



Algorithmic Management and the Limits of Employer Authority under Indonesian Labor Law

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Original Article

Abstract

The growing integration of artificial intelligence (AI) into corporate managerial functions has transformed the methods used to monitor and evaluate employee performance. However, it has also increased concerns regarding privacy infringements and algorithmic bias, which may result in disciplinary measures or even employment termination. This study aims to examine the limits of employers' authority in the use of AI-based performance monitoring systems and to analyze the legal protections available to employees subjected to automated performance evaluations. The research employs a normative legal methodology using statutory and conceptual approaches. The findings reveal that the implementation of AI in employment management must adhere to the principles of legality, transparency, purpose limitation, and human oversight. Furthermore, employee protection can be strengthened through effective complaint mechanisms, procedural fairness, and algorithmic accountability. The study concludes that, although an initial legal framework exists, further regulatory development is necessary to ensure comprehensive protection of employees' privacy rights and human dignity in the context of AI-driven workplace management.

Keywords: *Employer Authority, Artificial Intelligence, Employee Protection, Employment Law*

Abstrak

Perkembangan kecerdasan buatan (AI) dalam fungsi manajerial perusahaan telah mengubah pola pengawasan dan evaluasi kinerja pekerja, namun juga memunculkan risiko pelanggaran privasi dan bias algoritma yang berdampak pada tindakan disipliner hingga pemutusan hubungan kerja (PHK). Penelitian ini bertujuan untuk menganalisis batasan kewenangan pengusaha dalam penggunaan AI serta mengkaji bentuk perlindungan hukum bagi pekerja dalam sistem evaluasi kinerja otomatis. Metode yang digunakan adalah penelitian hukum normatif dengan pendekatan perundang-undangan dan konseptual. Hasil penelitian menunjukkan bahwa penggunaan AI harus tunduk pada prinsip legalitas, transparansi, pembatasan tujuan, dan human oversight, sementara perlindungan pekerja dapat dilakukan melalui mekanisme keberatan, keadilan prosedural, dan akuntabilitas algoritmik. Disimpulkan bahwa meskipun kerangka hukum telah tersedia, masih diperlukan penguatan regulasi untuk menjamin perlindungan hak privasi dan martabat pekerja secara optimal.

Kata kunci: *Kewenangan, Pengusaha, Kecerdasan Buatan, Ketenagakerjaan*

1. INTRODUCTION

The adoption of artificial intelligence (AI) has extended beyond operational efficiency and increasingly permeates managerial functions within organizations. AI technologies are now utilized to manage workforces, evaluate employee performance, regulate work processes, and support strategic decision-making—functions that were traditionally performed exclusively by human managers. This transformation has given rise to the phenomenon of algorithmic management, defined as a form of workforce management driven by algorithmic systems.¹ In practice, such systems enable employers to monitor employees digitally through large-scale data processing, including the collection of biometric information, behavioral analytics, and real-time location tracking.

On the one hand, the integration of AI into managerial functions offers significant advantages, including enhanced efficiency, accuracy, and objectivity in organizational decision-making.² AI-driven monitoring systems also allow employers to assess employee performance continuously and with a high degree of precision.³ On the other hand, these practices raise complex legal and ethical concerns, particularly regarding the protection of employees' rights. Extensive and autonomous surveillance may infringe upon the fundamental rights to privacy and human dignity, both of which are constitutionally protected under the Indonesian legal framework.

These concerns are particularly significant given the inherent imbalance of power that characterizes employment relationships in Indonesia. Employees generally occupy a subordinate position relative to employers, creating an asymmetrical relationship that enables employers to unilaterally determine workplace policies, including the implementation of AI-based technologies. Such conditions increase the risk of abuse of authority, particularly through excessive surveillance practices and opaque decision-making processes.

The use of AI in employee performance evaluation systems also presents the risk of algorithmic bias, whereby automated systems generate unfair outcomes due to incomplete datasets, flawed assumptions, or non-neutral algorithmic design. In practice, such bias may result in serious consequences, including disciplinary sanctions or even termination of employment without sufficient justification or meaningful human review. Moreover, many AI systems operate as “black boxes,” rendering their decision-making processes inaccessible and difficult for employees to understand. Consequently,

¹ Xavier Parent-Rochelleau and Sharon K. Parker, “Algorithms as Work Designers: How Algorithmic Management Influences the Design of Jobs,” *Human Resource Management Review* 32, no. 3 (2022): 100838, <https://doi.org/10.1016/j.hrmr.2021.100838>.

