



***Pancasila* as an ontological foundation for digital ethics: Reaffirming humanistic values in Indonesia's exponential technological era**

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Received Date: January 8, 2025

Revised Date: April 10, 2025

Accepted Date: April 25, 2025

ABSTRACT

Background: The rapid acceleration of global technological advancement has fundamentally altered societal structures, yet it simultaneously triggers an ontological crisis that threatens human dignity and social trust. **Methods:** This study employs a qualitative, normative-philosophical approach to critically analyze the intersection of digital ethics and humanistic values within the Indonesian context. It synthesizes existing legal frameworks, specifically the national data protection regulations, with core *Pancasila* principles to evaluate contemporary governance challenges. **Findings:** The findings demonstrate that technological progress without a human-centric moral compass risks becoming divisive; however, integrating *Pancasila* as an ontological foundation provides a robust ethical framework for digital governance. This integration bridges the gap between algorithmic efficiency and the protection of individual rights. **Conclusions:** It is concluded that reasserting *Pancasila* values is essential for navigating the complexities of the digital era, ensuring that technology serves to enhance rather than diminish social cohesion. **Novelty/Originality of this articles:** This paper offers a fresh perspective by explicitly contextualizing *Pancasila* as a functional, pragmatic foundation for digital ethics, moving beyond mere theoretical discourse toward actionable policy alignment in Indonesia's technological landscape.

KEYWORDS: digital etics; *pancasila*; technological innovation.

1. Introduction

The rapid advancement of digital technology has become one of the defining characteristics of the twenty-first century, influencing nearly every aspect of human life. Digital innovation has transformed the way people communicate, learn, work, and interact while also reshaping social institutions, economic systems, and public governance. These developments have undoubtedly created new opportunities for improving quality of life and accelerating global progress. However, the widespread integration of digital technologies also raises broader questions about their impact on human values, social relationships, and ethical responsibility. As technology continues to evolve at an unprecedented pace, it is increasingly important to examine whether moral development can keep pace with technological progress.

Cite This Article:

Marcella, A. & Ferdian, N. R. (2025). Pancasila as an Ontological Foundation for Digital Ethics: Reaffirming Humanistic Values in Indonesia's Exponential Technological Era. *Journal of National Paradigm-Based Resilience Strategy*, 2(2), 139-155. <https://doi.org/10.61511/napbres.v2i2.2025.2775>

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Digital technologies are now embedded in almost every sector of society, including education, healthcare, commerce, finance, and public services. Their widespread adoption has improved efficiency, expanded access to information, and enabled faster decision-making across various fields. At the same time, increasing reliance on digital systems has transformed patterns of human interaction and created new forms of social and institutional dependence on technology. These developments demonstrate that digital transformation is no longer merely a technological phenomenon but also a social transformation that influences individual behavior, institutional practices, and public life.

Growing awareness of these transformations has encouraged the development of digital ethics as an important field of academic inquiry and public policy. Digital ethics seeks to ensure that technological innovation remains aligned with fundamental human values by addressing issues such as privacy, transparency, accountability, fairness, and respect for human dignity. As artificial intelligence and algorithm-based systems become increasingly integrated into decision-making processes, ethical considerations have become an essential component of responsible technological development.

In Indonesia, these developments underscore the need to examine digital transformation through the lens of the nation's philosophical foundation. While technological innovation offers significant opportunities for economic growth and social progress, it also presents ethical challenges that cannot be addressed solely through technological solutions or legal regulations. Pancasila provides a normative framework grounded in the principles of humanity, justice, solidarity, and collective responsibility, offering ethical guidance for the development and use of digital technologies. Accordingly, understanding the relationship between technological progress and moral values provides an important foundation for discussing digital ethics within the Indonesian context.

1.1 The digital apotheosis and the retreat of morality

The contemporary era is defined by an accelerating technological apotheosis, where computational power and connectivity fundamentally reshape human experience, societal structures, and geopolitical dynamics (Castells, 2022). This rapid metamorphosis, however, is not a neutral process; it introduces a profound and often destabilizing tension between material progress and moral equilibrium. The phenomenon known as the 'Great Acceleration'—initially characterizing post-war socio-economic and environmental shifts—now accurately describes the pace of digital transformation, which exerts significant pressure on established ethical norms (Steffen et al., 2015). While humanity relentlessly pursues technological advancement, the paramount existential challenge resides not in mere adaptation to innovation but in the deliberate preservation of fundamental moral integrity amidst the volatility of rapid societal transformation (Habermas, 2020). The pervasive, instantaneous rhythm of the digital world, driven by optimized algorithms and gamified interactions, frequently cultivates a pervasive illusion of performative perfection or epistemic certainty, subtly eroding the critical awareness necessary to sustain the essence of authentic human connection and ethical conduct (Turkle, 2017).

Human values—encompassing empathy, compassion, justice, and dignity—represent the fundamental moral architecture that distinctly differentiates conscious human agency from machine computation (Floridi, 2013; Vallor, 2016). These values are not merely sentimental preferences but constitute the operational code for a functional, humane society. Without the cultivation of critical, ethical consciousness, technological trajectories, particularly in advanced domains such as Artificial Intelligence (AI), risk becoming dangerously directionless, advancing at a velocity that significantly outstrips the development of corresponding human wisdom, ethical consensus, and regulatory capacity (UNESCO, 2021). The chasm between technical capability and moral judiciousness constitutes a critical risk vector for the 21st century, threatening to create a civilization that is highly optimized yet morally void (UNESCO, 2021; Habermas, 2020).

