

Information Technology and Inclusive Digital Transformation: The Necessity of Legal Reform in the Digital Era

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Abstract

Digital transformation has become a primary driver of social and economic change in the modern era, including within legal systems. However, the success of digital transformation largely depends on the principle of inclusivity, which ensures legal access and protection for all segments of society. This study explores the urgent need for legal reform to ensure the law remains relevant, inclusive, and effective in addressing challenges arising from digital innovation, including data governance, cybersecurity, and digital inclusion, while identifying normative constraints and regulatory weaknesses that hinder the realization of fair and inclusive digital transformation. Employing normative legal research through statutory and conceptual approaches, this paper analyzes the limitations of existing legal instruments, particularly in Indonesia, in accommodating evolving digital realities. Findings indicate that Indonesia's legal system continues to face regulatory fragmentation, lack of recognition of digital rights as fundamental human rights, and insufficient public participation mechanisms in digital policy formulation. Therefore, comprehensive legal reform is necessary, encompassing substantive legal updates, institutional strengthening, and participatory approaches to realize just, inclusive, and sustainable digital governance. This article recommends policymakers integrate the principle of inclusivity as a fundamental foundation in the national digital legal reform agenda.

Keywords: *digital transformation, inclusivity, legal reform, information technology, digital rights, Indonesia*

INTRODUCTION

Advancements in information and communication technology (ICT) have significantly transformed and reshaped almost every dimension of human life, ranging from economic activities, social interactions, cultural practices, to state administration, including legal systems and governance structures. In the contemporary digital era, the process of digital transformation is no longer an option but has become a necessity for nations that aspire to maintain competitiveness, enhance efficiency, and ensure inclusivity in the delivery of public services. The acceleration of digitalization is not merely a matter of technological adoption but represents a fundamental restructuring of how societies function, how governments deliver services, and how citizens interact with both public institutions and one another. Indonesia, as one of the largest developing countries with vast demographic diversity and dynamic socio-economic structures, has accelerated its digitalization agenda across both public and private sectors as part of a long-term strategy to achieve the vision of a strong and sustainable national digital economy [1].

Nevertheless, the rapid and extensive advancement of technology does not inherently guarantee the realization of equitable benefits for all societal groups. The promise of efficiency,

transparency, and participation embedded in digital transformation often comes with risks of exclusion when certain groups are left behind. Within the midst of this massive transformation, fundamental challenges have emerged, particularly related to disparities in access to digital infrastructure, uneven levels of digital literacy, and the urgent necessity of protecting personal data from misuse. For example, while urban areas in Indonesia enjoy relatively advanced internet connectivity and access to digital services, many rural and remote regions continue to struggle with limited infrastructure, leading to what is commonly referred to as the *digital divide*. Similarly, while younger and more educated populations are often quick to adapt to technological innovation, elderly populations, low-income communities, and marginalized groups tend to face significant barriers in accessing and effectively utilizing digital platforms. These issues constitute critical aspects that demand immediate and serious attention from both policymakers and legal scholars. The creation of an inclusive digital transformation, therefore, requires not only affirmative policy measures concerning the equitable distribution of digital infrastructure and the enhancement of digital literacy, but also profound legal reforms that are capable of accommodating the dynamic and complex challenges brought about by the ongoing process of digitalization [2]. Infrastructure and literacy alone are not sufficient without a legal framework that guarantees rights, protects against exploitation, and ensures accountability of both state and private actors in the digital domain. In other words, inclusivity in digital transformation is not merely about access, but also about fairness, protection, and empowerment.

At present, Indonesian regulations are widely considered inadequate and insufficient to comprehensively address the multifaceted demands of a digitally dominated era. Many of the prevailing laws continue to be rooted in analog-oriented paradigms, rendering them outdated and often irrelevant when confronted with emerging legal issues in digital spaces, such as the misuse of personal data, the escalation of cybercrime, and persistent inequalities in access to digital justice [3]. For instance, while Indonesia has enacted the Personal Data Protection Law (PDP Law) as a landmark legislation, its implementation remains in the early stages and faces challenges in enforcement, institutional capacity, and alignment with international standards. Similarly, regulations governing e-commerce, financial technology, and digital platforms often lag behind the pace of innovation, resulting in legal uncertainties that can be exploited by powerful actors at the expense of vulnerable users.

The absence of adaptive, responsive, and inclusive legal frameworks has created legal vacuums that disproportionately harm vulnerable and marginalized groups, thereby exacerbating existing inequalities and undermining the principles of justice and inclusivity in the digital transformation process. For example, cases of online fraud and cyberbullying frequently go unresolved due to weak enforcement mechanisms, while victims of data breaches often have no clear channels for redress. These shortcomings highlight the urgent need to design legal systems that are not only technologically literate but also socially just, ensuring that the law functions as a protector rather than a barrier in the digital age.