² Marcello M. Mariani et al., “Artificial Intelligence in Innovation Research: A Systematic Review, Conceptual Framework, and Future Research Directions,” *Technovation* 122 (April 2023): 102623, <https://doi.org/10.1016/j.technovation.2022.102623>.

³ R. Deepa et al., “Impact of AI-Focussed Technologies on Social and Technical Competencies for HR Managers – A Systematic Review and Research Agenda,” *Technological Forecasting and Social Change* 202 (May 2024): 123301, <https://doi.org/10.1016/j.techfore.2024.123301>.

employees may be deprived of their right to receive explanations and to challenge decisions that adversely affect their employment status.

From the perspective of the rule of law (*rechtsstaat*), such circumstances cannot be permitted to persist in the absence of adequate regulatory safeguards. The rule of law requires that all forms of power, including employers' authority within employment relationships, be subject to legal limitations to ensure the protection of fundamental rights. Accordingly, the state bears the responsibility of ensuring that the deployment of AI technologies does not facilitate exploitative practices or create new forms of digital domination, but instead remains consistent with the principles of justice, legal certainty, and respect for human dignity.

Indonesia has introduced several legal instruments relevant to addressing these challenges, most notably Law No. 27 of 2022 on Personal Data Protection. This legislation establishes key principles, including lawful consent, purpose limitation, and the obligation of data controllers to ensure the security and confidentiality of personal data. In the context of AI deployment in the workplace, these provisions provide a potential legal basis for restricting excessive surveillance practices and safeguarding employees' personal information.

Nevertheless, the implementation of the Personal Data Protection Law within employment relations continues to face significant challenges. One of the primary obstacles is the lack of harmonization between the personal data protection regime and existing labor regulations. The Employment Law, as amended by the Job Creation Law, remains largely focused on conventional employment relationships and does not explicitly address the use of AI technologies in workforce management. As a result, a regulatory gap persists, particularly with respect to AI-based monitoring mechanisms, algorithmic transparency, and the protection of employees from harmful automated decision-making.

The absence of a comprehensive regulatory framework has significant implications for legal certainty in employment relations. The deployment of AI as a "virtual manager" capable of making autonomous decisions without clearly defined accountability mechanisms may undermine the principle of procedural fairness. In such circumstances, employees not only lose control over their personal data but may also be deprived of the opportunity to understand the basis upon which their performance is assessed. Over time, this situation may weaken healthy industrial relations and exacerbate structural inequalities between employers and employees.

Research conducted by Melisa et al. highlights consumer protection concerns arising from the use of AI-based products in the digital era. The study found that inadequate regulation of AI service providers' responsibilities places consumers in a vulnerable position, particularly due to limited algorithmic transparency and weak mechanisms for correcting automated decisions. These findings demonstrate that

technological advancement has not been accompanied by the development of a sufficiently adaptive and responsive legal framework.⁴

Similarly, Abdullah emphasizes the importance of obtaining explicit consent in the processing of personal data by generative AI systems. The study reveals that data collection through user interactions with AI applications frequently lacks a valid legal basis, potentially violating the principles of personal data protection established under Law No. 27 of 2022 on Personal Data Protection. This finding reflects a persistent gap between existing legal norms and technological practices.⁵

Furthermore, Febryanti examined the use of AI within the business sector and found that current regulations remain general in nature and do not specifically govern the diverse aspects of AI deployment. The study also identified significant concerns relating to privacy, data security, and intellectual property rights. These findings suggest that the growing adoption of AI in business activities necessitates a more comprehensive regulatory framework to prevent legal uncertainty and ensure adequate protection of affected stakeholders.⁶

From a human rights perspective, Syahril et al. argue that AI systems may contribute to bias, discrimination, and violations of privacy rights. Their study emphasizes that existing regulations are insufficient to accommodate the need for effective human rights protection in the context of AI deployment, particularly regarding algorithmic transparency and accountability. These findings reinforce the view that AI governance extends beyond technical considerations and encompasses complex legal and ethical dimensions.⁷ Likewise, Abdi highlights the implications of AI-assisted decision-making and identifies accountability, fairness, transparency, and privacy as critical regulatory concerns. The study demonstrates that the use of AI in decision-making processes—whether in legal or non-legal settings—requires a legal framework capable of ensuring both accountability and procedural justice.⁸

In the area of personal data protection, studies by Nababan et al. and Susanti and Sari indicate that, despite the enactment of the Personal Data Protection Law, challenges remain regarding its implementation and the clarity of legal accountability

⁴ Melisa Melisa et al., “Perlindungan Konsumen Atas Produk Berbasis Ai : Tantangan Hukum Di Era Digital,” *Jurnal Ilmiah Manajemen Dan Kewirausahaan* 4, no. 2 (2025): 696–708, <https://doi.org/10.55606/jimak.v4i2.4596>.

