

Chapter 1

Algorithmic Management and Employee Relations in The Digital Workplace: Examining The Effects On Autonomy, Fairness and Employee Commitment

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Introduction

The rapid digitalisation of organisations has transformed the way work is organised, supervised and evaluated. Artificial intelligence, machine learning, big data and automated decision-making systems are increasingly embedded in organisational processes, allowing employers to use digital technologies to allocate tasks, monitor performance, evaluate workers, determine schedules and support human resource decisions. This development has given rise to algorithmic management, broadly understood as the use of algorithmic systems to organise, coordinate, supervise and evaluate work. Unlike traditional management, where employees interact primarily with human supervisors, algorithmic management increasingly places software systems between workers and managerial authority, thereby changing the nature of everyday employment relationships (International Labour Organization [ILO], 2024; Cameron et al., 2024). The expansion of these practices across platform work and conventional organisations therefore represents more than a technological development; it signals a significant transformation in how managerial control and employee relations are exercised.

The growing adoption of algorithmic management has been justified by its potential to improve organisational efficiency, consistency, productivity and evidence-based decision-making. Algorithms can process large quantities of information rapidly and may assist organisations in making decisions that would otherwise require considerable managerial time and resources. In human resource management, algorithmic systems are increasingly being applied to recruitment, performance management, workforce planning, employee monitoring and other employment-related activities (Cameron et al., 2024; De Stefano & Doellgast, 2023). However, the assumption that greater automation necessarily produces better management is increasingly being questioned. Research indicates that algorithmic management can simultaneously enable and constrain employees, depending on how the technology is designed and deployed. Noponen et al. (2024), for instance, argue that algorithmic systems can create new opportunities for worker autonomy while also intensifying monitoring and control. This contradiction makes algorithmic management an important issue for contemporary employee relations.

One of the most significant concerns is its implications for employee autonomy. The increasing use of automated task allocation, digital surveillance, performance targets and algorithmically determined work processes may reduce employees' discretion over how, when and sometimes even why work is performed. Where workers are expected to respond continuously to algorithmic instructions and performance assessments, managerial authority may become less visible but more pervasive. Noponen et al. (2024) describe this development as a form of digital Taylorism in which technology can intensify organisational control while simultaneously creating the appearance of greater flexibility. Recent research similarly suggests that different configurations of algorithmic management can produce either empowering or restrictive outcomes for employees, depending on whether algorithms are used to complement human judgement or to impose surveillance and control (Chen et al., 2026). Thus, the question is not simply whether algorithms manage employees, but whether the manner in which they do so preserves meaningful employee discretion.

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The issue of fairness is equally important because algorithmic systems increasingly participate in decisions that directly affect employees' working lives. Algorithms are often perceived as objective because they rely on data and computational rules, yet the data, assumptions and criteria incorporated into these systems can reproduce or even intensify existing forms of bias. Concerns have consequently emerged regarding opaque decision-making, unequal treatment, algorithmic discrimination and employees' limited ability to understand or challenge automated decisions (Bandara et al., 2025; Mirbabaie et al., 2026). Fairness is particularly significant for employee relations because perceptions of unfair treatment can undermine trust in management and weaken employees' willingness to identify with organisational goals. Algorithmic management therefore creates a paradox: systems introduced to make organisational decisions more consistent and objective may, when poorly designed or inadequately governed, create new forms of perceived or actual unfairness.

Against this background, employee commitment becomes an important consideration in understanding the broader implications of algorithmic management for employee relations. Employees are more likely to develop positive relationships with organisations when they experience trust, fairness, autonomy, recognition and meaningful participation in workplace decisions. Conversely, excessive surveillance, limited discretion, opaque decisions and the perception that employees are being managed primarily through machines may weaken these relational foundations. Algorithmic management consequently raises a fundamental question about the future of employment relations: whether organisations can obtain the efficiency and coordination benefits of digital technologies without undermining the human qualities that sustain productive employment relationships. This opinion paper argues that algorithmic management should not be viewed simply as a technological replacement for traditional management but as a transformation of managerial authority that requires careful attention to autonomy, fairness, employee voice and commitment. The central challenge for contemporary organisations is therefore to develop forms of algorithmic management that complement rather than displace responsible human judgement and constructive employee relations.