A number of previous studies have attempted to explore legal issues associated with technological developments, particularly in areas such as personal data protection, digital platform regulation, digital consumer protection, and the supervision of internet content [4][5][6]. These contributions are valuable in mapping the contours of legal challenges posed by digitalization. However, the majority of these studies have generally adopted sectoral perspectives, focusing only on specific thematic aspects rather than examining the problem in its

entirety. For example, research on e-commerce tends to focus on consumer protection without linking it to broader issues of access and inclusivity, while studies on cybersecurity often emphasize technical safeguards without fully addressing human rights implications. Consequently, comprehensive analyses that address the broader need for systemic legal reform, particularly those aimed at achieving inclusive digital transformation which guarantees that all segments of society can access, participate in, and benefit fairly from the digital ecosystem, remain relatively scarce and underdeveloped.

This gap represents the central research problem of this study, namely the lack of thorough normative and comparative legal studies that specifically investigate systemic reform within the context of inclusive digital transformation, particularly in Indonesia. It is important to underscore that inclusive digital transformation requires the establishment of regulations that are not only adaptive and responsive to technological developments but also progressive in ensuring equal access, the protection of rights, and meaningful citizen participation in digital spaces [2][7]. The law should not merely react to technological developments but must anticipate future changes and proactively create a framework that balances innovation with inclusivity.

Furthermore, the urgency for comprehensive legal reform becomes even more critical when analyzed within the broader context of digital globalization. As jurisdictional boundaries gradually dissolve in cyberspace and cross-border data flows increasingly emerge as strategic commodities with significant economic and political value, national legal systems are confronted with the dual challenge of safeguarding domestic interests while simultaneously coordinating and harmonizing with international legal regimes [8]. For instance, the European Union's General Data Protection Regulation (GDPR) has set a high global benchmark for data protection, influencing regulatory debates worldwide, including in Indonesia. The challenge for Indonesia lies in aligning its domestic legal frameworks with such international standards without compromising national sovereignty or ignoring local socio-cultural contexts.

This duality highlights the need for legal systems to undergo substantial redesign and restructuring so that they can function effectively as pillars supporting equitable, transparent, and inclusive digital transformation at both the national and global levels. In practical terms, this means that Indonesian law must evolve to regulate digital markets in ways that prevent monopolistic practices, protect consumer rights, and encourage fair competition, while at the same time ensuring interoperability with international frameworks to facilitate cross-border digital trade and cooperation. Moreover, reform should also address ethical dimensions of technology, such as algorithmic transparency, artificial intelligence accountability, and the protection of freedom of expression in online spaces.

In light of these considerations, this article is intended to analyze how the development of information technology and the phenomenon of digital transformation have reshaped the legal landscape in Indonesia and beyond, while also emphasizing the urgent necessity of building a responsive and inclusive legal reform framework in the digital age. Such an undertaking is of paramount importance to ensure that the processes of digitalization truly deliver broad-based benefits for all levels of society, and do not merely serve the interests of certain privileged groups, thereby aligning digital governance with the principles of justice, inclusivity, and sustainability.

Ultimately, inclusive digital transformation should be understood as both a technological and a legal project. It requires more than infrastructure, literacy, and innovation; it demands a strong legal foundation that guarantees fairness, equality, and accountability in the digital realm. For

Indonesia, this is not only a matter of catching up with global trends but also of shaping a uniquely Indonesian model of digital governance that reflects national values while embracing universal principles of justice and inclusivity. Only through such a holistic approach can digital transformation fulfill its promise as a driver of sustainable development and social justice in the twenty-first century.

METHOD

This study employs a normative legal research approach (doctrinal legal research), focusing on the examination of applicable legal norms and relevant legal concepts concerning digital transformation and inclusivity. This approach is chosen because the research aims to analyze Indonesia's positive legal framework and assess the extent to which the current legal system responds to the dynamics of the digital era. In this context, law is understood as a normative system reflected in legislation, legal principles, and living legal theories within society [9].

Multiple approaches are used concurrently in this research. The statute approach is applied to review national legal instruments such as Law Number 1 of 2024 on the Second Amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions (ITE Law), Law No. 27 of 2022 on Personal Data Protection, and other regulations related to digital transformation. The conceptual approach is employed to discuss key concepts such as inclusive digital transformation, digital rights, and the principle of non-discrimination in digital spaces.