⁵ Akmal Muhammad Abdullah, “Pelindungan Hak Privasi Terhadap Pengumpulan Data Pribadi Oleh AI Generatif Berdasarkan Percakapan Dengan Pengguna,” *Padjadjaran Law Review* 12, no. 2 (2024): 145–56, <https://doi.org/10.56895/plr.v12i2.1796>.

⁶ Salsa Biela Febryanti, “Analisis Regulasi Hukum Dalam Penggunaan Teknologi Artificial Intelligence (AI) Di Lingkungan Bisnis,” *Jurnal Res Justitia: Jurnal Ilmu Hukum* 5, no. 1 (2025): 217–28, <https://doi.org/10.46306/rj.v5i1.181>.

⁷ Muhammad Akbar Fhad Syahril et al., “Artificial Intelligence Dan Hak Asasi Manusia: Kajian Hukum Tentang Potensi Bahaya Di Indonesia,” *Jurnal Litigasi Amsir* 11, no. 3 (2024): 359–64.

⁸ Khairul Abdi, *Implikasi Hukum Atas Penggunaan Kecerdasan Buatan Dalam Pengambilan Keputusan Hukum*, 1, no. 3 (2024): 1–8.

mechanisms.⁹ Moreover, Widjaja and Cesarianti emphasize the urgency of establishing an independent personal data supervisory authority to strengthen Indonesia's data protection regime.¹⁰

Research by Mecca et al. further demonstrates that the use of AI within the criminal justice system remains inadequately regulated, particularly with respect to accountability and the ethical dimensions of AI deployment. This finding underscores the broader need for regulatory frameworks that can accommodate technological innovation while safeguarding the principles of justice, accountability, and human rights protection.¹¹

Although previous studies have examined AI from a variety of perspectives, most have focused primarily on consumer protection, personal data governance, or the application of AI within legal systems. Limited attention has been devoted to the implications of algorithmic management for employment relations. The novelty of this study lies in its integrative analysis of employment law and personal data protection law as mechanisms for limiting employers' authority and developing a legal protection model for employees subjected to AI-based workplace surveillance. This study seeks to analyze the implications of artificial intelligence (AI) in employment relationships, particularly in the context of workplace monitoring and managerial decision-making by employers. Specifically, the study aims to:

- 1) Examine and analyze the legal limitations on employers' authority to implement AI-based employee monitoring systems, with particular emphasis on protecting employees' privacy rights and human dignity under Indonesian law.
- 2) Analyze the forms of legal protection available to employees against algorithmic bias in automated performance evaluation systems, including the implications of such bias for disciplinary sanctions and termination of employment.

2. RESEARCH METHODOLOGY

This study employs a normative legal research method aimed at analyzing legal norms governing the use of artificial intelligence (AI) in employment relationships, particularly

⁹ Dennys Megasari Br Nababan et al., "Pertanggungjawaban Pidana Terhadap Penyalahgunaan Data Pribadi Pada Tindak Pidana Dunia Maya," *Pampas: Journal of Criminal Law* 4, no. 2 (2023): 232–51, <https://doi.org/10.22437/pampas.v4i2.26981>; Sari Susanti and Sari Sari, "Integrasi Konsep Pelindungan Data Pribadi Pengguna Jasa Notaris Berdasarkan Undang Undang Pelindungan Data Pribadi Dan Jabatan Notaris," *Innovative: Journal of Social Science Research* 4, no. 6 (2024): 688–705, <https://doi.org/10.31004/innovative.v4i6.15375>.

¹⁰ Gunawan Widjaja and Fransiska Milenia Cesarianti, "Urgensi Pembentukan Lembaga Pengawas Pelindungan Data Pribadi Di Indonesia Berdasarkan Pasal 58 Juncto Pasal 59 Dan Pasal 60 Undang – Undang Nomor 27 Tahun 2022 Tentang Pelindungan Data Pribadi," *Sinergi: Jurnal Riset Ilmiah* 1, no. 4 (2024): 234–42, <https://doi.org/10.62335/8qf44b59>.

