

Smart Local Legislation: Comparative Lessons from Madrid, Taiwan, and Estonia for Indonesia's Regional Regulation-Making

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Abstract

This article examines the need to transform Indonesia's regional regulation-making from a predominantly formal and documentary process into a smart, participatory, data-driven, and accountable model of local law-making. The problem addressed is the gap between the normative promise of public participation in regional legislation and the institutional reality in which legal information systems, particularly JDIH, remain focused on documenting enacted regulations rather than facilitating public access to the process of norm formation. Using normative legal research with conceptual and comparative-functional approaches, the article analyses Indonesia's regulatory framework and examines three functionally selected jurisdictions: Madrid's platform-based local participation, Taiwan's deliberative civic technology, and

Estonia's trust-oriented digital infrastructure. These cases are selected not for constitutional similarity but as diverse institutional solutions to one shared functional problem, and each is read together with its critical evaluative literature. The comparison proceeds through a five-variable grid covering point of entry, mode of input processing, identity assurance, obligation to respond, and regulatory traceability. The findings show that smart local legislation requires three integrated functions: participatory access, deliberative processing, and digital trust. JDIH is argued to be the most institutionally viable foundation for this transformation, provided its function is expanded from a passive legal repository into a civic legal infrastructure accommodating legislative agendas, draft regulations, academic manuscripts, open regulatory data, public submissions, harmonization records, version histories, and reasoned institutional responses. The article offers a normative-conceptual framework rather than an empirical evaluation; its propositions are advanced as testable design hypotheses for subsequent implementation research.

KEYWORDS: *Smart Local Legislation, E-Participation, Open Data, JDIH, Regional Regulation-Making.*

Introduction

In the digital era, local legislation can no longer be understood merely as a formal legal process conducted by local executives and representative councils. It increasingly functions as a democratic arena in which legal validity, public legitimacy, and regulatory quality are shaped by the openness of information, the accessibility of legal documents, and the meaningful involvement of citizens in policy formulation.¹ This transformation is especially important in decentralized states, where local governments are constitutionally entrusted with the authority to produce regulations that respond to local needs while remaining coherent with the national legal order.² In Indonesia, regional

¹ Marianne Kneuer, Maria A. Wimmer, and Giulia Bahms, "Digital Democratic Participation in Local Governance from an Urban-Rural Perspective," in *Citizen Participation in Local Governance*, ed. Karl Kössler and Erika Schläppi, Local and Urban Governance (Cham: Springer Nature Switzerland, 2026), 227–42, https://doi.org/10.1007/978-3-031-99824-9_14.

² Aan Eko Widiarto et al., "The Authority Relationship of Central and Local Governments in Forming Laws and Regulations: Between Indonesia and Malaysia," *Legality: Jurnal Ilmiah Hukum* 33, no. 1 (February 2025): 148–67, <https://doi.org/10.22219/ljih.v33i1.36629>.

regulations are central instruments for implementing regional autonomy, accommodating local diversity,³ channeling public aspirations, and advancing local welfare; Yet, their formation often remains trapped within procedural legality rather than becoming a genuinely participatory and data-informed process.⁴

The emergence of e-participation and open data offers a critical opportunity to rethink Indonesia's regional regulation-making. The existence of the Legal Documentation and Information Network, or JDIH, provides an important institutional foundation. Still, its potential remains underdeveloped if it is treated only as a repository of enacted legal documents.⁵ Philosophically, a legal information system should not merely preserve the memory of law; it should also democratize the making of law.⁶ This article therefore departs from the argument that JDIH can be reconceptualized as a civic legal infrastructure for smart local legislation, enabling the publication of draft regulations, academic manuscripts, legislative agendas, public comments, harmonization records, and reasoned responses to citizens' inputs.⁷ Comparative lessons from Madrid, Taiwan, and Estonia are relevant because they show that digital democracy requires more than technological adoption: it requires institutional design capable of transforming transparency into accountability, participation into deliberation, and legal information into public reason.

The central problem addressed in this article lies in the unresolved tension between the normative promise of participatory local law-making and the institutional reality of regional regulation-making in Indonesia. Indonesian law already requires openness, meaningful participation, and ready public access to academic manuscripts and draft regulations, and the Constitutional Court has

³ Novendri Mohamad Nggilu, Lisnawaty Wadju Badu, and Suwitno Yutye Imran, "Legal Protection Bonda And Bulango Language : In Reality And Prospect," *Jambura Law Review* 3, no. 1 (2020): 19–36, <https://doi.org/10.33756/jlr.v3i1.6947>.

⁴ Muhammad Fauzan et al., "Balancing Power and Resolving Conflicts in the Collaboration between Regional Heads and DPRD in Indonesia's Decentralized Governance," *E3S Web of Conferences* 609 (2025): 07004, <https://doi.org/10.1051/e3sconf/202560907004>.

⁵ Mochamad Adli Wafi and Muhammad Machshush Bill Izzi, "Integrating Electronic Participation in the Legislative Process to Optimize the Fulfillment of Meaningful Participation: Integrasi Electronic Participation Dalam Proses Legislasi Sebagai Optimalisasi Pemenuhan Meaningful Participation," *Jurnal Konstitusi* 21, no. 4 (December 2024): 518–41, <https://doi.org/10.31078/jk2141>.

⁶ Rahmat Hidayat, "Digital Governance and Transparency: How Open Data Initiatives Enhance Government Accountability," *Journal of Governance and Regulation* 14, no. 3 (September 2025): 194, <https://doi.org/10.22495/jgrv14i3art18>.

⁷ Cahya Wulandari et al., "Literacy, Compliance, and Digital Legal Awareness: The Role of JDIH UNNES in Disseminating Legal Information," *Indonesian Journal of Advocacy and Legal Services* 7, no. 1 (July 2025): 233–54, <https://doi.org/10.15294/ijals.v7i1.26600>.

translated meaningful participation into the rights to be heard, to have one's input considered, and to receive an explanation.⁸ In practice, however, participation is frequently reduced to consultation without traceable influence on the final regulatory text, while transparency is discharged by publishing regulations that have already entered into force. The critical issue, therefore, is not whether Indonesia possesses digital access to legal documents, but whether that infrastructure can be redesigned into a participatory and data-driven ecosystem for regional regulation-making.⁹

This article aims to develop a conceptual framework for smart local legislation that reorients Indonesia's regional regulation-making from a predominantly procedural model toward a participatory, data-driven, and publicly accountable regulatory process. Three research questions guide the inquiry. First, what normative and institutional components distinguish smart local legislation from the merely digitized publication of legal documents? Second, which institutional functions can be derived, through comparative-functional analysis, from Madrid, Taiwan, and Estonia, and under what conditions are those functions transferable to a large decentralized unitary state such as Indonesia? Third, how can JDIH be reconstructed as a civic legal infrastructure capable of hosting agenda-setting, open drafting, structured participation, deliberative processing, harmonization records, and reasoned institutional responses? The objective is not to transplant foreign models, but to construct a context-sensitive framework consistent with Indonesia's constitutional architecture of decentralization.

Existing scholarship has provided valuable but still fragmented accounts of digital governance, electronic participation, and technology-mediated legal reform in Indonesia. Sarjito and Thamrin (2026), in their comparative study on digital governance reform in Indonesia and Estonia, offer an important account of how Estonia's advanced e-government ecosystem may illuminate Indonesia's broader digital transformation agenda.¹⁰ Their study, however, remains primarily concerned with administrative modernization, institutional

⁸ Republic of Indonesia, Law Number 12 of 2011 on the Formation of Legislation, as amended by Law Number 15 of 2019 and Law Number 13 of 2022, arts. 5 and 96; Constitutional Court of the Republic of Indonesia, Decision Number 91/PUU-XVIII/2020, 25 November 2021.

⁹ Novendri M. Nggilu et al., "Abusive Constitutional Court: Dysplasia and the Destructive Power of Constitutional Court Decisions," *Estudios Constitucionales* 22, no. 2 (2024).