Understanding Algorithmic Management in Digital Workplaces

Algorithmic management refers to the use of computer-programmed procedures, data analytics and algorithmic systems to coordinate, direct, monitor, supervise and evaluate work within organisations. Unlike conventional management, where managerial decisions are predominantly made through direct human judgement, algorithmic management transfers some managerial functions to digital systems that process large volumes of workplace data and generate recommendations or decisions. The International Labour Organization (ILO) (2022) describes algorithmic management as the use of computer-programmed procedures for coordinating labour input, while its more recent work emphasises that such systems can organise, assign, monitor, supervise and evaluate work. This development is closely associated with the broader digital transformation of organisations, in which artificial intelligence, machine learning, workplace analytics and interconnected digital platforms have become increasingly integrated into everyday work processes. Algorithmic management should therefore be understood not simply as the introduction of new software but as a changing approach to organising managerial authority and workplace activities.

The concept initially became particularly visible in digital labour platforms, where algorithms perform functions traditionally associated with human supervisors, including allocating tasks, matching workers with customers, monitoring performance and providing feedback. However, algorithmic management has progressively moved beyond platform work into conventional organisations and sectors such as logistics, healthcare, banking, customer service and other digitally enabled workplaces. Rani et al. (2024) found that algorithmic management practices are already present in regular workplaces and can streamline work processes, simplify organisational activities and generate efficiency gains. The expansion of these systems means that algorithmic management is no longer a specialised feature of the gig economy but an increasingly important component of contemporary organisational management. Consequently, understanding algorithmic management requires attention to both platform-based employment and conventional employment relationships in which digital systems increasingly mediate interactions between managers and employees.

A defining characteristic of algorithmic management is its capacity to transform workplace information into managerial decisions. Through continuous data collection, organisations can use algorithms to determine work schedules, distribute tasks, track productivity, evaluate performance and identify patterns in employee behaviour. This can provide managers with faster access to information and support more consistent decision-making. At the same time, the increasing reliance on algorithmic systems can alter the distribution of power between employees and management because workers may have limited knowledge of how decisions affecting them are generated. Noponen et al. (2024), in their systematic review of 172 studies, found that algorithmic

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management can simultaneously constrain and enable employee autonomy while creating new forms of organisational power and control. Chen et al. (2026) similarly identify different configurations of workplace algorithmic management, ranging from surveillance and supervision to supplementary and complementary arrangements, demonstrating that its consequences depend considerably on how organisations design and deploy these systems.

The significance of algorithmic management therefore lies not merely in its technological sophistication but in its implications for the nature of work and employee relations. While organisations may benefit from greater efficiency, coordination, consistency and data-informed decision-making, excessive reliance on algorithms may introduce concerns relating to surveillance, privacy, work intensity, transparency and the quality of working life. Evidence from the ILO indicates that algorithmic management can improve productivity and service quality but may also create risks of intrusive worker monitoring and deterioration in job quality where appropriate safeguards are absent (Rani et al., 2024). The concept is consequently best understood as a socio-technical form of management, in which technological systems interact with human managers, organisational structures and employees rather than simply replacing human managers. This perspective is important because the effects of algorithmic management on autonomy, fairness and employee commitment depend substantially on the purposes for which algorithms are used, the degree of human oversight provided and the extent to which employees are able to understand, participate in and challenge technology-mediated managerial decisions.

The Changing Nature of Employee Relations under Algorithmic Management

Algorithmic management is changing employee relations by altering how authority, communication and coordination are exercised within organisations. Traditionally, employee relations have been built around relatively direct interactions between employees and human managers, with supervisors providing instructions, evaluating performance, resolving workplace concerns and communicating organisational expectations. Under algorithmic management, some of these activities are increasingly performed or mediated by digital systems that collect employee data, allocate tasks, monitor performance and generate managerial recommendations. De Stefano and Doellgast (2023) argue that the emergence of artificial intelligence and algorithmic management is reshaping labour relations because technological systems are becoming increasingly involved in decisions traditionally made through human managerial judgement. The resulting relationship is therefore no longer simply between an employee and a manager, but increasingly between employees, managers and technological systems that mediate workplace decisions.