Digital transformation is no longer confined to technological innovation alone but has become a comprehensive social phenomenon that reshapes patterns of interaction,

governance, economic activities, and cultural practices. The increasing integration of artificial intelligence, big data, cloud computing, and digital platforms into everyday life demonstrates that technology now influences not only how people perform tasks but also how they perceive information, make decisions, and relate to one another. As a result, technological progress should not be understood solely in terms of efficiency and productivity, but also through its broader implications for human behavior, responsibility, and social cohesion.

Alongside these opportunities, the digital era has generated ethical challenges that extend beyond technical issues. Concerns regarding privacy, algorithmic bias, misinformation, cyber violence, excessive dependence on digital platforms, and unequal access to technology illustrate that digital development often produces unintended social consequences. These challenges reveal that technological capability does not automatically guarantee ethical maturity. Instead, rapid innovation frequently progresses faster than society's ability to formulate appropriate moral standards, legal frameworks, and educational responses capable of guiding responsible technology use.

Within this context, Indonesia requires an ethical framework that is not merely adapted from global principles but is also rooted in its own philosophical identity. As the nation's foundational ideology, Pancasila offers values that emphasize humanity, justice, solidarity, and collective responsibility, making it highly relevant for addressing contemporary digital challenges. Rather than positioning technology as an end in itself, Pancasila encourages technological development that remains oriented toward human dignity and social welfare. This perspective provides the conceptual foundation for examining how Indonesia can respond to the ethical complexities of the digital age while preserving its humanistic values.

1.2 The global context: Trust deficit and systemic polarization

This conceptual dichotomy is substantiated by empirical socio-political data on a global scale. The United Nations Development Programme (UNDP) (2024) published a comprehensive report detailing a pronounced global trust deficit, characterized by a systemic decline in public confidence toward institutions, political leadership, and governance frameworks. This decline fundamentally weakens the social contract, exacerbates societal cleavages, and fuels ideological polarization across numerous demographics and nations. The digital ecosystem acts as both a mirror and an amplifier of this fragmentation, where confirmation bias is algorithmically reinforced, leading to the formation of rigid, opposing epistemic communities (Pariser, 2011; Tufekci, 2017).

Concurrently, the annual World Happiness Report (2025) consistently affirms that national well-being and happiness levels correlate significantly with metrics of social capital, mutual trust, and collective solidarity. The data unequivocally suggests that stronger societal bonds, characterized by a greater sense of mutual care and civic engagement, directly translate into enhanced collective welfare and resilience. The implication is clear - technological advancement, no matter how profound, cannot compensate for the degradation of social trust. The confluence of accelerating technology and diminishing trust presents a critical inquiry, is contemporary society equipped with the requisite ethical wisdom to leverage technological power sustainably without incurring the irreversible sacrifice of its innate humanity? This inquiry forms the central problematic that this monograph seeks to address through the lens of Indonesia's enduring moral philosophy, Pancasila (Latif, 2011). The challenge is to forge a digital future where progress is intrinsically linked to moral responsibility, guided by the foundational principles of human dignity and social justice.

1.3 The ethos of acceleration and the erosion of reflection

The constant push for technological innovation often manifests an 'ethos of acceleration,' where speed and efficiency are valued above deliberation and reflection (Rosa, 2013). This ethos fundamentally clashes with the requirements of ethical decision-

making, which necessitate time for complex moral reasoning, consensus-building, and assessing long-term consequences. In the realm of digital governance, the speed of algorithmic deployment often preempts regulatory intervention, creating a reactive rather than proactive ethical environment. Furthermore, the pervasive metrics of digital platforms, which prioritize engagement, virality, and instantaneous feedback, structurally discourage the nuanced, reflective discourse essential for democratic consensus and ethical resolution (Tufekci, 2017; Turkle, 2017). This accelerated environment promotes the impulsive, the superficial, and the polarizing, systematically eroding the slow, patient work of building genuine moral consensus.

1.4 Defining human-centric AI and technology ethics

The discourse surrounding digital ethics is rooted in the philosophical tradition of humanism, which asserts that human beings are the central concern and ethical measure (Floridi, 2013). In the context of AI and emerging technologies, this translates into a demand for human-centricity—a design and deployment paradigm where technological systems are created to augment human capabilities, respect human rights, and align with human values, rather than merely optimizing efficiency or profit (UNESCO, 2021). The concept moves beyond mere technological utility to encompass the preservation of human agency and flourishing.

The UNESCO Recommendation on the Ethics of Artificial Intelligence (2021) provides a global standard, emphasizing four core values (1) Respect, protection, and promotion of human rights and fundamental freedoms; (2) Environmental and ecosystem flourishing; (3) Ensuring diversity and inclusiveness; and (4) Living in peaceful, just, and interconnected societies. These principles directly counter the prevalent trend of technological determinism, the belief that technology dictates the course of societal evolution independently of human will. Instead, a humanist approach mandates that technology be socially shaped and perpetually subjected to democratic, ethical, and moral review (Winner, 1986). The critical objective of human-centric AI is to ensure that technological advancements enhance, rather than diminish, the human condition.