¹⁰ Aris Sarjito and Suyono Thamrin, "Digital Governance Reform in Indonesia: A Comparative Analysis with Estonia," *Public Administration Issues*, no. 5 (March 2026): 92–116, <https://doi.org/10.17323/1999-5431-2026-0-5-92-116>.

coordination, interoperability, and digital public administration, rather than the specific architecture of local law-making. As a result, it does not sufficiently address how legal information systems, public participation, and open regulatory data may be integrated into the formation of regional regulations. This leaves an important theoretical and practical gap: digital governance is treated mainly as a matter of bureaucratic reform and public service efficiency, while its potential to reshape the democratic production of local norms remains underexplored.

A similar limitation appears in the comparative legal literature involving Taiwan. Asyiqin, Fitriyanti, Yunita, Akbar, and Tsai Pei-Fen (2025) examine e-commerce arbitration in Indonesia and Taiwan, offering a relevant contribution to digital justice by analyzing how electronic signatures, digital contracts, remote proceedings, and electronic evidence affect dispute resolution in cross-border e-commerce.¹¹ Their focus, however, lies in the procedural adaptation of arbitration systems to the digital economy, not in the use of civic technology for democratic regulation-making. Taiwan is therefore discussed as a model of institutional readiness for digital dispute resolution, rather than as a source of insight into deliberative digital governance, public consultation, or participatory law-making. For the present inquiry, this creates a distinct gap: Taiwan's relevance should not be confined to digital justice, but may also be extended to its experience in digital deliberation, where technology is used to mediate public reasoning, build consensus, and enhance the legitimacy of regulatory choices.

More directly related scholarship on electronic participation in Indonesia's legislative process has advanced the debate, but still leaves room for further conceptual development. Wafi and Izzi (2024) link e-participation with the constitutional requirement of meaningful participation after Constitutional Court Decision No. 91/PUU-XVIII/2020, evaluating existing regulation and practice while drawing comparisons from Finland's citizens' initiative, the United States' open government approach, and the European Union's "Have Your Say" platform.¹² Their article also proposes reforms concerning digital infrastructure, institutional regulation, citizen initiatives, crowdsourcing, and

¹¹ Istianah Zainal Asyiqin et al., "Bridging Digital Justice: A Comparative Study of E-Commerce Arbitration in Indonesia and Taiwan," *Lex Scientia Law Review* 9, no. 2 (November 2025): 1223–59, <https://doi.org/10.15294/lslr.v9i2.18899>.

¹² Mochamad Adli Wafi and Muhammad Machshush Bill Izzi, "Integrating Electronic Participation in the Legislative Process to Optimize the Fulfillment of Meaningful Participation," *Jurnal Konstitusi* 21, no. 4 (December 2024): 518–41, <https://doi.org/10.31078/jk2141>.

the timing of participation. Nevertheless, its primary orientation remains national legislation and the optimization of meaningful participation within general legislative processes, rather than the specific problem of regional regulation-making in a decentralized state. This article fills that gap by shifting the analytical lens from national legislation to local legislation, from general e-participation to smart local legislation, and from digital access to legal documents to a JDIH-based civic legal infrastructure that integrates e-participation, open data, regulatory traceability, and comparative lessons from Madrid, Taiwan, and Estonia.

The novelty of this article lies in its formulation of smart local legislation as a conceptual framework for transforming regional regulation-making from a formally valid but institutionally closed process into a digitally enabled, participatory, and evidence-based mode of local legal production. Rather than treating e-participation as a supplementary consultation mechanism or open data as a passive transparency instrument, this article argues that both should be embedded within the architecture of local law-making itself, particularly through the reconceptualization of JDIH as a civic legal infrastructure that supports public access to draft regulations, academic manuscripts, regulatory data, citizen submissions, harmonization records, and reasoned legislative responses. Its contribution is therefore located at the intersection of digital democracy, open government, regulatory governance, and local legislation, shifting the debate from digital administration to democratic norm-production, and advancing the argument that the democratic legitimacy of regional regulations depends not only on procedural legality and hierarchical conformity, but also on the capacity of legal institutions to convert information into transparency, participation into deliberation, and digital access into accountable public reasoning.

This article employs a normative legal research design supported by conceptual and comparative-functional approaches.¹³ The conceptual approach constructs smart local legislation as an analytical category connecting e-participation, open data, legal information infrastructure, and democratic accountability. It examines the principles that should govern local law-making in a digital constitutional order: transparency, meaningful participation, public reason, regulatory traceability, and evidence-based justification. The

¹³ Dian Ekawaty Ismail, Novendri M. Nggilu, and Irlan Puluhulawa, *Metode Penelitian Hukum: Teori, Aplikasi, Dan Inovasi Dalam Penelitian Hukum*, ed. Tiara Oktaviana Namira Daud (Kalimantan Selatan: Ruang Karya, 2025).

comparative dimension follows the functional method of comparative law, which compares institutions by the governance problems they solve, not by their formal labels, and requires an explicit *tertium comparationis*.¹⁴ That common problem is formulated here as follows: how does a legal-institutional arrangement convert citizen input into publicly reasoned and traceable regulatory decisions during the formation of binding local norms? Posed functionally, it abstracts from constitutional form, state size, and technology. It connects the study to e-participation work, which grades participation by its depth and warns that participation without decisional consequence reproduces tokenism.¹⁵

Madrid, Taiwan, and Estonia were selected not for their similarity to Indonesia or their standing as digital-government exemplars, but on a diverse-case logic that maximizes variance in institutional design while holding that problem constant,¹⁶ under four cumulative criteria: functional correspondence, since each has institutionalized one of the three functions that Indonesian regional regulation-making performs weakly, namely early agenda access, deliberative processing of input, and answerable citizen initiative; design variance, since the three are distinct solutions to that single problem, from platform-based aggregation, through facilitated deliberation, to identity-verified collective initiative; procedural transferability, since each offers a sequence of institutional steps detachable from its constitutional setting; and evidentiary availability, since each has an independent peer-reviewed literature including critical assessment, so the comparison rests on documented performance, not institutional self-presentation.¹⁷ Scale asymmetry and the limits of comparability are addressed in the comparative analysis below.

¹⁴ Ralf Michaels, "The Functional Method of Comparative Law," in *The Oxford Handbook of Comparative Law*, ed. Mathias Reimann and Reinhard Zimmermann, 2nd ed. (Oxford: Oxford University Press, 2019), 344–89, <https://doi.org/10.1093/oxfordhb/9780198810230.013.11>; Mark Van Hoecke, "Methodology of Comparative Legal Research," *Law and Method*, December 2015, <https://doi.org/10.5553/REM/.000010>.

¹⁵ Ann Macintosh, "Characterizing E-Participation in Policy-Making," in *Proceedings of the 37th Annual Hawaii International Conference on System Sciences* (Big Island, HI: IEEE, 2004), <https://doi.org/10.1109/HICSS.2004.1265300>; Øystein Sæbø, Jeremy Rose, and Leif Skiftenes Flak, "The Shape of eParticipation: Characterizing an Emerging Research Area," *Government Information Quarterly* 25, no. 3 (July 2008): 400–428, <https://doi.org/10.1016/j.giq.2007.04.007>.

¹⁶ Jason Seawright and John Gerring, "Case Selection Techniques in Case Study Research: A Menu of Qualitative and Quantitative Options," *Political Research Quarterly* 61, no. 2 (June 2008): 294–308, <https://doi.org/10.1177/1065912907313077>.

¹⁷ The critical evaluations relied upon for this criterion are cited in full in the comparative analysis below.

The materials analyzed are the Indonesian constitutional, statutory, and regulatory provisions on regional legislation, participation, and legal information, with the Constitutional Court's meaningful-participation ruling;¹⁸ peer-reviewed scholarship and institutional policy evaluations;¹⁹ and the documented design features of the three platforms and of Indonesian regional JDIH portals, treated as evidence of institutional design rather than of usage or measured impact. The analysis proceeds in five steps: doctrinal reconstruction of the Indonesian baseline; functional coding of each comparator against the five-variable grid set out in Table 1; critical appraisal of each case against its evaluative literature; application of the three contextual filters concerning legal authority, institutional capacity, and equity; and synthesis into a JDIH-based framework tested against the hierarchy of Indonesian legislation and existing regional competences. Two caveats follow: the study is design-oriented and produces an argued model, not a measurement of effects, so it cannot demonstrate that the framework improves regulatory quality or democratic legitimacy. Its comparative material rests on secondary evaluations rather than fieldwork.