¹¹ Anggil Syahra Putri Mecca et al., "Pemanfaatan Teknologi Kecerdasan Buatan (Artificial Intelligence) Dalam Sistem Peradilan Pidana Di Indonesia," *Jurnal Sosial Teknologi* 5, no. 6 (2025): 1–17, <https://doi.org/10.59188/jurnalsostech.v5i6.32207>.

in relation to employee monitoring and the protection of privacy rights. To achieve this objective, the research adopts statutory, conceptual, and comparative approaches. The statutory approach examines relevant legal instruments, including the Employment Law, the Job Creation Law, the Personal Data Protection Law, and other applicable regulations. The conceptual approach explores key legal and theoretical concepts, such as algorithmic management, the right to privacy, and the principle of the rule of law. In addition, the comparative approach analyzes the Indonesian regulatory framework in comparison with international legal instruments and foreign jurisdictions, particularly the European Union's General Data Protection Regulation (GDPR) and the Artificial Intelligence Act (AI Act).

The study relies on primary, secondary, and tertiary legal materials collected through an extensive literature review. Primary legal materials consist of legislation and other authoritative legal sources, while secondary materials include scholarly articles, legal doctrines, and relevant academic publications. The collected materials are analyzed qualitatively using a descriptive-analytical method to identify normative gaps, regulatory inconsistencies, and areas of legal disharmony. Furthermore, legal interpretation and legal reasoning techniques are employed to formulate normative solutions grounded in the principles of justice, legal certainty, and the protection of human rights. The findings are expected to provide prescriptive recommendations for the development of a regulatory framework capable of responding effectively to the rapid advancement of AI technologies in the employment sector.

3. RESEARCH RESULT AND DISCUSSION

3.1. Limitations on Employers' Authority in Implementing Artificial Intelligence (AI)-Based Employee Monitoring

This study examines the legal limitations on employers' authority to implement Artificial Intelligence (AI)-based employee monitoring systems, with particular emphasis on the protection of employees' privacy rights and human dignity under Indonesian law. The primary objective is to identify the legal constraints governing employers' use of AI technologies and to evaluate the extent to which the existing legal framework provides effective safeguards for employees amid the ongoing digital transformation of employment relations.

Employers traditionally exercise a dominant position within employment relationships. This condition is closely linked to the subordinate nature of employment, whereby employees perform work under the direction and control of employers. Within this framework, employers possess managerial prerogatives to regulate, supervise, and discipline employees in pursuit of organizational objectives. Nevertheless, the findings of this study demonstrate that such authority is not absolute. Rather, it is subject to constitutional limitations, particularly those concerning the protection of fundamental

rights as guaranteed under Article 27(2) and Article 28D (2) of the 1945 Constitution of the Republic of Indonesia.

The increasing integration of AI into managerial functions has substantially transformed conventional approaches to employee monitoring. Surveillance practices that were previously limited in scope and primarily physical in nature have evolved into forms of pervasive digital monitoring. AI systems facilitate the large-scale collection and processing of employee data through both workplace technologies (intrinsic monitoring) and external monitoring devices, such as cameras, sensors, and tracking systems (extrinsic monitoring). In practice, these capabilities create the potential for continuous and comprehensive surveillance that may systematically undermine employees' privacy rights.

A fundamental limitation on employers' authority to deploy AI-based monitoring systems derives from the principle of legality and the requirement for a lawful basis for personal data processing, as established under Law No. 27 of 2022 on Personal Data Protection. Article 20 of the Law expressly requires that all personal data processing activities be supported by a clear and accountable legal basis. Consequently, any form of AI-enabled monitoring involving the collection or processing of employee data without a valid legal justification may constitute a violation of applicable law.

As data controllers, employers are required to ensure that personal data processing is lawful, necessary, and proportionate. These obligations reflect core data protection principles, including data minimization and purpose limitation. In practical terms, such principles require that data collection be restricted to information that is genuinely necessary for legitimate employment-related purposes.¹² Accordingly, the use of AI technologies to monitor matters unrelated to work performance—such as employees' emotional states or personal activities outside the workplace—may be regarded as an unjustifiable intrusion into privacy and, therefore, inconsistent with applicable legal standards.

From a normative perspective, the processing of personal data, particularly sensitive categories of data such as biometric information, generally requires the explicit consent of employees. However, within the context of subordinate employment relationships, such consent is frequently characterized by significant power imbalances. Employees may feel compelled to consent due to concerns regarding job security or workplace consequences, thereby undermining the voluntariness of their consent. As a result, consent often functions as a formal legal requirement rather than an effective mechanism for protecting individual rights.