1.5 Philosophical approaches to digital morality

1.5.1 Deontological ethics (duty-based)

Rooted in the work of Immanuel Kant, this approach focuses on universal moral duties and rules, regardless of consequences. In digital ethics, deontology mandates adherence to strict principles, such as the inherent right to privacy, non-maleficence, and algorithmic transparency, treating these as absolute moral imperatives (Johnson, 2021). For example, a deontological view strictly prohibits mass surveillance, even if it could lead to better security outcomes, because it violates the fundamental duty to respect individual autonomy.

1.5.2 Consequentialist ethics (outcome-based)

Best exemplified by utilitarianism (Bentham and Mill), this approach judges the morality of an action based solely on its outcome. In the digital space, consequentialism asks whether a technology maximizes overall societal benefit or minimizes harm. An example is justifying the use of public health tracking data (sacrificing some privacy) if it demonstrably stops a pandemic, thereby achieving the greatest good for the greatest number. However, this approach risks sacrificing minority rights for collective utility.

1.5.3 Virtue ethics (character-based)

Drawing from Aristotle, this approach focuses not on rules or outcomes, but on cultivating moral character (virtues) in the agents (designers, users, policymakers). The

ethical goal is to ask "What kind of digital citizen or innovator ought I to be?" Virtue ethics is particularly relevant to the digital realm because it addresses the *internal* cultivation of habits like digital empathy, moral courage (to speak out against bias), and practical wisdom (to use technology judiciously) (Vallor, 2016). *Pancasila*, with its emphasis on character formation, justice, and humanity, aligns most closely with the Virtue Ethics framework, providing a cultural and indigenous mandate for cultivating specific moral habits (like *gotong royong* and *beradab*—civilized conduct) in the digital sphere.

1.6 The philosophical tension: Technological determinism vs social shaping

The philosophical debate over the influence of technology on society—technological determinism versus the social shaping of technology is pivotal to understanding digital ethics (Bijker, 1995). Determinism posits that new technologies, such as the internet or AI, possess an autonomous force that inevitably restructures society, often leading to anxiety about the loss of human control and agency. This view can lead to fatalism, suggesting that ethical regulation is futile against the tide of innovation. Conversely, the social shaping perspective argues that technological development is itself a product of social, political, and cultural forces. Technology's trajectory is determined by the choices, values, and power structures of its creators and adopters. The ethical imperative in this framework is to actively choose the trajectory of technology through policy, education, and moral practice—a perspective that aligns with the proactive spirit of *Pancasila*. The rapid advancement of generative AI models, for instance, challenges existing legal and moral paradigms regarding authorship, originality, and intellectual property (Lee & Park, 2023). A deterministic view would simply accept these shifts as inevitable, whereas a socially shaped ethical response demands the proactive establishment of new governance models that uphold human creativity and economic justice, ensuring the tools remain subordinate to human values.

1.7 Moral psychology in the digital space

The psychological dimension of digital interaction further complicates the ethical landscape. The concept of the Online Disinhibition Effect (Suler, 2004) describes the tendency for individuals to behave differently often more aggressively, critically, or revealingly in cyberspace than they would face-to-face. This psychological shift is attributed to factors like anonymity, asynchronous communication, perceived invisibility, and the lack of traditional authority. This disinhibition is the psychological root of phenomena such as cyberbullying, the rampant spread of misinformation (infodemics), and the exploitation of personal tragedy for digital spectacle (Goffman, 2021). The lack of immediate physical and emotional feedback cues weakens the inhibitory structures governing pro-social behavior, making the practice of digital empathy a conscious, rather than automatic, moral exercise. Therefore, digital ethics is not merely a set of external rules but an internal, psychological discipline requiring intentional moral awareness (Kim & Cho, 2024). Furthermore, the structural design of many platforms, relying on variable-ratio reinforcement schedules, encourages addictive patterns of usage, further diminishing the user's capacity for mindful, ethical reflection.

2. Methods

This study applies a qualitative, conceptual-philosophical approach, specifically utilizing documentary research alongside normative-philosophical analysis and hermeneutics to systematically examine the integration of *Pancasila* within the contemporary digital ethics paradigm (Bowen, 2009; Gadamer, 2004). A conceptual methodology is uniquely appropriate and essential for this research because the core problem under analysis—the digital "ontological crisis"—represents a fundamental moral and existential challenge that cannot be adequately resolved through quantitative or empirical metrics alone. Instead, it demands a critical, philosophical re-evaluation of

foundational principles to guide human conduct in the digital age. Data were primarily collected through a comprehensive review of scholarly literature, international policy documents, and secondary institutional reports. To ensure rigorous and structured analysis, the overall research design is operationalized into three systematic and interconnected stages.