Results & Discussion

From Formal Local Legislation to Smart Local Legislation: A Conceptual Reorientation

Local legislation has traditionally been conceptualized through the grammar of legality: competence, procedure, hierarchy, promulgation, and conformity with superior norms. This formal conception remains indispensable, particularly in decentralized states where regional regulations must operate within the unity of the national legal order.²⁰ Yet, formal legality is no longer sufficient to justify the authority of local norms in societies

¹⁸ Constitution of the Republic of Indonesia of 1945, art. 18(6); Law Number 12 of 2011 on the Formation of Legislation, as amended by Law Number 15 of 2019 and Law Number 13 of 2022; Law Number 23 of 2014 on Regional Government; Presidential Regulation Number 33 of 2012 on the National Legal Documentation and Information Network; Constitutional Court of the Republic of Indonesia, Decision Number 91/PUU-XVIII/2020, 25 November 2021.

¹⁹ OECD, *Recommendation of the Council on Regulatory Policy and Governance* (Paris: OECD Publishing, 2012), <https://doi.org/10.1787/9789264209022-en>.

²⁰ Abdullah Sait Özcan and Firat Kimya, "Executive Decrees, Omnibus Bills, and the Politics of Abusive Constitutionalism in Turkey," *Southeast European and Black Sea Studies* 24, no. 4 (October 2024): 881–903, <https://doi.org/10.1080/14683857.2023.2231678>.

increasingly shaped by digital communication, public contestation, and demands for institutional transparency. A regional regulation may be procedurally valid and hierarchically compliant, but still democratically fragile if citizens cannot access its draft, understand its rationale, scrutinize its evidentiary basis, or trace how public input has influenced its final formulation.

The movement from formal local legislation to smart local legislation therefore represents a conceptual reorientation in the theory of local law-making. Smart local legislation does not merely mean the use of digital tools in drafting or publishing regulations.²¹ It refers to a more demanding institutional model in which technology, data, participation, and accountability are embedded into the normative architecture of law-making itself. Under this framework, local legislation is not treated as a closed interaction between regional executives and legislative councils, but as a public process through which legal norms are proposed, debated, justified, revised, and evaluated in a transparent and traceable manner.²²

This reorientation is philosophically grounded in the idea that law derives its authority not only from its source, but also from the quality of the process through which it is produced. In a democratic legal order, citizens are not merely objects of regulation; they are participants in the formation of the public reasons that justify regulation.²³ Local law-making is especially important in this respect because regional regulations often govern matters closest to citizens' everyday lives, including public services, spatial planning, environment, local taxation, licensing, customary institutions, and social order.²⁴ The closer a regulation is to the lived realities of citizens, the stronger the democratic expectation that its formation should be open, participatory, and responsive to local knowledge.

E-participation becomes central in this transformation because it challenges the reduction of public participation to ceremonial consultation. In many regulatory processes, participation is formally acknowledged but

²¹ Pravo - Zhurnal Vysshey Shkoly Ekonomiki, "Legal Regulation of Smart City Technologies in Solving Local Issues in Urban Areas," *Law Journal of the Higher School of Economics*, no. 3 (March 2023): 56–77, <https://doi.org/10.17323/2072-8166.2023.3.56.77>.

²² Alexey Voinov, "Participatory Modeling for Group Decision Support," in *Handbook of Group Decision and Negotiation*, ed. D. Marc Kilgour and Colin Eden (Cham: Springer International Publishing, 2021), 395–411, https://doi.org/10.1007/978-3-030-49629-6_65.

²³ Novendri Nggilu et al., "Constitutional Amendment in the E-Democracy Era: Experience Constitutional 'Crowdsourcing' from Iceland and Challenges for Indonesia," *Jurnal Suara Hukum* 7, no. 2 (2025): 298–327.

²⁴ Çiğdem Akman and Onur Kulaç, eds., *Structure, Autonomy, and Policy Impacts of Local Public Administrations*: (IGI Global, 2025), <https://doi.org/10.4018/979-8-3373-5576-4>.

institutionally weakened by limited access to drafts, short consultation periods, opaque deliberation, and the absence of reasoned responses to public submissions.²⁵ Smart local legislation requires a different logic: citizens must be able to know what is being regulated, why it is being regulated, what alternatives are being considered, what data support the proposal, and how their contributions are processed.²⁶ Participation, in this sense, is not merely the right to speak, but the right to be institutionally heard, considered, and answered.

Open data strengthens this model by shifting local law-making from preference-based regulation to evidence-informed regulation. A local regulation should not be justified only by political will or administrative convenience, but by publicly accessible data concerning social needs, fiscal implications, environmental risks, institutional capacity, affected groups, and implementation consequences.²⁷ Open data does not eliminate political judgment, but it disciplines it. It enables citizens, academics, civil society, and local stakeholders to test whether a proposed regulation is necessary, proportionate, feasible, and consistent with public interest.²⁸ Without open data, regulatory justification tends to remain declaratory; with open data, it becomes contestable and accountable.

Smart local legislation also requires regulatory traceability, namely the ability to follow the movement of a norm from agenda-setting to drafting, consultation, harmonization, approval, promulgation, and post-enactment evaluation.²⁹ Traceability is crucial because democratic accountability in law-making is not fulfilled by publishing the final text alone. The public must be able to see how legal choices were made: which draft provisions were modified, which public objections were considered, which institutional actors

²⁵ Novendri Nggilu et al., “Can Crowdsourcing Revolutionize Constitutional Amendments in Indonesia? A Comparative Study of International Experiences,” *Indonesian State Law Review* 8, no. 1 (2025): 35–57, <https://doi.org/https://doi.org/10.15294/islrev.v8i1.20618>.

²⁶ Novendri M. Ngilu et al., “Legislative Omission: Portrait of Regional Waste Management Arrangements in Gorontalo Province-Indonesia,” *IOP Conference Series: Earth and Environmental Science* 1270, no. 1 (December 2023): 012008, <https://doi.org/10.1088/1755-1315/1270/1/012008>.

²⁷ Alfonso Renato Vargas-Murillo et al., “Digital Open Data Governance: Enhancing E-Government Accountability and Transparency,” *Proceedings of the 2024 8th International Conference on E-Society, E-Education and E-Technology*, October 18, 2024, 74–78, <https://doi.org/10.1145/3704217.3704236>.

²⁸ Çiğdem Akman, Elvettin Akman, and Murat Okcu, “Turkey’s Open Data Policy,” in *Advances in Public Policy and Administration*, ed. Cenay Babaoğlu, Elvettin Akman, and Onur Kulaç (IGI Global, 2021), 13–35, <https://doi.org/10.4018/978-1-7998-4978-0.ch002>.

²⁹ Wei He, Wanqiang Li, and Peidong Deng, “Legal Governance in the Smart Cities of China: Functions, Problems, and Solutions,” *Sustainability* 14, no. 15 (August 2022): 9738, <https://doi.org/10.3390/su14159738>.

shaped the text, and what reasons supported the final regulatory formulation.³⁰ In this regard, traceability transforms transparency from passive visibility into active accountability.

This conceptual shift also invites a critique of purely technocratic digitalization. A digital platform does not automatically produce democratic legislation. If digital tools merely reproduce closed bureaucratic practices in online form, they create what may be called procedural digitalism: the appearance of openness without genuine deliberative influence.³¹ Smart local legislation must therefore be distinguished from the mere digitization of legal documents. Its core lies not in technology as such, but in the institutional capacity to convert digital access into public reasoning, citizen participation into regulatory learning, and legal information into democratic accountability.³²

Accordingly, smart local legislation should be understood as a normative framework for improving both the legitimacy and quality of regional regulation-making. It integrates four elements: e-participation as democratic inclusion, open data as evidentiary justification, public reasoning as institutional accountability, and regulatory traceability as procedural transparency. This framework does not displace the constitutional authority of local governments and regional legislatures; rather, it strengthens that authority by making local law-making more intelligible, contestable, and responsive. In decentralized governance, the future of local legislation depends not only on whether regions have the power to regulate, but on whether that power is exercised through processes capable of earning public trust.