One important change concerns the distribution of managerial power and control. Algorithms can continuously monitor work activities and use performance data to determine productivity, allocate tasks and identify deviations from expected standards. This gives organisations a capacity for real-time supervision that would be difficult for individual managers to achieve manually. While such systems can improve coordination and provide managers with useful information, they may also intensify workplace control and reduce employees' ability to exercise discretion. Noponen et al. (2024), in their systematic review of algorithmic management, found that algorithmic systems can both enable and constrain employee autonomy, depending on how they are designed and implemented. Consequently, managerial authority may become less visible while remaining highly influential, as employees respond not only to human supervisors but also to automated instructions, performance scores and digitally generated assessments.

Algorithmic management is also changing the nature of communication and employee voice. In conventional workplaces, employees can often question managerial decisions directly, request clarification or negotiate adjustments to work expectations. Algorithmic systems may complicate these processes because employees may not know how automated decisions are produced or which criteria have been applied to them. The International Labour Organization (2024) notes that algorithmic management can create concerns relating to transparency, worker monitoring and the ability of workers to exercise meaningful control over decisions affecting their work. This creates an important employee-relations challenge because effective workplace relationships depend partly on employees having opportunities to communicate concerns, obtain explanations and participate in decisions that affect them. Where employees perceive algorithms as inaccessible or unchallengeable, technological efficiency may come at the cost of trust and meaningful participation.

The changing nature of employee relations is therefore characterised by a tension between organisational efficiency and the preservation of human-centred employment relationships. Algorithmic systems can improve the speed, consistency and coordination of workplace decisions, but their effects depend considerably on organisational governance and the extent to which human judgement remains involved. De Stefano and Doellgast (2023) emphasise the importance of labour regulation and worker participation in addressing the

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consequences of AI and algorithmic management, while Noponen et al. (2024) show that algorithmic management does not have a predetermined effect on employees. The central issue is consequently not whether organisations should use algorithms, since that particular technological horse has already escaped the stable, but how they should use them. Employee relations are likely to remain constructive where organisations combine algorithmic tools with human oversight, transparency, employee participation and avenues for challenging decisions. Under such conditions, technology can support rather than undermine the relational foundations of employment.

Algorithmic Management and Employee Autonomy

Employee autonomy refers to the degree to which employees have discretion, independence and control over decisions concerning how they perform their work. It is an important feature of employment because workers generally require some degree of freedom to determine how tasks are approached, organise their activities and exercise professional judgement. Algorithmic management introduces a significant tension into this relationship because algorithms can increasingly determine work schedules, allocate tasks, establish performance targets, monitor activities and provide automated evaluations. In this sense, algorithmic management can shift control over work processes from employees and human supervisors towards digital systems. Noponen et al. (2024) explain that algorithmic management can simultaneously enable and constrain autonomy, making its consequences more complex than the simple replacement of human supervision with technology.

The restrictive dimension of algorithmic management becomes particularly evident when digital systems are used for intensive monitoring and continuous performance control. Employees may be required to respond to algorithmically generated instructions, meet automatically determined targets or adjust their behaviour according to real-time performance information. Such practices can narrow the space available for independent judgement, particularly where employees have little influence over the rules governing the algorithm. Kellogg et al. (2020) describe algorithmic control as a contemporary form of organisational control that can involve mechanisms such as restricting, recommending, recording and rewarding employee behaviour. While these mechanisms can improve coordination and productivity, excessive reliance on them may make employees feel that their work is being directed by systems they neither understand nor control. Autonomy can therefore become increasingly conditional on an algorithm's assessment of acceptable workplace behaviour.

Algorithmic management does not, however, necessarily eliminate employee autonomy. Digital technologies can also provide employees with greater flexibility, access to information and opportunities to organise their work more efficiently. Algorithms may remove repetitive administrative activities, provide useful feedback and assist employees in making informed decisions. Noponen et al. (2024) found that the effects of algorithmic management on autonomy vary according to how the technology is configured and used. Where algorithms complement rather than replace human judgement, employees may retain meaningful discretion while benefiting from technological support. The distinction is therefore between algorithmic management as a support mechanism and algorithmic management as a mechanism of control. The former can strengthen employees' capacity to perform their roles, whereas the latter can progressively restrict their ability to determine how work is performed.

