

Artificial Intelligence-Based Surveillance and Labor Privacy in Indonesia: A Progressive Legal Perspective on Workers' Rights

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ABSTRACT

The legal issues surrounding labor privacy within Artificial Intelligence (AI)-based surveillance systems have become increasingly urgent in line with the growing use of such technologies to monitor worker productivity. In Indonesia, a significant gap persists between the constitutional guarantee of privacy rights under the 1945 Constitution of the Republic of Indonesia and actual practices in the field, a problem further exacerbated by the absence of specific regulations on AI surveillance. This study employs normative legal research methods with statutory, conceptual, and comparative approaches to examine this gap. The analysis compares Indonesia's legal framework with Singapore's Personal Data Protection Act (PDPA) 2012 and Malaysia's PDPA 2010, using the criteria of transparency, consent, and accountability. Progressive legal theory serves as the analytical foundation, emphasizing the necessity of legal adaptation to safeguard human rights in the digital era. The findings indicate that Singapore and Malaysia provide clearer protections through explicit consent requirements and stringent data governance mechanisms. Accordingly, this study recommends a progressive legal framework based on explicit consent, transparency, and accountability standards to balance business efficiency with workers' rights.

ABSTRAK

Kata-kata kunci:

Hak Asasi;

Hukum Progresif;

Pengawasan Berbasis AI;

Privasi Pekerja.

Pengawasan Berbasis Kecerdasan Buatan dan Privasi Tenaga Kerja di Indonesia: Perspektif Hukum Progresif terhadap Hak-Hak Pekerja. Permasalahan hukum terkait privasi tenaga kerja dalam sistem pengawasan berbasis Artificial Intelligence (AI) semakin mendesak seiring meningkatnya penggunaan teknologi ini untuk memantau produktivitas pekerja. Di Indonesia, terdapat kesenjangan antara jaminan hak privasi dalam UUD NRI 1945 dan praktik di lapangan, diperburuk oleh ketiadaan regulasi spesifik mengenai pengawasan AI. Penelitian ini menggunakan metode hukum normatif dengan pendekatan perundang-undangan, konseptual, dan perbandingan untuk mengkaji kesenjangan tersebut. Analisis ini membandingkan kerangka hukum Indonesia dengan Personal Data Protection Act (PDPA) 2012 Singapura dan PDPA 2010 Malaysia menggunakan kriteria transparansi, persetujuan, dan akuntabilitas. Teori hukum progresif menjadi dasar analisis, menekankan perlunya adaptasi hukum untuk melindungi hak asasi manusia di era digital. Hasil menunjukkan Singapura dan Malaysia memiliki perlindungan lebih jelas melalui persetujuan eksplisit dan tata kelola data yang ketat. Penelitian ini merekomendasikan kerangka hukum progresif dengan standar persetujuan eksplisit, transparansi, dan akuntabilitas untuk menyeimbangkan efisiensi bisnis dan hak pekerja.

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Introduction

The rise of Artificial Intelligence (AI) technologies has transformed modern labor practices worldwide, including in Indonesia. Tools such as ChatGPT, Gemini, and Microsoft Bing exemplify how generative AI (GenAI) can produce content, analyze performance, and automate tasks, offering clear efficiency gains for employers. A recent JobStreet report notes that 38% of respondents across industries use GenAI regularly, although 48% remain unfamiliar with such tools, reflecting a widespread disparity in AI adoption and literacy (CNN tim, 2024). Indonesia currently leads Southeast Asia in AI adoption, with a rate of 24.6%, as reported in the 2018 IDC Asia-Pacific Enterprise Cognitive/AI Survey (Adam, 2018). This momentum illustrates Indonesia's potential to leverage AI to enhance productivity (Akhyari, 2019). However, this shift raises legal and ethical concerns, particularly regarding employee privacy.

AI-driven surveillance often occurs without informed consent and may involve access to sensitive personal data. Microsoft and LinkedIn's Work Trend Index 2024 further reveals that 92% of office workers in Indonesia use GenAI, surpassing both the global average of 75% and the Asia-Pacific average of 83%. Moreover, 92% of corporate leaders in Indonesia believe AI adoption is essential for maintaining competitiveness (Raditya, 2024). While these developments signal promising technological advancement, they also raise critical legal and ethical concerns, particularly in relation to employee privacy. In practice, companies increasingly use AI to monitor employee performance, analyze work habits, and access personal data often without explicit consent (Siti et al., 2024). This reveals a growing disparity between *das Sein* (reality) and *das Sollen* (normativity), where technological application advances faster than legal protection. Although violations of employee privacy are recurring and increasingly facilitated by AI systems, Indonesia's legal framework remains limited and lacks clarity. AI-processed data may be used for strategic decisions without employee consent, potentially affecting careers, infringing on privacy, and exacerbating power imbalances (Hidayanto et al., 2024).