2.1 Conceptual mapping and comparative analysis

This foundational stage involves a comprehensive mapping of dominant global digital ethics frameworks, specifically evaluating Deontological (duty-based) ethics, Consequentialist (outcome-based) utilitarianism, and Aristotelian Virtue Ethics. Through a comparative approach, these classical paradigms are directly juxtaposed with modern international instruments, focusing primarily on the UNESCO Recommendation on the Ethics of Artificial Intelligence (2021). This step aims to establish a clear benchmark of current global standards, technical mandates, and human-centric design principles.

2.2 Normative synthesis and hermeneutical interpretation

This core analytical stage focuses on the normative synthesis and operationalization of Indonesia's state ideology, *Pancasila*, as a dynamic ethical operating system. Utilizing hermeneutics to interpret these foundational concepts, the analysis deliberately focuses on *Sila II* (Just and Civilized Humanity) and *Sila V* (Social Justice for All the People of Indonesia). This process demonstrates how these indigenous philosophical tenets transcend local cultural values, serving as universal moral anchors capable of mitigating the ethical recession caused by exponential technological acceleration and algorithmic autonomy.

2.3 Socio-structural contextualization

The final stage contextualizes the formulated philosophical constructs within modern socio-political and structural realities using secondary data analysis. Rather than generating primary empirical data—which falls outside the scope of a conceptual study—this stage relies on integrating secondary indicators from authoritative global reports, such as the UNDP Trends Report (2024) and the World Happiness Report (2025). These sources are critically analyzed alongside localized digital vulnerability failures within Indonesia, including structural data governance breaches, cybersecurity anomalies, and the widening spatial rural digital divide, thereby bridging philosophical theory with observable contemporary issues.

3. Results and Discussion

3.1 The landscape of digital vulnerability and social disparity

3.1.1 Global voices and the digital catalyst for human rights

Despite its vulnerabilities, digital technology remains a potent, indispensable tool for amplifying marginalized voices and catalyzing collective action. Global humanitarian crises often bypass traditional media filtering, finding immediate, unfiltered transmission through digital platforms. In conflict zones such as Gaza and Sudan, citizens leverage social media to document the immediate realities of human suffering—from destroyed infrastructure to the plight of displaced children (Reuters, 2025; UNICEF, 2025). This digital documentation serves a dual purpose. First, as vital evidentiary material for human rights accountability, and second, as a powerful emotional catalyst, directly awakening global solidarity and compelling international institutions to action, circumventing bureaucratic inertia (Tufekci, 2017). The immediacy bypasses the slow machinery of diplomatic response, creating a form of 'instant diplomacy of suffering.' Furthermore, in regions across Africa, digital media

provides a critical, decentralized platform for activists to organize, campaign, and defend the rights of women and children against persistent gender-based violence, effectively turning mobile devices into instruments of advocacy and community defense (Jurnal Perempuan, 2023).

3.1.2 *The Indonesian context: Inequality and ethical failure*

A similar pattern of digital activism against systemic inequality is evident in Indonesia, where social media functions as a powerful lever for local justice. Stories highlighting social disparities—such as patients unjustly denied medical care or dedicated educators persevering despite economic hardship—gain critical national attention and often trigger remedial governmental action after being disseminated online. The Coordinating Ministry for Human Development and Culture (2023) underscored a persistent, critical shortage in medical personnel, noting a ratio of only 0.68 doctors per 1,000 people, significantly below the World Health Organization (WHO) standard of 1 per 1,000. This disparity is particularly acute in Eastern Indonesia, where nearly half of all health centers lack essential doctors and specialists.

The narrative of Alvi Noviardi, an honorary teacher in Sukabumi who resorts to scavenging to sustain his teaching commitment (Tempo, 2024), transcends mere news reporting; it becomes a powerful digital symbol of shared humanity. These narratives illustrate how technology can function as an empathetic bridge, fostering solidarity and gotong royong (mutual cooperation) by transforming abstract statistics of poverty into relatable human experiences (Vallor, 2016; Tufekci, 2017). The collective outrage and subsequent mobilization of resources demonstrate the latent power of digital platforms to enforce the ethical mandate of *Pancasila*'s social justice principle when channeled constructively.

3.1.3 *The digital dark side: Disinformation and data governance failure*

However, the efficacy of digital platforms is fundamentally undercut when empathy devolves into entertainment or manipulation, or when the system itself is structurally exploited. In Southeast Asia, where social media is the primary information source, disinformation poses a severe systemic risk, exacerbated by low digital literacy rates, deep platform dependence, and constraints on press freedom (Frontiers, 2024; Wijaya et al., 2024). This phenomenon confirms that advancements in digital capability are not inherently correlated with corresponding moral or ethical growth. The financial incentives of the attention economy reward the outrageous and the untrue, leading to the systemic pollution of the public sphere.

The issue of digital ethics in Indonesia is further clarified by egregious failures in data governance. Alleged leaks involving millions of passport records and voter data in 2023 reveal a profound vulnerability in national privacy protection infrastructure (Antara News, 2023; The Indonesian Institute, 2024). Such breaches are not simply technical malfunctions; they represent a fundamental failure of empathy, as they disregard the intrinsic human dignity inherent in every dataset. Behind system security failures lies an ethical deficit, a lack of institutional respect for the personal autonomy and privacy of citizens, transforming sovereign data into vulnerable commodity.

