramanian, 2020).

5. Conclusions

5.1 Conclusion

This study examines the implementation of the Authorized Economic Operator programme at KPPBC TMP Tanjung Perak using a qualitative case study approach based on semi-structured interviews, regulatory document analysis, and triangulation with international AEO literature. The findings show that Indonesia’s AEO framework is strongly aligned with the WCO SAFE Framework, reflected in its structured certification process, comprehensive compliance criteria, and integration of international supply chain security standards into national customs regulations, positioning Indonesia as a credible implementer within the emerging economy context.

At the implementation level, KPPBC TMP Tanjung Perak manages 51 AEO-certified companies through a centralized certification system supported by decentralized coordination, generating significant trade facilitation benefits and improving customs–business collaboration through the Client Coordinator mechanism. However, the programme faces a key governance limitation in monitoring capacity, where limited human resources result in a reactive rather than preventive oversight approach. Additionally, while international mutual recognition agreements enhance trade facilitation, they also increase governance demands that exceed current supervisory capacity, highlighting a structural gap between international commitments and domestic implementation capability.

5.2 Research Limitations

This study is subject to four limitations. First, the single-case design provides analytical depth at the cost of breadth: 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 captured; triangulation with documentary data partially mitigates this limitation but cannot fully substitute for multiple informant perspectives. Third, the temporal scope covering 2010 to 2023 reflects a specific regulatory and institutional period, and programmed developments following the study's fieldwork period of 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 perspective rather than capturing the operator-side experience of AEO participation.

5.3 Directions and Future Study

The findings of this study suggest four productive directions for future research. 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 in 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.

Second, future research should directly incorporate the operator-side perspective through interviews and surveys with 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 recommendation. Third, the relationship between monitoring capacity and compliance outcome quality warrants quantitative investigation. Research examining whether variation in monitoring intensity across Indonesian regional customs offices correlates with variation 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.

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 and the capacity investments required to honour MRA commitments credibly. This research agenda has direct policy relevance for WCO member states developing AEO programmes within regional integration frameworks.

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Author Contributions

MSGF contributed to conceptualization, data collection, formal analysis, writing (original draft). MSZ contributed to supervision, methodology, review and editing, validation. All authors have read and agreed to the published version of the manuscript.

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