Management Studies and Business Journal (PRODUCTIVITY)
Vol 3 (4) 2026 : 81-92

ALGORITHMIC MANAGEMENT IN HRM: AN ANALYSIS OF ITS IMPACT ON EMPLOYEE AUTONOMY, ORGANIZATIONAL JUSTICE, AND PRODUCTIVITY

ALGORITHMIC MANAGEMENT DALAM HRM: ANALISIS DAMPAKNYA TERHADAP AUTONOMI, KEADILAN ORGANISASI DAN PRODUKTIVITAS

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ABSTRACT
The transformation of human resource management (HRM) has undergone a fundamental shift toward algorithmic management (AM) driven by artificial intelligence (AI) and big data analytics. This study aims to analyze the impact of AM implementation on employee autonomy, perceptions of organizational justice, and productivity, particularly within the context of digital transformation in developing countries such as Indonesia. Using a narrative review approach, this study systematically synthesizes literature published over the last decade from the Scopus, Web of Science, and PsycINFO databases concerning algorithmic control in both platform-based and conventional organizations. The findings reveal the emergence of a "productivity–well-being paradox," in which increased operational efficiency is frequently accompanied by a decline in employee autonomy, reflected in the shift from discretionary decision-making toward algorithmic conformity. Furthermore, the opacity of black-box algorithms was found to reduce perceptions of procedural justice and weaken employee trust in organizational decision-making processes. The study concludes that effective implementation of AM requires the integration of principles from Self-Determination Theory and Organizational Justice Theory through transparent, accountable, and human-centered governance mechanisms. Such an approach is essential to mitigate negative psychosocial consequences, including technostress and burnout, while maintaining organizational productivity and employee well-being.
Keywords: Algorithmic Management, Employee Autonomy, Organizational Justice, Productivity, AI-HRM, Indonesia

ABSTRAK
Transformasi manajemen sumber daya manusia (MSDM) saat ini mengalami pergeseran fundamental menuju algorithmic management (AM) yang berbasis kecerdasan buatan dan big data. Penelitian ini bertujuan untuk menganalisis dampak implementasi AM terhadap otonomi karyawan, persepsi keadilan organisasi, dan produktivitas, khususnya dalam konteks transisi digital di negara berkembang seperti Indonesia. Menggunakan metode narrative review sistematis pada database Scopus, Web of Science, dan PsycINFO, studi ini mensintesis literatur sepuluh tahun terakhir terkait kontrol algoritmik di organisasi platform maupun formal.
Hasil analisis menunjukkan adanya "paradoks produktivitas-kesejahteraan", di mana peningkatan efisiensi operasional sering kali diikuti oleh penurunan otonomi kerja—bergeser dari kekuasaan diskresioner menjadi kepatuhan algoritmik (algorithmic conformity). Ketidakterbukaan algoritma (black-box algorithm) ditemukan menurunkan persepsi keadilan prosedural dan kepercayaan pekerja. Simpulan penelitian ini menegaskan bahwa keberhasilan implementasi AM memerlukan integrasi prinsip Self-Determination Theory dan Organizational Justice melalui desain tata kelola yang transparan dan berpusat pada manusia (human-centered) untuk meminimalkan dampak psikososial negatif seperti technostress dan burnout.
Kata Kunci: Algorithmic Management, Otonomi Karyawan, Keadilan Organisasi, Produktivitas, AI-HRM, Indonesia.

1. INTRODUCTION

The global transformation of human resource management (HRM) is currently moving toward a work governance system based on artificial intelligence (AI), big data, and algorithmic

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management (AM). This change is marked by the increasing integration of digital technology in organizational decision-making, workforce supervision, and algorithm-based performance evaluation. The World Economic Forum reports that 86% of global companies project AI and information-processing technologies as the primary drivers of business transformation by 2030, while 40% of companies are expected to undergo workforce restructuring due to automation and AI (World Economic Forum, 2025). This condition indicates that digital technology is no longer merely an administrative tool, but has evolved into a structural control mechanism that influences work relations, the distribution of organizational power, and HRM decision-making patterns. In this context, algorithmic management is developing as a new form of data-driven organizational control that enables algorithms to perform employee supervision, coordination, and evaluation functions automatically and in real time.