These findings extend the analysis presented by Abdullah, who emphasized the importance of explicit consent in AI-related data processing. The present study

¹² Susanne Barth et al., "Understanding Online Privacy—A Systematic Review of Privacy Visualizations and Privacy by Design Guidelines," *ACM Computing Surveys* 55, no. 3 (2023): 1–37, <https://doi.org/10.1145/3502288>.

demonstrates that, within employment relationships, the concept of consent cannot be assessed independently of the unequal bargaining power between employers and employees.¹³ Furthermore, this study reinforces the findings of Syahril et al. concerning the risk of human rights violations arising from AI deployment by providing a more focused examination of such risks within the employment context.¹⁴

The findings further indicate that effective legal protection for employees depends not only on the existence of legal norms but also on the availability of robust implementation and enforcement mechanisms. In this regard, transparency constitutes a critical safeguard against the excessive exercise of employer authority. Employees should be informed of the purposes of data collection, the operational logic of AI systems, and the implications of automated monitoring for performance evaluations and employment-related decisions. In the absence of meaningful transparency, AI systems risk becoming opaque and unaccountable instruments of managerial control, thereby increasing the likelihood of arbitrary decision-making and violations of employees' fundamental rights.

Any employment-related decision generated through an AI system, particularly those producing significant legal consequences such as disciplinary sanctions or termination of employment, should remain subject to meaningful human review and intervention. Human oversight is essential to ensure that employment decisions are guided by considerations of substantive justice and contextual circumstances rather than relying exclusively on algorithmic outputs. The deployment of AI does not transfer or diminish the legal responsibility of employers as the entities that design, implement, or operate such systems. Under Indonesia's Electronic Information and Transactions Law, AI systems may be categorized as electronic agents; consequently, any legal consequences arising from their operation remain attributable to the electronic system operator, namely the employer. Employers therefore cannot evade liability by attributing adverse outcomes solely to algorithmic errors or system malfunctions.

The findings further indicate that violations of the legal limitations governing AI deployment may constitute unlawful acts (*perbuatan melawan hukum*) under Article 1365 of the Indonesian Civil Code. Excessive, disproportionate, or unjustified surveillance practices may be regarded as infringements of employees' privacy rights and human dignity, thereby providing a legal basis for claims seeking compensation for damages.¹⁵ This interpretation strengthens employees' legal standing and provides an additional mechanism for addressing potential abuses of technological authority in the workplace.

¹³ Abdullah, "Pelindungan Hak Privasi Terhadap Pengumpulan Data Pribadi Oleh AI Generatif Berdasarkan Percakapan Dengan Pengguna."

¹⁴ Syahril et al., "Artificial Intelligence Dan Hak Asasi Manusia: Kajian Hukum Tentang Potensi Bahaya Di Indonesia."

¹⁵ Merve Hickok and Nestor Maslej, "A Policy Primer and Roadmap on AI Worker Surveillance and Productivity Scoring Tools," *AI and Ethics* 3, no. 3 (2023): 673–87, <https://doi.org/10.1007/s43681-023-00275-8>.

Accordingly, the use of AI for employee monitoring should not be viewed as inherently unlawful. Rather, its implementation must be subject to clear and enforceable legal safeguards. These safeguards include the existence of a lawful basis for personal data processing, compliance with the principles of data minimization and purpose limitation, guarantees of transparency regarding data collection and algorithmic decision-making, and the requirement of meaningful human oversight in decisions affecting employees' rights and interests. The effective integration of employment law, personal data protection law, and electronic information regulations is therefore essential for establishing a coherent legal framework that balances employers' legitimate managerial interests with the protection of employees' fundamental rights.

AI should be understood as a decision-support tool operating under human control rather than as a complete substitute for human judgment. This principle is essential to ensuring that technological innovation does not contribute to the dehumanization of employment relationships. Instead, the development and deployment of AI should remain aligned with the principles of justice, respect for human dignity, legal certainty, and the protection of human rights within the Indonesian legal system.

3.2. Legal Protection Available to Employees Against Algorithmic Bias in Automated Performance Evaluation Systems

This study examines the legal protections available to employees against potential algorithmic bias in automated performance evaluation systems, including its implications for disciplinary sanctions and termination of employment, while also identifying normative gaps and regulatory weaknesses within Indonesian labor law. This issue is particularly significant because the digital transformation of employment relations has accelerated the adoption of artificial intelligence (AI)-based systems that directly affect employees' livelihoods, both in terms of performance assessment and the continuity of employment relationships.

