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Artificial Intelligence Governance in Public Services to Accelerate Poverty Alleviation: Accountability Model and Oversight Mechanism for Indonesia

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Abstract: Background: Indonesian public administration is accelerating the use of artificial intelligence (AI) to improve social protection targeting. The legal and digital governance foundations are in place through SPBE and Satu Data regulations, complemented by the Data Protection Law, Public Information Law, and the PSTE regulation. Recent policy integrates Regsosek, DTKS and P3KE into a single national data basis (DTSEN) for beneficiary determination. Objective: This paper proposes an operational model of algorithmic accountability and multi-layer oversight for AI used in public services to accelerate poverty alleviation while protecting fundamental rights. Methods: A normative-doctrinal approach augmented by a targeted socio-legal case mapping is used, combining legal gap analysis and design-science techniques. The model is benchmarked against global practices (EU AI Act and FRIA, Canada's AIA/DADM, the Netherlands' Algorithm Register, the UK ATRS, and NIST AI RMF). Results: We outline a three-stage governance architecture—ex ante (mandatory AIA+FRIA for high-risk systems; legality, data quality and bias testing), in-process (human-in-the-loop at decision thresholds; logging/versioning; explainability), and ex post (reason-giving and appeal; algorithm register; periodic audits)—tightly linked to SPBE/Satu Data controls and the DTSEN pipeline. During the transition to a full PDP authority, external oversight is bridged by the Ombudsman and the Information Commission. Conclusion: The proposed model operationalizes administrative due process for AI-assisted decisions, strengthens transparency and accountability, and is expected to reduce inclusion/exclusion errors and improve exit and persistence rates above the poverty line. A 12-month implementation roadmap and measurable indicators are provided.

Keyword: AI Governance, Algorithmic Accountability, Social Protection Targeting, Administrative Law, Indonesia.

INTRODUCTION

Indonesia has placed poverty alleviation as a cross-sector national priority. The establishment of the Agency for Accelerating Poverty Alleviation (BP Taskin) through Presidential Regulation No. 163 of 2024 strengthens the mandate for coordination and for controlling the effectiveness of inter-ministerial programs (Presiden RI, 2024). In parallel, the latest policy suite underscores integration of efforts and of data. Presidential Instruction No. 4 of 2025 designates the National Socio-Economic Single Data (DTSEN) as the nationwide reference for targeting social protection programs managed by Statistics Indonesia (BPS) (Presiden RI, 2025a), and Presidential Instruction No. 8 of 2025 orchestrates the acceleration of poverty alleviation and extreme-poverty eradication via multi-level coordination from central to local governments (Presiden RI, 2025b).

The 2025 Government Work Plan update (Presidential Regulation No. 79 of 2025) explicitly lists "Poverty Alleviation" as a National Strategic Project (PSN). This is stated in the Annex to the Regulation under "2025 Policy Priorities," point 5, p. 406 (Presiden RI, 2025c). The same Annex also identifies BP Taskin as an explicit implementing entity within integrated program arrangements and digitalized targeting (Presiden RI, 2025c).

On the digital-governance side, Presidential Regulation No. 95 of 2018 on SPBE mandates integrated service architecture, standards for interoperability, and strengthened accountability for electronic services (Presiden RI, 2018). The Personal Data Protection Law No. 27 of 2022 sets comprehensive duties for controllers and processors, including automated processing by AI systems, on the principles of legality, transparency, and data minimization (DPR RI, 2022).

Consistent with global practice, jurisdictions are advancing risk- and rights-based public-sector AI governance: the European Union enacted the AI Act (European Union, 2024); the U.S. National Institute of Standards and Technology issued the AI Risk Management Framework 1.0 (NIST, 2023); Canada requires an Algorithmic Impact Assessment (OECD, 2025); the United Kingdom mandates the Algorithmic Transparency Recording Standard (GOV.UK, 2025); and the Netherlands operates a public Algorithm Register (Government of the Netherlands, 2025). Lessons from these initiatives are adapted to Indonesia's context to design a prudent and collaborative model of algorithmic accountability and oversight.

METHOD

We employ a qualitative approach using a normative-doctrinal method complemented by targeted socio-legal mapping. Primary legal sources include Presidential Regulation 163/2024 (BP Taskin), Presidential Instructions 4/2025 (DTSEN) and 8/2025 (extreme-poverty eradication), Presidential Regulation 79/2025 and its Annexes (2025 Government Work Plan update), Presidential Regulation 95/2018 (SPBE), and Law 27/2022 (Personal Data Protection).

International benchmarks cover the EU AI Act (European Union, 2024), NIST AI RMF 1.0 (NIST, 2023), Canada's AIA/Directive on Automated Decision-Making (OECD, 2025), the UK's ATRS (GOV.UK, 2025), and the Netherlands' public Algorithm Register (Government of the Netherlands, 2025). We focus on 2022–2025 sources to ensure recency and relevance.

Analysis proceeds through: (1) a normative review of domestic regulation; (2) comparative analysis of global policy; (3) the design of a three-stage AI governance model; and (4) normative validation against Indonesian administrative-law principles and personal-data protection requirements under Law 27/2022.