The phenomenon of accelerating AI adoption in workforce management is also very strong in developing countries, including Indonesia. Data from the Microsoft and LinkedIn Work Trend Index shows that 92% of knowledge workers in Indonesia have used generative AI in their work activities, significantly higher than the global average of 75% (Microsoft & LinkedIn, 2024). Furthermore, 92% of organizational leaders in Indonesia stated that AI will be a critical element in maintaining their companies' competitiveness in the future (Microsoft & LinkedIn, 2024). This high adoption rate indicates that organizations in Indonesia are entering a transition phase toward AI-driven HRM and an algorithmic workplace. However, this accelerated technology adoption is not always accompanied by readiness for organizational governance and protection of workers' rights.

On the other hand, the increasing use of AI and AM has actually given rise to a new paradox in modern HRM. While organizations benefit from operational efficiency, accelerated analytics, and decision automation, various studies point to emerging issues related to work autonomy, organizational fairness, and algorithmic transparency. The World Economic Forum (2025) projects that the proportion of work performed by machines and algorithms will increase significantly, reaching a distribution nearly equal to that of humans by 2030. This condition indicates a shift in managerial authority from humans to AI-based systems and big data analytics. In practice, this change strengthens forms of digital surveillance, enabling organizations to continuously monitor work behavior through data tracking, performance scoring, and automated evaluation systems.

This issue becomes even more pressing when linked to the issue of work autonomy. A global Randstad survey showed that 80% of workers believe AI will significantly impact their daily work tasks (Reuters, 2026). However, a study on the Future of Work with AI Agents found a mismatch between the level of automation desired by workers and the actual implementation of AI in organizations (ArXiv, 2025). This situation highlights the tension between technological efficiency and workers' psychological needs for autonomy, discretion, and human agency in their work. In the context of algorithmic management, workers potentially lose decision-making space because various work activities are directed by automated, real-time algorithmic systems.

A similar situation is also evident in Indonesia. Despite the high level of AI adoption, only around 19% of Indonesian organizations are deemed fully ready for AI implementation, according to the Cisco AI Readiness Index 2024 (Cisco, 2024). Furthermore, 48% of organizational leaders in Indonesia admit that their companies do not yet have a clear vision for AI implementation (Microsoft & LinkedIn, 2024). This phenomenon indicates an "adoption-readiness imbalance," a condition where technology adoption progresses faster than organizational governance readiness, human resource capacity, and labor protection regulations. This imbalance has the potential to create non-transparent algorithmic control practices and reduce perceptions of organizational fairness.

In addition to autonomy issues, the implementation of algorithmic management also raises serious issues related to organizational justice and algorithmic bias. The EY Global AI

Survey reports that most companies implementing AI experience financial losses due to algorithmic bias, compliance failures, and flawed AI outputs (Reuters, 2025). A recent experimental study even found that AI managers can reduce worker wages by up to 40% without significantly reducing work motivation because workers perceive AI as more objective than human managers (ArXiv, 2025). These findings suggest that the perception of AI objectivity does not necessarily reflect substantive fairness in organizational decision-making practices. In the context of HRD, opaque algorithms have the potential to result in unfair performance evaluations, hidden discrimination, and procedural injustices that are difficult for workers to understand or protest.

In Indonesia, the issue of AI governance is also beginning to receive serious attention. PwC Indonesia reported that 53% of Indonesian CEOs admitted their organizations have not yet fully implemented GenAI, yet the majority believe AI will impact performance evaluation and trust-building within the organization (PwC Indonesia, 2024). This situation indicates that organizations face a dilemma between the need to increase productivity through AI and the need to maintain fairness, transparency, and employee trust in human resource management. When algorithms take over some managerial functions, critical questions arise about who is responsible for organizational decisions, how transparency of decisions is maintained, and the extent to which employees can understand the logic of the algorithms used.

