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Algorithmic Governance and the Rule of Law: Statutory Foundations of Indonesia's National Single Social and Economic Data (DTSEN)

Tedi Supardi Muslih*, Suparno
Universitas Borobudur, Indonesia
Email: tsm@tsm.id*, suparno@borobudur.ac.id

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Abstract

The background of this study is rooted in the digital transformation of Indonesian public administration, specifically the implementation of the National Single Social and Economic Data (Data Tunggal Sosial Ekonomi Nasional or DTSEN) under Presidential Instruction (Instruksi Presiden or Inpres) No. 4 of 2025. While DTSEN aims to eliminate structural inefficiencies and targeting errors in social welfare programs through advanced algorithmic data integration, its current legal foundation presents significant challenges to the rule of law. The purpose of this research is to critically analyze the statutory deficiencies arising from reliance on a Presidential Instruction for highly consequential algorithmic governance and to propose a more robust statutory framework through a comprehensive Law (Undang-Undang) or a Government Regulation in Lieu of Law (Peraturan Pemerintah Pengganti Undang-Undang or Perpu). The methods employed involve a normative-doctrinal legal approach complemented by targeted socio-legal case mapping, drawing extensively on recent literature indexed in Scopus and Sinta 2. The results indicate that Inpres No. 4 of 2025 lacks sufficient binding regulatory authority to mandate regional budget allocations, enforce public data compliance, or provide adequate administrative due process protections for citizens misclassified by automated Proxy Means Testing (PMT) algorithms. Furthermore, the absence of algorithmic accountability mechanisms creates tensions with Indonesia's Personal Data Protection framework. The conclusion of this study is that a statutory upgrade represents a constitutional necessity. Establishing a Perpu or Law is required to bridge the gap between technological capabilities and legal certainty, ensuring that algorithmic governance in Indonesia remains subject to human rights principles, administrative transparency, and distributive justice.

INTRODUCTION

The rapid and pervasive evolution of the digital welfare state has fundamentally transformed the mechanisms through which modern governments allocate resources, manage populations, and redefine the social contract between the state and its citizens (Larasati et al., 2023; Rai, 2023; Souare, 2023; Sturn, 2022). In the context of the Republic of Indonesia, this systemic transformation has recently culminated in the establishment of the National Single Social and Economic Data (Data Tunggal Sosial Ekonomi Nasional, hereinafter referred to as DTSEN). Mandated by Presidential Instruction (Instruksi Presiden or Inpres) No. 4 of 2025, DTSEN represents an ambitious and unprecedented leap toward data-driven policymaking and distributive justice within the archipelago (Devjobsindo, 2025). By consolidating highly fragmented and historically siloed administrative registries—namely the Socio-Economic Registry (Registrasi Sosial Ekonomi or Regsosek), the Integrated Social Welfare Data (Data Terpadu Kesejahteraan Sosial or DTKS), and the Targeting Data for the Acceleration of Extreme Poverty Eradication (Data Pensasaran Percepatan Penghapusan Kemiskinan Ekstrem or P3KE)—DTSEN seeks to serve as a singular and authoritative source of reference for all social and economic interventions in the country (Laksono, 2026; SKALA, 2025). The overarching governmental objective is to substantially reduce the estimated 45% suboptimal targeting error rate that has historically affected Indonesia's extensive social safety-net programs, including but not limited to the Family Hope Programme (Program Keluarga Harapan or PKH), Non-Cash Food Assistance (Bantuan Pangan Non-Tunai or BPNT), and National Health Insurance premium assistance (Penerima Bantuan Iuran Jaminan Kesehatan Nasional or PBI-JKN) (Laksono, 2026; SKALA, 2025). The transition toward DTSEN is not merely an administrative modernization effort; rather, it represents a fundamental reconfiguration of state power by replacing conventional bureaucratic discretion with complex algorithmic governance mechanisms to determine the socio-economic vulnerabilities of more than 288 million citizens.