Indonesia's JDIH and the Unfinished Transformation of Regional Regulation-Making

³⁰ Chris Mantas et al., "Evaluating the State of Art in Smart Cities Development: The Case of Greek Local Government," in *Civic Synergy*, 1st ed., ed. Sawsan Malik et al. (Emerald Publishing Limited, 2025), 285–98, <https://doi.org/10.1108/978-1-83708-042-720251019>.

³¹ Emilien Paulis, Raphaël Kies, and Alina Östling, *Public Deliberation in the Digital Age: Platforms, Participation, and Legitimacy*, 1st ed. (London: Routledge, 2025), <https://doi.org/10.4324/9781003435204>.

³² Simone Vagnoni and Monica Palmirani, "Fostering Deliberative Democracy in the Digital Age: An Ai-Powered Platform for Enhanced Citizen Engagement in Legislative Processes," *2025 Eleventh International Conference on eDemocracy & eGovernment (ICEDEG)*, June 18, 2025, 339–41, <https://doi.org/10.1109/ICEDEG65568.2025.11081638>.

Indonesia's regional regulation-making stands at a critical point between legal modernization and democratic incompleteness. On the one hand, the country has developed a relatively extensive legal information infrastructure through the Legal Documentation and Information Network, or JDIH, which connects national and regional legal documentation systems.³³ On the other hand, the existence of this infrastructure has not yet fundamentally transformed the way regional regulations are produced. In many local contexts, digital legal information remains oriented toward the publication and storage of enacted regulations. In contrast, the earlier and more politically consequential stages of law-making, agenda-setting, drafting, consultation, harmonization, deliberation, revision, and evaluation, remain insufficiently transparent and weakly connected to public participation.³⁴

This condition reveals a deeper institutional problem: Indonesia has begun to digitize legal information, but has not fully democratized legal production. The availability of legal documents online is undoubtedly important, but access to enacted law is not the same as access to the law-making process.³⁵ A citizen who can download a regional regulation after promulgation may still have been excluded from understanding why the regulation was proposed, what data justified it, which alternatives were considered, whose interests were affected, and whether public objections were seriously examined. In this sense, transparency after enactment may produce legal visibility, but not necessarily democratic accountability.

JDIH therefore occupies an ambiguous position in Indonesia's regulatory ecosystem. It is institutionally valuable because it provides an official channel for legal information, reduces fragmentation in access to legal documents, and supports the standardization of legal documentation across levels of government.³⁶ Yet, its transformative potential remains unfinished if it is limited

³³ Nur Aini Rakhmawati, Nadhif Ikbar Wibowo, and Naufal Rizky Rahardian, "Linked Open Legal Data Indonesia," *2023 International Conference on Advanced Mechatronics, Intelligent Manufacture and Industrial Automation (ICAMIMIA)*, November 14, 2023, 1–5, <https://doi.org/10.1109/ICAMIMIA60881.2023.10427744>.

³⁴ Sinta Devi Ambarwati, Sudarsono Sudarsono, and Shinta Hadiyantina, "Policies to Control and Evaluate Regional Regulations on Taxes and Levies in Indonesia: Re-Centralisation?," *Jurnal Media Hukum* 30, no. 1 (March 2023): 29–47, <https://doi.org/10.18196/jmh.v30i1.14172>.

³⁵ Zainal Arifin Mochtar et al., "From Meaningful to Meaningless Participation: The Tragedy of Indonesia's Omnibus Law on Job Creation," *Jurnal Media Hukum* 31, no. 2 (December 2024): 351–70, <https://doi.org/10.18196/jmh.v31i2.23557>.

³⁶ Cahya Wulandari et al., "Literacy, Compliance, and Digital Legal Awareness: The Role of JDIH UNNES in Disseminating Legal Information," *Indonesian Journal of Advocacy and Legal Services* 7, no. 1 (July 2025): 233–54, <https://doi.org/10.15294/ijals.v7i1.26600>.

to the archival function of collecting, classifying, and publishing legal products. A legal information network in the digital era should not merely function as a repository of positive law; it should become an infrastructure through which citizens can observe, question, contribute to, and evaluate the formation of law before it binds them.

The challenge is particularly significant in the formation of regional regulations. Regional regulations are not abstract legal texts detached from social life; they directly govern local public services, licensing, spatial planning, local revenue, environmental management, customary institutions, and community order.³⁷ Their proximity to citizens' daily lives makes democratic participation more urgent, not less. If local regulations are produced through closed bureaucratic drafting and limited consultation, decentralization risks becoming a transfer of regulatory authority without a corresponding expansion of democratic authorship. In such a situation, local autonomy may strengthen administrative power while leaving citizens as passive recipients of norms.

The current use of JDIH by regional governments also reflects a broader limitation in Indonesia's digital governance trajectory: the tendency to equate digitalization with publication. Many regional JDIH portals already provide access to regulations, decisions, and legal documents, but far fewer operate as interactive spaces for legislative transparency.³⁸ Ideally, a JDIH-based regulatory system should provide public access not only to final regional regulations, but also to regional legislative programs, draft regulations, academic manuscripts, explanatory documents, regulatory impact data, consultation schedules, public submissions, harmonization matrices, and version histories of draft provisions. Without these elements, the public sees the legal outcome but not the normative reasoning behind it.

This distinction is crucial because democratic law-making depends on traceability. A regulation becomes more accountable when citizens can trace how a public problem entered the legislative agenda, how it was translated into a draft norm, how public input was processed, how conflicts with higher laws

³⁷ Suparto Suparto and Jose Gama Santos, "Regional Spatial Regulation in Riau Province: Policy Formation Problems and Solutions," *Journal of Law, Environmental and Justice* 2, no. 2 (September 2024): 185–204, <https://doi.org/10.62264/jlej.v2i2.104>.

³⁸ Wulandari et al., "Literacy, Compliance, and Digital Legal Awareness," July 2025; Muhamad Taufik Wahyudi et al., "Transparansi Informasi Hukum Melalui Jaringan Dokumentasi Dan Informasi Hukum (JDIH) Kemenkumham Kalteng," *Terang: Jurnal Kajian Ilmu Sosial, Politik Dan Hukum* 2, no. 1 (December 2024): 69–77, <https://doi.org/10.62383/terang.v2i1.749>.

were resolved, and how final provisions were justified.³⁹ Traceability does not weaken the authority of local governments and regional legislatures; rather, it strengthens their authority by making the exercise of regulatory power intelligible and contestable. In a constitutional democracy, public institutions should not fear reasoned scrutiny, because legitimate authority is deepened when decisions can be explained.

The unfinished transformation of JDIH also concerns the relationship between open data and regulatory quality. Regional regulation-making often suffers when legal drafting is separated from empirical justification. Draft regulations may invoke public interest, local welfare, or administrative efficiency, but these claims remain normatively thin if not supported by accessible data.⁴⁰ A smarter use of JDIH would allow regional governments to publish the evidentiary basis of proposed regulations, including demographic data, fiscal projections, environmental considerations, affected stakeholders, institutional capacity, and implementation risks. Such openness would enable citizens, academics, civil society, and local economic actors to test whether a proposed regulation is necessary, proportionate, coherent, and feasible.

A further limitation lies in the absence of a structured feedback loop. Public participation loses much of its democratic value when citizens can submit comments but cannot know whether those comments were accepted, rejected, modified, or ignored. The problem is not merely technical; it is philosophical. Participation without response reduces citizens to contributors of information rather than co-authors of public reason. A JDIH-based smart local legislation model should therefore include a reasoned response mechanism, requiring local lawmakers to explain how public submissions affect the draft. This would transform participation from a symbolic ritual into an accountable institutional dialogue.