Another phenomenon that reinforces the urgency of this research is the emergence of a productivity-wellbeing paradox in the implementation of AI-HRM. The World Economic Forum (2025) reported that 77% of global companies plan to reskill and upskill due to the integration of AI in their work. In Indonesia, as many as 95% of medium-sized companies have made generative AI a top business priority (SAP, 2024). However, the acceleration of AI-based productivity is often not accompanied by improvements in workers' psychological well-being. Instead, various studies show the emergence of technostress, burnout, and decreased work autonomy due to the intensification of digital surveillance and work automation. Thus, the implementation of algorithmic management is not only a technical organizational issue, but also a psychosocial issue related to the quality of work relationships and the sustainability of human-centered HRM.

Furthermore, the implementation of AI also highlights the global disparity between developed and developing countries regarding AI governance readiness. A study of 36,600 workers in Europe showed that the workplace adoption rate for GenAI remains at an average of 12%, with variations between countries ranging from 3% to 25% (ArXiv, 2026). Meanwhile, Indonesia demonstrates a very high level of AI adoption but relatively low organizational readiness. This situation suggests that developing countries face greater risks of digital exploitation, weak governance frameworks, and low worker protections in algorithm-based work systems.

Based on these various phenomena, it is understandable that algorithmic management has become a strategic issue in modern HRM because it not only affects organizational productivity but also redefines power relations, job autonomy, and perceptions of organizational justice. Although various studies have discussed AI-HRM and the digital workplace, there is still a great need to understand how algorithmic management simultaneously affects employee autonomy, organizational justice, and productivity, especially in the context of modern organizations in developing countries like Indonesia. Furthermore, previous research results still show contradictions regarding the impact of AM on employee empowerment and organizational effectiveness. Therefore, this study is important to fill the empirical and theoretical gaps regarding the relationship between algorithmic control, psychosocial dynamics of work, and AI-based HRM governance in the era of digital transformation.

2. METHODS

This research uses an approachNarrative Reviewsystematic way to synthesize the literature onAlgorithmic Management(AM) and its impact on human resource dynamics. The literature search strategy was conducted extensively through three highly reputable bibliographic databases:Scopus, Web of Science (WoS), And PsycINFOThe use of these three databases aims to ensure broad, multidisciplinary coverage, encompassing aspects of organizational management, work sociology, and industrial psychology. The keywords used in the search included combinations of Boolean operators such as:"Algorithmic Management" AND "Employee Autonomy", "AI in HRM" AND "Organizational Justice", as well as "Algorithmic Control" AND "Productivity". In addition to primary search, techniquessnowball samplingalso applied by reviewing the bibliography of key articles found to identify theoretically relevant reference studies.

Article selection criteria are strictly established to maintain the quality of the synthesis. Inclusion criteria include: (1) Journal articles that have gone through the peer-review process.peer-reviewto ensure academic validity; (2) Publications within the last ten years (2016–2026) to capture the latest evolution of digital technology; (3) Articles written in English; and (4) Study focus on the implementation of algorithms in HR management functions in both platform economy and formal organizational contexts. Articles that only discuss the technical aspects of algorithmstma without addressing the dimensions of organizational behavior or the psychological impact on employees were excluded from this review. This was done to keep the analysis centered on the relationship between technology and human agency, in accordance with the research objectives.

The analytical approach was conducted using thematic synthesis techniques to integrate findings from diverse literatures. The collected data were categorized based on key emerging themes, namely the redefinition of autonomy, the dynamics of organizational justice, and the productivity paradox. The literature was then further categorized based on industry context—platform versus traditional work—to examine the contrasting approaches in AM implementation. This narrative analysis not only summarizes previous findings but also critically evaluates existing theoretical debates, identifies ambivalence in research findings, and constructs a synthesis that answers the research question (Research Question) regarding the shifting boundaries of employee autonomy under algorithmic control.

3. RESULTS

3.1. Intensive and Detailed Control via Real-Time AM in Platform Work

In platform economies such as ride-hailing services, food delivery, and freelance marketplaces, Algorithmic Management (AM) operates through real-time, GPS-based monitoring systems and continuously updated performance metrics to guide worker behavior. These systems include dynamic work assignments, speed and route optimization, and automated rewards and penalties based on algorithmic productivity evaluations. The literature consistently identifies these characteristics as core mechanisms of AM in platform work (Jiang et al., 2024; Hajiheydari & Delgosha, 2024; Prikshat et al., 2023; Zhou et al., 2023). For example, platform workers face algorithmic prioritization systems and risk account deactivation for failing to meet certain performance thresholds. This suggests that organizational control no longer relies on the presence of a direct human supervisor but has become embedded within the operational logic of the digital system itself (Jiang et al., 2024; Hajiheydari & Delgosha, 2024).