Contemporary legal scholarship consistently warns that the transition from traditional bureaucratic discretion to algorithmic governance introduces profound and systemic challenges to the rule of law. The deployment of automated decision-making (ADM) systems and artificial intelligence (AI) in public administration requires a fundamental rethinking of administrative law to ensure that procedural fairness, explainability, transparency, and human rights protections are not irreversibly compromised by technological opacity. Recent studies indexed in high-reputation international databases such as Scopus and the Indonesian national accreditation system (Sinta 2) have critically emphasized that while algorithms significantly enhance bureaucratic control and administrative efficiency, they may simultaneously institutionalize new forms of opaque and discriminatory decision-making when not supported by robust and binding statutory frameworks (Miao, 2025). For instance, Wardana and Setiyawan (2025), in their analysis of Indonesian smart law-making, emphasize the urgency of integrating artificial intelligence into Indonesian legal frameworks while maintaining strict adherence to digital constitutionalism, administrative transparency, and personal data protection principles (Purwanto et al., 2025). Furthermore, Williams (2022) notes that algorithmic systems, particularly machine-learning infrastructures and complex Proxy Means Testing (PMT) models, frequently operate as impenetrable "black boxes," making it extremely difficult for affected citizens to understand, challenge, or appeal adverse administrative decisions.[6] Within the specific empirical context of Indonesia, the mass automated deactivation of 7.39 million PBI-JKN recipients by the Ministry of Social Affairs in early 2025—primarily driven by algorithmic data matching and integrity assessments through the DTSEN pipeline—illustrates the profound and potentially harmful consequences of unchecked algorithmic governance.[10] When the state relies on algorithms to distribute essential social resources, the legal mechanisms regulating those algorithms must possess a level of robustness comparable to the technologies themselves.

The central and foundational problem defining the current landscape of DTSEN is not primarily technical but rather jurisprudential and constitutional in nature. Despite functioning as a decisive instrument for resource distribution and the realization of fundamental social rights, DTSEN is currently grounded solely in a Presidential Instruction (Instruksi Presiden or Inpres No. 4 of 2025). Within Indonesia's hierarchy of legal norms (Stufenbau theory of law) as formally regulated by Law No. 12 of 2011 concerning the Formation of Legislation, an Inpres is categorized as a policy directive or internal executive instruction (beleidsregel), rather than a binding statutory regulation (regeling) applicable generally to the public (Saputra et al., 2025). Consequently, this legal instrument lacks sufficient coercive authority to require regional governments to allocate subnational budgets for continuous data updating, impose legal sanctions on individuals or institutions for non-compliance, or establish a comprehensive and enforceable framework for algorithmic accountability and administrative due process (Skala, 2025). Reliance on a beleidsregel to govern an algorithmic infrastructure that directly affects the constitutional rights of millions of citizens creates a fragile and legally vulnerable system that is fundamentally inconsistent with the principles of a Rechtsstaat (a state based on the rule of law).

Therefore, the primary objective of this comprehensive investigation is to critically evaluate the statutory vulnerabilities and constitutional deficiencies of DTSEN under Inpres No. 4 of 2025. By systematically examining the algorithmic mechanisms underlying DTSEN and comparing them with principles of Indonesian administrative law, this research aims to formulate a comprehensive legal argument for strengthening the statutory foundation of DTSEN through a formal Law (Undang-Undang) or an immediate Government Regulation in Lieu of Law (Peraturan Pemerintah Pengganti Undang-Undang or Perpu).

The urgency of this research is reinforced by three converging factors. First, the deactivation of 7.39 million PBI-JKN recipients demonstrates that algorithmic harm is not merely theoretical but has already occurred in practice. Second, Presidential Instruction No. 4 of 2025 mandates the implementation of DTSEN by December 2026, leaving limited time for comprehensive legal reform. Third, Indonesia's recently enacted Personal Data Protection Law (Law No. 27 of 2022) establishes strict data protection obligations that may conflict with the broad interoperability requirements mandated by the Inpres. Without immediate statutory clarification, the government risks creating inconsistencies between algorithmic governance practices and its own privacy protection framework. This situation may constitute a compelling emergency condition (kegentingan yang memaksa) as interpreted under Article 22 of the 1945 Constitution, thereby providing constitutional justification for emergency regulatory intervention.

