



Artificial Intelligence and the Future of Employment Relations in Indonesia: Reformulating Labor Law to Protect Workers' Rights

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Article History Received : 2026-08-10 Revised: 2026-08-22 Published: 2026-09-30 Keywords: <i>Artificial Intelligence;</i> <i>Algorithmic Management;</i> <i>Industrial Relations;</i> <i>Worker Protection;</i> <i>Legal Reform.</i>	The development of <i>Artificial Intelligence</i> (AI) is changing labor relations through the automation of tasks and the use of <i>algorithmic management</i> in recruitment, supervision, performance evaluation, and labor decision-making. These changes raise questions about the adequacy of Indonesian labor laws in protecting workers when decisions that impact their rights are increasingly mediated by algorithms. This study aims to analyze regulatory gaps in the use of AI in employment relations and formulate a legal reformulation model that is able to balance technological innovation with the protection of workers' rights. The research uses normative legal methods with legislative, conceptual, comparative, and policy analysis approaches, through qualitative analysis of national regulations, legal doctrines, academic literature, and international documents. The results show that Indonesian law has not comprehensively regulated algorithmic transparency, AI-based discrimination, worker data protection, the right to an explanation, human examination, and accountability for automated decisions. The study recommends <i>human-in-command-based</i> reformulation, <i>algorithmic accountability</i> , algorithmic impact assessment, data protection, <i>human review</i> , reskilling, and <i>social dialogue</i> . The framework is needed to ensure that AI transformation takes place in an innovative manner that is at the same time fair, accountable, and oriented towards worker protection.

I. INTRODUCTION

Development *Artificial Intelligence* (AI) has changed the way work is designed, distributed, supervised, and assessed. AI no longer functions solely as a productivity instrument, but has begun to take over functions that have traditionally been under management's authority, including recruitment, scheduling, productivity monitoring, performance evaluation, and making recommendations on the

sustainability of the work relationship (Putra et al., 2026). The International Labour Organization (ILO) points out that the impact of AI on work is not single, it can improve workers' skills and productivity, but at the same time create different exposures between types of jobs and groups of workers (Kennedy, 2026). The legal problem arises when decisions that affect workers' status and rights are no longer entirely made by humans, but are influenced by algorithmic systems

whose goals, data, and working mechanisms cannot always be understood or questioned by workers.

This problem becomes increasingly complex because Indonesian labor law is built mainly on the assumption of relatively conventional labor relations, namely workers, employers, jobs, wages, orders, and human responsibilities as the main actors in industrial relations (Harahap & Nasution, 2025). Constitutionally, Article 27 paragraph (2) of the 1945 Constitution of the Republic of Indonesia guarantees the right of every citizen to work and a decent livelihood for humanity, while Article 28D paragraph (1) and paragraph (2) guarantees fair legal certainty as well as the right to work and obtain fair remuneration and treatment in employment relations. The Constitutional Court even affirmed that the rights in Article 28D paragraph (2) are part of economic, social, and cultural rights that require the active role of the state. Thus, technological transformation cannot be seen only as a matter of company efficiency, because any change in the work mechanism remains within the framework of the state's obligation to ensure the protection of workers' rights.

The main normative framework through Law Number 13 of 2003 concerning Manpower as it has undergone changes, including through Law Number 6 of 2023 concerning the Determination of the Job Creation Perppu into Law, does provide various

protection instruments regarding employment relations, wages, working hours, termination of employment, and worker protection (Government Regulation in Lieu of Law (Perpu) Number 2 of 2022 Job Creation, 2022). However, the framework has not explicitly established a legal regime regarding the use of AI in employment decision-making. This gap becomes significant when AI is used to determine accepted candidates, measure productivity, assign workloads, determine compensation, or provide layoff recommendations. A number of recent studies in Indonesia have also identified the lack of comprehensiveness of AI regulation in the employment system as well as the emerging risks of algorithmic discrimination, privacy violations, and job insecurity (Wibowo & Kom, 2025).