Various studies have also highlighted the emergence of the “illusion of flexibility,” where workers formally have the freedom to determine their working hours, but in practice, this freedom is undermined by algorithmic incentive schemes such as surge pricing, tipping signals, and the threat of penalties or downgrades through algorithmic systems. This situation demonstrates how automated manipulators (AMs) in digital platforms direct workers to adhere to machine-optimized schedules and performance targets, despite workers' limited

understanding of the system's decision-making rules (Hajiheydari et al., 2024; Hajiheydari & Delgosha, 2024).

3.2. Algorithmic Management in Traditional Organizations versus Platform Work: HRM Integration and Behavioral Standardization

In traditional organizations, AM practices are introduced through formal Human Resource Management (HRM) processes, such as the use of AI-based applicant tracking systems, predictive analytics, and digital performance management systems that influence career decisions and employee evaluations. The literature suggests that AM not only improves organizational efficiency but also encourages standardization of work behavior, reduces human variability, and in some cases, diminishes the role of human managers' qualitative judgments, as decisions are increasingly based on quantitative indicators generated by the system (Kim et al., 2024; Chowdhury et al., 2023; Prikshat et al., 2022).

One of the key findings in the literature is that AM shifts the concept of work autonomy from freedom to choose work methods to adherence to machine-optimized instructions. This shift effectively narrows the scope for workers' improvisation, creativity, and expert judgment. Thus, the transformation from method autonomy to algorithmic conformity is seen as a fundamental redefinition of the meaning of worker autonomy in AM-based organizations (Kim et al., 2024; Prikshat et al., 2022).

3.3. Redefining Autonomy: From Discretionary Power to Algorithmic Compliance

A synthesis of the literature on AM suggests that worker autonomy becomes increasingly limited when algorithms dictate not only what to do, but also how, when, and how quickly work should be completed. This conceptual shift from discretionary power to algorithmic compliance emerges consistently in discussions of AM in both digital platform and traditional organizational contexts (Kim et al., 2024; Prikshat et al., 2022).

When algorithms control detailed procedural steps and performance targets, the room for workers to improvise or deviate from established methods becomes increasingly limited. This situation has implications for creativity, problem-solving skills, and employee job satisfaction. Several studies have highlighted that the tension between algorithmic control and the need for individual agency is a critical issue in job design and human resource development in AI-based HRM environments (Kim et al., 2024; Chowdhury et al., 2023; Prikshat et al., 2022).

3.4. Organizational Justice, Transparency, and Perceptions of Fairness in AM

Trust and perceptions of fairness are central factors in how workers experience AM systems. The level of transparency or opacity of an algorithm significantly influences perceptions of procedural and informational justice. The use of black-box algorithms often leads to feelings of powerlessness, loss of employee voice, and concerns about the fairness of the assessment process and decision appeal mechanisms. Various studies have shown that a lack of algorithmic transparency can undermine employee trust and trigger psychological stress, ultimately reducing organizational commitment and long-term engagement (Zhou et al., 2023; Prikshat et al., 2022; 上山 et al., 2024).

The literature also emphasizes the importance of algorithmic transparency, explainability, and the availability of appeal mechanisms to reduce perceptions of unfairness. When workers do not understand how system decisions are made, concerns about bias, data quality, and inconsistent rule application are heightened. These conditions can increase worker resistance and decrease perceptions of fairness towards the organization (Zhou et al., 2023; Prikshat et al., 2022; 上山 et al., 2024).

