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Eka Rofiyanti

Department of Public Administration, Faculty of Administrative Science, Institut Ilmu Sosial dan Manajemen, STIAMI, Jakarta, Indonesia. (email: eka.rofiyanti@stiami.ac.id)

Dwi Agustina

Institut Ilmu Sosial dan Manajemen STIAMI, Jakarta, Indonesia.

Muhammad Firzah

Institut Ilmu Sosial dan Manajemen STIAMI, Jakarta, Indonesia.

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Eka Rofiyanti is a lecturer in Public Administration and an active faculty member at Institut Ilmu Sosial dan Manajemen STIAMI, Jakarta. Currently, she serves in the Department of Public Administration at the Faculty of Administrative Science, Institut Ilmu Sosial dan Manajemen STIAMI. Her academic expertise focuses on Public Policy. In addition, she is committed to advancing scientific research, teaching excellence, and policy development through research, academic publications, and community engagement initiatives in public administration. She also has a strong ability to foster critical thinking and analytical skills among students, and she has been a member of IAPA since 2024, which has a responsibility to support the organisation with national and international activities and academic activities.

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Policy Perspectives on Artificial Intelligence Adoption in Indonesia's Customs: Feasibility, Barriers, and Implications

Abstract

Governments worldwide have adopted Artificial Intelligence (AI) in customs operations to enhance efficiency, increase revenue, and improve national security as a fundamental aspect of the country's vision and mission. However, there is inefficient management and a lack of government commitment to maintaining this consistently. This indicates that global research on AI in customs is abundant, but in developing countries like Indonesia, the priority aspect remains uneven. In addition, this study applies qualitative and content analysis methods to secondary data to test issues in Indonesian customs operations. Essentially, this confirmation indicates that the concretization of IA in customs operations could enhance administrative processes (e.g., reporting goods, collecting revenue, and reducing goods fraud). These findings underscore the need for governments to establish regulations and comply with international trade agreements to provide visibility and access to customs operations. In summary, this study provides a clear commitment to applying AI in customs operations, with appropriate approaches grounded in visibility and access.

Keywords:
artificial intelligence adoption; customs operations; policy direction; Indonesia.

Introduction

To justify this, governments worldwide have increasingly turned to Artificial Intelligence (AI) to scale up administrative efficiency, combat illegal activities, and optimize revenue collection. The customs and excise sectors are among the most promising areas for AI adoption. On this basis, AI could assist in monitoring trade activities, identifying smuggling and tax evasion, and improving public sector revenues. In Indonesia, the Ministry of Finance

announced plans to develop an AI system to strengthen the oversight of customs and excise operations. But in many cases, the initiative's correlation reveals a problematic government commitment to adequately address the national priority, such as the vision and mission, which are in line with the country's problems (Silfia, 2025).

However, the application of AI in Indonesian customs operations suggests significant potential for developing reliable systems that provide visibility, access, and accountability in line with government modernization. Apart from that, the essential notion of this remark, the roadmap of the customs operation management, is fundamental to maintain the country's priority and consistently promote the interest of the products from the country itself. On the one hand, I underline that to establish this, the policy framework in customs management practice is a critical element for securing the country's interest. As one of Southeast Asia's largest economies, Indonesia faces considerable challenges in monitoring the vast flow of goods across its numerous ports and borders (Sandee, 2016; Setiawan et al., 2020; Werang, Werang, & Putri, 2025). Therefore, the AI system in customs operations could be more important for stimulating broader core customs management. On this basis, it will serve as a guide for staff to address operational and maintenance issues, such as manipulation and other issues that narrow the scope of customs management.

Therefore, the essential notion is that AI truly supports the seamless functioning of the economy and, more broadly, affects the country's economy, aiming to maintain development and apply good governance. Moreover, there is a misallocation of customs operations in Indonesia, which is consistent and poses a risk to operations, requiring urgent corrective action. According to the World Bank, Indonesia loses billions of dollars annually to illegal trade practices, including misinvoicing and customs fraud. The Indonesian Customs and Excise Department regulates the flow of goods into and out of Indonesia. However, it faces challenges in keeping up with the scale and complexity of modern trade. In more detail, the dependence of the country with minimal infrastructure to adopt AI in its customs operations will distort the essential purposes, such as national priority, and the multiple effect of these issues reveals primary diagnoses, notably corruption, inefficiency, and delays in customs activities (Maspul & Putri, 2025; Prasetya & Subur Purwana, 2021; Yusman et al., 2025).