The novelty of this research lies in bridging advanced administrative law theories concerning "technological due process" (Citron, 2020) with Indonesia's unique constitutional and decentralized governance structures. Unlike previous studies that primarily examine either data privacy issues or social protection administration separately, this research provides an integrated analysis of how statutory hierarchy influences algorithmic accountability across three critical dimensions: regional budget authority, citizen data compliance obligations, and administrative appeal mechanisms. This research proposes a concrete legal framework for strengthening DTSEN's foundation through a Law or Perpu, incorporating specific provisions for ex-ante, in-process, and ex-post algorithmic oversight mechanisms.

Current socio-legal literature has extensively examined the technical dimensions of open government data initiatives (Dawes et al., 2024) and the specific implications of Personal Data Protection (PDP) regulations for the digital economy (Nugraha et al., 2025). However, a significant research gap remains concerning the intersection between algorithmic accountability, statutory hierarchy, and social welfare targeting within the newly

METHOD

This research employed a normative-doctrinal legal approach complemented by socio-legal case mapping, gap analysis, and policy evaluation. The methodological design was structured to examine the tension between emerging algorithmic governance technologies, particularly automated targeting mechanisms in social protection, and the established principles of Indonesian administrative and constitutional law. By integrating legal analysis with contemporary technological developments, the methodology examined how algorithmic decision outputs generated legal consequences for vulnerable populations.

The population of this study consisted of primary legal materials, secondary regulatory documents, and relevant academic literature. The primary legal materials included the 1945 Constitution of the Republic of Indonesia, particularly Articles 22, 28G, and 34; Law No. 12 of 2011 concerning the Formation of Legislation and its amendments; Law No. 27 of 2022 on Personal Data Protection (Undang-Undang Perlindungan Data Pribadi or UU PDP); Law No. 11 of 2009 on Social Welfare; Law No. 23 of 2014 on Regional Government; and Presidential Instruction No. 4 of 2025 concerning DTSEN (Laksono, 2026). The secondary data consisted of peer-reviewed academic publications from 2020 to 2026. A purposive sampling technique was applied to select relevant studies indexed in Scopus (Q1–Q4) and the Indonesian national accreditation system (Sinta 1 and Sinta 2) (Wardana & Setiyawan, 2025). The literature search focused on studies related to algorithmic governance, administrative law, social registry targeting, automated decision-making, and Indonesian data governance (Wardana & Setiyawan, 2025).

The primary research instruments were a systematic literature review protocol and doctrinal legal analysis. The study applied legal interpretation methods to examine the substance, context, and constitutional implications of relevant legal instruments, which were compared with policy documents and technical reports concerning the implementation of DTSEN, Regsosek, and P3KE (World Bank, 2023). The analysis also incorporated comparative perspectives on algorithmic accountability frameworks, including principles derived from the General Data Protection Regulation (GDPR), particularly Article 22 on automated individual decision-making, to assess their relevance within the Indonesian legal context (Wardana & Setiyawan, 2025).

The collected data were analyzed using qualitative thematic synthesis and legal reasoning. The analysis was conducted through three stages. First, a doctrinal analysis of Inpres No. 4 of 2025 was conducted to evaluate its legal hierarchy, binding authority, and enforceability within Indonesia's legal system based on the Stufenbau theory. Second, a socio-legal assessment examined the algorithmic mechanisms applied in DTSEN, including Proxy Means Testing (PMT), deterministic matching, and probabilistic data integration, to identify potential accountability gaps related to exclusion errors, inclusion errors, and the availability of administrative remedies for automated misclassification (Laksono, 2026). Third, a comparative regulatory analysis was conducted to evaluate Indonesia's framework against international algorithmic accountability standards, particularly regarding ex-ante, in-process, and ex-post oversight mechanisms (Wardana & Setiyawan, 2025).

To ensure validity and reliability, this study applied data triangulation by comparing statutory provisions, legal theories, academic literature, and empirical case studies from recent Scopus and Sinta-indexed publications. The triangulation process incorporated the case of the deactivation of 7.39 million PBI-JKN recipients (Purwanto et al., 2025) and documented challenges in the implementation of Regsosek within decentralized government settings (SKALA, 2025). This approach ensured that the legal analysis was not limited to theoretical interpretation but was connected to practical challenges arising from Indonesia's transition toward digital public administration.