3.5. Productivity, Burnout, and the Paradox of AM-Based Efficiency

One of the key paradoxes in the AM literature is that while algorithmic control can generate productivity gains through optimized resource allocation and reduced operational lead times, these benefits often come at the cost of decreased worker well-being, engagement, and long-term productivity. Digital burnout, decreased work engagement, and worker resistance, such as gaming the system, can undermine the sustainability of AM's efficiency gains. Numerous studies document this duality, where efficiency gains are often offset by negative psychological impacts and organizational resistance, particularly when AM is opaque and does not provide meaningful spaces for worker participation (Jiang et al., 2024; Hajiheydari & Delgosha, 2024; Prikshat et al., 2023; Zhou et al., 2023).

However, the literature also notes the potential positive effects of AM when workers perceive tangible benefits from the system, such as stable compensation, support for flexible work, and information transparency. However, these benefits are highly dependent on the system's design, governance quality, and the relationship between the organization and its employees (Hajiheydari & Delgosha, 2024).

3.6. Differences of Views in Literature

Various studies highlight the structural and ethical challenges in implementing AI- and AM-based HRM, including issues of algorithmic bias, data privacy, and information governance. Furthermore, several studies also emphasize the potential benefits of AM in recruitment, training, and performance management if the systems are implemented with robust data governance, transparency, and participatory design. The literature consistently calls for a multi-stakeholder ethical framework and governance mechanisms that balance organizational efficiency with employee equity and well-being (Chowdhury et al., 2023; Prikshat et al., 2022; Kim et al., 2024).

Furthermore, several studies emphasize the need for organizations to move beyond a linear technology adoption model toward a more integrated approach that considers organizational culture, change management, and data governance. The success of AM implementation in organizations is considered to depend heavily on the alignment of the technology with organizational values, ethical standards, and transparent governance structures, rather than solely on the technical capabilities of the system (ABADI, 2026; Chowdhury et al., 2023; Prikshat et al., 2022).

4. DISCUSSIONS

The integration of Self-Determination Theory (SDT) and Organizational Justice Theory (OJT) provides a strong conceptual framework for understanding the dynamics of employee motivation, behavior, and well-being in algorithmic management (AM) and human-in-the-loop (HITL)-based work environments. SDT emphasizes that the fulfillment of three basic psychological needs, namely autonomy, competence, and relatedness, is the main foundation for the formation of intrinsic motivation, work engagement, and individual psychological well-being. Meanwhile, OJT explains that perceptions of distributive, procedural, and interactional justice determine how employees assess the legitimacy of organizational decisions, the quality of social relationships, and the treatment they receive in the workplace. In the context of AI- and automation-based organizations, these two theories complement each other in explaining how human-centered work system design can increase engagement, creativity, and ethical behavior, while minimizing the negative impacts of excessive algorithmic control (Pratama & Parahyanti, 2019; Chou et al., 2021; Ugaddan & Park, 2018; Gupta et al., 2020; Olafsen et al., 2015; Soyer et al., 2021; Stan & Vîrgă, 2021; Aşkun et al., 2017; Chen et al., 2024; Jong & Schalk, 2009; Ghani et al., 2023; Song et al., 2020; Boudrias et al., 2011; Petegem et al., 2021; Mennens et al., 2024).

Theoretically, the integration of SDT and OJT suggests that perceptions of organizational justice can either strengthen or weaken the fulfillment of workers' basic

psychological needs. When organizational procedures are designed in a fair, transparent, and participatory manner, the needs for autonomy and competence are more easily met, thus promoting intrinsic motivation and work well-being. Conversely, when workers perceive the organizational system as unfair or overly controlling, psychological distress, decreased motivation, and various counterproductive behaviors will arise. Thus, perceptions of justice not only function as an evaluative factor for organizational policies but also serve as a psychological mechanism that determines the effectiveness of AM implementation in modern organizations (Pratama & Parahyanti, 2019; Chou et al., 2021; Olafsen et al., 2015; Stan & Vîrgă, 2021; Aşkun et al., 2017; Ghani et al., 2023; Boudrias et al., 2011).