The implications for employee relations become particularly important when employees perceive algorithmic systems as limiting their voice and professional judgement. Autonomy is not merely an individual preference; it is closely connected with trust, motivation, job satisfaction and employees' willingness to identify with organisational objectives. When employees believe that important workplace decisions are determined by opaque algorithms, they may experience reduced control and greater psychological distance from management. Parent-Rocheleau and Parker (2021) argue that algorithmic management can produce both empowering and controlling forms of work design, depending on the extent to which technology supports rather than constrains employee agency. Organisations therefore need to ensure that employees retain opportunities to exercise judgement, question automated decisions and influence how algorithmic systems are applied. The central issue is consequently not whether algorithmic management is inherently harmful to autonomy, but how much human discretion organisations are willing to preserve when adopting algorithmic systems. Responsible use requires a balance between technological coordination and employee independence. Algorithms should support managerial decision-making rather than become unquestionable sources of managerial authority, particularly in decisions with significant consequences for employees. Human oversight,

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transparent performance criteria, opportunities to contest automated decisions and employee participation in the design and implementation of workplace technologies can help preserve meaningful autonomy.

Algorithmic Management and Workplace Fairness

Workplace fairness refers to employees' perceptions that organisational decisions, procedures and treatment are equitable, consistent and justifiable. In algorithmically managed workplaces, fairness has become increasingly important because digital systems are now involved in decisions concerning task allocation, performance evaluation, scheduling, recruitment and other employment-related processes. Algorithms are often presented as more objective than human decision-makers because they apply predefined rules and process large amounts of data. However, the use of automated systems does not automatically guarantee fair outcomes. De Stefano and Doellgast (2023) argue that the growing use of artificial intelligence and algorithmic management creates new challenges for labour relations, particularly where workers have limited understanding of how automated decisions are produced. Fairness therefore depends not simply on whether a decision is made by an algorithm, but on the quality of the data, rules and organisational assumptions embedded within the system.

A major concern is algorithmic bias, which can occur when systems reproduce existing inequalities contained in historical data or organisational practices. An algorithm trained on biased or incomplete information may generate systematically different outcomes for particular groups of employees, even where discriminatory treatment was not deliberately programmed into the system. Köchling and Wehner (2020) explain that algorithmic decision-making in human resource management can reproduce discrimination when the data used to develop algorithms reflect existing social and organisational biases. This creates a significant fairness problem because employees may find it difficult to identify why a decision has been made or determine who is responsible for correcting an unfair outcome. The apparent neutrality of automated decision-making can therefore conceal rather than eliminate organisational bias, particularly when employees lack access to the criteria and data underlying algorithmic assessments.

Transparency and the opportunity to challenge decisions are consequently central to workplace fairness under algorithmic management. Employees may perceive algorithmic decisions as unfair when they cannot understand how performance scores are generated, why particular tasks are assigned to them or why an automated system has produced a particular employment-related recommendation. Parent-Rocheleau and Parker (2021) note that algorithmic management can influence the design and experience of work in ways that affect employees' perceptions of control and treatment. Similarly, the International Labour Organization (2024) highlights concerns surrounding transparency, accountability and worker participation in the use of algorithmic management. Fairness therefore requires more than technically accurate algorithms. Employees need understandable explanations, opportunities to provide relevant information, mechanisms for correcting inaccurate data and meaningful avenues for appealing decisions that they believe are unjust.

The central issue is whether organisations can use algorithmic systems to improve consistency without sacrificing the human principles that underpin fair employee relations. Properly designed algorithms may reduce arbitrary managerial decisions and apply clearly defined criteria consistently, but this potential benefit depends on effective governance and continued human oversight. Organisations should therefore subject algorithmic systems to regular fairness assessments, ensure that decision-making criteria are transparent, protect employee data and provide mechanisms through which employees can question or appeal consequential decisions. De Stefano and Doellgast (2023) emphasise the importance of appropriate regulatory and labour-relations frameworks as artificial intelligence becomes increasingly embedded in work. Algorithmic management should consequently be treated as a matter of employee relations and organisational justice, not merely as a technical innovation. Its legitimacy ultimately depends on whether employees experience the resulting workplace as transparent, accountable and genuinely fair.

Algorithmic Management and Employee Commitment

Employee commitment reflects the extent to which employees identify with their organisation, accept its goals and values, and demonstrate a willingness to remain part of the organisation. In digital workplaces, algorithmic management is becoming increasingly relevant to commitment because employees' daily experiences are shaped not only by human supervisors but also by automated systems that allocate tasks, monitor performance and evaluate work. The manner in which these systems are implemented can influence how employees perceive their relationship with the organisation. Noponen et al. (2024) argue that algorithmic management can produce both enabling and controlling outcomes for employees, suggesting that its implications for

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commitment depend largely on whether workers experience technology as a source of support or as an instrument of excessive control. Where employees perceive algorithmic systems as useful, predictable and supportive, they may develop more positive attitudes towards their organisation.