The dimension of the problem is increasingly evident in practice *Algorithmic Management*. The ILO explains that algorithmic systems can be used to organize, allocate, monitor, supervise, and evaluate work (Lubis & Nurhayati, 2026). Legal risks arise when workers have to deal with decisions that are difficult to trace on the basis of their considerations, while positive laws do not provide adequate mechanisms regarding algorithm transparency, the right to an explanation, audits against biases, objections to automated decisions, and employer responsibility for losses generated by AI systems. In the Indonesian context, this issue is also

related to the protection of personal data because AI-based human resource management requires large-scale processing of worker data. In fact, the ILO found that the use of AI in the context of work can reinforce discrimination if the system is built from biased or incomplete data (Susilo & Kamila, 2026).

On that basis, the main issue of this research is not only whether AI will replace workers, but whether Indonesia's labor law is able to maintain a balance of power between technological efficiency and the protection of workers' rights when employment decisions are increasingly automated. Previous research has tended to discuss AI from the perspective of layoffs, discrimination, or sectoral regulatory needs. This gap shows the need to develop a more systemic approach by placing AI as a factor that changes the structure of employment relations itself. This article therefore departs from the argument that Indonesia's labor law reform is not enough to add new prohibitions or obligations, but requires a reformulation of principles, accountability mechanisms, data protection, transparency of algorithmic decisions, workers' right to refuse or challenge automated decisions, and reskilling and social dialogue obligations. This direction is in line with international developments that show the increasing importance of social dialogue in determining the use of AI and *algorithmic management* in the

workplace. Thus, legal reformulation is needed not to inhibit AI innovation, but rather to ensure that technological transformation remains within the boundaries of the state of law, social justice, and decent work principles.

II. RESEARCH METHODS

This study uses a normative legal research method with a qualitative approach to analyze the adequacy of Indonesian labor law in responding to the transformation of employment relations influenced by *Artificial Intelligence* (AI) (Jonaedi Efendi & Rijadi, 2022). The selection of normative legal research is based on the nature of the research problem centered on the construction, limitations, and need for reformulation of legal norms that govern the relationship between workers and employers in the context of digitalization and the use of algorithm-based systems. The research is not directed to statistically measure the level of use of AI by companies, but rather to test whether the applicable legal norms are able to provide adequate protection when managerial functions begin to be transferred to algorithmic systems. This approach is relevant to the development of international studies that show that AI not only automates work, but can also be used to carry out human resource management functions, including recruitment, scheduling, monitoring, performance evaluation, and decision-making of workers.

The statute *approach* is used to identify and analyze Indonesian legal norms related to employment relations, worker protection, termination of employment, personal data protection, and policy developments regarding AI. The main legal materials include the 1945 Constitution of the Republic of Indonesia, especially provisions on the right to decent work and livelihood and the right to fair treatment in employment relations; Law Number 13 of 2003 concerning Manpower and its amendments, including Law Number 6 of 2023; Law Number 27 of 2022 concerning Personal Data Protection; as well as implementing regulations relevant to industrial relations, wages, termination of employment, and worker protection. Law Number 13 of 2003 remains one of the main foundations of the Indonesian labor law system because it regulates employment relations as well as various basic rights of workers, including working hours, protection of occupational safety and health, wages, and welfare.

The *conceptual approach* is used to construct a theoretical framework regarding the relationship between AI, managerial power, worker protection, and fairness in industrial relations. The concepts of *algorithmic management*, *human-in-command*, *decent work*, algorithmic transparency, accountability, worker data protection, and worker participation are used as analytical

instruments. This approach is necessary because the use of AI has the potential to change the distribution of power in employment relationships. When decisions regarding hiring, evaluation, promotion, compensation, supervision, or even termination are influenced by algorithms, workers can face new forms of information asymmetry that cannot be fully explained through conventional employment relationship construction. ILO literature shows that the development of *algorithmic management* can improve organizational efficiency while posing risks to privacy, job quality, workers' agency, and fundamental rights.

The *comparative approach* is used in a limited and functional manner to identify regulatory practices in other jurisdictions that can be a reference for the reformulation of Indonesian law. The comparison is not intended to adopt a legal model directly, but to find regulatory principles that can be transplanted by considering the character of the legal system, industrial relations, and the institutional structure of Indonesia. The analysis is directed at several aspects, namely the restriction of employment decisions that are carried out fully automatically, the right of workers to obtain information and explanations about the use of algorithmic systems, the right to human intervention, the protection of worker data, audits against the risk of

discrimination, and the mechanism of consultation and worker participation. The international literature shows that regulatory strategies towards *algorithmic management* increasingly lead to a combination of transparency, the right to access data, the right to an explanation, impact assessment, and worker involvement in the decision-making process.