In the context of AM and HITL, a fundamental paradox arises between organizations' need for system efficiency and workers' need for work autonomy. Organizations tend to use algorithms to improve procedural standardization, decision consistency, and predictability of work output. However, various studies have shown that overly controlling work environments can actually reduce employee autonomy, intrinsic motivation, and engagement. Conversely, work contexts that support autonomy have been shown to increase creativity, job satisfaction, and individual performance. Therefore, the main challenge in implementing AM lies in the organization's ability to maintain a balance between systemic control and human agency (Olafsen et al., 2015; Younas et al., 2021; Selar et al., 2020; Sæther, 2020; Razzak et al., 2021; Ghani et al., 2023; Song et al., 2020; Tausch et al., 2020).

Furthermore, research shows that procedural justice plays a significant role in moderating the relationship between reward systems and work motivation. Providing performance-based financial incentives does not always increase intrinsic motivation if workers perceive evaluation and reward distribution procedures as unfair or overly controlling. In such situations, reward systems can actually undermine creativity and work engagement because workers feel they are losing control over their work processes. Conversely, when organizations are able to create strong procedural justice and support worker autonomy, financial rewards can serve as a booster for intrinsic motivation and work performance. These findings suggest that AM effectiveness is determined not only by technological sophistication but also by the quality of organizational governance and workers' perceived procedural legitimacy (Olafsen et al., 2015; Younas et al., 2021; Selar et al., 2020; Ghani et al., 2023; Song et al., 2020; Tausch et al., 2020).

From a psychological mechanism perspective, SDT explains that working conditions that support autonomy in HITL systems, such as worker involvement in automated decision-making or flexibility in task allocation, will increase intrinsic motivation and a sense of belonging to the organization. Meanwhile, OJT explains that perceptions of fairness in automated procedures determine workers' willingness to share knowledge, engage in helping behavior, and maintain commitment to the organization. Several empirical studies even show that the fulfillment of basic psychological needs mediates the relationship between perceptions of fairness and prosocial behavior and turnover intention. Thus, the relationship between AM and work behavior is not direct, but is influenced by complex psychological and social mechanisms (Pratama & Parahyanti, 2019; Chou et al., 2021; Ugaddan & Park, 2018; Gupta et al., 2020; Younas et al., 2021; Selar et al., 2020; Sæther, 2020; Razzak et al., 2021; Song et al., 2020; Boudrias et al., 2011; Petegem et al., 2021).

These theoretical implications suggest that human-centered AM design must simultaneously integrate the principles of autonomy support and organizational justice. In practice, organizations need to provide meaningful participation in automated decision-making, enable workers to provide input to algorithmic systems, and provide mechanisms for revising and challenging automated decisions. This approach is crucial for maintaining workers' perceptions of control and agency in AI-based work environments (Olafsen et al., 2015; Stan & Vîrgă, 2021; Ghani et al., 2023).

In addition to supporting autonomy, organizations also need to strengthen the competence support dimension through training, continuous feedback, and digital skills development so that workers can adapt effectively to automated systems. Competency support is crucial because AM implementation often creates significant changes in job design and skill requirements. In this context, organizations that fail to provide learning support have the potential to create technostress and resistance to automation (Olafsen et al., 2015; Stan & Vîrgă, 2021; Ghani et al., 2023).

The relatedness dimension is also a crucial factor in the success of HITL implementation. Algorithm-based work systems risk increasing social isolation and reducing the quality of interpersonal interactions in the workplace. Therefore, organizations need to build a collaborative culture through joint problem-solving, peer support, informal mentoring, and respectful communication. This approach is crucial for maintaining social connectedness and psychological safety in digital work environments (Olafsen et al., 2015; Stan & Vîrgă, 2021; Ghani et al., 2023).

From an OJT perspective, procedural justice is a central element of HITL governance. Organizations need to ensure that system changes, performance evaluations, and task distribution are carried out through transparent, consistent, and rationally explainable procedures. Clarity of decision rationale, appeal mechanisms, and information transparency are crucial factors in building the legitimacy of automated systems in the eyes of workers (Younas et al., 2021; Selar et al., 2020; Ghani et al., 2023; Song et al., 2020).

Furthermore, distributive justice needs to be realized through task distribution, access to learning, and rewards that are proportional to worker contributions. In the context of AM, perceptions of distributive injustice can arise when algorithms distribute workloads or rewards unequally without adequate explanation. Therefore, organizations need to explain the logic of algorithmic decision distribution to minimize perceptions of bias and inequity (Olafsen et al., 2015; Younas et al., 2021; Selar et al., 2020; Ghani et al., 2023; Song et al., 2020).