Algorithmic performance evaluation systems are generally promoted as objective tools for human resource management. Such systems are often considered capable of reducing subjective human bias in employee assessments. However, the findings of this study demonstrate that algorithms are not inherently neutral, as they operate on the basis of historical data and parameters designed by human actors. Consequently, structural biases embedded within datasets may be reproduced through algorithmic outputs, potentially leading to discriminatory or unfair outcomes. In practice, such outcomes may disproportionately disadvantage particular groups of employees based on factors such as age, gender, or specific work patterns that are not adequately captured within the system's analytical framework.

At present, legal protection against algorithmic bias is not specifically regulated through a dedicated legal instrument. Existing safeguards remain fragmented and depend largely on the combined application of labor law and Law No. 27 of 2022 on Personal Data Protection (PDP Law). The analysis indicates that both legal regimes provide a normative foundation for employee protection, although neither explicitly addresses the use of AI in performance evaluation processes.

The Employment Law, as amended by Law No. 6 of 2023, requires that disciplinary measures and termination of employment be based on legitimate and reasonable grounds and be implemented through transparent procedures consistent with the principles of due process. The findings of this study confirm that AI-generated evaluation results should not serve as the sole basis for disciplinary sanctions or dismissal decisions without further verification and assessment. Such safeguards are necessary to prevent arbitrary actions arising from opaque algorithmic processes.

The analysis further identifies a normative gap within Government Regulation No. 35 of 2021, particularly concerning the concept of “serious” or “urgent” violations as grounds for unilateral termination of employment. This ambiguity creates the potential for misuse where the determination of such violations is based primarily on opaque algorithmic assessments. Under these circumstances, the use of AI may undermine the principles of legal certainty and justice guaranteed under Article 28D(2) of the 1945 Constitution of the Republic of Indonesia. Accordingly, a restrictive interpretation of these provisions is necessary to prevent the misuse of technology in employment decision-making.

The findings reveal four principal mechanisms through which employees may seek protection against algorithmic bias. First, employees are entitled to utilize objection procedures and bipartite dispute resolution mechanisms as provided under Indonesian labor law. These mechanisms allow employees to challenge AI-generated evaluation results through direct engagement and dialogue with employers. In practice, this protection is particularly important because it enables employees to request clarification regarding the assessment criteria, data sources, and evaluation parameters used by the AI system.

Second, the application of the human-in-the-loop principle constitutes an essential safeguard. This principle requires that significant employment decisions, particularly those involving disciplinary sanctions or termination of employment, should not be delegated entirely to automated systems. Meaningful human oversight is necessary to ensure that decisions adequately consider social, contextual, and humanitarian factors that algorithmic systems are incapable of fully assessing. This principle is also consistent with emerging international standards and ethical frameworks governing AI deployment.

Third, employees may seek procedural justice through dispute resolution mechanisms before the Industrial Relations Court (Pengadilan Hubungan Industrial). Within this framework, AI-generated performance evaluations should be treated as evidence subject to verification and judicial scrutiny rather than as conclusive proof. The findings indicate that courts generally adopt a cautious approach toward evidence derived from automated systems, particularly where such evidence is not corroborated by additional forms of verifiable human-generated evidence. This judicial approach serves as an important safeguard against the excessive reliance on algorithmic decision-making in employment disputes.

Fourth, algorithmic accountability, as provided under the Personal Data Protection Law and related regulatory frameworks, requires that employers, as data controllers, demonstrate that the AI systems they utilize are accurate, non-discriminatory, and compliant with the specified purposes of data processing. The findings of this study indicate that the principle of accountability constitutes a critical mechanism for ensuring that AI deployment remains subject to enforceable legal responsibility.

In comparison with prior research, this study extends the work of Syahril et al., which emphasized the risks of bias and discrimination in AI applications from a human rights perspective, by specifically analyzing the implications of such bias within employment relationships.¹⁶ Furthermore, it complements the findings of Febryanti, who observed that Indonesia's AI regulatory framework remains general in scope, by demonstrating how regulatory gaps directly affect the protection of workers in practice.¹⁷

Although several legal protection mechanisms exist, their effectiveness is constrained by information asymmetry between employers and employees in algorithmic management systems. Employees typically lack access to the operational logic and parameters of algorithmic systems, which limits their ability to mount substantive challenges.¹⁸ This condition gives rise to what has been described as “management without managers,” wherein decisions are made through opaque automated systems, thereby complicating the attribution of legal responsibility.