The legal materials used consist of primary, secondary, and tertiary legal materials. Primary legal materials include constitutions, laws, government regulations, ministerial regulations, relevant court decisions, as well as official policy documents related to employment, AI, and data protection. Secondary legal materials include law books, reputable scientific journal articles, research results, international agency reports, and academic documents that discuss AI, *algorithmic management*, the future of work, and the protection of workers' rights. Tertiary legal materials are used to clarify the terminology and concepts required in the analysis process. Literature from the International Labour Organization is used as one of the main international reference sources because the ILO has developed specialized studies on AI, *algorithmic management*, worker protection, and social dialogue in technological transformation in the workplace.

The collection of legal materials was carried out through literature studies with a systematic search of

relevant laws and regulations, policy documents, court decisions, and academic literature. The selection of sources was carried out based on three criteria, namely direct relevance to the object of research, the authority of the source, and its contribution to the construction of legal arguments. International literature is used primarily to identify conceptual developments and models of worker protection, while national regulations are used to test the compatibility of these developments with the Indonesian legal system.

The analysis of legal materials is carried out qualitatively through three stages. The first stage is in the form of identification of *regulatory gaps* by comparing the legal risks posed by the use of AI in employment relations with the protection norms available in Indonesia's positive law. The second stage is in the form of a critical analysis of the adequacy of existing norms using the principles of worker protection, justice in industrial relations, the right to decent work, data protection, transparency, and accountability as evaluation parameters. The third stage is in the form of legal *construction* to formulate the direction of the reformulation of Indonesian labor law. The reformulation is directed at the formation of a legal framework that does not place AI as a substitute for the subject of human law, but as an instrument whose use must remain under human control, supervision, and accountability.

The validity of the research argument is maintained through *the triangulation of legal sources*, which brings together national legal norms, legal doctrines, international regulatory and policy developments, as well as academic literature on AI and the world of work. This strategy allows the research not to stop at identifying regulatory vacancies, but to produce normative arguments regarding the form of protection needed. With such a design, the research is directed to produce a model of reformulation of Indonesian labor law that is able to maintain a balance between the interests of technological innovation, company productivity, and the protection of workers' rights in the era of *algorithmic management*.

III. RESULTS AND DISCUSSION

A. Artificial Intelligence Transformation and Shifting Power Relations in Work Relations

The findings of the study show that the main problem of use *Artificial Intelligence* (AI) in employment relations lies not solely in the possibility of job loss, but in changes in the power structure that determines how work is acquired, performed, assessed, and maintained. AI has moved from an administrative support function to a function that was previously part of managerial authority, including recruitment, scheduling, task allocation, productivity monitoring, performance

evaluation, and making recommendations on actions against workers (Irawan et al., 2024). The International Labour Organization (ILO) defines *Algorithmic Management* as the use of algorithmic systems to organize, allocate, monitor, supervise, and evaluate work (Archon et al., 2026). These changes mean that the relationship between workers and employers is increasingly mediated by digital systems that cannot always be explained directly to workers. Consequently, labor law no longer sees employer power as human power exercised through direct orders, but must be able to regulate power exercised through algorithmic infrastructure (Hasanah & Suprajogi, 2026).

This shift results in a new form of power asymmetry because workers do not always know how decisions about themselves are formed. In traditional employment relationships, workers in principle know who gave the instructions, the reasons for giving the instructions, and the channels that can be used in the event of a dispute (Darmani & Priyanto, 2025). AI systems change those configurations. A decision can emerge as a result of complex data processing, while workers are only dealing with the consequences, for example low productivity scores, reduced incentives, different scheduling, or recommendations for disciplinary action (Scott, 2026). ILO study on *Algorithmic Management* shows that

such a system can indeed increase productivity and consistency of decisions, but at the same time raises issues regarding trust, accountability, the ability to understand system logic, and the protection of workers' health (Nasution et al., 2025). Thus, the legal problem is not whether algorithms are more efficient than human managers, but whether the increase in efficiency is justified if workers lose the ability to understand and challenge decisions that affect their rights.