Consequently, this idea promotes the adoption of AI in customs operations, with a greater impact on implementation if the concept, design, and purpose are appropriate for rigid systems. Hence, this empirical essay also focuses on AI adoption, its significant targets, and how it transforms. Zhong CHEN (2024) noted that AI in customs management had broader implications, assisting with administrative processes and mitigating missed items for human inspection through monitoring.

Similarly, Gkoni et al. (2024) point out that the integration of AI into customs operations depends on stakeholders committed to establishing the system with adequate protection and maintaining it across many activities

Dwi Agustina is an academic and researcher in Public Administration, with a focus on public policy, disaster management, and cross-sector collaboration in governance. She later completed her doctoral (PhD) studies in Public Administration at Universitas Padjadjaran. Since 2016, she has been serving as a faculty member and lecturer at Institut Ilmu Sosial dan Manajemen STIAMI, Jakarta. Over the course of her career, she has also held key leadership roles, including Dean of the Faculty of Administrative Sciences and Member of the Academic Senate at the same institution. Her academic work and research primarily address strategic issues, including governance, social resilience, public policy, and innovation in disaster management. Through her research, she contributes to the development of contextual and applicable public administration knowledge that responds to societal and governmental needs. In addition to teaching and research, Dwi Agustina also manages several academic journals at both national and international levels, reflecting her commitment to advancing scholarly dissemination and improving the quality of academic publications in public administration.

Muhammad Firzah is an academic and researcher in Public Administration, with a particular specialization in governance. His scholarly interests focus on public governance, institutional reform, policy implementation, and collaborative governance in the public sector. He has developed a strong academic foundation in administrative sciences, which supports his analytical approach to contemporary governance challenges, particularly in the context of decentralization and public-sector innovation. In addition to his roles in academia, he has contributed to various research projects and scholarly publications, addressing strategic issues such as governance reform, public service delivery, and policy effectiveness. He is also involved in academic forums and publication activities, demonstrating his commitment to advancing knowledge and promoting high-quality research in the field of public administration, particularly in governance studies.

within the scope of customs. In the context of Indonesia, Purba (2024) delivered an essential message that is more reflective of the customs department, given the massive corruption across all departments involved in customs operations. This confirmation strongly supports the argument that AI adoption in customs is important and should be applied effectively. However, the current issue is also connected to customs operations, which focus on data privacy. This result indicates that AI must be applied to regulation to protect data privacy and, most importantly, serve as a fundamental principle for operating the business (Gemiharto, 2024). Similarly, Aneta et al. (2025) highlight the main point of AI adoption: organizations that want to adopt need to lay the foundation with the competencies, a strategic approach, and management or organizational structure to mitigate bureaucratic resistance. From their perspective, the groundwork for AI adoption requires greater investment in customs staff activities to ensure the sustainability of their daily operations.

However, despite the growing interest in AI for customs and trade management, there is a lack of in-depth studies that specifically address its integration into Indonesia's customs operations. While there is substantial literature on AI applications in customs systems worldwide, few studies have examined the cultural, organizational, and legal factors that could affect AI's implementation. Formerly, even the most recent inspection of AI adoption to stimulate economic activity and promote the use of systems with sustainability in mind, with a specific scope such as improving efficiency and detecting unsafe trading.

However, empirical studies on the effect of AI in customs operations are still limited and constitute a novelty in this study that warrants analysis. This study addresses this gap by testing the barriers and providing a reliable solution to lay the scheme for AI adoption in Indonesia's customs operations. In addition, the primary objective of this study is to provide the actual prospect with a guide to navigate the concrete implementation of AI adoption within a custom scope and elicit the eligible trade practice.