The Personal Data Protection Law functions as a corrective framework by granting data subjects the right not to be subject to decisions based solely on automated processing that produce significant legal effects. This study interprets that, although the Law does not explicitly prohibit automated decision-making, its provisions may be invoked to require transparency and accountability in AI-based decision processes.

¹⁶ Syahril et al., “Artificial Intelligence Dan Hak Asasi Manusia: Kajian Hukum Tentang Potensi Bahaya Di Indonesia.”

¹⁷ Febryanti, “Analisis Regulasi Hukum Dalam Penggunaan Teknologi Artificial Intelligence (AI) Di Lingkungan Bisnis.”

¹⁸ Jeremias Adams-Prassl et al., “Regulating Algorithmic Management: A Blueprint,” *European Labour Law Journal* 14, no. 2 (2023): 124–51, <https://doi.org/10.1177/20319525231167299>.

Accordingly, employees have a legal basis to contest adverse decisions, including through proceedings before the Industrial Relations Court.

Moreover, emerging jurisprudence from Industrial Relations Courts indicates a progressively more critical stance toward AI-based evaluation results as grounds for termination. Courts increasingly require corroborating evidence and human verification rather than accepting automated outputs as determinative proof. This development reflects the strengthening of fairness-oriented adjudication and enhanced protection of workers' rights in the digital era. Nevertheless, a substantial normative gap persists within Indonesian labor law, particularly regarding explicit regulation of AI in performance evaluation processes. The absence of clear provisions governing algorithmic transparency, system auditing, and safeguards against algorithmic bias demonstrates that the legal framework has not yet fully adapted to technological advancements.

Accordingly, legal reform is necessary not only in a reactive manner but also as a preventive measure. Future regulatory frameworks should explicitly establish standards for algorithmic accountability, including mandatory audits of AI systems, transparency of evaluation parameters, and guaranteed human involvement in consequential employment decisions. In addition, the role of supervisory authorities must be strengthened to ensure that AI deployment in employment contexts does not infringe upon workers' fundamental rights. Legal protection for employees against algorithmic bias requires a comprehensive and integrated regulatory approach. Law should not only govern the use of technology but also ensure that its application is fair, transparent, and accountable, thereby maintaining a balance between organizational efficiency and the protection of workers' rights.

4. CONCLUSION

This study examines the limitations of employers' authority in implementing AI-based employee monitoring systems and analyzes the forms of legal protection available to employees against potential algorithmic bias in performance evaluation systems. The findings indicate that the use of AI in employment relationships is generally permissible; however, it must be subject to strict legal constraints, including the principles of legality, valid consent, transparency, purpose limitation, and mandatory human oversight. In addition, legal protection against algorithmic bias is provided through mechanisms such as the right to object, procedural fairness safeguards, and algorithmic accountability, although the effectiveness of these mechanisms is constrained by information asymmetry and existing regulatory limitations.

The study further emphasizes that AI should not fully replace human decision-making in matters that significantly affect employees' rights, particularly in disciplinary actions and termination of employment. From a practical perspective, the findings provide a normative foundation for strengthening labor law policies in response to

technological developments. However, this study is limited to a normative legal approach and does not include empirical analysis. Accordingly, regulatory reform is necessary to strengthen provisions on algorithmic transparency and the auditing of AI systems. Future research is recommended to examine the empirical implementation of AI in workplace settings in order to enhance and validate the findings of this study.

