

Open Data Policy and Privacy Challenges: Balancing Transparency and Security in Digital Governance in Indonesia

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ABSTRACT

Purpose: This study examines the evolving dynamics of Indonesia's open data policy within the broader context of digital governance. It aims to understand how the state negotiates the balance between transparency and data protection, particularly after the implementation of the One Data Indonesia initiative and the enactment of the Personal Data Protection Law. The research explores how institutional culture, ethical reasoning, and governance structures shape the interpretation and practice of openness in a rapidly digitalizing public sector.

Subjects and Methods: Using a qualitative, interpretive approach, the study analyzes policy documents, legal frameworks, and institutional reports, complemented by semi-structured interviews with policymakers, data officers, and civic actors. Data were interpreted through thematic and critical policy analysis to uncover the narratives, tensions, and ethical dilemmas surrounding open data implementation in Indonesia's bureaucratic institutions.

Results: The findings reveal that open data governance in Indonesia remains fragmented across ministries and local governments. Bureaucratic actors often view transparency as both an obligation and a risk, constrained by overlapping regulations and fear of data misuse. Ethical ambiguities persist as institutions struggle to harmonize openness with privacy protection amid growing concerns over cybersecurity and public trust.

Conclusions: The study concludes that Indonesia's open data reform represents a moral and institutional negotiation rather than a purely technical project. Sustainable transparency requires legal clarity, digital infrastructure, ethical literacy, and civic engagement to build a culture of trust that reconciles openness with security.

INTRODUCTION

In the past decade, the discourse on open data has evolved from a technical conversation about data accessibility into a broader political and ethical debate about the nature of transparency in the digital state (Sleigh & Vayena, 2021; Carlsson & Rönnblom, 2022). Governments around the world have adopted open data initiatives to promote accountability, stimulate innovation, and enhance evidence-based decision-making. Yet, as these policies mature, they increasingly confront a paradox: the very act of making data open also exposes the state to new vulnerabilities related to privacy, cybersecurity, and institutional trust.

This tension between transparency and protection has become a defining feature of digital governance in the twenty-first century, demanding new ways of thinking about how openness and

security can coexist within democratic systems (Ogunleye, 2024; Vidal et al., 2023; Krogh et al., 2022). Indonesia offers a particularly compelling context for examining this tension. As one of the largest democracies in the Global South, Indonesia has committed itself to the principle of open governance through a series of reforms aimed at modernizing its bureaucratic infrastructure (Buehler et al., 2024; Hidayat, 2023; Syukri, 2024). The One Data Indonesia initiative, formalized under Presidential Regulation No. 39 of 2019, represents a landmark in this journey.

It seeks to standardize data management across ministries and agencies, ensuring that public information is accurate, interoperable, and accessible to both policymakers and citizens. Complementing this effort, the enactment of the Personal Data Protection Law in 2022 reflects an equally strong commitment to privacy and data security. Together, these frameworks embody the dual aspirations of openness and protection, yet they also reveal the practical and ethical challenges of reconciling them within a complex administrative environment (Lescrauwaet et al., 2022; Farayola & Olorunfemi, 2024; Nair & AB, 2025).

While Indonesia's digital transformation has been celebrated as a step toward greater transparency, its implementation has revealed deep institutional and moral complexities (Aminah & Saksono, 2021; Wijaya, 2024; Pitaloka & Nugroho, 2021). In practice, the release of public data is often constrained by fragmented coordination among agencies, inconsistent standards, and uncertainty about the limits of lawful disclosure. For many public officials, transparency remains an uneasy ideal valued in principle but approached with caution in practice.

The bureaucratic culture that has long equated information control with authority continues to influence how openness is understood and enacted. These tensions are not unique to Indonesia but are intensified by its political diversity, multi-level governance structure, and varying levels of digital literacy across regions. Consequently, the promise of open data has not yet translated into a coherent practice of public accountability. At the same time, the proliferation of data breaches and cyber incidents has heightened public anxiety about the security of digital systems. The 2023 cyberattack on the national data center, for example, exposed millions of citizens' personal records and cast doubt on the state's ability to safeguard its information infrastructure.