This study aims to: 1. Check the feasibility of AI adoption within Indonesia's customs infrastructure in light of technological, legal, and organizational barriers. 2. The potential effect of AI on checking underreported or undervalued goods is calculated. 3. This study promotes recommendations for policymakers on how to navigate the barriers to AI adoption in customs management.

In summary, I believe that the prospect of AI in Indonesian customs is a primary consideration and helps the country prioritize and escalate goals aligned with its vision and mission. Based on this, the crucial aspects outlined in this study need to be applied in customs management to mitigate barriers, thereby enhancing policy-making by accurately capturing reality and identifying eligible prospects.

Methods

This study applied a qualitative descriptive, content analysis approach to investigate, understand, scrutinize, and evaluate recent issues in AI adoption in customs with a policy lens and offer a critical perspective on AI as a sustainability system regarding the feasibility of its concretization. To support this, I quote Creswell & Báez (2020), who demonstrate that qualitative descriptive research can promote in-depth understanding of the object of study, particularly in relation to an event within the daily context of the observed phenomenon, making this approach well-suited for researchers exploring the context under examination.

Figure 1. Creswell Analysis Model
Source: Author visualization, 2025

In this regard, the data analysis process was carried out systematically by collecting and analyzing secondary data from various sources, calculating government reports in the form of policy documents, and using databases and scientific journals. The application of this systematics can enhance the validity and description of the findings. To confirm these techniques, I applied the five strategies that were stipulated by Creswell & Poth (2016) as follows:

Based on Figure 1, focusing on problems is the first critical step in implementing AI into Indonesia's customs system: a thorough identification and understanding of the difficulties faced by customs officers. These issues include illegal trade, smuggling, and tax evasion, which have historically resulted in significant revenue losses for the country. Second, most current literature explains the essential role of AI in privacy data and the cost of AI as an economic price for its realization and notes the instability of stakeholders' concerns about AI. Thus, it can serve as a framework to illustrate that AI adoption is a multidimensional endeavor that requires strategic integration. Third, yields from government reports and academic studies can also provide secondary data for collecting information (data collection) on the extent of smuggling, tax evasion, and inefficiency in the current system, which will help measure the effectiveness of AI. Fourth, there is stress on interpretation. This flow demonstrates how to explore AI adoption concretely through data collection and then focuses on feasibility testing for integrating AI into infrastructure assistance.

Finally, focusing on reporting, which connotes the final analysis, this basis illustrates that the findings will be accountable to the reader through empirical justification. The process was thorough, and the core of the researchers played a crucial role in providing the reporting, based on analysis, serving as a summary of findings with an academic perspective, and ensuring that all inspections were eligible and accurate.

Results and Discussion

Feasibility of AI adoption in Indonesia's customs infrastructure

First, this study focuses on the concrete application of Artificial Intelligence (AI) in Indonesia's customs and excise operations. Such implementation presents a significant opportunity to enhance economic outcomes, for instance, by improving the efficiency of revenue collection and reducing illicit trade. Furthermore, this focus aligns directly with the primary objective of the feasibility assessment, which seeks to determine whether the integration of AI into the country's customs infrastructure is justified. In addition, the analysis encompasses technological, legal, and organizational barriers that may influence the adoption process. Moreover, the goal of this inspection is not only to justify these factors but also to create an eligible framework for country purposes to actualize the core economic idea and policy lens to mitigate issues and maintain the country's vision-mission consistently in customs management. Here, I attempt to present the components of the elements as follows: One of the primary components of this aspect is feasibility, which focuses on the technological barriers to adopting AI. The empirical inspection reveals that Indonesia's infrastructure for AI adoption is relatively limited and, admittedly, unreliable for operation (Maspul, 2025). In addition, I underline that the feasibility of technology within the current customs infrastructure needs to align with the reality context, as this justification will provide the proper framework for a predictive inspection-operating system to operate automatically.