REFERENCES

Journals

- Abdullah, Akmal Muhammad. "Pelindungan Hak Privasi Terhadap Pengumpulan Data Pribadi Oleh AI Generatif Berdasarkan Percakapan Dengan Pengguna." *Padjadjaran Law Review* 12, no. 2 (2024): 145–56. <https://doi.org/10.56895/plr.v12i2.1796>.
- Adams-Prassl, Jeremias, Halefom Abraha, Aislinn Kelly-Lyth, Michael 'Six' Silberman, and Sangh Rakshita. "Regulating Algorithmic Management: A Blueprint." *European Labour Law Journal* 14, no. 2 (2023): 124–51. <https://doi.org/10.1177/20319525231167299>.
- Barth, Susanne, Dan Ionita, and Pieter Hartel. "Understanding Online Privacy—A Systematic Review of Privacy Visualizations and Privacy by Design Guidelines." *ACM Computing Surveys* 55, no. 3 (2023): 1–37. <https://doi.org/10.1145/3502288>.
- Deepa, R., Srinivasan Sekar, Ashish Malik, Jitender Kumar, and Rekha Attri. "Impact of AI-Focussed Technologies on Social and Technical Competencies for HR Managers – A Systematic Review and Research Agenda." *Technological Forecasting and Social Change* 202 (May 2024): 123301. <https://doi.org/10.1016/j.techfore.2024.123301>.
- Febryanti, Salsa Biela. "Analisis Regulasi Hukum Dalam Penggunaan Teknologi Artificial Intelligence (AI) Di Lingkungan Bisnis." *Jurnal Res Justitia: Jurnal Ilmu Hukum* 5, no. 1 (2025): 217–28. <https://doi.org/10.46306/rj.v5i1.181>.
- Hickok, Merve, and Nestor Maslej. "A Policy Primer and Roadmap on AI Worker Surveillance and Productivity Scoring Tools." *AI and Ethics* 3, no. 3 (2023): 673–87. <https://doi.org/10.1007/s43681-023-00275-8>.
- Khairul Abdi. *Implikasi Hukum Atas Penggunaan Kecerdasan Buatan Dalam Pengambilan Keputusan Hukum*. 1, no. 3 (2024): 1–8.
- Mariani, Marcello M., Isa Machado, Vittoria Magrelli, and Yogesh K. Dwivedi. "Artificial Intelligence in Innovation Research: A Systematic Review, Conceptual Framework, and Future Research Directions." *Technovation* 122 (April 2023): 102623. <https://doi.org/10.1016/j.technovation.2022.102623>.
- Mecca, Anggil Syahra Putri, Wahab Aznul Hidayat, and Hadi Tuasikal. "Pemanfaatan Teknologi Kecerdasan Buatan (Artificial Intelligence) Dalam Sistem Peradilan

- Pidana Di Indonesia.” *Jurnal Sosial Teknologi* 5, no. 6 (2025): 1–17.
<https://doi.org/10.59188/journalsostech.v5i6.32207>.
- Melisa Melisa, Habib AlHafiz, Siti Patimah, et al. “Perlindungan Konsumen Atas Produk Berbasis Ai : Tantangan Hukum Di Era Digital.” *Jurnal Ilmiah Manajemen Dan Kewirausahaan* 4, no. 2 (2025): 696–708.
<https://doi.org/10.55606/jimak.v4i2.4596>.
- Nababan, Dennys Megasari Br, Sahuri Lasmadi, and Erwin Erwin. “Pertanggungjawaban Pidana Terhadap Penyalahgunaan Data Pribadi Pada Tindak Pidana Dunia Maya.” *Pampas: Journal of Criminal Law* 4, no. 2 (2023): 232–51. <https://doi.org/10.22437/pampas.v4i2.26981>.
- Parent-Rocheleau, Xavier, and Sharon K. Parker. “Algorithms as Work Designers: How Algorithmic Management Influences the Design of Jobs.” *Human Resource Management Review* 32, no. 3 (2022): 100838.
<https://doi.org/10.1016/j.hrmr.2021.100838>.
- Sari Susanti and Sari Sari. “Integrasi Konsep Pelindungan Data Pribadi Pengguna Jasa Notaris Berdasarkan Undang Undang Pelindungan Data Pribadi Dan Jabatan Notaris.” *Innovative: Journal of Social Science Research* 4, no. 6 (2024): 688–705.
<https://doi.org/10.31004/innovative.v4i6.15375>.
- Syahril, Muhammad Akbar Fhad, A. Darmawansya TL, Murdiono Murdiono, and Arini Asriyani. “Artificial Intelligence Dan Hak Asasi Manusia: Kajian Hukum Tentang Potensi Bahaya Di Indonesia.” *Jurnal Litigasi Amsir* 11, no. 3 (2024): 359–64.
- Widjaja, Gunawan, and Fransiska Milenia Cesarianti. “Urgensi Pembentukan Lembaga Pengawas Pelindungan Data Pribadi Di Indonesia Berdasarkan Pasal 58 Juncto Pasal 59 Dan Pasal 60 Undang – Undang Nomor 27 Tahun 2022 Tentang Pelindungan Data Pribadi.” *Sinergi: Jurnal Riset Ilmiah* 1, no. 4 (2024): 234–42.
<https://doi.org/10.62335/8qf44b59>.