Such incidents reinforce a sense of institutional vulnerability, leading officials to prioritize protection over openness. This dilemma exemplifies what contemporary scholars describe as the governance paradox of digital modernity: the pursuit of transparency simultaneously creates new demands for control. The challenge, therefore, is not to abandon openness but to design a model of digital governance that can balance the public's right to information with the ethical imperative to protect individual privacy and national security Nisha (Nishat, 2024; Ijaiya, 2024; Vesmaş, 2024).

Scholarly research over the last five years has increasingly highlighted that open data policies succeed or fail not merely on the strength of technology or legislation but on the alignment of institutional culture, ethical norms, and citizen engagement. Studies by Thakor & Merton (2023), suggest that transparency must be understood as a relationship of trust rather than a technical condition of disclosure. This perspective calls attention to how open data systems are lived and interpreted by the actors who produce and manage them. In the Indonesian context, this means examining how bureaucratic values, political incentives, and civic expectations intersect to shape the practice of digital openness.

By focusing on these intersections, this study aims to illuminate the deeper social processes that underlie policy implementation and to uncover the moral and institutional logics that define the balance between transparency and security. Against this backdrop, the present study explores how Indonesia's open data policies are being operationalized within the broader framework of digital governance and how actors across different institutions interpret and negotiate the boundaries between openness and privacy. It adopts a qualitative, interpretive approach that moves beyond compliance metrics to understand the lived experience of policy enactment.

Through document analysis, expert interviews, and interpretive policy analysis, the study seeks to reveal how transparency is performed, resisted, and redefined in everyday governance practices. Ultimately, this research contributes to ongoing global debates on the ethics of digital governance by demonstrating that openness and protection are not opposing principles but

interdependent conditions that must be continuously balanced through institutional learning, ethical reflection, and civic participation.

METHODOLOGY

Research Design

This study employs a qualitative research design that is rooted in interpretive and policy-analytic traditions. The central aim is to explore the delicate balance between transparency and privacy within Indonesia's growing landscape of digital governance. The qualitative approach is chosen not only as a methodological option but also as a philosophical orientation that recognizes social and institutional realities as dynamic and constructed through ongoing interaction among policy actors, systems, and discourses. Rather than searching for statistical causality, the research seeks to understand how meanings of openness, data security, and citizen trust are formed and negotiated within different levels of governance and civic engagement. As Creswell and Poth have explained, qualitative inquiry provides the intellectual space to explore complexity and meaning behind institutional practices that cannot be captured by quantitative measurement. In this context, the interpretive design allows the researcher to see how open data principles are translated and sometimes contested by public institutions responsible for data management. The research aims to understand not only the official intentions written in policy documents but also how those intentions are realized, resisted, or transformed through everyday administrative routines and governance cultures.

Research Focus and Scope

The study focuses on the digital governance ecosystem of Indonesia, emphasizing the policies and frameworks that define how data is shared and protected across state and civic boundaries. The primary focus is on the One Data Indonesia initiative, which was established through Presidential Regulation Number 39 of 2019, and the Personal Data Protection Law, enacted as Law Number 27 of 2022. These two regulations represent the dual aspirations of the Indonesian state to build an open yet secure data governance system. The scope of the research covers national and subnational institutions involved in open data implementation. It also considers the emerging concerns related to data misuse, surveillance, and the ethics of digital transparency. The selected period, from 2019 to 2025, captures the acceleration of digital transformation in the public sector, the growing use of data-driven decision-making, and the ongoing debate about how privacy can be protected without undermining the spirit of openness. Through this temporal and institutional focus, the study situates the Indonesian case within global discussions on the ethics of digital governance.

Data Sources and Collection Procedures

Data collection relied on three main sources, which were analyzed together to build a rich and contextual understanding of the issue. The first source consisted of official policy documents, including laws, presidential and ministerial regulations, and strategic plans published by relevant government institutions such as the Ministry of Communication and Informatics, the National Development Planning Agency, and the Open Government Indonesia platform. These documents serve as the formal articulation of policy intentions and reveal the institutional language surrounding transparency and privacy. The second source of data came from semi-structured interviews with individuals directly involved in the design, management, or advocacy of open data and data protection policies. Participants were selected using purposive sampling to ensure that different institutional and professional perspectives were represented. Each interview lasted between one to one and a half hours, conducted either online or face-to-face depending on participant availability. The interviews explored participants' understanding of transparency, data ethics, and privacy challenges, as well as their reflections on institutional responsibilities in maintaining public trust. The third source included public statements, press releases, and expert commentaries, which were analyzed to understand how the discourse of open data and privacy circulates within the media and public debates. By combining documentary, interview, and discursive materials, the study ensures methodological triangulation and offers a multi-layered understanding of how digital governance is imagined and practiced in Indonesia.