Although Article 28G paragraph (1) of the 1945 Constitution guarantees the protection of personal and family privacy, honor, dignity, and security, current regulations fall short in addressing the complexities of AI surveillance. Law No. 27 of 2022 on Personal Data Protection (UU PDP) focuses on general data protection but does not explicitly regulate AI-based monitoring in workplaces. Similarly, Law No. 13 of 2003 on Manpower and Law No. 11 of 2020 on Job Creation (UU Ciptaker) provide no clear boundaries regarding employer surveillance practices. In reality, many companies implement AI surveillance mechanisms without obtaining employee consent, raising significant legal dilemmas (Mediana, 2024). By comparison, other countries such as Singapore and Malaysia have adopted more comprehensive frameworks. Singapore's Personal Data Protection Act 2012 (PDPA) includes strict obligations for transparency and consent in data management (Soemitro et al., 2023), while Malaysia's PDPA 2010 similarly outlines protections for employee data (Lestari et al., 2022). These examples demonstrate how clear and well-defined regulation can effectively mitigate the risks of AI misuse in employment.

Previous studies have addressed aspects of this issue. Masrichah (2023) explored AI's impact across multiple sectors, including privacy and labor, while Siti et al. (2023) focused on ethical practices in data management. Andika (2023) discussed the potential for personal data misuse by AI, but did not examine its legal consequences in labor contexts. Zainal and Maria (2024) analyzed AI's role in recruitment, but did not delve into surveillance concerns. Muzakir et al. (2023) reviewed AI's social and ethical impacts broadly, without specific emphasis on employment privacy. Unlike these prior works, this research specifically combines comparative jurisdictional analysis with progressive legal theory to address labor privacy within AI-based surveillance in Indonesia, highlighting a normative gap that has not been sufficiently explored.

The research problem addressed in this study is the absence of clear legal safeguards for worker privacy in the context of AI-driven workplace surveillance in Indonesia. This study aims to examine

the extent of protection provided by current Indonesian laws, compare them with Singapore and Malaysia, and propose a progressive legal framework to bridge the gap between technological innovation and labor rights protection. The hypothesis guiding this research is that Indonesia's existing labor and data protection laws lack adequate provisions to regulate AI surveillance, creating a disparity between constitutional guarantees and workplace realities. Guided by this hypothesis, the study addresses three questions: (1) To what extent do Indonesian laws safeguard worker privacy in AI surveillance contexts? (2) How do Singapore and Malaysia regulate AI use in employment settings? (3) Can progressive legal theory provide a more adaptive framework balancing innovation with labor rights?

Method

This study uses a normative legal research method integrating statutory, conceptual, and comparative approaches to analyze labor privacy protection under AI-based surveillance systems. The research examines the gap between constitutional guarantees and their practical implementation in Indonesia, while applying progressive legal theory as the basis for reform-oriented recommendations. The comparative analysis evaluates Indonesia, Singapore, and Malaysia using three criteria: transparency, informed consent, and accountability in workplace surveillance regulation. These jurisdictions are selected not only for their regional proximity but also for their differing levels of legal development and the presence of explicit data protection statutes (PDPA 2012 in Singapore and PDPA 2010 in Malaysia), which offer relevant benchmarks for Indonesia's context. This selection follows the functional method of comparative law as articulated by Zweigert & Kötz, emphasizing shared socio-legal characteristics and regulatory relevance. Data were collected through library research and analyzed using descriptive qualitative techniques. Primary sources (constitutional provisions, laws, regulations), secondary sources (scholarly works, legal commentaries), and tertiary sources (legal references) were selected based on relevance and recency. The hierarchy of legal sources is validated according to Indonesian legal doctrine, prioritizing constitutional norms and statutory law. The study is limited to doctrinal analysis of legal texts and does not include empirical enforcement data, acknowledging that practical implementation may vary (Disemadi & Romadona, 2021).

Result and Discussion

Labor privacy regulation in Indonesia's AI surveillance. The application of Artificial Intelligence (AI) in labor surveillance systems has seen rapid development in Indonesia. AI is utilized to monitor employee productivity, behavior, and work patterns to enhance corporate efficiency (Muzakir et al., 2023). However, this advancement raises serious concerns about labor privacy rights. The central issue lies in the imbalance between corporate operational interests and the legal protection of workers' privacy (Khairi et al., 2025). Currently, Indonesia lacks specific legislation governing AI-based workplace surveillance. Article 28G paragraph (1) of the 1945 Constitution guarantees the right to personal and family privacy, honor, and security (Undang-Undang Dasar NRI, 1945). Additionally, Law No. 27 of 2022 on Personal Data Protection (UU PDP) regulates data processing but does not explicitly address AI surveillance mechanisms, while Law No. 13 of 2003 on Manpower and Law No. 11 of 2020 on Job Creation (UU Ciptaker) fail to establish clear boundaries for employer monitoring. In practice, companies have deployed AI tools such as keystroke trackers and facial recognition without explicit worker consent, leaving employees uncertain about how their personal data is collected and used. This legal ambiguity creates an urgent need for reform (Mediana, 2024).