The legal materials used include primary sources (legislation, governmental decisions, relevant international legal instruments), secondary sources (academic literature, journal articles, research reports, publications from international organizations such as UNCTAD and OECD), and tertiary sources (legal dictionaries, encyclopedias) to support conceptual understanding. All legal materials were collected through library research accessing academic and official document repositories. Analysis of legal materials is qualitative and descriptive-analytical. The collected materials were examined to identify applicable legal norms, regulatory gaps, and assess the law's capacity to support inclusive digital transformation. This approach is expected to provide theoretical and practical contributions in advancing digital legal reform responsive to contemporary needs and social justice.

RESULTS AND DISCUSSION

1) Relationship Between Digital Transformation and the Principle of Inclusivity in Legal Development in the Digital Era

Digital transformation and the principle of inclusivity are two interdependent and inseparable elements in the discourse of legal development during the digital era. The process of digital transformation, which involves the integration of information and communication technology into public services, judicial systems, and electronic legal regulations, inevitably demands legal structures that are not only adaptive to rapid technological advancements but also capable of ensuring fairness, equal access, and effective protection for all groups within society [10]. Technological modernization in the legal sector should therefore be understood not merely as a technical innovation, but as a fundamental restructuring of how the law interacts with citizens and guarantees justice in a changing digital environment.

Inclusivity in this context emphasizes the importance of guaranteeing that every individual, regardless of social, economic, gender, geographic, or disability status, possesses equal rights to

enter, participate in, and benefit from digital spaces and technology-based legal services. The essence of inclusivity lies in breaking down structural barriers that have long limited access to justice and ensuring that the benefits of technological transformation are evenly distributed. Without this orientation, digital legal reforms risk strengthening only dominant groups while leaving behind communities that are already vulnerable.

However, in practical implementation, not all societal groups equally benefit from digital transformation. Digitalization in the legal sector often disproportionately serves urban populations who already have sufficient digital literacy and infrastructure, while vulnerable groups such as persons with disabilities, indigenous peoples, and residents in remote rural areas continue to face significant obstacles [11]. For example, the introduction of the *e-court* system has facilitated access to justice for many citizens in cities, but in areas with limited internet connectivity, the system becomes inaccessible, reinforcing the urban-rural divide. Persons with disabilities also frequently find digital platforms not designed with accessibility standards, thereby excluding them from fully exercising their legal rights. These realities illustrate the persistent gap between technological advancement and genuine legal inclusion.

To address this gap, inclusive legal development in the digital era requires a normative framework that explicitly recognizes digital rights as fundamental human rights. Access to digital legal services, protection of personal data, and the right to digital participation must be treated as integral to the broader concept of citizenship in the twenty-first century. Law should thus function not only as an instrument of control and regulation but also as an empowerment mechanism that enables citizens to exercise their rights and actively participate in digital spaces [12]. Such an approach strengthens democracy and ensures that legal modernization does not become an exclusive privilege for the digitally literate elite.

Furthermore, without embedding social justice principles into digital transformation, legal regulations risk being biased toward dominant groups with greater economic capacity and technological literacy. This could lead to the creation of a two-tiered legal system: one highly efficient and accessible for privileged groups, and another weak and inaccessible for marginalized communities. In the long run, this not only contradicts the constitutional mandate of equality before the law but also undermines public trust in digital governance.

The relationship between digital transformation and inclusivity is also evident in the design and implementation of regulations. Non-participatory and non-inclusive legislative processes tend to produce legal frameworks detached from social realities, thereby generating exclusive norms that may foster digital discrimination [13]. For instance, when regulations are formulated without consultation with minority groups, the resulting policies often fail to account for accessibility needs or regional disparities. By contrast, participatory and transparent law-making ensures that diverse voices are heard and reflected in legal reforms.

Thus, digital legal development must be grounded in principles of participation, transparency, accountability, and equitable access. Participation ensures inclusivity in the process, transparency fosters trust in digital governance, accountability guarantees fairness in enforcement, and equitable access ensures no group is left behind. These principles collectively provide the foundation for digital transformation to advance in a manner that is not only innovative but also socially just and sustainable.

In conclusion, the relationship between digital transformation and inclusivity in legal development is deeply interconnected and mutually reinforcing. Digital transformation without

inclusivity risks producing discriminatory and unresponsive laws, while inclusivity without adequate digital frameworks cannot meet contemporary challenges. Therefore, Indonesia's legal system must holistically integrate both aspects into all digital legal reform initiatives. Only through such integration can digital transformation contribute to a fair, democratic, and sustainable legal order that serves all members of society equally.