Employee commitment can, however, be weakened when algorithmic management reduces employees' sense of autonomy and human recognition. Continuous digital monitoring, automated performance assessment and algorithmically determined work expectations may create feelings of pressure and limited control, particularly when employees have little opportunity to influence how the systems operate. Kellogg et al. (2020) explain that algorithms can introduce new forms of organisational control by restricting, recommending, recording and rewarding employee behaviour. Such control may improve productivity but can also affect the psychological relationship between employees and their organisations. When workers perceive that organisational systems value measurable outputs more than human judgement, professional discretion or individual circumstances, their emotional attachment to the organisation may decline.

Perceived fairness and trust are also important mechanisms through which algorithmic management may influence employee commitment. Employees are more likely to develop positive relationships with their organisations when they believe that workplace decisions are transparent, consistent and fairly administered. Conversely, unexplained algorithmic decisions, inaccurate performance data or the inability to challenge automated assessments may generate distrust and weaken employees' willingness to identify with organisational objectives. Parent-Rochelleau and Parker (2021) observe that algorithmic management can substantially influence job design and employees' experiences of work, while De Stefano and Doellgast (2023) emphasise the implications of algorithmic systems for labour relations and worker participation. This suggests that commitment cannot be separated from the quality of the employment relationship created around algorithmic technologies. An organisation that introduces sophisticated digital systems while neglecting employee voice and trust may discover that technological efficiency is a remarkably poor substitute for loyalty. The relationship between algorithmic management and employee commitment is therefore likely to depend on how organisations balance technological control with human-centred management. Algorithmic systems can support commitment when they reduce unnecessary administrative burdens, provide useful feedback, improve coordination and assist employees in performing their responsibilities. They may undermine commitment when they are used primarily for surveillance, rigid performance control or decisions that employees perceive as unfair and unchallengeable. Noponen et al. (2024) consequently provide an important basis for viewing algorithmic management as neither inherently beneficial nor inherently harmful to employees. Organisations seeking to sustain employee commitment should combine algorithmic systems with human oversight, transparent decision-making, opportunities for employee participation and meaningful channels for challenging automated decisions. In this way, technology can strengthen rather than erode the trust and organisational identification upon which lasting employee commitment depends.

Algorithmic Management, Power and Employee Voice

Algorithmic management is reshaping workplace power by changing how managerial authority is exercised and how employees interact with organisational decision-making. In conventional workplaces, power is usually expressed through human supervisors who assign responsibilities, evaluate performance, communicate expectations and respond to employee concerns. Algorithmic systems increasingly perform or mediate some of these functions through automated task allocation, performance monitoring, scheduling and evaluation. Kellogg et al. (2020) argue that algorithms create a new and contested terrain of organisational control because they allow employers to exercise authority through technological systems that can continuously monitor and influence employee behaviour. This development can make managerial control less visible while potentially making it more continuous, data-driven and difficult for employees to negotiate.

The growing reliance on algorithms can also alter the balance of power between employers and employees because organisations generally possess greater control over the data, technological infrastructure and rules governing algorithmic systems. Employees may be subject to decisions generated by systems whose operation they do not fully understand, creating an information imbalance within the employment relationship. Kellogg et al. (2020) identify several forms of algorithmic control, including restricting, recommending, recording and rewarding behaviour, demonstrating how algorithms can shape employee conduct without requiring constant direct intervention from managers. Noponen et al. (2024) similarly argue that algorithmic management can simultaneously enable autonomy and strengthen organisational control. The important issue is therefore not simply that technology has entered the workplace, but that it can redistribute decision-making power in ways that employees may find difficult to see, understand or challenge.

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Employee voice becomes particularly important within this changing power structure. Employee voice refers broadly to employees' opportunities to express opinions, raise concerns, influence workplace decisions and challenge practices that affect their work. Algorithmic management can weaken such voice when employees have limited opportunities to question automated decisions or when organisational systems treat algorithmic outputs as objective and therefore beyond debate. De Stefano and Doellgast (2023) emphasise that the introduction of artificial intelligence and algorithmic management has significant implications for labour relations, including worker participation and collective representation. However, digital systems can also create new opportunities for employee voice when organisations provide workers with access to information, consultation mechanisms and channels through which algorithmic decisions can be reviewed. The technology itself therefore does not determine whether employees will have a voice; organisational governance determines whether that technology becomes a tool for participation or another mechanism of control.