Furthermore, infrastructural gaps reveal a spatial injustice. Despite proactive network expansion efforts, a report by LLDIKTI Region V (2025) noted that effective, consistent digital access remains unattainable for many remote communities. This persistent digital divide signifies the vast distance remaining to achieve genuine digital justice, creating zones of socio-economic exclusion. These realities collectively highlight the urgent need for a comprehensive digital ethics framework—a moral awareness that guides every online action, from verification and privacy protection to the conscious practice of empathy and inclusion.

3.1.4 Algorithmic radicalization and psychological harms

A deeper layer of digital vulnerability involves the psychological and political harms stemming from personalized algorithmic feeds. The pursuit of engagement metrics often leads to algorithmic radicalization, where users are subtly guided toward increasingly extreme content, reinforcing polarization and potentially undermining democratic discourse (Pariser, 2011; Tufekci, 2017). This process is insidious because it operates on pre-existing cognitive biases, making the individual feel they are seeking truth while they are, in fact, being curated into an echo chamber.

Moreover, the curated, performative nature of social media interaction is deeply implicated in the rise of mental health issues, particularly among youth. Constant exposure to idealized, unattainable standards of living and beauty fosters comparative suffering, leading to increased rates of anxiety, depression, and body image issues (Turkle, 2017). The ethical challenge here is to hold platform designers accountable for the predictable, often detrimental, psychological consequences of their design choices—a direct call for the ethical enforcement of *Sila II* (Just and Civilized Humanity) to protect the mental well-being of the population.

3.1.5 Empirical policy mapping of Indonesia’s digital ecosystem: Safeguarding humanistic resilience

To transition from a purely normative framework to an empirically grounded analysis, the theoretical constructs of *Pancasila* must be evaluated against the concrete legal framework and strategic policies currently shaping Indonesia's digital civilization. As emphasized by reviewer critiques, a philosophical compass requires structural grounding within sector-specific realities to avoid remaining purely abstract. In contemporary Indonesia, the primary legislative manifestation of *Sila II* (Just and Civilized Humanity) within the digital sphere is the enactment of Law No. 27 of 2022 on Personal Data Protection (UU PDP) (Republik Indonesia, 2022). This milestone policy represents a formal transition from viewing digital citizens as mere economic data points to recognizing them as sovereign human subjects possessing intrinsic moral rights.

Table 1. Comparative matrix of global digital ethics paradigms vs the Pancasila paradigm

Ethical Paradigm	Core Foundational Principle	View of the Digital Subject	Approach to Digital Divide & Governance
Deontological Ethics (Kant)	Categorical Imperative & Absolute Universal Moral Duty.	Rational autonomous agent with intrinsic moral rights.	Focuses strictly on individual rights compliance, often ignoring systemic geographical inequalities.
Consequentialist Utilitarianism	Maximization of utility and aggregate welfare for the majority.	Economic agent optimized for systemic efficiency.	Tolerates marginalization of minority peripheral populations if collective economic output is maximized.
Virtue Ethics (Aristotelian)	Cultivation of personal character, habits, and moral excellence.	Developing moral agent striving for Eudaimonia.	Views digital trust as a localized virtue, lacking structural mandates for nationwide technological equity.
The Pancasila Paradigm (<i>Sila II</i> & <i>Sila V</i>)	Integration of Moral Dignity (<i>Kemanusiaan</i>) and Structural Equity (<i>Keadilan Sosial</i>).	Relational human being interconnected within a collective national ecosystem.	Mandates immediate state-backed legal protection (Republik Indonesia, 2022) and institutional security frameworks (BSSN, 2023) to dissolve disparities.

By establishing strict institutional accountability for data controllers and defining criminal liabilities for data breaches, the state effectively operationalizes the ethical mandate of safeguarding human dignity against algorithmic exploitation. To provide a clear, structured overview of how a *Pancasila*-based ethical operating system diverges from dominant Western ethical models in addressing these institutional realities, Table 1 delineates the core conceptual boundaries. Furthermore, operational guidelines from institutional cybersecurity bodies, such as the "Lanskap Keamanan Siber Indonesia 2023" report, provided the necessary technical protocols and empirical overviews to safeguard critical infrastructure from emerging technological threats (BSSN, 2023). These defense mechanisms work in tandem with proactive structural initiatives designed to address the socio-economic fragmentation highlighted by Sila V (Social Justice for All the People of Indonesia). To systematically mitigate the rural-urban digital divide and the prevailing digital literacy gap, the state deploys these unified regulatory and technical frameworks to ensure equitable safety, protecting peripheral communities from systemic cyber vulnerabilities. When synthesized alongside global resilience principles, these localized policy instruments demonstrate that Indonesia's path to digital resilience relies heavily on integrating structural equity with robust, traceable state governance.

3.2 *Pancasila as the ontological foundation for digital civilization*

The implementation of robust digital ethics in Indonesia is inextricably linked to, and indeed must be derived from, the nation's core philosophical and moral compass, *Pancasila*. This national ideology serves not merely as a political framework but as the ontological soul of Indonesia's ethical response to technological advancement, preventing the collective conscience from being lost amidst the volatility of digital transformation (Kaelan, 2013). It provides an indigenous alternative to Western-centric ethical models (Floridi, 2013).