The scope of this methodology was limited to the legal, administrative, and constitutional dimensions of DTSEN and its algorithmic governance framework. The study did not examine software engineering processes, mathematical optimization models, or cryptographic aspects of algorithm development. Instead, it focused on how algorithmic outputs interacted with existing legal structures, accountability mechanisms, and citizens' rights within the Indonesian legal system.

RESULTS AND DISCUSSION

The findings of this exhaustive research are synthesized into a comprehensive, continuous analysis of how the rapid transition to algorithmic governance via the National Single Social and Economic Data (DTSEN) destabilizes traditional Indonesian administrative law. This profound destabilization exposes critical, systemic statutory weaknesses that demand immediate, decisive legislative intervention to preserve the rule of law.

The establishment of DTSEN marks an unprecedented paradigm shift from traditional, highly discretionary, and often siloed bureaucratic administration to sophisticated, centralized algorithmic governance. Historically, Indonesia's social protection landscape was characterized by heavily fragmented databases managed autonomously by different sectoral ministries, leading to severe operational overlap, massive budgetary inefficiency, and systemic targeting failures (Proaktif, 2023). The evolution from the early mechanisms of the Integrated Social Welfare Data (DTKS) to the massive nationwide data collection of the Socio-Economic Registry (Regsosek), and subsequently to the analytical Targeting Data for the Elimination of Extreme Poverty (P3KE), represented iterative, often disjointed attempts by the state to unify this socio-economic data (World Bank, 2023). However, the issuance of Presidential Instruction No. 4 of 2025 definitively and forcefully positions DTSEN as the absolute, single source of truth for all socio-economic policymaking across the entire archipelago (Digibr, 2025). This instrument mandates 18 distinct ministries and state agencies to engage across the data lifecycle, with Statistics Indonesia (Badan Pusat Statistik or BPS) designated as the lead integration agency (Devjobsindo, 2025).

At the absolute core of DTSEN's targeting mechanism is the Proxy Means Test (PMT), a sophisticated log-linear regression algorithmic model meticulously designed to estimate household welfare levels. This algorithm constructs predictive models based on observable, verifiable household characteristics rather than relying on directly reported, easily manipulated income data (Purwanto et al., 2025). The PMT algorithm evaluates a comprehensive matrix of 38 distinct socio-economic variables. These variables encompass physical dwelling conditions (such as the specific type of roof, wall materials, and floor area), complex demographic structures (including household size by specific age groups, highest educational attainment, and formal employment status), and verifiable asset ownership (such as the possession of cars, laptops, refrigerators, gold, motorboats, and mobile phones) (Laksono, 2026). The algorithm subsequently processes this massive, multi-source data integration to automatically rank the entire Indonesian population of over 288 million individuals into ten precise welfare deciles. These algorithmically generated deciles directly and unyieldingly dictate the distributive justice of the Indonesian state: Deciles 1 and 2 are rigidly targeted as priority recipients for extreme poverty interventions, such as the highly anticipated 'Sekolah Rakyat' (Society School) program, while Deciles 1 through 4 (and occasionally 5, depending on fiscal capacity) determine absolute eligibility for broader, life-sustaining safety nets, including the Family Hope Programme (PKH), Non-Cash Food Assistance (BPNT), and the crucial national health insurance premium assistance (PBI-JKN) (Citron & Pasquale, 2025).