This problem becomes even more serious when AI is used in human resource management. Theoretically, the use of AI in recruitment can reduce human subjectivity because candidates are assessed based on more structured data (Wulandari et al., 2026). Similar arguments are used to justify the use of AI in performance evaluation, compensation, scheduling, and managerial decision-making. However, claims of technological objectivity do not automatically result in legal objectivity. The ILO through its recent study on AI in HRM found that the effectiveness of AI systems is influenced at least by the goals set, the quality of the data used, and how the system is programmed (Purwaamijaya et al., 2024). Wrong goals, biased or incomplete data, and non-transparent programming can result in unfair decisions even if the system is technically working by design. This means that the use of AI can actually shift bias from visible

human decisions to algorithmic processes that are more difficult to detect and account.

The Indonesian context shows the relevance of this issue because the legal employment relationship is still built based on the relationship between workers and employers as legal subjects. Law Number 13 of 2003 concerning Manpower and the changes formed through the Job Creation regime regulates various aspects of employment relations, including the rights and obligations of the parties, wages, working hours, worker protection, and termination of employment. The construction basically gives certain authority to the employer in managing the company, but this authority is not absolute because it is limited by laws, employment agreements, company regulations, collective labor agreements, and the principle of worker protection (Gosal, 2026). The problem arises when such authority is exercised through an AI system. Algorithms are not explicitly placed as legal subjects, but the results they produce can have legal consequences for workers. This condition creates *accountability gap*, decisions have real consequences for workers, but the basis of decisions can be hidden behind technology developed by third parties or systems that employers themselves do not fully understand.

The findings show that the principle of employer responsibility must be maintained even if employment decisions are made with

the help of AI. Employers cannot waive legal responsibility simply on the grounds that a decision is generated by an algorithmic system (Fitrianto, 2025). If performance scores, selection systems, or automated recommendations cause harm to workers, the use of such technology remains part of the company's management mechanism (High, 2026). Indonesian legal literature published in 2026 has also shown that the use of AI for performance monitoring can cause privacy issues, algorithmic bias, disciplinary action, and even layoffs, so its implementation requires the principles of legality, transparency, goal limitation, and human supervision. These findings strengthen the argument that AI should be placed as an instrument within the authority of employers, not as a mechanism to divert or obscure legal liability.

Changes in the power relationship must also be linked to the constitutional right to work and fair treatment in employment relations. Article 27 paragraph (2) of the 1945 Constitution of the Republic of Indonesia provides guarantees for work and livelihood that is decent for humanity, while Article 28D paragraph (2) provides guarantees for work as well as fair and decent remuneration and treatment in employment relations. These constitutional norms contain the consequence that technological transformation in the world of work

cannot be allowed to develop solely based on the logic of economic efficiency. Technology must still operate within the framework of respect for human dignity and labor relations justice. Therefore, the use of AI that reduces transparency, increases excessive supervision, or produces discriminatory decisions cannot be judged solely on its productivity benefits. Constitutional parameters demand that the benefits of technology be balanced with the protection of workers' rights.

This perspective also corrects an approach that sees AI primarily as a threat to human replacement. ILO data shows that generative AI is more likely to transform and complement a number of jobs than to produce full automation in uniform, with different levels of exposure by occupation, sector, gender, and economic context (Nizar, 2026). These findings have important consequences for Indonesian law. If AI does not always replace workers but changes the tasks and ways work is done, then legal strategies that are only oriented towards protection when layoffs occur will be too late. Protection must start from the technology adoption stage, when companies determine the function of AI, the type of data used, the criteria for evaluating workers, and the consequences of the system's output. Thus, labor law needs to shift from the paradigm *Post-displacement protection* To *Anticipatory Worker Protection*.

B. Limitations of Indonesian Labor Law in Facing Algorithmic Decisions

An analysis of Indonesia's positive law shows that the main problem is not the absence of all protection norms, but the inability of existing norms to anticipate the characteristics of algorithm-based decisions. Indonesia's labor law has provided protection for workers through rules on labor relations, wages, working hours, occupational safety and health, freedom of association, and layoffs (Harahap, 2023). Law Number 27 of 2022 concerning Personal Data Protection also provides an important framework for the processing of individual data. However, there is no specific construction that comprehensively regulates the use of AI in employment relationships, especially regarding algorithm transparency, bias audits, the right to obtain explanations, the right to reject automated decisions, and the obligation of human intervention. These gaps show that the existence of various sectoral protection norms has not automatically resulted in effective protection against algorithmic risks.