Other countries, such as Singapore and Malaysia, have implemented more comprehensive data protection frameworks concerning AI-based workplace surveillance. The Personal Data Protection Act (PDPA) 2012 in Singapore imposes strict obligations, including mandatory employee consent for surveillance technologies (Badriah et al., 2024). Malaysia enforces transparency and accountability in

workplace data usage through the PDPA 2010 (Sholehuddin et al., 2024). Unlike Indonesia, these frameworks establish clear standards on informing employees about the scope and purpose of AI surveillance, minimizing potential abuses. This legal ambiguity contributes to a power imbalance between employers and workers, which may lead to labor exploitation (Mawlid et al., 2024).

Viewed through the lens of progressive legal theory developed by Satjipto Rahardjo, law must be adaptive to social and technological change. This contrasts with a strict positivist perspective, which might argue that AI surveillance is lawful unless expressly prohibited, and with utilitarian reasoning, which may justify extensive monitoring to maximize overall efficiency despite individual privacy costs. The progressive approach instead prioritizes worker welfare as a core legal objective (Jumantoro et al., 2024). A practical challenge arises from corporate resistance to stricter regulation. Employers may perceive explicit consent and transparency requirements as operational burdens that could slow innovation. Addressing this tension requires proportional regulation that protects privacy without imposing excessive compliance costs. Strengthening labor privacy protection must also be accompanied by educational programs to raise awareness of personal data rights and by enhanced supervision to ensure corporate accountability (Pranata et al., 2024). In the long term, building a progressive legal framework with clear consent, transparency, and accountability standards can balance business needs with labor rights. Such regulation would allow companies to deploy AI responsibly while ensuring workers perform their duties with confidence and security (Dwi Ridwana et al., 2025).

The Principle of “*Salus Populi Suprema Lex Esto*” underlies worker protection in Labor Regulations. The principle *Salus Populi Suprema Lex Esto*, meaning “the welfare of the people shall be the supreme law,” serves as a fundamental legal doctrine prioritizing public interest in policy and regulatory formulation (Akbar, 2022). In the context of labor law, this principle ensures that the use of Artificial Intelligence (AI) in employee surveillance does not override workers’ privacy rights in pursuit of business efficiency. While AI offers significant advantages for productivity, it also poses substantial risks to individual labor rights (Kamal et al., 2024). For example, AI-driven keystroke monitoring or facial recognition systems used without explicit consent illustrate how, in the absence of clear legal boundaries, surveillance can directly encroach on personal privacy. Therefore, labor regulations must balance corporate interests with the protection of workers’ rights. Currently, Indonesian regulations have not explicitly addressed AI in labor surveillance. The Personal Data Protection Law (UU PDP) provides a legal foundation for data protection but lacks specific provisions on AI monitoring, creating space for exploitative and non-transparent practices that may jeopardize employee welfare (Disemadi, 2021).

In line with *Salus Populi Suprema Lex Esto*, labor regulations should prioritize worker protection as integral to societal well-being. This requires establishing clear limits on AI-based surveillance and mandating informed consent before implementation. Regulations must also ensure transparency by obligating employers to disclose the types of data collected, its purposes, and storage methods. Informed consent enables workers to understand surveillance implications and make informed decisions (Qurrahman et al., 2024). To enforce these standards, an independent supervisory body is essential to oversee AI implementation, handle worker complaints, and impose sanctions on violations.

Internationally, Singapore’s PDPA 2012 and Malaysia’s PDPA 2010 both set explicit consent and transparency standards, creating regulatory models Indonesia can adapt to safeguard worker privacy while enabling innovation (Hamdan et al., 2024; Sholehuddin et al., 2024). However, stricter regulation may face corporate resistance. Employers may argue that mandatory consent and disclosure create administrative burdens and reduce agility. A utilitarian perspective might justify AI surveillance to maximize efficiency, while a positivist view could argue that corporate monitoring remains lawful absent explicit statutory prohibition. In contrast, the progressive legal approach, grounded in *Salus Populi Suprema Lex Esto*, prioritizes worker welfare and societal balance over narrow economic efficiency.