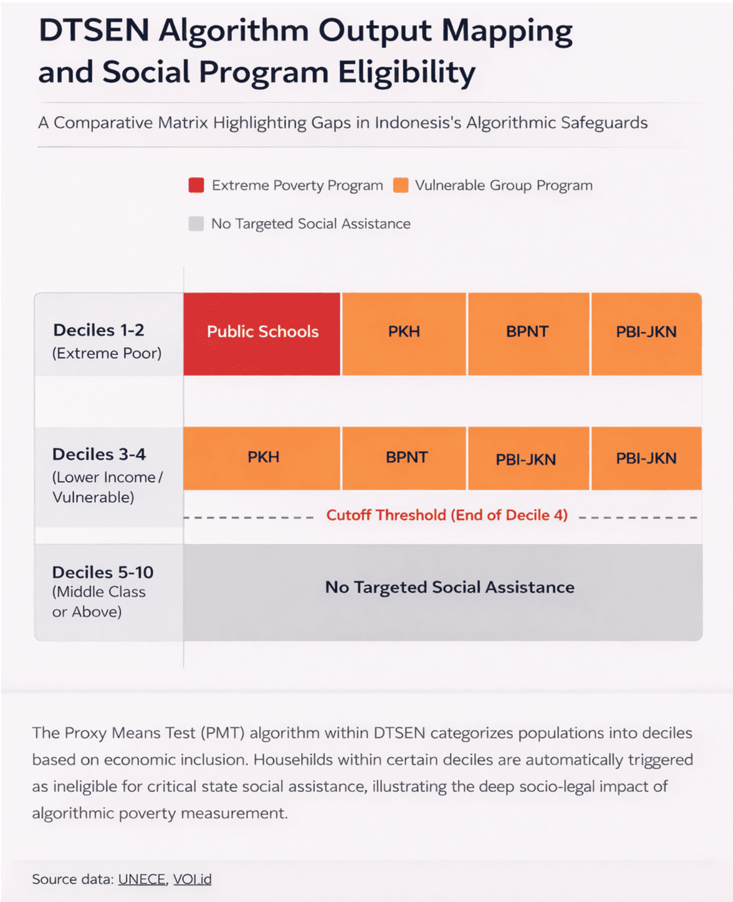

Figure 1. implementation of the PMT algorithm

While the implementation of the PMT algorithm exponentially enhances aggregate administrative efficiency, it fundamentally alters the very nature of state-citizen relations. As extensively documented in critical algorithmic governance literature, the algorithm is never a neutral, purely mathematical entity; it is a highly potent infrastructure of state power that encodes complex socio-economic realities into rigid mathematical proxies.[10] Because the monumental task of data integration relies heavily on deterministic matching (utilizing unique identifiers such as the National Identity Number or NIK) and probabilistic matching (inferring identity through names, addresses, and geospatial data overlays), the system inherently and unavoidably produces algorithmic errors.[3] Exclusion errors (where legitimately eligible, highly vulnerable individuals are missed and denied benefits) and inclusion errors (where ineligible, wealthier individuals unjustly receive state benefits) are not mere statistical anomalies or acceptable margins of error; they are, fundamentally, substantive violations of the constitutional right to social security as guaranteed under Article 34 of the 1945 Constitution. The recent, highly controversial unilateral deactivation of 7.39 million PBI-JKN recipients by the Ministry of Social Affairs in 2025, a draconian measure justified solely by DTSEN data integrity evaluations, perfectly illustrates the profound peril of unchecked algorithmic governance (Purwanto et al., 2025). When automated algorithms override ground-level social realities without robust, legally binding administrative recourse or human oversight, the policy entirely loses its social legitimacy and creates devastating systemic injustice for marginalized populations (Citron & Pasquale, 2025).

To fully comprehend the legal precarity of this algorithmic system, one must pivot from the mathematical mechanics to its statutory bedrock. The deployment of a highly consequential, nation-defining system like DTSEN demands an equally formidable, unshakable legal foundation. However, DTSEN is currently governed merely by Presidential Instruction (Inpres) No. 4 of 2025. Analyzed rigorously through the lens of Indonesian administrative and constitutional law, this statutory foundation is severely, fatally deficient. Under Law No. 12 of 2011 concerning the Formation of Legislation, which codifies the hierarchy of laws in Indonesia, an Inpres does not qualify as a formal statutory law (Undang-Undang) or even a Government Regulation (Peraturan Pemerintah). It is strictly classified as an internal executive directive—a *beleidsregel* (policy rule)—intended solely to coordinate ministries and executive agencies. It completely lacks the external, coercive regulatory power required to bind the public, create new legal obligations, or enforce multi-layered governance across autonomous regions (Laksono, 2026).