The first weakness lies in the unclear position of automatic decisions in the labor law mechanism. Labor law recognizes employer decisions as actions that can have consequences for workers, including decisions regarding discipline and

layoffs (Harahap, 2020). AI can be used to generate recommendations or determine indicators that are then used for those decisions. Problems arise when companies treat algorithm outputs as objective facts that do not need to be verified. Productivity scores, for example, can be thought of as accurate representations of worker performance when they depend on the indicators chosen, the data collected, and the design of the system. ILO studies show that AI systems in HRM can use reductive goals, problematic data, and non-transparent programming (Al Mauludi & Hamdani, 2026). Therefore, the law must distinguish between the information generated by AI and the legal decisions made by employers. AI can generate information, but decisions that have legal consequences must still be attributable to responsible humans.

The second weakness has to do with the protection against algorithmic discrimination. The principle of equality in employment relations does not lose its relevance when discrimination is carried out through technology (Atmari & Sudjai, 2023). Instead, risks can become more difficult to recognize because algorithmic discrimination can arise in the absence of discriminatory intent on the part of the operator. Historical data that reflects inequality can be used to train systems, so that past patterns of inequality are reproduced in today's decisions. The ILO Forum on AI and Employment Equality in

Indonesia provides an example of how recruitment machines can show a preference for male candidates when the system uses historical data dominated by male applicants (Susilo & Kamila, 2026). The findings suggest that the claim that AI is more objective than humans should be tested against the entire system cycle, from data selection to decision impact. In the legal context, the principle of non-discrimination should therefore be extended from the prohibition against human-discriminatory actions to the company's obligation to ensure that the technological systems used do not produce discriminatory impacts.

The third weakness lies in the protection of worker data. AI in employment relationships requires large amounts of data to make predictions and evaluations. This data can include identity information, work history, productivity, location, communication, work behavior, and digital activity patterns (Patandung et al., 2025). Excessive data collection can turn an employment relationship into a permanent supervisory relationship. The Personal Data Protection Act provides important principles regarding data processing, but its application in the context of employment relations faces particular problems because the bargaining positions of workers and employers are unbalanced. Employee consent, for example, cannot always be understood as completely free consent when the refusal to data processing could have implications for

the continuity of employment. Therefore, the protection of workers' data needs to be placed in the context of employment law, not just through an individualized data protection approach.

The fourth weakness relates to the right of workers to know and challenge the basis of a decision. In industrial relations, justice is not only concerned with the final result, but also with the procedures used to produce the decision (Mantili, 2021). Workers who are subject to action based on AI systems should have the opportunity to know that AI is being used, understand the relevant types of data, obtain understandable reasons, and lodge objections to decisions that are detrimental to them. This principle becomes especially important when decisions are related to layoffs or disciplinary action. If the system generates errors but workers do not have access to the examination process, then the technology can eliminate *Procedural Fairness*. The ILO's findings regarding managers' concerns about unclear accountability and difficulty following system logic show that these problems are not only a problem of workers, but also a weakness of corporate governance.

The fifth weakness can be seen in the lack of robust mechanisms for worker participation in decisions regarding the use of AI. The traditional labor law model has recognized social dialogue through trade unions, collective bargaining, and industrial relations mechanisms (Afrita, 2021).

However, the use of AI has not been systematically placed as an object of social dialogue. In fact, the decision to use automated monitoring systems can directly affect work intensity, productivity standards, privacy, and job security. ILO studies of various countries show that social dialogue has been used to influence AI policies in three major areas, namely the impact on work and skills. *Algorithmic Management*, as well as working conditions and workers' rights. The findings show that worker participation is not an obstacle to innovation, but rather an instrument to ensure that innovation produces more equitable benefits.