A balanced approach requires organisations to recognise that algorithmic authority should remain accountable to both employees and human managers. Employees should have meaningful opportunities to understand how workplace algorithms affect them, provide feedback on their operation and challenge decisions that appear inaccurate or unfair. Trade unions and employee representatives can also play an important role in negotiating the conditions under which algorithmic systems are introduced and used. De Stefano and Doellgast (2023) argue for stronger labour-relations approaches to governing AI at work, while Noponen et al. (2024) demonstrate the importance of considering how algorithmic systems affect employee autonomy and control. Algorithmic management should therefore not be allowed to become a convenient way of making managerial decisions without managerial responsibility. Its legitimacy depends on maintaining human accountability, transparency and meaningful employee voice alongside the technological capacity to coordinate and monitor work.

The Human and Ethical Challenges of Algorithmic Management

The increasing use of algorithmic management creates important human challenges because workplace decisions that were traditionally based on interpersonal judgement are increasingly mediated by automated systems. Employees may be monitored through digital technologies, assessed using performance data and subjected to automated recommendations concerning their work activities. Although these systems can improve efficiency and consistency, excessive reliance on them can weaken the human dimension of employment relationships. Kellogg et al. (2020) argue that algorithmic systems introduce new forms of organisational control by enabling employers to continuously track, evaluate and influence employee behaviour. The concern is therefore not simply that machines are being used at work, but that technological systems may gradually redefine employees as sources of measurable data rather than as individuals with professional judgement, personal circumstances and legitimate expectations of dignity at work.

Privacy and surveillance represent another major ethical challenge. Algorithmic management depends heavily on the collection and processing of employee information, including data relating to productivity, behaviour, work patterns and performance. Continuous monitoring can create pressure for employees to modify their behaviour according to what they believe the system is measuring, potentially producing a workplace in which workers feel permanently observed. Ajunwa (2023) argues that workplace technologies can create significant concerns about privacy and employee autonomy when employers obtain extensive amounts of personal and behavioural information. The ethical problem becomes more serious when employees have limited knowledge about what data are collected, how long the information is retained, who can access it or how it is used in employment decisions. Responsible algorithmic management therefore requires clear boundaries around workplace surveillance and meaningful protection of employee data.

Another significant challenge concerns transparency, accountability and human judgement. Employees may find it difficult to understand why an algorithm has produced a particular performance assessment or recommendation, especially when complex artificial intelligence systems operate through processes that are difficult for ordinary users to interpret. This creates what can be described as an accountability gap, where employees may be affected by a decision but struggle to identify who is responsible for it. De Stefano and Doellgast (2023) emphasise the importance of labour regulation and worker participation as artificial intelligence becomes increasingly integrated into employment relationships. Ethical algorithmic management therefore requires organisations to retain human responsibility for consequential decisions, provide understandable explanations and establish mechanisms through which employees can challenge inaccurate or harmful outcomes. An organisation should not be able to hide behind a computer system when a decision affects someone's working life.

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The deeper ethical challenge is consequently how organisations can pursue technological efficiency without sacrificing human dignity, fairness and meaningful participation. Algorithmic management can be valuable when it supports human judgement, reduces repetitive work and provides reliable information for managerial decisions. It becomes ethically problematic when efficiency is prioritised over employee wellbeing, autonomy and voice. Noponen et al. (2024) demonstrate that algorithmic management can produce both enabling and controlling outcomes, reinforcing the importance of how organisations design and govern these systems. Ethical implementation therefore requires human oversight, transparency, responsible data practices, employee participation and opportunities to appeal algorithmic decisions. The future of digital management should not be defined by how much human judgement can be removed from workplace decisions, but by how effectively technology can support organisational objectives while preserving the human foundations of employment relations.