This severe rule of law deficit manifests immediately in three critical operational bottlenecks that threaten the very viability of DTSEN. First, the absolute absence of a comprehensive statutory mandate paralyzes vital data updating at the regional level. Indonesia's highly decentralized governance structure, governed by Law No. 23 of 2014 on Regional Government, dictates that local governments (Kabupaten/Kota and Kelurahan) bear the heavy operational and financial burden of verifying and validating data on the ground. However, local governments are legally, financially, and politically reluctant to allocate substantial funds from their Regional Budgets (Anggaran Pendapatan dan Belanja Daerah, or APBD) for comprehensive national data collection without a firm, indisputable mandate from a supreme Law (Undang-Undang) (Skala, 2025). The Inpres provides administrative directives to ministries, but it cannot legally compel regional budget realignment or establish binding minimum competency requirements for local village data operators (Skala, 2025). Second, an Inpres possesses no legal authority to create obligations for ordinary citizens. Algorithmic targeting relies entirely on the accuracy, volume, and freshness of underlying data (Laksono, 2026). Without an overarching Law, self-updating by residents or mandatory data compliance is practically impossible to enforce, as there are zero legal incentives or punitive sanctions to mandate citizen compliance with data updating requests (Skala, 2025). Third, the governance architecture itself remains legally fragmented and highly vulnerable to inter-ministerial conflict. While Statistics Indonesia (BPS) acts as the central data integrator and methodology manager, the sectoral ministries (such as the Ministry of Social Affairs) stubbornly retain the final authority to determine actual assistance recipients based on their own interpretations of the algorithms (Laksono, 2026). While this functional separation is theoretically sound to prevent administrative "function creep," without a formal Law detailing the exact coordination mechanisms, institutional liability, and cross-agency data governance protocols, the system rapidly devolves into siloed practices and bureaucratic infighting (Skala, 2025). The current regulatory framework is simply too fragile, too informal, and too legally inferior to bear the colossal weight of a national algorithmic infrastructure.

This hierarchical statutory deficit inevitably breeds profound gaps in algorithmic accountability and administrative due process. The transition to DTSEN highlights a critical lag in Indonesian administrative law, which was designed for human bureaucrats and has not yet evolved to accommodate automated decision-making (ADM) systems. Algorithmic governance replaces human bureaucratic discretion with rigid, rule-based automation, effectively migrating public authority "upstream" into the coding of mathematical proxies, threshold calibration, and machine learning model training (Danaher et al., 2021). This upstream migration generates severe, unprecedented accountability gaps. Traditional Indonesian administrative law focuses entirely on evaluating the legality, reasonableness, and procedural fairness of human decisions. It is fundamentally ill-equipped to audit or interrogate the "black box" of complex algorithms, where the mathematical logic determining a citizen's welfare decile is opaque even to the mid-level bureaucrats deploying it (Wardana & Setiyawan, 2025).

To preserve the rule of law in the digital age, prominent legal scholars urgently argue that traditional administrative due process must be entirely redefined as "technological due process" (Wardana & Setiyawan, 2025). Currently, Indonesian legal frameworks possess absolutely no mechanisms to ensure algorithmic explainability or legal contestability (Prasetyo et al., 2026). When an impoverished citizen is algorithmically misclassified into Decile 5 (thus immediately losing vital health insurance and food assistance), the existing system offers only agonizingly slow, cumbersome, and often unresponsive manual appeals, entirely failing to provide the citizen with an explanation of *why* the algorithm scored them that way or which specific data points triggered the exclusion (Citron & Pasquale, 2025). This extreme opacity violates the foundational constitutional principles of good governance and due process.

To ensure the rule of law, the algorithmic processes driving DTSEN must be surrounded by a statutory framework that mandates a robust, multi-layered oversight model. At the first layer, ex-ante oversight involves mandatory Algorithmic Impact Assessments (AIA) and Fundamental Rights Impact Assessments (FRIA) before any PMT algorithm or significant update is deployed into the real world (Hardjaloka & Simamora, 2025). This ensures that data quality, legality, and systemic bias are rigorously tested before the algorithm affects human lives. The second layer, in-process oversight, demands the strict statutory integration of human-in-the-loop mechanisms at critical decision thresholds, preventing entirely automated welfare cut-offs and ensuring that edge cases are reviewed by empathetic human operators (Hardjaloka & Simamora, 2025). The final layer, ex-post oversight, establishes the legal right to citizen appeals, an open algorithm register that logs system versions and scoring rationales, and rigorous algorithmic auditing mechanisms. Just as the European Union's GDPR Article 22 provides the fundamental right not to be subject solely to automated decision-making and the right to obtain a meaningful explanation (Wardana & Setiyawan, 2025), Indonesia must enact legally binding equivalent rights to ensure that algorithms remain subordinate to human dignity.