These limitations show why a regulatory approach that only adds rules on AI is inadequate. The problem of AI in employment relations is cross-sectoral in the legal sector. Algorithmic recruitment is related to equality; worker monitoring is related to privacy; automated evaluation is related to procedural fairness; algorithm-based layoffs are related to legal certainty; while job automation is related to job sustainability and skills development. A newly published Indonesian study on the legal formulation of AI in the employment system has identified the risks of algorithmic discrimination, privacy violations, and job insecurity. However, the study also shows room for further development as these issues need to be integrated into the design of the industrial relations

architecture, not just placed as a list of risks.

On that basis, Indonesia's *regulatory gap* should be understood as a gap between technology's capacity to produce decisions and the legal capacity to control those decisions. When technological capabilities develop faster than accountability mechanisms, workers' positions have the potential to weaken. Companies gain greater predictive capabilities and supervision, while workers have not gained comparable procedural rights. This imbalance is contrary to the fundamental function of labor law as an instrument of correction to power imbalances in employment relations. Reform therefore must not be hostile to AI, but must ensure that the improvement of technological capabilities does not at the same time become an increase in employer power without adequate legal control.

C. Reformulation of Employment Law Based on Human-in-Command, Algorithmic Accountability, and Social Dialogue

The results of the analysis show that the reformulation of Indonesian labor law needs to be built based on the human-in-command principle, i.e. any AI decision that has significant consequences on the status, rights, income, or sustainability of employment must remain under human supervision and responsibility (Lubis & Nurhayati, 2026). This

principle is stronger than just *Human Oversight* that is formal. Human supervision should not only be in the form of administrative approval of algorithm outputs, but must provide real authority to review, correct, and undo system decisions. This need arises because algorithms can work consistently but still produce wrong decisions if their objectives, data, or design are problematic. Therefore, AI must not be *Final Decision Maker* for decisions that directly determine employment rights.

The application of these principles is especially necessary in high-risk decisions. Recruitment, layoffs, sanctions, compensation determination, performance evaluations, and decisions that have the potential to result in discrimination should be categorized as decisions that require human intervention (Yanti et al., 2025). AI systems can be used as an analysis tool, but the results must be verified by company officials with legal authority. The model creates a clear chain of accountability: algorithms generate recommendations, humans evaluate recommendations, companies make decisions, and workers have access to objection mechanisms. With such a structure, technology can still improve efficiency without eliminating legally responsible subjects.

The second reformulation needs to be in the form of the principle of *algorithmic transparency*. Transparency does not have to mean

that the company opens up all of its source code or trade secrets to workers. A more proportionate obligation is to provide information about the existence of the use of AI, the purpose of its use, the main types of data processed, the factors that significantly influence the decision, the consequences for workers, and the objection mechanisms available. This approach can maintain a balance between business interests and workers' rights. Transparency is important because workers cannot effectively exercise their right to object if they do not know that a decision is actually influenced by an algorithmic system.

The third reformulation should include algorithmic impact assessments as a preventive instrument. Before companies use AI for decisions that have a significant impact on workers, companies should conduct assessments of discrimination risks, privacy, health, safety, work intensification, and impact on work. These assessments should be done before implementation and reviewed when the system undergoes major changes. This logic is in line with the need to move from a reactive legal model to a preventive model (Al Mauludi & Hamdani, 2026). Risks should not be only assessed after workers have lost their jobs or experienced discrimination; risks should be assessed when the technology is first introduced.

The fourth reformulation relates to algorithmic accountability. Companies that use AI must be responsible for the impact of the systems they use, including when the system is developed by a third party. Contracts with technology providers should not be used to transfer legal responsibility to vendors. The relationship between companies and AI providers is an internal issue in the business chain, while the legal relationship with workers remains with the company as the employer (Patandung et al., 2025). This principle is important because without this kind of rule the company can argue that the fault comes from a system developed by the other party. As a result, workers face a situation where real losses have no party to whom they can effectively be held accountable.

The fifth reformulation needs to integrate workers' rights to human review and appeal. Any worker who receives an adverse decision based on or influenced by AI should have the opportunity to request a human examination. The mechanism should apply in particular to layoff decisions, disciplinary sanctions, reduced compensation, denial of promotion, and other decisions that have a significant impact. The right to object must also be accompanied by the company's obligation to keep documentation of the basis for the decision. Without documentation, workers will face difficulties in proving when filing a dispute. Thus, AI

reform in employment requires not only substantive rights, but also the design of evidence and procedures that allow those rights to be actually exercised (Nizar, 2026).