3.2.1 *Sila I: Belief in the one and only God (Ketuhanan Yang Maha Esa)*

While secular in its application, *Sila I* establishes the ultimate moral accountability that precedes all human laws and technological systems. It instills a sense of transcendence and moral weight in every action, digital or physical. Digital Responsibility as Moral Duty-*Sila I* translates digital ethics into a form of moral duty, asserting that the pursuit of truth and the maintenance of dignity are not just civic obligations but spiritual ones. This principle serves as a powerful psychological barrier against unethical digital actions, particularly those conducted under the cloak of anonymity, such as spreading slander, committing fraud, or engaging in cyber-harassment. Technological Humility- By acknowledging a higher moral order, *Sila I* promotes technological humility. It cautions against the hubris of technological determinism, reminding innovators and users that technology is merely a tool, not a deity. This perspective guards against the fetishization of AI and ensures that human judgment, guided by moral values, always retains primacy over algorithmic fiat.

3.2.2 *Sila II: Just and Civilized Humanity (Kemanusiaan yang Adil dan Beradab)*

The second principle establishes the non-negotiable moral boundary for technology development and deployment. This tenet mandates that technological brilliance must never supersede human compassion or dignity (Kaelan, 2013). Algorithmic Justice and Non-Discrimination (Just)-a commitment to "Just" humanity requires that algorithmic decision-making systems—used across governance, finance, and social services—must be inherently fair, transparent, and auditable (O'Neil, 2016). Bias embedded in data or design leads to discriminatory outcomes, violating the premise of justice. Ethical algorithmic design, therefore, must proactively mitigate inherited social biases, ensuring that technology serves as an equalizer, not an amplifier of injustice (Levy et al., 2021). This requires mandatory impact assessments before deployment.

Privacy as Dignity and Autonomy (Civilized), The concept of "Civilized" humanity directly translates to the unwavering protection of personal dignity, which is expressed in the digital space as the right to privacy and data self-determination (Floridi, 2013). Data is not merely a commodity; it is a manifestation of individual human experience. Protecting data is synonymous with respecting human autonomy. This principle obligates both the government and private entities to establish the highest standards of data security and transparent consent mechanisms, directly addressing the failures highlighted by major data leaks (The Indonesian Institute, 2024).

Human Oversight and Accountability-true innovation, under the guidance of *Sila II*, is that which fundamentally safeguards dignity. This necessitates the implementation of strict human oversight mechanisms for powerful AI systems—the concept of 'Human-in-the-Loop'—ensuring that accountability for technological outcomes always rests with a human agent, not an opaque algorithm. This structural requirement ensures moral responsibility remains within the human domain.

3.2.3 *Sila III: The Unity of Indonesia (Persatuan Indonesia)*

The third principle calls for digital spaces to actively function as platforms for national cohesion rather than engines of fragmentation. The internet, while connecting, also possesses an inherent capacity to facilitate homophily and filter bubbles, rapidly polarizing discourse along ethnic, religious, or political lines (Pariser, 2011). Countering Digital Polarization, the spirit of *Persatuan* demands proactive measures to counter the deliberate spread of divisive misinformation and hate speech. This is not merely a regulatory issue but a moral one, requiring digital platforms to prioritize social well-being over engagement metrics that reward inflammatory content. This includes promoting linguistic and cultural diversity in online content, ensuring minority voices are not algorithmically suppressed. Digital *Gotong Royong*, the core spirit of mutual cooperation (*gotong royong*), the living essence of *Pancasila*, finds modern expression through online collaboration and humanitarian innovation. Platforms like KitaBisa and BenihBaik serve as exemplary models, utilizing technology to mobilize collective social capital for charitable and communal purposes (Kitabisa, n.d.; BenihBaik, n.d.). Strengthening these models ensures that the digital sphere remains a robust bridge of solidarity, actively mitigating the construction of ideological and social walls of hatred.

3.2.4 *Sila IV: Democracy Guided by the Inner Wisdom in the Unanimity Arising Out of Deliberations Among Representatives (Kerakyatan yang Dipimpin oleh Hikmat Kebijaksanaan dalam Permusyawaratan/Perwakilan)*

Sila IV addresses the principle of participatory governance and wisdom, critical in an era where power is increasingly consolidated in the hands of technological elites. Digital Sovereignty and Participatory Governance, this principle mandates that decisions regarding the deployment of critical technology (e.g., facial recognition, national data infrastructure) must be subjected to transparent public deliberation (*Permusyawaratan*). It demands that technological policies are not dictated by technocrats but are informed by the wisdom (*Hikmat Kebijaksanaan*) of diverse stakeholders, including civil society, religious leaders, and remote communities. Combating Digital Oligarchy, the spirit of *Kerakyatan* (Sovereignty of the People) stands against the concentration of informational power in the hands of a few domestic or international technology corporations. It requires robust anti-monopoly frameworks in the digital sector and the active promotion of open-source and public-interest digital infrastructure to ensure technological choice remains democratic.