Thus, adopting AI requires modernizing systems to organize data and maintain a high level of cybersecurity across the operational, functional, and protection aspects. Another case strongly supports the above claim, which states that technology limits the scope of regions and agencies broadly. For instance, the Port of Jakarta, located in Tanjung Priok, has a well-designed digital infrastructure to support customs operations. Still, in regions outside, especially in remote areas, the operation of AI may vary and, sadly, still rely on paper documentation (Salim & Hudalah, 2020). This gap strongly suggests that technological aspects will be the core foundation for establishing digital systems but could pose tremendous obstacles to the actualization of AI distribution nationwide.

In many more ways, the initiative to connect AI to customs operations requires fundamental steps, such as digitizing administration with eligible prospects that support it. To support this justification,

a few empirical studies have demonstrated how AI can assist public sector management in developing countries. As a result, research by Jia et al. (2021) and S. Li & Li (2024); Y. Li et al. (2024) found that legal systems, a primary concern in China, constrain AI practice. Similarly, Pal (2024) points out that in India, similar issues with AI practice have prevented the establishment of a data-driven foundation in the technological infrastructure. This empirical insight suggests that the government must apply the relevant principles to build an AI system with an appropriate lens, prioritize accountability, and establish concrete systems appropriately.

Moreover, further exploration of this connection reveals that the outcomes of technological assessment in Indonesia are likely to reflect similar challenges, underscoring the critical need for public-private partnerships to upgrade the requisite infrastructure. As evidenced in the case studies, a lack of modernized technological infrastructure persists in the region. However, addressing the current obstacles to AI adoption in customs operations necessitates clear articulation of the prospective benefits. This context concerns not only the outcomes of AI implementation but also how the country establishes its digital infrastructure. Through such measures, Indonesia can enhance its capacity to deploy AI in customs operations and simultaneously serve as a model for other developing countries seeking to operationalize AI adoption in customs operations. In detail, this prospect could shift the entire ecosystem of conventional methods toward AI adoption. In the context of AI in Indonesia's customs sector, a previous analysis revealed concerns about data privacy. This explains the correlation between AI adoption and data generation from archival collections. For instance, Indonesia stipulates data protection laws, known as PDP laws, as a fundamental concern for mitigating or preventing the misuse of data.

Based on this, AI adoption should comply with international laws and serve as a framework for every activity related to customs operations. In addition, another concentration emphasizes an international perspective to enhance AI feasibility while focusing on how the system will be more reliable in assisting customs operations. This basis should serve as a benchmark for Indonesia as a member of the WTO if it wants to implement AI in customs operations in accordance with standards and simplify regulations to promote fair international trade. Hence, this inspection also strongly supports the research by Alhosani & Alhashmi (2024) on AI-driven policy adoption in the public sector, which shows that countries facing complex legal systems often experience slow implementation of AI. In particular, the case of European countries also highlighted the primary concern that states face crucial issues in AI adoption in their customs operations (Khan & Mer, 2023; Labadie & Legner, 2023).

Hence, this study argues that Indonesia needs to set regulations to support AI customs operations by standardizing and consistently harmonizing international standards, considering the territory, namely, ASEAN partners. From here, I provide Indonesia's position in trade contestation: it will be a leader and central player in adopting AI in customs operations. In short, in this position, AI adoption in customs operations is not about adoption but about committing to actualizing AI in better ways. Moreover, the organization's context also reveals consistent issues with AI adoption in customs operations, focusing on the human and technological aspects. This demonstrates that AI adoption requires multiple ecosystems to support employees in using AI in their activities.

Most importantly, it is not about changing culture but about how the organization maintains its commitment to and actualizes AI more effectively and considers human factors in all processes to support customer operations that may accept the technology. However, it does not change all human functionality.

Furthermore, transparency has become a critical factor in AI adoption in customs operations, necessitating transparent and accessible processes for both internal and external users. It displays how AI is a system that will seamlessly support activities in the customs ecosystem without replacing all human involvement. In more detail, transparency needs to address human aspects to ensure that AI adoption is one of the factors that enable AI to take the appropriate steps. Here, I highlight the contradiction of revealing instability in AI to support the government ecosystem. Many governments are wary of rapid

technological advancements and continue to resist these processes. Consequently, they also retreated from rapid change and were unable to survive or adapt comprehensively to AI (Bengio et al., 2024; Gao & Zhang, 2024). To eliminate this, empirical evidence indicates that AI adoption concerns how the organization navigates customs activities, but it requires a tremendous commitment to specific purposes within the organization's scope (Horani et al., 2025; Kiris & Gurul, 2025). The research clearly shows that organizations must prioritize eliminating resistance across all levels and maintaining their prospects. Overall, this study attempts to inform the government that the organizational challenges faced by Indonesia's customs agencies are likely to mirror those in other countries, particularly in terms of resistance to change.