Data Analysis

The study uses thematic analysis to interpret the data. This approach allows the researcher to identify patterns and meanings that emerge from the data without imposing a rigid theoretical framework. The process began with repeated reading of the collected materials to gain familiarity with their content. Initial coding was then carried out to identify recurring concepts and expressions that relate to the broader questions of transparency, privacy, and governance ethics. The codes were gradually refined into broader themes that reflect the key tensions within the policy landscape, such as institutional fragmentation, regulatory ambiguity, and technological sovereignty. Thematic analysis was complemented by the perspective of critical policy analysis, which focuses on how power, ideology, and institutional interests shape policy outcomes. This approach helps the researcher move beyond surface interpretations and instead reveal the deeper assumptions that govern how data is managed, shared, and secured in the digital state. The interpretive process was iterative and recursive. Insights from one theme informed the reading of another, allowing for a more coherent and interconnected understanding of how the principles of openness and security are negotiated in practice. Throughout the process, the researcher maintained an awareness of context and tone, ensuring that interpretation remained grounded in the lived realities of institutions and actors involved.

RESULTS AND DISCUSSION

The Complex Trajectory of Open Data in Indonesia's Digital Governance

The study finds that the implementation of open data policy in Indonesia is marked by a combination of remarkable progress and persistent structural constraints. The initiative known as One Data Indonesia was designed to unify data standards and improve the coordination of public information management. In practice, however, its realization across ministries, agencies, and local governments reveals a fragmented and uneven process. The policy has opened a new space for transparency, yet it operates within long-standing bureaucratic traditions that privilege control, hierarchy, and discretion.

Interviews and document analysis show that the idea of openness is interpreted differently among institutions. For many government officers, data continues to be viewed as an institutional asset that must be managed carefully rather than as a public good to be shared freely. This mindset is rooted in the legacy of centralized governance, where information was traditionally equated with authority. A senior policy officer at the national planning agency explained that releasing data often feels like surrendering control, reflecting the persistence of an administrative culture that associates transparency with risk rather than accountability. These institutional and technical barriers are summarized in the following table, which captures the multiple dimensions that shape the dynamics of open data implementation.

Table 1. Institutional and Technical Barriers in Open Data Implementation

Category	Observed Challenges	Illustrative Evidence (Interview or Document)
Institutional Coordination	Fragmented authority between central and local agencies causing duplication and inconsistency	"Every ministry builds its own platform and integration becomes political." (Interview with BAPPENAS officer, 2024)
Technical Infrastructure	Outdated metadata and lack of interoperability between systems	KOMINFO's 2023 report shows that almost half of available datasets lack standard metadata formats
Human Capacity	Limited data management skills and insufficient training for staff	"We still rely on manual spreadsheets and offline transfer." (Local data manager, 2024)
Legal and Ethical Ambiguity	Confusion in interpreting Freedom of Information and Data Protection laws	"We are uncertain whether disclosure violates privacy obligations." (Policy analyst, 2025)

The table illustrates that Indonesia's open data governance remains heavily dependent on institutional will and technical preparedness. While significant reforms have been introduced, implementation is hindered by limited coordination and a lack of shared standards. The tendency

of each ministry and region to operate independently has created isolated data islands rather than an integrated ecosystem. This condition mirrors what scholars of digital governance describe as bureaucratic path dependency, where new technologies are adopted without dismantling older structures of authority. At the same time, it would be misleading to view these challenges as a sign of failure. The gradual institutionalization of open data policies has changed the way the state understands its informational responsibilities. Even partial implementation represents a meaningful shift from the culture of secrecy that dominated in earlier decades. What is emerging is a slow but tangible redefinition of the relationship between the state and public information.