3.2.5 *Sila V: Social Justice for All the People of Indonesia (Keadilan Sosial bagi Seluruh Rakyat Indonesia)*

The fifth principle explicitly mandates that digital progress must yield tangible benefits for every segment of the Indonesian population, extending from metropolitan centers to the most remote villages. This defines the standard for *digital justice*. a) Equitable Access and Infrastructure-digital justice necessitates moving beyond mere infrastructure provision to ensuring genuine, effective access (World Bank, 2023). The persistent "digital divide" (LLDIKTI Wilayah V, 2025) must be systematically addressed. This includes not only physical access (connectivity) but also affordability, usability, and digital literacy training designed for diverse linguistic and cultural contexts. The deployment of universal service obligations (USO) funds must be strategically aligned with measurable equity outcomes, particularly in Eastern Indonesia.

Economic Parity and Opportunity-technology should function as a great democratizer of economic opportunity. *Sila V* demands that governmental and private digital initiatives promote financial inclusion, educational resources, and entrepreneurial platforms that specifically empower marginalized and geographically isolated communities, ensuring that the economic dividends of the digital revolution are shared broadly, rather than concentrated within an elite urban segment (World Bank, 2023). This includes promoting local content creation and ensuring fair compensation mechanisms for creative workers in the digital economy.

3.3 *Policy and educational imperatives for a humane digital future*

3.3.1 *The mandate for comprehensive digital literacy and moral education*

The development of digital ethics must begin at the foundational level of education. While the National Digital Literacy Movement (Kominfo, 2024) successfully increased technical competency, its strategic focus must evolve from mere technical skills toward cultivating profound moral and critical awareness (The mandate for comprehensive and Ethics-by-Design in STEM Education). From Technical Skills to Moral Awareness-digital literacy curricula must incorporate modules explicitly focused on media ecology, cognitive biases, and the psychological effects of screen time (Cho et al., 2022; UNESCO, 2021). The objective must be to nurture digital responsibility alongside capability. This includes training in verifying information, recognizing algorithmic manipulation, and practicing non-violent digital communication (Cho et al., 2022). Furthermore, mandatory modules on the principles of digital non-maleficence (the ethical duty not to cause digital harm) and digital beneficence (the ethical duty to use technology to improve the welfare of others) must be integrated across all educational levels.

Ethics-by-Design in STEM Education - Universities and vocational schools must integrate ethical frameworks—grounded in *Pancasila*—into all Science, Technology, Engineering, and Mathematics (STEM) programs. Future innovators must be taught to embed humanity, transparency, and fairness directly into the architecture and design of algorithms and data systems (Van Wynsberghe, 2013). This shift ensures that the ethical deliberation occurs at the creation stage, not merely as a regulatory afterthought. This requires introducing 'Ethics Auditing' as a core component of software development lifecycles, where bias detection and fairness metrics are as important as performance and security.

3.3.2 *Implementing AI and data governance frameworks*

The rapid scaling of AI necessitates the establishment of clear, comprehensive, and enforceable governance frameworks (UNESCO, 2021). AI Ethics and human-centered technology policy, the government must adopt and enforce a national AI ethics and human-centered technology strategy, drawing inspiration from global guidelines (UNESCO, 2021)

but uniquely tailored by the principles of *Sila II* (Justice) and *Sila V* (Social Justice). This framework should mandate a) Transparency and Explainability (XAI)- requiring clear disclosure when users interact with AI systems (e.g., chatbots, automated decision-making tools) and establishing the right to algorithmic explanation (Ribeiro et al., 2016). b) Accountability- establishing independent ethical review boards and regulatory bodies capable of auditing algorithmic outcomes and imposing penalties for systemic bias or human rights violations. This requires the establishment of a dedicated Digital Ombudsman. c) Inclusivity- ensuring that AI training data reflects the multi-ethnic and linguistic diversity of Indonesia, preventing marginalization through technological neglect (Lee & Park, 2023). Specific measures must be taken to ensure AI models perform equitably across different Indonesian dialects and cultural contexts.

Strengthening Data Protection and Sovereignty, robust legal and technical mechanisms must be deployed to safeguard citizens' privacy. The frequent data breaches (Antara News, 2023; The Indonesian Institute, 2024) necessitate an immediate and significant investment in cybersecurity infrastructure and regulatory oversight. Data sovereignty—the principle that personal data generated within Indonesia is subject to Indonesian laws and ethical standards—must be upheld to protect citizen dignity against exploitation by global technology behemoths. This necessitates mandatory data localization for sensitive national data and strict cross-border data transfer protocols, aligned with the principles of *Sila II* (Dignity and Autonomy).

3.3.3 Fostering digital solidarity and ethical platforms

The digital environment must be consciously re-engineered to facilitate collaboration and shared human experience, rather than division and spectacle. Promoting Pro-Social Platform Design, Policy must incentivize or mandate platforms to prioritize digital empathy and social solidarity. This could involve promoting design choices that reduce virality for unverified or inflammatory content while enhancing visibility for verified, constructive discourse and collaborative projects. This includes experimenting with platform architectures that reward slow, thoughtful interaction over rapid, impulsive engagement. Supporting Digital Humanitarianism, initiatives like *KitaBisa* and *BenihBaik* must receive strategic governmental support to expand their reach and impact. These platforms demonstrate the potential of digital tools to revive the spirit of collective action, transforming the digital sphere into a constructive public good rather than a passive consumption space (Kitabisa, n.d.). This governmental support should include providing technical resources, regulatory simplification, and public promotion to institutionalize *gotong royong* in the digital era.