Indonesia can adapt similar frameworks to its socio-economic context by integrating privacy protections without obstructing technological progress. Ethical standards for AI in the workplace must be mandatory, ensuring systems are non-discriminatory and respect employee rights. Incentive mechanisms, such as certification for compliant companies and periodic audits of AI systems, can further ensure ethical and transparent implementation. Given AI's dynamic nature, labor regulations must remain flexible and regularly updated in line with technological and societal changes. With regulation rooted in *Salus Populi Suprema Lex Esto*, workers gain a safer, more dignified work environment, while companies integrate AI responsibly and transparently.

Comparative Analysis shows variations in labor privacy regulations on AI-based surveillance in Indonesia, Singapore, and Malaysia. The comparison of labor privacy protection regulations in AI-based surveillance systems across Indonesia, Singapore, and Malaysia reveals significant differences in legal approaches and policy implementation. Singapore and Malaysia have adopted more specific and stringent frameworks for workplace personal data protection, whereas Indonesia continues to face major challenges in establishing a comprehensive regulatory structure for AI-driven labor surveillance. In Singapore, labor privacy is governed under the Personal Data Protection Act (PDPA) 2012, which requires employers to obtain explicit employee consent before deploying AI surveillance technologies. The PDPA also mandates transparency in data processing, granting employees the right to understand how their data is collected, used, and stored by employers, thereby offering a clear safeguard against potential misuse of AI monitoring (Sholehuddin et al., 2024). The Singaporean government further reinforces these protections through the Model AI Governance Framework, which provides ethical guidelines for AI implementation in employment settings (Solaiman & Cohen, 2024).

Malaysia adopts a similar approach through the Personal Data Protection Act (PDPA) 2010, which emphasizes transparency, consent, and accountability in handling workers' data. The law imposes sanctions on companies violating these provisions, ensuring that AI surveillance maintains a balance between corporate efficiency and employee rights (Said & Nabilah, 2024). In practice, Malaysian regulations prevent arbitrary use of AI monitoring systems such as productivity trackers or facial recognition without valid consent, ensuring compliance with ethical data protection standards. This legal clarity allows companies to integrate AI responsibly while safeguarding worker privacy.

In contrast, Indonesia lacks a specific legal framework addressing labor privacy in AI-based surveillance. Law No. 27 of 2022 on Personal Data Protection (UU PDP) focuses on general data governance but does not explicitly regulate AI monitoring in the workplace. Neither the Manpower Law nor the Job Creation Law provides detailed boundaries for AI surveillance, leaving workers vulnerable to excessive monitoring and data misuse. For example, if an employer were to implement continuous AI-driven behavioral tracking without disclosing the scope of data collection, employees would have limited legal recourse under existing regulations. This lack of transparency creates a structural power imbalance that risks labor exploitation.

To address these gaps, Indonesia must formulate targeted policies that incorporate key principles from Singapore and Malaysia, including explicit consent, data transparency, and accountability mechanisms. Progressive legal theory supports such reforms by emphasizing that labor privacy protection must evolve alongside technological advancements to uphold human rights. However, stricter regulation will likely face corporate resistance, as employers may argue that consent procedures and compliance obligations increase operational costs and reduce flexibility. A utilitarian view might further justify surveillance if it maximizes overall productivity, while a positivist approach could argue its permissibility absent explicit statutory prohibition. Progressive law, in contrast, prioritizes worker welfare and the public interest over narrow economic efficiency.

Strengthening worker awareness is equally critical. Educational initiatives on privacy rights and personal data protection must be expanded through collaboration between the government, labor unions, and civil society. With improved legal literacy, workers can assert their rights and mitigate exploitative

monitoring practices. In the long term, a robust and adaptive regulatory framework can balance technological innovation with the protection of labor rights. Clear, enforceable standards will allow companies to harness AI responsibly while ensuring that employees' privacy is respected and safeguarded.

Conclusion

The use of AI-based surveillance in Indonesian workplaces poses urgent legal challenges due to the absence of clear and enforceable regulations. Although the Personal Data Protection Law provides a baseline, it lacks specific provisions for AI monitoring in employment, creating risks of unchecked surveillance and labor exploitation. This study contributes to progressive legal discourse by framing privacy protection as a core labor right and applying the principle *Salus Populi Suprema Lex Esto* to emphasize worker welfare as the guiding norm for digital-era regulation. Building on comparative lessons from Singapore's PDPA 2012 and Malaysia's PDPA 2010, the research proposes a legislative roadmap: (1) amend the UU PDP to explicitly regulate AI-based workplace surveillance; (2) issue Minister of Manpower regulations detailing consent and transparency standards; (3) mandate Kominfo to audit AI monitoring systems and enforce accountability; (4) establish an independent supervisory body to resolve labor privacy complaints; and (5) update the Manpower Law via DPR RI to integrate labor privacy protections into collective bargaining mechanisms. These steps provide actionable pathways to align AI innovation with human dignity and create a balanced, rights-based digital labor environment.

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