To gain a deeper understanding from a policy perspective, this study highlights the importance of aligning technological, legal, and organizational factors when considering AI adoption. Policymakers must understand that technological feasibility depends not only on the availability of AI technologies but also on the readiness of the infrastructure, legal framework, and human resources to support these changes. Hence, this study contributes to the field of AI in public sector governance by illustrating the connection between the nature of AI adoption and customs operations in the Philippines. It aims to address the critical need to assess the feasibility and concrete implementation of AI adoption through a policy lens and promote digitalization broadly across customs operations management.

In summary, I strongly suggest that the adoption of AI in customs operations should be feasible, accessible, and concrete to promote modernization and digitalization more effectively. By anticipating this consideration, the Indonesian government will be more active and ensure that AI is not a threat to modernized systems but a tool to assist in operational activities.

Evaluate the potential impact of AI on revenue generation

The second concentration focuses on the benefits of AI adoption in scaling up revenue for customs operations. These methods will create a guide for the AI effect on the revenue aspect and help inspect the underreported goods or the customs operation process. As a result, the significant issues regarding customs operations involving underreported and undervalued goods will have a greater impact on the government's responsibility to maintain the control function and to tax within the scope of customs operations (Hasan, 2020). Hence, this study attempts to evaluate AI adoption in Indonesian customs operations and its effects on enhancing certainty, efficiency, and overall trade obligations for revenue collection.

Admittedly, most current complexity attempts to serve customs operations relatively minimally, focusing on prohibited activities that block essential aspects such as accuracy, methods, legality, and economic profitisation. Erastov & Balytska (2025) claim that developing countries always face undetected food, which undermines the authority to secure revenue collection and undermines tax regulations as a customs operation. Similarly, the confirmation of the undereported goods cases underscores the importance of the quality of goods at entry and exit points (Cho et al., 2021).

In line with these cases, empirical evidence suggests that customs operations will be ineffective and will have implications for prohibited trade. According to a report by Kurauone et al. (2021), in the global context, revenue losses persist when under-evaluation and underreporting are rife in customs operations, particularly in developing countries. In Indonesia, the customs operation reveals inconsistencies in prohibited activities that also disrupt the functionality of authority elements, and this becomes a special concern as a feasibility aspect that requires transparency or an effective notion (Nugraha et al., 2024).

Acknowledging that this barrier is a focus of the administration, it also has broader effects on economic prospects and national security. For example, the customs practice of detecting prohibited goods (e.g., undeveloped and undervalued goods) primarily focuses on boosting revenue. However, it also considers how the process complies with trade fairness and is strongly committed to actively protecting domestic products. In addition, the complexity of trade competitiveness

globally has a critical aspect of global position to set the supply chains, the operation methods and how the organization organized the monitoring process is still insufficient, and this strongly has a more broader effect to open the concertization of AI in customs operation to assist the revenue collection and establish modernization of the systems in customs practices (Alfzari et al., 2025). Accordingly, the concretization of technological advancement in customs operations benefits the operationalization of all processes.

Empirical findings by Quindimil (2024) consistently show that in Latin America, the adoption of AI in customs operations brings benefits beyond. However, it could serve as a framework for modernizing government bodies. Similarly, the Chinese agency can enhance customs operations by conducting cross-checking analyses based on historical market data (Han et al., 2024). These findings support AI adoption as a technology to enhance most customs operations activities, provided that the applications are implemented appropriately and supported by a robust system. The relevance of these studies to Indonesia's context lies in their illustration of how advanced technologies can bridge the gaps in traditional customs enforcement. For instance, countries like Singapore and Malaysia, as Indonesian partners in economic trade, have also expanded AI adoption to support technological modernization and consistently maintain their capabilities to face the complexity of technology in customs settings (Liu et al., 2025; Medjedel et al., 2024)-all of the findings above stress that modernization is a core component of these countries who wants to enhace their capability, feasbility in customs operation. Interestingly, scaling up technologies such as AI for customization requires tremendous infrastructure and an eligible prospect, and it has more effective practices for the economy.