For these reasons, Indonesia's JDIH should be reconceptualized as a civic legal infrastructure for regional regulation-making. This does not mean replacing existing legislative authority or transferring decision-making power to digital platforms. It means redesigning the informational and participatory environment within which local legislative authority is exercised. The future of

³⁹ Fahmi Ramadhan Firdaus, "Partisipasi Publik Dalam Pembentukan Undang-Undang: Perspektif Perbandingan 5 (Lima) Negara Demokratis," *Jurnal Konstitusi* 21, no. 2 (June 2024): 203–25, <https://doi.org/10.31078/jk2123>.

⁴⁰ Firdaus Arifin et al., "Designing an AI-Driven Legislation Framework to Improve Indonesia's Law-Making Transparency and Public Participation," *Yustisia Jurnal Hukum* 14, no. 2 (August 2025): 152, <https://doi.org/10.20961/yustisia.v14i2.98092>.

regional regulation-making in Indonesia depends not only on whether legal documents are digitally accessible, but on whether the process of producing those documents becomes open, participatory, data-informed, traceable, and publicly reasoned. Only then can digital legal infrastructure contribute meaningfully to democratic legitimacy and regulatory quality in decentralized governance.

Comparative Lessons from Madrid, Taiwan, and Estonia: Participation, Deliberation, and Digital Trust

A comparative reading of Madrid, Taiwan, and Estonia is useful not because these jurisdictions offer ready-made institutional templates for Indonesia, but because each represents a different democratic function that is central to the construction of smart local legislation. Madrid illustrates how digital platforms can institutionalize participation at the local level; Taiwan demonstrates how civic technology can transform participation into structured deliberation; and Estonia shows how digital trust infrastructure can make citizen initiatives traceable, verifiable, and institutionally consequential. Taken together, these experiences offer a functional comparative framework for Indonesia: participation must be opened, deliberation must be designed, and digital trust must be institutionally secured.

Madrid's experience is particularly relevant because it operates closest to the logic of local governance. Through Decide Madrid, the city developed a platform for public participation in municipal decision-making, including proposals, debates, consultations, citizen voting, and participatory budgeting.⁴¹ The significance of this model lies not merely in its technological form, but in its attempt to relocate citizens from the margins of policy-making to the agenda-setting process itself.⁴² In the context of regional regulation-making, this lesson is crucial: citizens should not only be invited to comment on

⁴¹ Adrian Smith and Pedro Prieto Martín, "Going Beyond the Smart City? Implementing Technopolitical Platforms for Urban Democracy in Madrid and Barcelona," *Journal of Urban Technology* 28, nos. 1–2 (April 2021): 311–30, <https://doi.org/10.1080/10630732.2020.1786337>.

⁴² Moneyba González-Medina, "Promises and Pitfalls of Digital Participation in Spain," in *Citizen Participation in Local Governance*, ed. Karl Kössler and Erika Schläppi, Local and Urban Governance (Cham: Springer Nature Switzerland, 2026), 273–89, https://doi.org/10.1007/978-3-031-99824-9_17.

already-formulated drafts, but should also be able to participate in identifying regulatory problems, proposing agenda priorities, and scrutinizing the rationale for local legal intervention.

The Madrid model also shows that digital participation becomes meaningful only when it is connected to institutional procedures. A platform that permits debate, proposals, and voting can still fail democratically if public input is not linked to decision-making pathways. This is why smart local legislation must move beyond the symbolic availability of online participation and require procedural consequences: which proposals enter the legislative agenda, how they are assessed, how they are debated by local institutions, and how the public is informed of the outcome.⁴³ For Indonesia, the lesson is not to replicate Decide Madrid mechanically, but to develop a JDIH-based participatory layer that allows citizens to follow and influence the life cycle of a regional regulation from agenda-setting to post-enactment review.

This lesson must nevertheless be drawn with care. Independent evaluation of Decide Madrid has shown that the number of citizens actually participating remained modest relative to the size of the city, that participants were not socially representative, and that only a very small proportion of citizen proposals reached the threshold required to generate binding consequences.⁴⁴ The critical implication is not that platform-based participation fails, but that the availability of a platform is not itself a democratic achievement. What determines the democratic value of a participation platform is the institutional pathway attached to it: the threshold conditions, the assessment procedure, the obligation to respond, and the connection between citizen proposals and the formal regulatory agenda. For Indonesia, this suggests that a JDIH-based participatory layer must be designed together with its procedural consequences; otherwise, it risks reproducing digitally the very symbolic consultation it is intended to replace.

Taiwan contributes a different and equally important lesson: participation must be converted into deliberation. Through vTaiwan, Taiwan has developed an open consultation process combining online and offline interaction among citizens, government, experts, civil society, and other stakeholders in the

⁴³ Ángel H. Iglesias Alonso and Roberto L. Barbeito Iglesias, "Participatory Democracy in Local Government: An Online Platform in the City of Madrid," *Hrvatska i Komparativna Javna Uprava* 20, no. 2 (June 2020): 246–68, <https://doi.org/10.31297/hkju.20.2.3>.

⁴⁴ Royo, Pina, and Garcia-Rayado, "Decide Madrid," 1674.

formulation of digital policy and legislation.⁴⁵ Its democratic value lies in the attempt to transform dispersed public opinion into structured public reasoning. Rather than merely aggregating preferences, vTaiwan seeks to identify areas of convergence, clarify disagreement, and generate recommendations that can inform legal and policy choices.

This distinction between participation and deliberation is essential for Indonesia's regional regulation-making. Public participation may increase the number of voices in the process, but without deliberative design it may produce fragmentation, polarization, or purely performative consultation.⁴⁶ Smart local legislation must therefore create mechanisms through which public submissions are categorized, compared, discussed, and translated into regulatory reasoning.⁴⁷ The value of Taiwan's experience is that it treats civic technology not as a digital suggestion box, but as an institutional medium for reason-giving. For Indonesia, this means that JDIH should not merely receive public comments on draft regional regulations; it should enable deliberative processing, synthesis of arguments, publication of competing views, and reasoned responses by regulatory institutions.

The Taiwanese experience also carries a caution against overstatement. Documented accounts of vTaiwan indicate that the process has been applied to a limited number of predominantly digital-economy issues, that its outcomes are recommendatory rather than legally binding, and that its quality depends heavily on skilled facilitation and on the sustained involvement of a comparatively small civic-technology community.⁴⁸ Deliberative design is therefore resource-intensive and cannot simply be declared into existence by regulation. For Indonesia, the realistic lesson is one of graduated adoption: deliberative processing should be required for regulatory drafts of high public salience or significant distributive impact, supported by facilitation capacity and standardized synthesis protocols, rather than imposed uniformly on every regional regulation regardless of complexity or contestation.

⁴⁵ Madhu Mangal Chaturvedi and Pooja Tomar, "From Text to Context: The Pursuit of Objectivity in Constitutional Interpretation," *International Journal for the Semiotics of Law - Revue Internationale de Sémiotique Juridique*, ahead of print, September 24, 2025, <https://doi.org/10.1007/s11196-025-10368-8>.

⁴⁶ Jonathan Davies and Rob Procter, "Online Platforms of Public Participation: A Deliberative Democracy or a Delusion?," *Proceedings of the 13th International Conference on Theory and Practice of Electronic Governance*, September 23, 2020, 746–53, <https://doi.org/10.1145/3428502.3428614>.

⁴⁷ David Moats and Yu-Shan Tseng, "Sorting a Public? Using Quali-Quantitative Methods to Interrogate the Role of Algorithms in Digital Democracy Platforms," *Information, Communication & Society* 27, no. 5 (April 2024): 973–1007, <https://doi.org/10.1080/1369118X.2023.2230286>.

⁴⁸ Hsiao et al., "vTaiwan."

Estonia, by contrast, offers the lesson of digital trust. Its Rahvaalgatus.ee platform enables citizens to discuss, co-create, digitally sign, submit collective initiatives to the parliament or local governments, and follow the subsequent institutional processing of those initiatives.⁴⁹ The platform's importance lies in the way it connects civic participation with authentication, procedural traceability, and official response. In this model, digital participation is not an informal expression floating outside the state; it enters a recognized institutional pathway that can be tracked by citizens.