RESULTS AND DISCUSSION

A Three-Stage Model of Algorithmic Accountability

We propose a governance architecture that distributes controls across three interlocking stages: ex ante (preventive risk controls and compliance verification before deployment), in-process (human oversight, recording, and explainability during operation), and ex post (remedies, public transparency, and audits after decisions are issued).

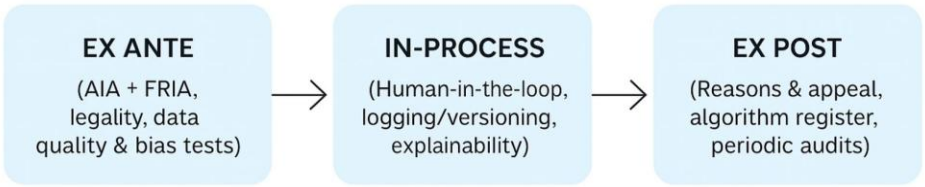

Figure 1. Three-stage governance architecture for AI in public services aimed at accelerating poverty alleviation.

1. Ex Ante Controls (Pre-Implementation)

Before deployment, agencies should conduct an Algorithmic Impact Assessment (AIA) to determine the system's risk level and mitigation strategies (OECD, 2025), complemented by a Fundamental Rights Impact Assessment (FRIA) for high-risk use cases (European Union, 2024). Legal compliance must be established against domestic frameworks (e.g., Law 27/2022 on personal data protection and public-service laws). Targeting data should rely on DTSEN in line with Presidential Instruction 4/2025. Model training should be preceded by systematic data-quality checks and bias testing. Public-facing documentation—summarizing general logic, key variables, and AIA/FRIA outcomes—should be prepared to ensure transparency.

2. In-Process Controls (During Operation)

AI should act as decision support, with human-in-the-loop for consequential decisions. All inputs and outputs should be logged, and any model updates versioned. Meaningful explanations must be available to caseworkers and affected individuals; notification of AI use should follow notice-and-explanation principles (United States OSTP, 2022; World Economic Forum, 2022). Fallback to manual processing should be triggered for anomalous cases or low-confidence recommendations.

3. Ex Post Controls (After Decisions)

Affected individuals must have access to reasons for decisions and to complaint/appeal channels (e.g., through national grievance platforms). Agencies should maintain a public Algorithm Register (as in the Netherlands) with accessible non-technical descriptions of AI systems (Government of the Netherlands, 2025). Periodic audits—technical, compliance, and performance—should be scheduled at least annually, with findings feeding continuous improvement cycles.

Oversight and Institutional Arrangements

Oversight should operate on multiple layers: (1) internal (operational units and inspectorates), (2) transitional external oversight by the Ombudsman and the Information Commission (maladministration and openness), (3) specialized external oversight by the forthcoming Personal Data Protection Authority under Law 27/2022, and (4) independent audits by BPKP/BPK and expert panels. BP Taskin (Presidential Regulation 163/2024) coordinates and controls cross-ministerial effectiveness, while SPBE (Presidential Regulation 95/2018) and the 2025 update to the Government Work Plan (Presidential Regulation 79/2025) ensure process and data integration (Presiden RI, 2018; 2024; 2025c).

Tabel 1. Oversight and Institutional Arrangements

Oversight Layer	Actors/Institutions	Focus & Mechanisms
Internal	AI operations unit; Inspectorate	SOP compliance (AIA, pre-deployment bias tests); daily performance monitoring; periodic reporting to leadership.
Transitional (external)	Ombudsman; Information Commission	Handling citizen complaints; transparency disputes over algorithmic information; recommendations for corrective action.
Specialized	Personal Data Protection Authority (Law 27/2022)	Data-protection compliance; incident investigations; guidance on fair automated processing.
Independent audit	BPKP/BPK; Independent expert panel	Periodic audits (technical, performance, compliance); public summaries; feedback loops for model improvement.

12-Month Roadmap and Indicators

Months 0–3: establish a cross-agency task force and finalize AIA/FRIA templates; Months 4–6: conduct AIA/FRIA for pilot projects and iterate design; Months 7–9: limited deployment, training, and activation of a public algorithm register; Months 10–12: first round of audits, impact evaluation, and policy institutionalization. Indicators include reduction in exclusion/inclusion errors, appeal response times, percentage of AI systems registered, SOP compliance, and stakeholder satisfaction (Antara, 2025; BPS, 2025; Kementerian PANRB RI, 2024).

CONCLUSION

AI can accelerate poverty-alleviation service delivery by improving targeting accuracy, but only if accompanied by robust governance and oversight aligned with due-process and rights-respecting principles. The proposed three-stage model—ex ante, in-process, and ex post—combined with multi-layered oversight provides an operational framework to ensure transparency, accountability, and fairness. Alignment with SPBE, DTSEN, and the BP Taskin mandate strengthens national policy integration (Presiden RI, 2018; 2024; 2025a; 2025b; 2025c).

Key recommendations are mandate AIA/FRIA for high-risk AI; build a public algorithm register; reinforce the roles of the Ombudsman and Information Commission during the transition and of the Personal Data Protection Authority thereafter; and invest in AI literacy across the civil service. With these steps, Indonesia can responsibly fast-track the National Strategic Project for Poverty Alleviation (PSN) (Presiden RI, 2025c).

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