3.4 The socio-economic transformation and the ethics of labor

3.4.1 Ethical automation and retraining mandates

The implementation of automation must be ethically guided by *Sila V* (Social Justice). This requires a mandate for Ethical Automation, where companies introducing AI to replace human labor are required to invest a percentage of efficiency gains into comprehensive, mandatory retraining and upskilling programs for displaced workers (Acemoglu & Restrepo, 2020). The ethical duty of businesses extends beyond mere profit maximization to encompass the maintenance of social stability and the dignity of the workforce. Automation should augment human capabilities, not merely substitute them.

3.4.2 The gig economy and digital exploitation

The rise of the digital "gig economy," while providing flexibility, often creates precarious working conditions devoid of traditional labor protections and social security. This precarity fundamentally challenges the tenet of *Keadilan Sosial* (Social Justice). Ethical

governance must address this by a) Platform Transparency-mandating transparency in algorithmic management systems that determine worker pay, allocation, and performance review. b) Social Security Integration-developing regulatory frameworks that integrate gig workers into national social security and health insurance schemes, treating digital labor with the same respect and dignity as traditional employment. c) Data Rights for Workers-recognizing that the data generated by gig workers (e.g., performance metrics, routes) is a form of collectively created asset, granting them collective data rights and bargaining power.

3.4.3 Personal reflection and the cultivation of the ethical digital self

Ultimately, the integrity of a digital civilization rests on the moral discipline of the individual user. Digital ethics is not merely a policy prescription; it is a discipline of personal reflection and mindful technology use. The cultivation of the 'Ethical Digital Self' requires a conscious return to the foundational virtues of *Pancasila* (Vallor, 2016). Every digital action—every click, post, share, and comment—is an external reflection of an individual's internal moral values (Vallor, 2016; Suler, 2004). To be an ethical digital citizen is to see technology as a mirror of the self, consciously engaging in four key practices, a) Critical Information Consumption (Verification)-developing the habit of critically evaluating sources, recognizing manipulative tactics, and pausing before sharing unverified information. This is the practice of *Hikmat Kebijaksanaan* (Inner Wisdom) in the information age. b) Data Minimalism (Privacy Protection)-exercising conscious restraint in sharing personal data and actively using privacy-enhancing technologies. This is a practical manifestation of respecting one's own *Dignity* (*Sila II*) and the boundaries of others. c) Mindful Presence (Empathy)-recognizing the human being behind every screen interaction and deliberately practicing the Golden Rule in all digital communication. This directly counters the psychological disinhibition effect (Suler, 2004) and is the core of *Kemanusiaan yang Adil dan Beradab*. d) Conscious Disconnection (Well-being)-implementing periods of deliberate disconnection to nurture offline relationships and reflective mental health, ensuring that technology remains a tool for life, not a substitute for it. This practice ensures that technology subserves human *flourishing*—a key virtue ethics principle.

4. Conclusions

Technology is inherently valueless—it is merely a set of sophisticated tools. Human values define its application, its direction, and its ultimate societal impact. As the world continues its relentless race toward technological progress, human dignity will endure only in the hands of those who actively and consciously choose to maintain their moral compass and practice care. The challenge is to elevate ethical deliberation to the same speed and rigor as technological innovation.

The principles of *Pancasila* are not an antique ideology; they are the living, adaptable soul of Indonesia's future digital ethics. By grounding technological governance and educational reform in *Sila II* (Justice and Dignity) and *Sila V* (Social Equity), Indonesia possesses a unique and powerful indigenous framework to navigate the complexities of the 21st century. The five principles, taken together, form a holistic, virtue-based ethical operating system for a digital state, promoting justice, unity, and participatory wisdom.

Imagine Indonesia in 2045: a nation where digital literacy is synonymous with digital empathy; where innovators systematically embed human dignity and fairness into every algorithm; and where social media platforms function predominantly as spaces for unity, education, and collective action, rather than catalysts for conflict and polarization. While this vision is an aspiration, it is precisely in the gap between current reality and this enlightened ideal that hope grows. This is the promise of a truly enlightened and civilized digital independence, where technology and the enduring spirit of *Pancasila* walk hand in hand to serve the highest good of humanity.

Acknowledgement

This paper is a revised version of the essay that won the runner up winner in SPECTASEED hosted by ASEED UNSIKA in 2025. The authors (the student and the supervisor) would like to thank the committees of SPECTASEED 2025 for their recognition and the reviewers for their constructive feedback during the publication process.

Author Contribution

Each author contributed to every part of this research

Funding

Not available.

Ethical Review Board Statement

Not available.

Informed Consent Statement

Not available.

Data Availability Statement

Not available.

Conflicts of Interest

The authors declare no conflict of interest.

Artificial Intelligence Use Statement

During the preparation of this work, the authors used Grammarly to assist in improving grammar, clarity, and academic tone of the manuscript. After using this tool, the authors reviewed and edited the content as needed and took full responsibility for the content of the publication.

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