The Estonian experience is especially important because digital democracy depends on more than access. It requires trust in identity verification, data integrity, procedural continuity, and institutional responsiveness. Without these elements, e-participation may be vulnerable to manipulation, exclusion, or public distrust.⁵⁰ For Indonesia, this lesson is highly relevant to the future of JDIH. If JDIH is to become a civic legal infrastructure for regional regulation-making, it must be supported by reliable data governance, secure submission mechanisms, clear institutional responsibilities, and a publicly accessible tracking system. The democratic promise of digital participation cannot be separated from the institutional credibility of the system that hosts it.

Estonia's trajectory is instructive precisely because it includes failure as well as success. An earlier national e-participation portal generated low usage and limited institutional uptake, not because citizens lacked digital access, but because the platform was poorly integrated into administrative routines, lacked clear institutional ownership, and offered participants no reliable expectation of a response.⁵¹ Digital trust on this evidence is not produced by authentication technology alone; it is produced by the reliability of the institutional promise that authenticated input will in fact be processed and answered. This is a decisive consideration for Indonesia, where the risk is not the absence of portals but their proliferation without institutional obligation. If JDIH is to host participation, the duty to receive, process, and answer submissions must be

⁴⁹ Christian Schachtner, "Estonia—Citizen Participation in the Capital City," in *The European Smart City Movement*, ed. Christian Schachtner (Cham: Springer Nature Switzerland, 2025), 71–76, https://doi.org/10.1007/978-3-031-96700-9_8.

⁵⁰ Marju Himma-Kadakas and Ragne Kõuts-Klemm, "Developing an Advanced Digital Society: An Estonian Case Study," in *Internet in the Post-Soviet Area*, ed. Sergey Davydov, Societies and Political Orders in Transition (Cham: Springer International Publishing, 2023), 109–33, https://doi.org/10.1007/978-3-031-32507-6_6; Aris Sarjito and Suyono Thamrin, "Digital Governance Reform in Indonesia: A Comparative Analysis with Estonia," *Public Administration Issues*, no. 5 (March 2026): 92–116, <https://doi.org/10.17323/1999-5431-2026-0-5-92-116>.

⁵¹ Toots, "Why E-Participation Systems Fail," 546–59.

normatively anchored and assigned to identifiable institutional actors, rather than left to the discretion of individual regional administrations.

The comparison also reveals that each jurisdiction addresses a different weakness commonly found in conventional law-making. Madrid responds to the problem of limited citizen access to local agenda-setting; Taiwan responds to the problem of unstructured and non-deliberative participation; Estonia responds to the problem of weak trust, verification, and follow-up in citizen initiatives. Indonesia faces all three problems simultaneously in the formation of regional regulations. Public participation is often opened too late, public input is not always processed through deliberative reasoning, and citizens frequently lack the means to trace how their contributions affect the final legal text.

The comparative lessons from Madrid, Taiwan, and Estonia can therefore be synthesized through three institutional functions that are essential for smart local legislation: participatory access, deliberative processing, and digital trust. Table 1 summarizes these functions and their adaptive relevance for Indonesia's regional regulation-making.

TABLE 1. Comparative Framework for Smart Local Legislation: Lessons from Madrid, Taiwan, Estonia, and Indonesia

Main Digital Practice	Core Democratic Function	Institutional Strength	Limitation /Critical Note	Lesson for Indonesia's Regional Regulation-Making
Decide Madrid (Madrid)	Platform-based local participation	Enables proposals, debates, consultations, voting, and participatory budgeting in municipal decision-making	Participation may become symbolic if not connected to formal decision-making consequences	JDIH should include a participatory gateway for regulatory agenda-setting, draft comments, and public monitoring of regional regulation-making
vTaiwan (Taiwan)	Deliberative civic technology	Combines online and offline consultation to structure public	Strong deliberation requires facilitation,	JDIH should not merely receive comments; it

		reasoning and build consensus among stakeholders	institutional commitment, and capacity to process complex public input	should support deliberative processing, argument synthesis, and reasoned responses
Rahvaalgatus.ee (Estonia)	Digital trust and citizen initiative tracking	Enables discussion, co-creation, digital signatures, submission of initiatives, and tracking of institutional follow-up	Requires strong digital identity, data governance, and public trust infrastructure	JDIH should develop secure submission, verification, traceability, and institutional response mechanisms
JDIH (Indonesia)	Legal documentation and information access	Provides an official basis for integrated legal information across central and regional institutions	Still largely documentary; not yet fully designed as a participatory and deliberative law-making infrastructure	JDIH can be reconceptualized as a civic legal infrastructure for smart local legislation by integrating e-participation, open data, traceability, and public reasoning

Source: Author Analysis, 2026

The comparison demonstrates that smart local legislation cannot be reduced to the adoption of a single digital platform. Madrid, Taiwan, and Estonia clarify three normative components that must be integrated rather than transplanted separately: participatory access, deliberative processing, and digital trust. Madrid shows that citizens must be able to enter the regulatory process early; Taiwan demonstrates that public input must be transformed into structured deliberation and reasoned policy choices; while Estonia highlights that participation must be verifiable, traceable, and followed by accountable institutional responses. For Indonesia, these lessons suggest that JDIH should not be developed merely as a legal documentation system, but as a civic legal infrastructure capable of connecting legislative agendas, draft regional

regulations, academic manuscripts, supporting datasets, public submissions, deliberative summaries, harmonization records, version histories, and reasoned responses. Such a transformation would move Indonesia's regional regulation-making from a documentary model of legal information toward an interactive model of democratic norm-production, where regional autonomy is exercised not only as regulatory authority but also as democratic authorship.

Constructing a JDIH-Based Smart Local Legislation Framework for Indonesia

A JDIH-based smart local legislation framework for Indonesia should begin from a simple but normatively significant proposition: the digital transformation of regional regulation-making should not be built upon fragmented local experimentation alone, but upon an institutional infrastructure that already possesses national recognition, legal-administrative continuity, and cross-level governmental reach. JDIH is therefore a strategic starting point because it is not merely a technical website or an optional digital innovation created by individual regional governments. It is part of an integrated legal documentation and information ecosystem that connects central and regional institutions. This institutional character gives JDIH a stronger normative foundation than isolated local platforms, whose existence, design, and continuity often depend on local leadership, budgetary priorities, administrative capacity, or short-term innovation programs.

The choice of JDIH does not imply that other digital platforms developed by regional governments are irrelevant. Many regions have introduced websites, public complaint channels, e-planning systems, open data portals, legislative information pages, or digital consultation mechanisms. These platforms may support transparency and citizen engagement in specific contexts. However, their main limitation lies in institutional fragmentation.⁵² They are often sectoral, unevenly developed, weakly interoperable, and not specifically designed to support the full life cycle of regional regulation-making. Some function as information boards, others as complaint channels, and others as administrative service portals. They may enhance digital governance, but they do not necessarily provide a coherent legal infrastructure through which draft

⁵² Muhamad Taufik Wahyudi et al., "Transparansi Informasi Hukum Melalui Jaringan Dokumentasi Dan Informasi Hukum (JDIH) Kemenkumham Kalteng."

regulations, academic manuscripts, harmonization records, public submissions, version histories, and reasoned responses can be systematically connected.

JDIH is more suitable as the core platform because regional regulation-making requires more than public communication; it requires legal traceability. A regulation is not only a policy output, but a normative act whose legitimacy depends on competence, procedure, justification, participation, and conformity with higher legal norms.⁵³ For that reason, the digital platform used to support its formation must be able to host legal documents, legislative agendas, regulatory drafts, academic justifications, legal references, harmonization materials, and final promulgated texts within one institutional chain. JDIH already has the legal-information orientation necessary for this function. What remains underdeveloped is not its documentary foundation, but its participatory and deliberative capacity.