Moreover, the analysis focuses on the concrete application of AI in an eligible manner to eliminate prohibited activities in the future. For example, most customs activities use a system that focuses on detection as a manual process, avoids addressing paradoxical activities such as unpredictable goods, and scales down the value of goods based on market profitability. These facts align with the feasibility of AI itself in maintaining the process, essentially, and the prohibition on access to the goods if AI adoption is not feasible; this will more accurately and significantly prove modernization practices. For instance, a previous analysis found that adopting AI in modernization could be more accurate in detecting customs operationalization, and this standpoint suggests that implementing this system effectively reduces misconceptions about customs practices.

In short, the essential message of this case is that AI adoption, when applied properly and consistently and supported by a well-designed infrastructure, can significantly advance a country's vision and mission in customs management. Henceforth, adopting AI as a fundamental aspect to drive customs operations, based on empirical findings, suggests eligible ways, meaning that all the processes need to be consistently applied properly. This shift towards real-time monitoring would enable quicker intervention, reducing delays in the clearance process and detecting fraudulent activities before they escalate. However, this suggestion also argues that the Indonesian government needs to undergo essential reconstruction, such as a regulatory framework, considering the core of AI and its impact on the operationalization of customs.

In summary, the correlation above suggests that AI adoption is a primary concern in modernization across all digitalization processes, and it requires the commitment of actors to set the prospect of any aspect or element that supports AI adoption, notably in customs operations. Overall, these examples will inform the formal and informal sectors that AI adoption is not a threat but the future of technology, to be adopted with an appropriate and feasibility-based approach. Thus, the Indonesian government must ensure that the adoption of AI for customs enforcement does not result in arbitrary or biased decisions, particularly in valuation. As AI-driven tools for detecting undervaluation, the government must also ensure that an appropriate appeals mechanism is in place for traders who may dispute the automated decisions. In this case, the authority that implemented the AI adoption will set appropriate targets, maintain monitoring based on a historical timeline, and eliminate prohibited activities (Kim et al., 2023).

Previously, the AI concretization also increased its impact on suspicious activities and mitigated

misalignment in data monitoring for customs management (Allen et al., 2025). In conclusion, the illustration above affirms that Indonesia requires innovative models, strategic approaches, and regulatory changes to overcome barriers to AI adoption and provide viable alternatives. Most importantly, the consistency of AI adoption in customs operations should focus on feasibility, implementation, and prospects in line with the vision and mission of the country. In short, this study contributes to AI adoption as part of modernization efforts to enhance the practice of governance in both the public and informal sectors. It attempts to provide an understanding of AI by integrating a model, strategic commitment, and consistency within the framework of feasibility, access to those processes, and primary considerations of the effects broadly. By focusing on this confirmation, we believe that AI adoption in customs management will be more accurate in detecting unusual activities or prohibited processes. Overall, the policy implication is that the government of Indonesia, specifically within customs agencies, needs to set its agenda for regulatory change, design a well-functioning system grounded in feasibility, as this study reveals, and, most importantly, maintain its consistent commitment to AI adoption in customs management. part of the modernization to face competition in customs operations.

In conclusion, this investigation affirms that AI adoption in customs operations requires careful consideration and proper application. It estimates the pros and cons based on technological advancement and suggests that developing countries face similar problems regarding AI adoption. In summary, customs operations also align with the governance and procedures implemented by government institutions, such as customs agencies, to streamline revenue collection based on goods and tax characteristics. With this connection, countries will be more active in inspecting prohibited activities and enhancing their capacity to mitigate instability in customs management. These insights underscore the need to critically view AI adoption, focusing on its feasibility for governance in customs operations.