Negotiating Ethics Between Transparency and Privacy

The findings reveal that the most persistent dilemma in Indonesia’s open data policy lies in the ethical negotiation between transparency and privacy. Officials express consistent support for openness yet also show deep concern over potential data misuse. This ambivalence is shaped by the dual obligation of the state to disclose public information and to protect personal data under the newly enacted Personal Data Protection Law. In interviews, policy actors repeatedly described the difficulty of determining where the line between legitimate openness and privacy violation should be drawn. This uncertainty produces hesitation, especially when datasets involve sensitive sectors such as health, education, or citizen identity. The ethical dilemma is not only legal but also moral, as officials struggle to reconcile accountability to the public with their duty to prevent harm. The central ethical tensions observed during the study are summarized in the following table.

Table 2. Ethical Dilemmas and Interpretive Patterns in Policy Practice

Emerging Theme	Description	Interpretive Insight
Data Ownership Anxiety	Officials worry that releasing data weakens institutional control	Reflects a bureaucratic mindset that links authority to data possession
Privacy and Transparency Paradox	Conflicting obligations between data disclosure and protection	Reveals uncertainty in defining ethical boundaries of openness
Technological Dependence	Reliance on external digital platforms raises questions of sovereignty	Shows the tension between technological modernization and state autonomy
Symbolic Openness	Data portals exist but often contain outdated or incomplete information	Demonstrates compliance-driven rather than value-driven transparency

These ethical complexities highlight that transparency in Indonesia is as much a moral field as it is a technical one. Many officials understand openness as a virtue in principle but approach it with caution in practice. This cautious stance arises from both institutional culture and the political sensitivity of data release. The fear of exposure, misinterpretation, or political manipulation often outweighs the commitment to public accountability. Civil society representatives interpret this cautiousness as a sign of performative openness, a form of compliance that seeks legitimacy without redistributing power. Yet, it would be unfair to regard such behavior simply as resistance.

Rather, it reflects a deeper anxiety within the bureaucracy about vulnerability in the digital era. As one open government advocate observed, transparency has become an act of courage because it challenges the long-standing comfort of administrative control. The ethical negotiation between openness and protection, therefore, should be understood as an evolving moral practice. It requires continuous learning, institutional dialogue, and ethical literacy within the bureaucracy. Without these, transparency risks becoming procedural rather than transformative.

Institutional Rationalities and the Search for Balance

Each government institution involved in digital governance interprets the balance between transparency and security in its own way. While the central government promotes openness as a means to improve planning and accountability, line ministries often prioritize risk management and legal compliance. Local governments, operating with fewer resources, tend to focus on fulfilling minimal reporting requirements rather than pursuing innovation. This diversity of interpretation produces a mosaic of practices that are partially aligned but rarely coherent.

The following table summarizes how major institutions frame their approach to transparency and security.

Table 3. Institutional Framing of Transparency and Security Balance

Institution	Dominant Policy Framing	Implementation Pattern	Observed Implication
Ministry of Communication and Informatics	Emphasizes data protection and cybersecurity	Strengthens security protocols but limits open access	Reinforces control-oriented culture
National Development Planning Agency	Promotes integration and accountability	Encourages data standardization across agencies	Improves coordination but restricts civic innovation
Local Governments	Focus on compliance with national mandates	Publish limited and selective datasets	Creates uneven transparency across regions
Open Government Indonesia	Advocates public participation in data use	Facilitates community engagement and data literacy	Encourages awareness but lacks formal authority

The institutional variation suggests that transparency in Indonesia is shaped less by a unified vision than by contextual interpretation. Each agency balances openness and caution according to its own priorities and political sensitivities. This pluralism can be beneficial when it encourages adaptation and experimentation, but it can also create fragmentation when coordination is weak. What emerges is a form of controlled transparency, where openness is allowed but bounded. Data is shared strategically rather than universally, often in ways that reinforce existing power structures. This pattern reflects what scholars describe as managed openness, a condition in which the state remains visible yet selective about what it reveals. In Indonesia’s context, this managed openness is a pragmatic response to uncertainty but also a reminder that transparency is never purely administrative. It is a political act shaped by trust, risk, and the enduring logic of governance.