A JDIH-based smart local legislation framework should therefore transform JDIH from a passive legal repository into an active civic legal infrastructure. This transformation requires the platform to operate across the entire regulatory cycle. At the agenda-setting stage, JDIH should publish regional legislative programs, proposed regulatory priorities, problem statements, urgency assessments, and preliminary supporting data. At the drafting stage, it should provide access to draft regulations, academic manuscripts, explanatory notes, and alternative regulatory options. At the consultation stage, it should enable structured public submissions, stakeholder mapping, consultation schedules, and publication of community input. At the harmonization stage, it should disclose normative conformity analysis, potential conflicts with superior norms, and adjustments made to avoid regulatory overlap. At the post-enactment stage, it should support evaluation, public feedback, and documentation of implementation problems.

The philosophical basis of this framework is that citizens should not encounter law only after it has become binding. In a democratic legal order, citizens must be able to understand how law comes into existence, why it is considered necessary, whose interests it affects, what evidence supports it, and how public objections are addressed.⁵⁴ This is particularly important for regional regulations because they often regulate matters closest to everyday life:

⁵³ Rakhmawati, Wibowo, and Rahardian, “Linked Open Legal Data Indonesia.”

⁵⁴ Eko Nursetiawan and Riris Ardhanariswari, “Meaningful Participation in Legislative Drafting as a Manifestation of a Democratic Rule of Law,” *Jambe Law Journal* 5, no. 2 (December 2023): 251–70, <https://doi.org/10.22437/jlj.5.2.251-270>; Ngilu et al., “Legislative Omission.”

local taxation, licensing, public services, spatial planning, environmental protection, village governance, customary institutions, and local economic activities. The closer a legal norm is to social life, the stronger the obligation to make its formation visible, participatory, and accountable.

The framework should include at least five institutional components. First, open regulatory agenda-setting, through which regional governments and DPRD publish the annual and medium-term priorities for regional regulation-making. Second, open drafting, which requires draft regulations and academic manuscripts to be accessible from the early stages, not only after political agreement has largely been reached. Third, structured e-participation, allowing citizens, academics, civil society organizations, business actors, indigenous communities, and affected groups to submit input through categorized and traceable mechanisms. Fourth, deliberative processing, ensuring that public input is not merely collected but classified, compared, discussed, and incorporated into the regulatory reasoning process. Fifth, reasoned institutional response, requiring local lawmakers to explain whether public submissions are accepted, rejected, partially adopted, or deferred.

The most distinctive feature of this model is the requirement of regulatory traceability. Regional regulation-making should no longer produce only a final legal text; it should also produce a publicly accessible history of normative formation. Citizens should be able to trace how a draft provision evolved, which actors proposed changes, what data supported a regulatory choice, how harmonization was conducted, and why certain public arguments were accepted or dismissed. This would move Indonesia beyond the conventional model of transparency as publication and toward transparency as accountable law-making. In this sense, smart local legislation is not merely about making law accessible; it is about making the production of law intelligible.

This JDIH-based framework also avoids the weakness of platform pluralism without integration. If every region develops its own separate consultation platform without common standards, Indonesia may produce digital participation that is locally creative but nationally incoherent. Such fragmentation may widen inequality between regions with strong digital capacity and regions with limited resources. By contrast, developing JDIH as the backbone of smart local legislation allows Indonesia to combine national standardization with local adaptability. The core functions—publication of drafts, consultation, traceability, harmonization records, and reasoned responses—can be standardized nationally. At the same time, regional

governments retain flexibility to adapt language, interface, consultation methods, and stakeholder engagement according to local needs.

Three boundary conditions qualify this proposal and must be addressed if it is to be more than an elegant design. The first is the digital divide. In a country marked by pronounced disparities in connectivity, digital literacy, and device access, an exclusively online participatory channel would risk substituting one form of exclusion for another, privileging urban, educated, and organized constituencies over rural, remote, and customary communities. A JDIH-based framework must therefore be legally structured as a channel that supplements rather than replaces face-to-face consultation, with equivalence of legal effect between online and offline submissions. The second is institutional capacity. Requiring every region to operate deliberative synthesis, version control, and reasoned response would exceed the present capacity of many regional secretariats and legal bureaus. A realistic design would therefore differentiate obligations by tier, mandating a minimum core of publication, submission, and reasoned response for all regions, while phasing in deliberative processing and full traceability according to capacity, with shared national infrastructure and central technical support reducing the marginal cost borne by each region. The third is the risk of participation-washing. A traceability requirement that can be formally satisfied by generic or templated responses would produce the appearance of accountability without its substance. Guarding against this requires that reasoned responses be substantive, individually attributable to an identifiable institutional actor, and susceptible to scrutiny, including through existing mechanisms of executive supervision and judicial review of regional regulations.⁵⁵

A further condition concerns data governance. Hosting citizen submissions, identity attributes, and deliberative records within a public legal information infrastructure creates obligations of personal data protection, record integrity, and retention that current JDIH arrangements were never designed to carry. Comparative experience with open government data indicates that the value of such infrastructure depends less on the volume of data published than on the governance arrangements that secure its quality, provenance, and lawful reuse.⁵⁶ Any expansion of JDIH into a participatory

⁵⁵ Novendri M. Nggilu et al., “The Absence of Judicial Review on Constitutional Amendments in Indonesia: Urgency and Legal Reform for Constitutional Safeguards,” *Journal of Law and Legal Reform* 6, no. 2 (April 2025): 659–92, <https://doi.org/10.15294/jllr.v6i2.20888>.

⁵⁶ Judie Attard et al., “A Systematic Review of Open Government Data Initiatives,” *Government Information Quarterly* 32, no. 4 (October 2015): 399–418, <https://doi.org/10.1016/j.giq.2015.07.006>.

function must accordingly be accompanied by clear rules on the lawful basis for processing personal data, on the pseudonymization of submissions where appropriate, on the integrity and non-repudiation of published versions, and on the archival status of deliberative records as public documents. Without such rules, the very infrastructure intended to build trust may become a source of legal risk and public suspicion.

Ultimately, the construction of a JDIH-based smart local legislation framework is not a technocratic proposal but a democratic reconstruction of regional law-making. It seeks to ensure that decentralization is not reduced to the distribution of regulatory authority from the center to the regions, but becomes a practice of democratic authorship at the local level. JDIH is chosen not because it is already perfect, but because it offers the most institutionally legitimate and scalable foundation for integrating legal information, public participation, open data, harmonization, and accountability. Its future development should therefore be directed toward a single normative objective: transforming regional regulation-making from a closed documentary process into an open, reasoned, participatory, and traceable process of local legal production.

Democratic Legitimacy, Regulatory Quality, and the Future of Local Law-Making in Decentralized States

The future of local law-making in decentralized states depends not only on the distribution of regulatory authority, but also on the democratic quality of the processes through which that authority is exercised. Decentralization may constitutionally empower local governments to regulate matters close to citizens' lives, yet such empowerment does not automatically produce democratic legitimacy. Local autonomy can become administratively expansive but democratically thin when regional regulations are drafted through closed institutional routines, justified by general claims of public interest, and disclosed to citizens only after their legal force has already been established.⁵⁷ For this

⁵⁷ Alexander Bastianen and Nicolas Keuffer, "Are the Normative Rationales of Local Autonomy Related to Democratic Legitimacy Justified? Evidence from 57 Countries in Europe and Beyond (1990–2020)," *Local Government Studies* 51, no. 5 (September 2025): 869–89, <https://doi.org/10.1080/03003930.2024.2378128>.

reason, the central question is no longer merely whether local governments possess the competence to regulate, but whether the exercise of that competence is open, reasoned, participatory, and accountable.

Democratic legitimacy in regional regulation-making must therefore be understood beyond electoral representation. Local executives and legislative councils may derive authority from constitutional and statutory arrangements. Still, the legitimacy of their regulatory products also depends on whether citizens are given meaningful access to the formation of norms that will govern them.⁵⁸ In this sense, smart local legislation strengthens representative institutions rather than bypassing them. It does not replace the formal authority of local lawmakers with digital crowdsourcing; instead, it requires those lawmakers to exercise their authority within an informational environment where drafts, reasons, data, public objections, institutional responses, and regulatory changes are visible to the public.