Pathways to Customs Modernisation in Indonesia

As mentioned in the previous analysis, AI adoption in customs management has broader implications for policymakers' perceptions of how to navigate the complexity of the modernization nexus within governance parameters. This confirmation strongly suggests that the government's commitment to adopting AI in customs management must be appropriate. The policy recommendations are as follows:

Based on Figure 2, the recommendations for this case outline the pivotal steps in Indonesian customs operations to establish a new perspective for effectively eliminating the complexity of customs operations. To concretize, the notion of an effective customs operation stresses the fundamental point of articulating how prioritizing country interests and ensuring security prospects, and this basis requires

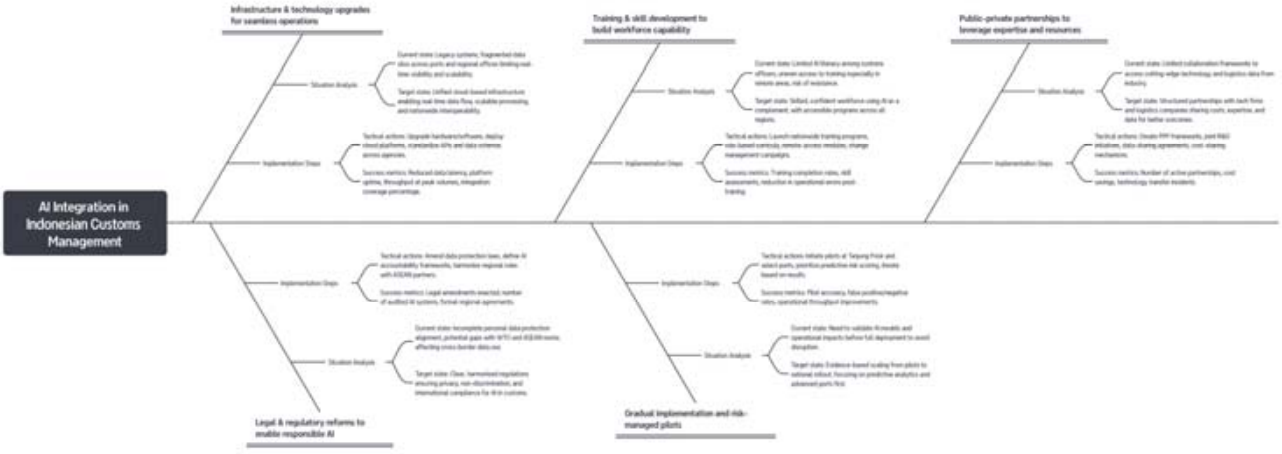

Figure 2. Recommendations
Source: Author visualization, 2025

a policy framework that supports the vision-mission goals of customs management with effective ways and a strong commitment to their realization. In many ways, the results of AI adoption in developing and middle-income countries underscore the need to consider AI to mitigate unusual activities and reduce prohibited access, scale, and commitment through transparency and feasible access to environmental business opportunities.

The first policy is to prioritize infrastructure and technology as fundamental aspects to accelerate the concretization of AI adoption for access. The first study by Mazumder (2025) focused primarily on AI adoption, which sometimes does not align with operational needs and can waste time. To implement and eliminate this consideration, the Indonesian government needs to appropriately set up the data, connect all data to real-time monitoring, and establish standardized operational interfaces nationwide. Based on this recommendation, ongoing infrastructure should integrate models to assist customs operations, accelerate data systems to track illegal activities, and fully support the governance scheme with an appropriate approach to customs management.

The second policy focuses on training and development as part of employees' capabilities. In technology adoption, it is assumed that it is not finished with the assistance of employees' capabilities to adopt, think differently, and navigate digital instability. An investigation conducted by Apriliyanti et al. (2021) indicates that human capital competence still faces significant challenges that impact digital reform in the public sector. In this sense, attempts to change the procedure to enhance competency require the fundamental stage as part of the stimulus for the customs operation, and the design could contain a strategic module, flexible elements for the curricula, and a stable, established procedure for AI adoption by employees. Moreover, these implications will help eliminate employee resistance to handling customs activities and encourage the involvement of the system and human capability in operationalization with a good ecosystem (Likuwatan Werang et al., 2025; Werang, Werang, & Rizki, 2025).