The sixth reformulation relates to the protection of worker data through the principles of purpose limitation, data minimization, proportionality, and security. AI should not be used as a basis for justification for companies to collect all data that can be technically collected. Data must have a clear purpose, relevant to the needs of the job, and proportional to the purpose of processing. This principle is important because increasing technological capacity creates a tendency *Data Maximization*, while worker protection requires limits to supervision (Wibowo & Kom, 2025). In the context of structurally unbalanced employment relations, such restrictions must gain strong legitimacy through law, not solely relying on workers' consent.

The seventh reformulation should link the use of AI to the right to skill development and reskilling. If AI changes the tasks of workers without completely replacing them, companies benefit from the productivity of technology while also having an interest in ensuring workers are able to adapt. The ILO's findings show that the impact of AI on work is highly heterogeneous and not only in the form of job elimination, AI can also transform tasks and improve human capabilities. Therefore, the law

should not place workers as the party that bears the entire cost of the technological transition (Citaristi, 2022). The obligation to develop skills needs to be part of the workforce protection strategy so that digital transformation does not turn into a risk transfer mechanism from companies to workers.

The eighth reformulation is the strengthening of social dialogue as an AI governance mechanism. Decision-making regarding the implementation of technology should not be entirely the domain of the company unilaterally when the technology materially affects working conditions. Unions and workers' representatives need to have a consultation space on the type of technology used, the purpose of use, the risks to workers, evaluation indicators, and monitoring mechanisms. ILO studies show that social dialogue in various countries has been used to influence decisions regarding AI, skills, and *Algorithmic Management*, and working conditions (Fashoyin, 2010). The results show that worker participation can encourage an approach that complements human skills rather than simply replaces them. For Indonesia, this principle can be developed through strengthening the role of trade unions and collective labor agreements in regulating the use of technology.

Based on the overall findings, the reformulation of Indonesia's labor law should not be directed at the formation of AI regulations that stand

separate from labor law. A more consistent model is to build the AI Employment Governance Framework as part of the labor law system. The framework can contain at least five layers of protection, namely the risk classification of the use of AI, transparency obligations, human oversight and responsibility, human rights to objection and scrutiny, and worker participation through social dialogue. The structure allows the law to regulate AI based on its impact on workers, not just based on the type of technology (Scott, 2026).

The model also results in a paradigm shift regarding the relationship between innovation and worker protection. Regulation should not be positioned as an obstacle to the use of AI because technology can provide productivity gains and create new forms of work. On the other hand, deregulation is also unacceptable because technological efficiency can generate new inequalities if it is not accompanied by protection mechanisms. International empirical evidence shows that *algorithmic management* has benefits as well as risks; even companies themselves acknowledge the issue of accountability and trust in the system. A more appropriate legal position is regulated innovation, which is innovation that is given room to develop but is limited by the principles of human rights, procedural justice, data protection, non-discrimination, and accountability.

Thus, the main contribution of the reformulation offered by this study is not simply to add the term AI to Indonesian labor law, but to change the way the law understands the relationship between technology and power. AI must be placed as a technology that can expand the capacity of employers, so it needs to be balanced with the expansion of workers' rights to know, question, obtain human examination, and participate in decisions that affect their work. This approach makes worker protection not stop at the time of layoffs, but begins from the moment the company designs and implements AI systems. Thus, labor law can function not only as an instrument for resolving conflicts after losses have occurred, but as a preventive mechanism to direct technological transformation towards fair, transparent, humane, and sustainable employment relations.

The final findings of the study suggest that the future of Indonesia's labor relations should not be positioned as a binary choice between accepting AI or protecting workers. A more appropriate issue is how the law creates the conditions for AI to increase productivity without reducing the dignity, safety, and bargaining position of workers. The answer lies in a legal reformulation that combines *human-in-command*, *algorithmic accountability*, transparency, data protection, non-discrimination audits, *human review*, reskilling, and *social dialogue*. The

framework also provides a substantive differentiator to existing Indonesian studies: the focus is not just on the urgency of AI regulation, but on the reconstruction of power and accountability mechanisms in employment relations when decisions are increasingly mediated by algorithms. This is what makes the reformulation of labor law a structural necessity, not just a response to technological trends.