This argument is especially important because regional regulations often affect concrete and immediate aspects of social life. Unlike many national laws that operate at a higher level of abstraction, local regulations frequently determine the conditions under which citizens access public services, conduct economic activities, use land, obtain licenses, manage environmental obligations, or interact with local administrative institutions.⁵⁹ The proximity of local law to everyday life creates a stronger normative demand for participatory formation. A regulation that directly shapes local social practices should not be produced through a process that treats citizens merely as recipients of administrative decisions.

Smart local legislation also contributes to regulatory quality. Poorly designed regional regulations are not only a legal problem; they are an institutional failure that may generate regulatory overlap, implementation difficulties, economic burdens, administrative discretion, social resistance, and rights-related concerns. Open data, public participation, and regulatory traceability can reduce these risks by exposing draft regulations to wider scrutiny before enactment.⁶⁰ Citizens, academics, civil society organizations, business

⁵⁸ Ibnu Sina Chandranegara and Luthfi Marfungah, "Regulatory Capture on Emergency Due Process of Law-Making," *Cogent Social Sciences* 10, no. 1 (December 2024): 2356382, <https://doi.org/10.1080/23311886.2024.2356382>.

⁵⁹ Lies Ariany and Risni Ristiawati, "The Urgency Of Creating Regional Regulations For Supporting The Implementation Of Regional Autonomy," *Syariah: Jurnal Hukum Dan Pemikiran* 19, no. 1 (May 2019): 75, <https://doi.org/10.18592/sjhp.v19i1.2652>.

⁶⁰ Rakhmawati, Wibowo, and Rahardian, "Linked Open Legal Data Indonesia."

actors, and affected communities may identify factual inaccuracies, implementation barriers, distributive consequences, or normative conflicts that may be overlooked by internal bureaucratic drafting. In this respect, participation is not merely a democratic value; it is also a source of regulatory intelligence.

However, the relationship between participation and quality should not be romanticized. More participation does not automatically produce better regulation. If public input is unstructured, politically captured, poorly moderated, or disconnected from institutional reasoning, it may produce noise rather than deliberation. The value of smart local legislation lies precisely in its capacity to organize participation into a reasoned process. Public submissions must be classified, compared, tested against legal principles and empirical data, and connected to institutional responses. The aim is not to transform law-making into a plebiscitary process, but to ensure that regulatory choices are informed by public knowledge and justified through publicly accessible reasons.

The proposed JDIH-based framework also has implications for the rule of law in decentralized governance. Traditional rule-of-law analysis often emphasizes hierarchy, legality, competence, and judicial review. These elements remain crucial, but they address only part of the problem. In a digital democratic context, the rule of law also requires procedural intelligibility: citizens must be able to understand how legal norms are made, why they are necessary, how they relate to higher norms, and how public concerns are processed.⁶¹ Regulatory traceability therefore becomes a contemporary rule-of-law requirement. It allows the public to see law not as an opaque command, but as a reasoned institutional product.⁶²

For decentralized states, this framework offers a way to reconcile local autonomy with national legal coherence. One persistent risk of decentralization is regulatory fragmentation, where different regions produce norms that are inconsistent, poorly harmonized, or detached from broader constitutional commitments. A smart local legislation model can mitigate this risk by integrating harmonization records, legal references, version histories, and regulatory data into the same public infrastructure that hosts participation. This does not centralize local law-making; rather, it disciplines it through

⁶¹ Vagnoni and Palmirani, “Fostering Deliberative Democracy in the Digital Age.”

⁶² Novendri M. Nggilu et al., “Rethinking Indonesian Constitutional Amendments: The Prospects and Perils of Judicial Review,” *Journal of Indonesian Legal Studies* 9, no. 2 (December 2024): 1027–66, <https://doi.org/10.15294/jils.v9i2.19158>.

transparency, comparability, and public justification. Local diversity remains possible, but it must be justified within a coherent legal order.

The broader theoretical contribution of smart local legislation lies in its redefinition of local democracy. Local democracy should not be understood only as periodic elections, institutional decentralization, or formal consultation. It should also be understood as a continuing process of democratic authorship, in which citizens can see, question, influence, and evaluate the production of local norms. This does not mean that every citizen becomes a legislator in the formal sense. Rather, it means that the legitimacy of local legislation improves when citizens are treated as participants in public reasoning, not merely as subjects of regulation.

Ultimately, the future of regional regulation-making in Indonesia and other decentralized states depends on whether digital legal infrastructure can be directed toward democratic ends. Digitalization may easily become an administrative façade if it only accelerates publication without opening the process of norm-production. Smart local legislation offers a different path: it uses digital infrastructure to connect legal information, open data, participatory access, deliberative processing, harmonization, and reasoned accountability. Its promise is not technological novelty for its own sake, but a deeper reconstruction of local law-making as a transparent, evidence-informed, and democratically legitimate practice of public authority.

Conclusion

This article argues that transforming Indonesia's regional law-making requires a conceptual shift from formal local legislation toward smart local legislation: a regulatory paradigm in which legality and hierarchical conformity are necessary but insufficient conditions of legitimate law-making. The deeper question is whether the production of regional norms can institutionalize democratic participation, regulatory intelligence, and public trust. E-participation and open data should therefore be understood not as technological supplements but as constitutive elements of a legal architecture through which citizens can access regulatory agendas and drafts, scrutinize supporting evidence, articulate reasoned submissions, trace normative changes, and receive accountable institutional responses. Read critically, the experiences of Madrid, Taiwan, and Estonia suggest three complementary

functions—participatory access, deliberative processing, and digital trust—while simultaneously demonstrating that technology cannot substitute for institutional commitment, facilitative capacity, or meaningful procedural consequences. On this basis, JDIH offers the most institutionally viable foundation for Indonesia because it already constitutes an official legal-information infrastructure across governmental levels. Its transformative potential, however, depends on moving beyond document dissemination toward a civic legal infrastructure integrating legislative agendas, draft regulations, academic manuscripts, regulatory data, public submissions, harmonization records, version histories, deliberative summaries, and reasoned institutional responses. Such an architecture would reposition citizens from objects of regulation to participants in public reason and make regional law-making more evidence-informed, transparent, traceable, and contestable. The claim advanced here is nevertheless one of institutional design rather than demonstrated causality: the framework establishes normative conditions under which regulatory quality and democratic legitimacy may be strengthened, but whether those outcomes materialize remains an empirical question.

The study's conceptual and normative character consequently defines both its limits and its research agenda. It relies principally on secondary evaluations of the comparative cases. It does not empirically assess implementation costs, administrative burdens, political feasibility, regional capacity differences, or the interaction of the proposed framework with executive supervision and judicial review. These limitations delimit rather than negate the argument: what is proposed is a theoretically grounded and context-sensitive institutional design, not a validated policy outcome. Future research should therefore move from normative construction to empirical testing through four complementary trajectories: pilot implementation of JDIH-based participatory modules across regions with contrasting institutional capacities; development and validation of indicators measuring substantive institutional responsiveness, regulatory traceability, consultation duration, and participant representativeness; causal evaluation comparing regulatory processes with and without traceable participatory infrastructure; and equity-oriented research examining digital exclusion and the offline mechanisms necessary for genuinely inclusive participation. Until such evidence is generated, smart local legislation should be understood as a structured design hypothesis: not the technological digitization of law-making, but an institutional attempt to align digital infrastructure with the deeper democratic purposes of law—public

reason, accountability, and the capacity of citizens to participate meaningfully in the making of the norms that govern them.

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During the preparation of this manuscript, the authors used ChatGPT to refine language, improve readability, enhance grammatical accuracy, and support the clarity of academic expression. Following this process, the authors critically reviewed, edited, and validated all AI-assisted outputs to ensure the accuracy, coherence, originality, and scientific integrity of the manuscript. The authors maintain full responsibility and accountability for the final content of the article. ChatGPT was used solely as a supportive writing-assistance tool and is not credited with authorship. No original data analysis, legal interpretation, theoretical argumentation, or substantive conclusions were generated by AI without direct human oversight, verification, and scholarly judgment by the authors.

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