Third, public–private partnerships (PPP) must access expertise, innovation, and resources that may not be readily available within the public sector. In line with the empirical evidence from previous studies, modernization of customs operations requires a strong ecosystem, and eligible prospects involve collaboration among companies, technology providers, and institutions. As a result, this forces Indonesia's customs operations to work together to address barriers and opportunities. The government should foster effective collaboration and sound funding estimates, especially with cross-sector partners supporting the modernization of customs operations through AI adoption. For instance, R&D is a common way to enhance collaboration across sectors and has become a primary concern for all agencies as they face the complexities of AI adoption. The essence of this policy is the percentage of active participants (human competency), the share of revenues with other agencies, and the technological knowledge transfers. Empirical research by Yue et al. (2022) argues that technological advancement in partnerships will promote national prospective logistics.

Fourth, focusing on legal reconstruction, which explains the regulations that should ensure feasibility in terms of responsibility and assist in compliance with governance practices in customs management. Studies by Chin & Zhao (2022) note that inconsistencies in the regulation of customs operations will distort the element of responsibility in governance practice, and unclear customs obligations will erode consistency. The clear justification for This consideration informs policymakers that they must find an appropriate way to eliminate legal instability when conducting essential elements, such as harmonizing laws across national and international levels with country integrity to ensure privacy, transparency, and non-discrimination practices. However, the results will be more effective in establishing a clear process for customs operations, including data collection, information sharing, and procedures to inform compliance, thereby enhancing stakeholders' trust. Moreover, under the ASEAN regulatory framework of digitalization, it will support the transformation of customs operations for trade exchanges and open up economic growth opportunities. Finally, a consistent commitment to AI adoption in customs operations management will establish the essential policy to eliminate fraud and deliver broader benefits from AI-driven

transformation. From these insights, the aim is to define the government's role in adapting and taking a greater initiative to advance the country's AI adoption goals and technology as a means of access. As a closing remark, the holistic policy of this analysis seeks to restore the position of Indonesian customs agencies in managing their customs activities amid instability caused by prohibited practices. The most essential part is the government's role in setting its agenda, with a specific focus on adopting AI initiatives appropriately and promoting the inclusivity of digitalization as part of modernization.

Hence, it will lead Indonesia to become a key player in tailoring AI adoption for customs management, incorporating governance as a guiding framework for the national vision and missions. In short, this inspection should prompt the Indonesian government to realize that AI adoption in customs management is fundamental to supporting economic growth, provided that it has the tools to implement modernization effectively.

Conclusion

In conclusion, this study reveals that the policy perspective on AI adoption in Indonesia's customs operations has a broad effect on the specific context that focuses on feasibility, barriers, and implications that raise significant concerns about the government's role in maintaining the vision and mission of revenue collection based on national and international agreements.

The element finding asserts that Indonesian customs operations have a limited and outdated technology infrastructure that blocks the transformation of AI adoption as a feasibility aspect. The regulation of AI adoption seems rigid to protect the data of stakeholders and distort transparency and accountability issues. The implication of AI adoption is not eligible to set the customs operation adequately, which concentrates on the organization having a lack of flexibility training for employees that also limits innovation and reveals the consistent issue of resistance for the organization to implement AI adoption.

In addition, this study aims to inform developing countries as they set their AI adoption roadmaps, especially in customs operations. Nonetheless, policymakers should have consistent guidelines for AI adoption, with clear pathways, and ensure its implementation across both countries and partners. Hence, this study also offers new insights into AI adoption in customs operations as part of governance practice, providing an integrated framework for policy recommendations stipulated in this essay. However, this study has a limitation of conducting research in (peer-reviewed journals) as a secondary data source for the analysis, which does not demonstrate AI technology in customs management practices. In summary, the essential point of AI adoption in customs operations is that it requires all the aspects mentioned in this study. The primary reflection of this attempt is to see that AI is not a threat to its adoption. However, it will be more helpful when applied to an elite scheme with prioritized functionality.

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