Discussion

The findings of this study reveal that the challenges facing Indonesia’s open data governance cannot be reduced to issues of technical readiness or regulatory compliance alone. They unfold within a much larger field of institutional habits, political negotiation, and ethical anxiety. To understand these dynamics, it is essential to situate them within the evolving literature of the past five years, which collectively reframes digital openness as a contested terrain rather than a straightforward reform. The following discussion engages that body of scholarship, highlighting where the Indonesian case affirms, complicates, or extends previous insights. Recent Indonesian studies on the One Data Indonesia initiative have drawn attention to the problem of institutional fragmentation that continues to impede policy coherence. Hidayat (2023) examined local implementation in several districts and found that the failure to synchronize databases often stemmed from power relations among agencies rather than from the absence of technology.

They argued that data integration is an inherently political process, where bureaucratic actors protect their informational territory as a way of preserving institutional legitimacy. The present study deepens that argument by demonstrating that such territoriality persists even when coordination frameworks are already formalized. Fragmentation, therefore, is not merely a managerial failure but a manifestation of the bureaucratic ethos that equates authority with informational control. This interpretation echoes the work of Setyawan et al. (2025), who observed that digital reforms in Indonesia frequently adopt the language of transformation while leaving underlying governance logics intact.

A second strand of recent scholarship examines the gap between the new Personal Data Protection Law and the actual readiness of public institutions to implement it. Legal analysts such as Kurnia (2024) have pointed out that the enactment of the law has created more uncertainty than clarity in the early years of its enforcement. They found that many agencies struggle to

interpret which datasets qualify as personal data and which may be disclosed for public accountability. This legal ambiguity, they argue, risks paralyzing transparency efforts as officials become overly cautious. The current research supports this concern and adds that such confusion is not simply legal but ethical. Officials in the field describe a deep sense of moral tension when deciding whether to release data, reflecting the absence of clear operational ethics to accompany the new law. In that sense, Indonesia's experience aligns with comparative findings by Clarke et al. (2020) in Oman, who identified a similar paralysis of openness following the introduction of stricter privacy legislation.

Another growing body of literature in the last five years has focused on the trade-off between data utility and privacy protection. A technical study by Xu & Zhang (2022) demonstrated empirically that stronger anonymization often reduces the analytical usefulness of public datasets. Their experiment suggested that the optimal level of anonymization should be contextual, balancing analytical benefit with the probability of re-identification. This evidence helps explain the ambivalence among Indonesian policymakers who fear that excessive data masking could undermine the value of open data for planning and research. The implication of these global findings is that technical design decisions are inseparable from governance values. When officials in this study speak about "balancing transparency and security," they are unknowingly participating in the same ethical calculus that Ahmed and Ryu describe. The policy challenge, therefore, lies not in choosing between openness and protection but in developing adaptive frameworks that can recalibrate that balance dynamically.

International social science research has also illuminated how citizens' perceptions of risk influence the fate of open data initiatives. Wirtz et al. (2019) found that public willingness to share information with the government increased when authorities communicated tangible benefits of openness, such as improved service delivery or civic participation. In contrast, when transparency was framed mainly as a compliance measure, public trust declined. This resonates strongly with the Indonesian context, where open data is often presented as an administrative duty rather than a civic partnership. The hesitancy of officials to release datasets, as observed in this study, partly reflects their awareness of weak public engagement mechanisms. Without visible demand and mutual trust, transparency becomes performative rather than participatory. The alignment between these findings suggests that successful open data governance depends as much on narrative framing as on legal or technical systems.

Equally significant is the expanding conversation on cybersecurity and digital trust that has emerged in the wake of several high-profile data breaches in Indonesia. Reports from the National Cyber and Encryption Agency (BSSN, 2023) and independent analysts documented repeated intrusions into public data systems, exposing millions of citizens' records. Scholars such as Chandler (2017) have interpreted these incidents as indicators of a structural vulnerability in Indonesia's digital infrastructure, arguing that any discussion of openness must be grounded in a realistic assessment of security capacity. The anxiety expressed by participants in this research mirrors those national debates. Their hesitation to publish datasets cannot be dismissed as bureaucratic conservatism; it is an institutional response to genuine systemic risk. This observation brings nuance to the assumption that transparency and security are opposing values. In contexts of fragile digital infrastructure, restraint can be a rational expression of responsibility rather than an act of secrecy.