Beyond the immediate, pressing concerns of administrative due process and algorithmic misclassification, the operationalization of DTSEN without a comprehensive statutory law triggers severe, unavoidable conflicts with Indonesia's newly established data privacy regime. The integration of massive, nationwide datasets under DTSEN creates unprecedented challenges regarding personal data protection. DTSEN fundamentally relies on fusing official statistical surveys with a myriad of administrative records collected initially by various ministries for entirely different, non-statistical purposes (Laksono, 2026). This aggressive data integration practice inherently runs the massive risk of "function creep"—the unauthorized use of personal data beyond its original, consented intent—which constitutes a fundamental violation of modern privacy norms.

Indonesia's recently enacted Law No. 27 of 2022 concerning Personal Data Protection (PDP Law) sets incredibly strict legal standards for data processing, legally requiring explicit, informed consent and robust, verifiable safeguards against unauthorized sharing (Nugraha et al., 2025). Consequently, there is an immediate, glaring statutory tension between the interoperability mandates pushed by Inpres No. 4/2025 and the stringent privacy restrictions of the PDP Law. The Inpres commands aggressive, unhindered cross-agency data pooling to quickly achieve a single source of truth, yet the supreme PDP Law explicitly prohibits raw data sharing without explicit subject consent (Nugraha et al., 2025). Because an Inpres is hierarchically subordinate to a Law (Undang-Undang), any data-sharing directive in the Inpres that conflicts with the PDP Law is legally vulnerable, voidable, and potentially illegal. Furthermore, integrating disparate, massive datasets using deterministic and probabilistic matching drastically increases the risk of re-identifying specific individuals from supposedly anonymized statistical data (Laksono, 2026). Currently, the DTSEN system lacks a comprehensive, legally binding risk-based data classification framework that applies differential protection levels based on the degree of identifiability (e.g., via the NIK) and the potential, real-world impact of data misuse (Laksono, 2026). To navigate this legal minefield, the government must adopt expensive privacy-preserving technologies—such as Federated Learning (FL) or advanced cryptographic hashing—but these require significant capital and human resource investments that, again, demand a firm statutory basis for budget appropriation (Nugraha et al., 2025). Ethical responsibility in multi-source statistics cannot rely on institutional goodwill or executive memos; it must be an enforceable, statutory legal obligation (Laksono, 2026).

The convergence of these severe administrative, constitutional, and ethical deficits points to a singular, undeniable jurisprudential conclusion: Inpres No. 4 of 2025 is a dangerously insufficient legal vessel for a system as powerful, expansive, and life-altering as DTSEN. To secure the rule of law, safeguard fundamental human rights, and ensure the actual operational success of the national data integration agenda, the Indonesian government must immediately elevate the statutory foundation of DTSEN to the level of a formal Law (Undang-Undang) or, at the very least, invoke emergency constitutional powers to issue a Government Regulation in Lieu of Law (Peraturan Pemerintah Pengganti Undang-Undang / Perpu).

A Perpu is entirely constitutionally permissible and justified under Article 22 of the 1945 Constitution, which explicitly grants the President the sweeping authority to issue emergency regulations in the event of a "compelling crisis" (*kegentingan yang memaksa*) (Saputra et al., 2025). The current, chaotic state of social protection targeting, exacerbated by legal vacuums, can rightfully and legally be classified as a compelling national crisis. With vital poverty alleviation programs stalling, regional data collection efforts underfunded, and millions of highly vulnerable citizens facing arbitrary, unexplained exclusion from life-saving subsidies due to algorithmic misclassification (as brutally evidenced in the deactivation of over 7 million health insurance beneficiaries), there is a critical legal vacuum that directly threatens socio-economic stability (Purwanto et al., 2025). Relying on an Inpres creates a highly precarious, unconstitutional situation where the fundamental survival rights of the poorest citizens are governed entirely by Abadi & Lutfianingsih, (2026) opaque executive fiat rather than democratic, parliamentary legislation.