Furthermore, interactional justice plays a strategic role in building trust and a willingness to collaborate in HITL systems. Respectful treatment of workers, respectful communication, and adequate explanation of decisions have been shown to influence workers' willingness to share tacit knowledge and engage in prosocial organizational behavior. Thus, the interpersonal dimension remains a crucial factor even though some managerial functions have been automated by algorithms (Gupta et al., 2020; Younas et al., 2021; Ghani et al., 2023).

In practical implementation, organizations need to develop a governance structure that clearly defines the relationship between humans and automated systems. This governance structure should define the limits of algorithmic authority, provide human oversight mechanisms, and ensure ethical reporting and whistleblowing channels for automation practices deemed detrimental to workers. This approach is crucial for strengthening organizational accountability and maintaining the social legitimacy of AM implementation (Ugaddan & Park, 2018; Younas et al., 2021; Petegem et al., 2021).

Nevertheless, the literature shows that the relationship between financial rewards, autonomy, and intrinsic motivation remains complex and contextual. Some studies have found that performance-based rewards can weaken intrinsic motivation when perceived as a means of organizational control. However, other research shows that financial rewards can still strengthen motivation when supported by strong procedural justice and autonomy-supportive working conditions. Thus, the impact of rewards on motivation is highly dependent on the design of the organizational system and workers' perceptions of fairness regarding the evaluation process and reward distribution (Olafsen et al., 2015; Selar et al., 2020; Ghani et al., 2023; Song et al., 2020; Tausch et al., 2020).

Furthermore, the effects of procedural and distributive justice on creativity also show mixed results. Autonomy support generally enhances creativity and problem-solving, but excessive levels of distributive justice in certain reward systems can decrease perceived

challenge and diminish workers' intrinsic motivation. These findings suggest that the relationship between organizational justice and creativity is not linear, but rather influenced by reward system design, work context, and individual worker characteristics (Soyer et al., 2021; Sæther, 2020).

Overall, these findings emphasize that the implementation of algorithmic management cannot be understood solely as a matter of technological efficiency, but rather as a multidimensional transformation that impacts organizational power structures, the quality of work relationships, and workers' psychological experiences. The integration of SDT and OJT provides an important theoretical contribution in explaining how organizations can design AM systems that are not only operationally productive but also maintain human autonomy, fairness, and dignity in AI-based work environments.

5. CONCLUSION

This study shows thatalgorithmic management(AM) has revolutionized the human resource management function by shifting managerial authority from humans to data-driven systems. Key findings indicate that AM implementation creates a paradox between operational efficiency and worker psychological well-being. While AM can increase productivity through real-time optimization and behavioral standardization, this often comes at the cost of reduced work autonomy—from discretionary power to algorithmic compliance (algorithmic conformity). In addition, the transparency of the algorithm (black-box algorithm) is a crucial factor determining the perception of organizational justice; the inability of workers to understand the logic of the system triggers feelings of powerlessness and reduces commitment to the organization.

Theoretically, this article contributes by integratingSelf-Determination Theory(SDT) andOrganizational Justice Theory(OJT) as a comprehensive framework for analyzing AI-based work dynamics. This synthesis extends the HRM literature by explaining that the effectiveness of technology depends not only on technical sophistication, but also on the extent to which the system supports basic psychological needs (autonomy, competence, relatedness) and ensures procedural and interactional justice. This research redefines the concept of organizational control in the digital age, where successful AM implementation requires a holistic approach.human-centeredwho takes care ofhuman agencyamidst massive automation.

This review has several limitations that should be noted. First, this analysis isnarrative reviewwhich relies heavily on the availability of secondary literature over the last ten years, and may not fully capture the rapidly changing dynamics of the industry.real-timeSecond, despite the focus on the context of developing countries like Indonesia, the majority of available empirical literature is still dominated by studies from developed economies, which may have structural differences in labor protection regulations. Finally, this review focuses more on the psychosocial impacts on lower-level and platform workers, while the impact of AM on mid-level managerial positions still requires further exploration.

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