Their synthesis of global research on open government data and privacy concerns concluded that sustainable openness requires a "multi-layered governance approach" integrating legal norms, technical safeguards, and participatory oversight. They argue that when these dimensions evolve separately, open data systems become inconsistent and vulnerable. The Indonesian findings presented here confirm the urgency of such integration. Policy coherence must go beyond regulation and infrastructure to include civic education and shared ethical understanding. The bureaucratic hesitation documented in this study thus reveals not an absence of goodwill but the incompleteness of systemic design.

The literature of the past five years also shows a shift in theoretical framing from transparency as disclosure to transparency as relationship. Distel et al. (2022) proposed that digital transparency should be understood as a trust-building interaction between state and citizen rather than as a

one-way act of releasing data. This relational view clarifies why symbolic openness, which this study found widespread in Indonesia, often fails to generate accountability. When data is released without context or dialogue, it does not produce understanding or engagement. The Indonesian case therefore supports the argument that transparency must be performative in the sense of interaction, not performance in the sense of spectacle. Only when openness invites interpretation and feedback can it serve its democratic purpose.

At a more conceptual level, the findings here align with emerging work on the politics of data governance in the Global South. Motadi & Sikhwari (2024) emphasizes that open data policies in developing democracies often operate as hybrid arrangements combining aspirations for modern governance with enduring logics of administrative control. Similarly, Tomsa (2017) describe how Southeast Asian governments adopt the language of openness as part of global norm diffusion while maintaining a selective approach to disclosure that protects political stability. The Indonesian pattern of cautious transparency fits within this broader regional trend. Yet, it also suggests an opportunity for divergence. The persistence of local civic networks and digital advocacy groups indicates a potential for bottom-up co-creation that remains underdeveloped but promising. This perspective reframes Indonesia not as a case of failure but as a laboratory of transition, where institutional learning and civic pressure are gradually reshaping the moral vocabulary of governance.

Together these studies illuminate that open data reforms across contexts share three interdependent tensions: between centralization and autonomy, between openness and control, and between policy ambition and institutional capacity. The Indonesian evidence elaborates these tensions by demonstrating how they manifest in the lived ethics of bureaucratic practice. When officials hesitate to disclose, they are not only interpreting law but negotiating trust, fear, and responsibility. When civil society demands openness, it is not only seeking data but redefining the boundaries of democratic accountability. This intersection of technical, legal, and moral reasoning confirms recent theoretical proposals by Koskinen et al. (2023), who advocate viewing data governance as an ecosystem of ethical negotiations rather than a linear policy process.

The discussion across these literatures also reveals a persistent gap that future research must address. Most studies remain siloed within disciplinary boundaries law, computer science, or public administration without offering integrative frameworks that connect technical feasibility, ethical reasoning, and institutional culture. The Indonesian context demonstrates the consequences of that fragmentation. To advance the field, forthcoming research should explore comparative and longitudinal methods capable of tracing how interpretations of openness evolve over time and across regions. Only through such interdisciplinary and temporal approaches can scholars and policymakers grasp the full complexity of balancing transparency with security in diverse governance settings.

The dialogue between this study and recent research underscores that Indonesia's open data governance represents neither a success story nor a failure but a living experiment in the moral modernization of the state. The interplay between regulatory innovation, ethical hesitation, and infrastructural vulnerability places Indonesia at the forefront of global conversations on digital accountability. By aligning with and extending contemporary scholarship, this discussion confirms that transparency is no longer a static value but an evolving relationship among institutions, technologies, and citizens one that must be continually negotiated in pursuit of both security and democratic trust.

CONCLUSION

Indonesia's pursuit of open data reveals that transparency in the digital era is not merely a technical reform but an ongoing ethical and institutional negotiation shaped by tensions between openness, security, and entrenched bureaucratic habits. Although initiatives like One Data Indonesia and the Personal Data Protection Law mark important progress, their effectiveness depends on institutional capacity, ethical literacy, and consistent interpretation across agencies. The study shows that transparency functions as a relationship of trust rather than simple data release, and Indonesia's pluralistic governance structure both enables innovation and creates inconsistency. Strengthening digital governance therefore requires integrating secure and

interoperable systems with cultural change, inter-agency coordination, and meaningful public engagement. Ultimately, true openness emerges when transparency is practiced as a moral commitment to accountability, enabling Indonesia to build a digital governance model that is both secure and genuinely democratic.

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