IV. CONCLUSION

This research shows that the development of *Artificial Intelligence* (AI) has changed the character of employment relations in Indonesia more fundamentally than just the process of job automation. AI is increasingly being used to carry out functions that were previously in the space of managerial discretion, such as recruitment, job allocation, productivity monitoring, performance evaluation, scheduling, and providing recommendations on the sustainability of employment relationships. These changes have resulted in a new form of power relations characterized by workers' increasing dependence on algorithmic systems, while workers' ability to know, understand, and sue the basis of decisions that affect them has not been developed in a balanced manner. The legal issues that arise therefore cannot be reduced to the question of whether AI will replace workers, but must be directed at how the law

controls the power exercised through algorithmic technology.

The results of the study also found that there is a gap between the development of the use of AI and the capacity of Indonesian labor law in providing specific protection against algorithmic risks. Law Number 13 of 2003 concerning Manpower and its amendments has provided a protection framework regarding employment relations, wages, working hours, worker protection, and termination of employment. Law Number 27 of 2022 concerning Personal Data Protection provides an important basis for controlling the processing of individual data. The framework has not comprehensively regulated the specific character of the use of AI in employment relations, especially regarding algorithmic transparency, bias testing, workers' right to obtain explanations, human examination of automated decisions, employer accountability for system errors, and workers' participation in technology adoption. These gaps create *a regulatory gap* when algorithm-based decisions produce real consequences for workers' rights, but the legal mechanisms to test such decision-making processes are inadequate.

This research confirms that the reformulation of Indonesian labor law needs to move from a reactive approach to a preventive and rights-based approach. Worker protection should not only be provided after discrimination, privacy violations,

decreased income, disciplinary action, or termination of employment. Protection should begin from the moment the company plans, selects, develops, and implements AI systems. Such an approach is necessary because algorithmic risks can be formed before an individual decision is made, especially through data selection, system objectives, evaluation parameters, and algorithm design. The law therefore needs to regulate the process of using AI, not just the end result.

The normative contribution of this research lies in the proposal to establish an AI governance framework in employment relations based on the principles of *human-in-command*, *algorithmic accountability*, transparency, data protection, non-discrimination, *human review*, skill development, and *social dialogue*. The *human-in-command* principle requires that decisions that have a significant impact on the status and rights of workers remain under human authority and responsibility. Algorithms can provide recommendations, but they should not be the sole basis for decisions regarding layoffs, disciplinary sanctions, compensation, promotions, or other decisions that materially affect workers' lives. The principle of *algorithmic accountability* is necessary to ensure that the employer remains responsible even if the system is developed or operated by a third party. Thus, the use of technology cannot be used as a basis

to eliminate or obscure the subject who is legally responsible.

Reformulation also needs to give workers the right to know about the use of AI, obtain relevant information about key factors influencing decisions, request human examination, and lodge objections to adverse decisions. Data protection should be placed as an integral part of employment law through purpose limitations, data minimization, proportionality, and processing security. Companies also need to conduct algorithmic impact assessments before using AI in high-risk decisions, including testing for potential discrimination. Reskilling obligations become important as AI changes the structure of work, so that the cost of technology adaptation is not entirely passed on to workers.

At the institutional level, the study recommends that governments establish a specific regulatory framework regarding the use of AI in employment relations by integrating these principles into the existing employment law system. Regulation should not hinder technological innovation, but should establish limits on the use of AI based on the level of risk to workers. Unions also need to gain a stronger space in the consultation and negotiation process regarding the use of *algorithmic management*. This approach will transform social dialogue from a conflict resolution mechanism to an instrument of technological governance.

Ultimately, the future of labor relations in Indonesia should not be shaped by technological logic alone. AI can increase productivity, expand worker capacity, and create new forms of work, but these benefits can only be sustained if technological transformation takes place within the framework of justice and accountability. Labor law reformulation is needed to ensure that increasing the algorithmic capacity of employers does not result in an uncontrollable increase in power. The law must ensure that humans remain at the center of decision-making, workers still have the right to understand and challenge decisions that affect them, and technological innovation remains subject to the principles of legal certainty, justice, protection of human dignity, and decent work. Within this framework, AI is not placed as a threat to labor law, but rather as a momentum to update laws to be able to regulate increasingly digital, complex, and data-based forms of employment.

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