2) Normative Constraints and Regulatory Weaknesses in the Indonesian Legal System Hindering Inclusive Digital Transformation

One major obstacle to realizing inclusive digital transformation in Indonesia lies in weak normative foundations and regulations that are not adaptive to technological complexities. Indonesia's legal system remains dominated by sectoral, partial, and reactive regulatory approaches, lacking a holistic and proactive digital legal framework [4]. Law Number 1 of 2024 on the Second Amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions (ITE Law), despite several revisions, still contain ambiguous provisions that often restrict freedom of expression and neglect protection of vulnerable groups in digital spaces.

Additionally, the national legal framework's limited reach over cross-sectoral digital issues such as technological access gaps, digital legal literacy, and gender equality in cyberspace demonstrates the lack of inclusivity perspective in Indonesian digital law (14). Many digital policies focus on technical and economic aspects like infrastructure acceleration and digital economy development but overlook social justice dimensions, such as accessibility for persons with disabilities or indigenous communities [15].

Another significant weakness is the absence of effective inter-agency coordination mechanisms for regulating and supervising digital policies. This leads to overlapping regulations and inconsistent law enforcement, reflected in various regulations issued by different agencies without a unified national strategic guideline [16]. Consequently, digital law implementation is fragmented and struggles to guarantee equitable protection for all citizens.

Furthermore, the existing legal system lacks adequate legal instruments recognizing digital rights as part of human rights, despite inclusivity principles requiring recognition and protection of rights to information access, digital participation, and data security [10]. The absence of explicit digital rights norms in the constitution or sectoral laws hinders collective awareness and state responsibility in ensuring just digital transformation.

Therefore, normative obstacles in Indonesia's legal system stem not only from regulatory deficiencies but also from the absence of social justice and equality orientation in digital legal development. Legal reform must focus on creating an inclusive, anticipatory, and socially responsive regulatory framework to address digitalization's social impacts.

3) Ideal Legal Reform Model to Support Fair, Inclusive, and Sustainable Digital Transformation in Indonesia

An ideal legal reform model to address digital transformation in Indonesia must rest on three pillars: justice, inclusivity, and sustainability. Reform efforts should extend beyond piecemeal technical regulation amendments to encompass legal substance, institutional structures, and policy-making paradigms. As noted by Handayani (2020), digital legal reform should aim to create anticipatory legal systems responsive to technological changes rather than merely reactive

to arising issues [4].

First, substantively, legal reform must recognize digital rights as integral human rights, including rights to internet access, personal data protection, privacy, and non-discrimination in digital spaces. Consequently, the constitution and sectoral laws need amendments or supplements explicitly guaranteeing these rights [16]. Without legal protection for digital rights, digital transformation risks benefiting only those with access and capacity while marginalizing vulnerable groups. Second, institutionally, a coordinated and collaborative digital legal governance model is required. Currently, digital regulations in Indonesia are dispersed across ministries and agencies without strong coordination frameworks (10). Establishing a national digital transformation authority with cross-sectoral mandates could provide a strategic solution, ensuring digital policies integrate social justice principles and public participation, including in legislation and oversight processes. Third, from a paradigm perspective, law should be viewed not solely as a state control tool but as a community empowerment instrument. Legal reform must adopt participatory, transparent, and evidence-based lawmaking approaches involving marginalized groups and digital communities [17]. Studies by Kusumaningrum and Fitriani (2018) underscore the importance of vulnerable group participation in digital policy formulation to ensure non-discriminatory and responsive legal products [14].

Moreover, to ensure sustainability, periodic evaluation mechanisms and legal flexibility allowing adaptation to rapid technological developments should be embedded within digital legal frameworks. Collaborative networks involving academia, civil society, private sector, and international organizations can enhance the quality and responsiveness of legal reforms. In summary, the ideal legal reform model for Indonesia's digital transformation integrates justice, inclusivity, and sustainability, combining normative recognition of digital rights, institutional coordination, and participatory governance to ensure fair and inclusive digital transformation benefiting all citizens.

CONCLUSION

Digital transformation presents both opportunities and challenges for legal systems in Indonesia. While technological progress advances public services and governance efficiency, it also risks exacerbating legal inequalities if the principle of inclusivity is neglected. The Indonesian legal system currently faces normative and regulatory weaknesses, including fragmented laws, lack of recognition of digital rights, and insufficient participatory mechanisms. Addressing these issues requires comprehensive legal reform focused on substantive protection of digital rights, institutional strengthening, and participatory lawmaking approaches. Integrating the principle of inclusivity as a core foundation will help realize just, inclusive, and sustainable digital transformation in Indonesia's legal development. Policymakers and stakeholders must therefore prioritize inclusive digital legal reform agendas to ensure digitalization benefits all strata of society fairly and equitably.

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