Whether achieved through a deliberately fast-tracked Omnibus Law on digital governance or an immediate, sweeping Perpu (Saputra et al., 2025), the new, elevated statutory instrument must explicitly mandate several key, non-negotiable provisions. First, it must legally require and empower regional governments to allocate specific, ring-fenced APBD funds for continuous ground-level data verification, finally establishing a clear, binding division of labor and financial liability between the central and subnational governments (Skala, 2025) Second, it must establish a unified, highly powerful cross-agency Data Quality Board equipped with the statutory authority to independently audit data streams, sanction non-compliant ministries, and enforce strict interoperability standards across all 18 mandated government entities (Devjobsindo, 2025) Most crucially, the new Law or Perpu must forcefully pioneer and codify algorithmic accountability in Indonesia. It must legally enshrine the fundamental right of all citizens to access clear, meaningful explanations regarding how algorithmic determinations of their welfare status were mathematically derived, and it must establish a specialized, expedited, and highly accessible administrative tribunal to handle appeals against automated decisions (Wardana & Setiyawan, 2025). By embedding these advanced principles directly into formal, supreme law, Indonesia can successfully reconcile the immense, necessary efficiency gains of modern algorithmic governance with the fundamental, non-negotiable tenets of the rule of law, ensuring that the inevitable digital transformation serves as a powerful tool for equity rather than an opaque instrument of mass marginalization.

CONCLUSION

The aggressive integration of the National Single Social and Economic Data (Data Tunggal Sosial Ekonomi Nasional or DTSEN) represents one of the most technologically significant and socially consequential advancements in the history of Indonesian public administration. By leveraging complex, data-driven algorithmic models, such as the Proxy Means Test (PMT), the state is theoretically positioned to substantially improve the precision, efficiency, and reach of its extensive social welfare distribution systems. However, this socio-legal study demonstrates that constructing such a large-scale, life-impacting digital infrastructure upon the fragile and legally inferior foundation of a Presidential Instruction (Instruksi Presiden or Inpres No. 4 of 2025) significantly undermines the foundational principles of the rule of law.

An Inpres, functioning primarily as a policy directive (beleidsregel), lacks the hierarchical legal authority required to mandate regional budget allocations, enforce comprehensive public data compliance obligations, or establish binding exceptions to the privacy protections provided under the Personal Data Protection Law. More fundamentally, the current regulatory framework lacks the modern administrative due process mechanisms necessary to legitimately govern automated decision-making systems. The inherent opacity of algorithmic targeting, combined with the absence of statutory requirements for ex-ante algorithmic impact assessments and ex-post citizen appeal mechanisms, creates conditions that may facilitate structural injustice. Without appropriate legislative intervention, the system risks algorithmically excluding and marginalizing vulnerable populations that DTSEN was specifically designed to identify, support, and protect.

The findings of this research indicate that an immediate and comprehensive statutory upgrade is necessary to strengthen the constitutional foundation of DTSEN. The Indonesian government should establish a stronger legal basis through a comprehensive Law (Undang-Undang) or, in response to a situation of compelling urgency (kegentingan yang memaksa), consider the issuance of a Government Regulation in Lieu of Law (Peraturan Pemerintah Pengganti Undang-Undang or Perpu) to regulate national data integration. This higher-level binding legislation should establish clear inter-agency responsibilities and funding mechanisms, ensure that data interoperability is aligned with strict personal data protection requirements, and institutionalize comprehensive algorithmic accountability frameworks, including the right to algorithmic explanation and mandatory human oversight mechanisms. Through decisive and legally grounded legislative reform, the Republic of Indonesia can ensure that its transition toward a digital welfare state remains firmly aligned with constitutional rights, distributive justice, and the enduring principles of the rule of law.

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