Balancing Organisational Efficiency with Positive Employee Relations

Algorithmic management offers organisations considerable opportunities to improve efficiency by automating routine managerial functions, accelerating decision-making and providing managers with large volumes of information about work processes. These capabilities can support better coordination, consistency and resource allocation, particularly in complex and data-intensive workplaces. Milanez et al. (2025) report that managers commonly perceive algorithmic management as improving the quality and speed of managerial decision-making. However, organisational efficiency cannot be evaluated solely in terms of productivity or operational speed. When efficiency is achieved through excessive surveillance, rigid performance targets or reduced employee discretion, the resulting deterioration in trust and job quality may undermine the very organisational performance that the technology was intended to improve. The central challenge is therefore to pursue technological efficiency without treating positive employee relations as an unnecessary cost.

A balanced approach requires organisations to position algorithms as decision-support mechanisms rather than substitutes for human management. Algorithms are highly effective at processing large amounts of information and identifying patterns, but they may not adequately understand contextual factors such as personal circumstances, professional judgement, unexpected workplace events or the qualitative dimensions of performance. Leavitt et al. (2025) argue that human managers remain important within algorithmic performance-management systems because they can interpret algorithmic outputs, correct inappropriate recommendations and demonstrate the competence, benevolence and integrity necessary for employee trust. Similarly, human-algorithm complementarity allows organisations to combine technological precision with human judgement rather than forcing employees to conform mechanically to computational assessments.

Positive employee relations also depend on giving employees meaningful opportunities to understand, influence and respond to algorithmic systems. Employees are more likely to accept technological management when they perceive the systems as fair, understandable and supportive rather than merely instruments of control. Milanez et al. (2025) found that organisations are increasingly adopting governance measures such as implementation guidelines, audits, risk assessments and consultation with workers or their representatives. Such practices can strengthen trust because they demonstrate that technological efficiency is being pursued alongside employee protection. Employee participation is particularly important when algorithms influence performance evaluation, work allocation or other consequential employment decisions, since workers possess contextual knowledge that may reveal limitations or unintended consequences invisible to system designers.

Ultimately, balancing efficiency with positive employee relations requires a human-centred model of algorithmic management in which organisational performance and employee wellbeing are treated as complementary rather than competing objectives. Zhang (2025) argues that algorithmic management creates continuing tensions between control and autonomy, transparency and opacity, and efficiency and fairness, making responsible governance essential. Organisations should therefore establish clear boundaries for algorithmic authority, maintain human oversight, provide channels for employee feedback and appeal, and regularly evaluate whether technological systems are improving rather than damaging the employment relationship. The objective should not be to maximise the amount of managerial work performed by algorithms, a rather bleak ambition for an allegedly human workplace, but to use technology where it adds value while preserving trust, dignity, participation and professional judgement.

Implications for Managers, Employees and Employee Representatives

For managers, the adoption of algorithmic management requires a shift from viewing technology merely as an instrument of control to treating it as a tool that supports responsible managerial judgement. Managers need

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to understand how algorithmic systems generate recommendations, identify potential limitations and ensure that automated outputs are not accepted uncritically. This is particularly important when algorithms are used for recruitment, performance assessment, work allocation, scheduling or disciplinary decisions. Parent-Rocheleau and Parker (2021) note that algorithms can significantly reshape job design and managerial practices, meaning that managers must consider how technological systems affect employees' discretion and work experiences. Managers therefore have a responsibility to establish appropriate human oversight, communicate the purpose of algorithmic systems clearly and ensure that technological efficiency does not override fairness, dignity and employee wellbeing.

For employees, algorithmic management creates both opportunities and new responsibilities. Digital systems can provide clearer performance information, reduce some repetitive tasks and support faster access to organisational resources. At the same time, employees may face increased monitoring, reduced autonomy and uncertainty about how their performance is being evaluated. Noponen et al. (2024) demonstrate that algorithmic management can either constrain or enable employee autonomy depending on how the technology is designed and implemented. Employees consequently need greater awareness of how workplace algorithms operate and how their data are used. They also need meaningful opportunities to question inaccurate assessments, report problematic outcomes and participate in discussions about technologies that directly affect their work. Employee adaptability should therefore be accompanied by organisational responsibility, because asking workers to simply "adjust" to opaque systems is hardly a serious management strategy.

Employee representatives, including trade unions, works councils and other forms of collective representation, have an increasingly important role in shaping the governance of algorithmic management. Their involvement can help ensure that employees are not excluded from decisions concerning technologies that influence working conditions, performance expectations and employment security. De Stefano and Doellgast (2023) emphasise the importance of worker participation and collective labour relations in responding to the implications of artificial intelligence and algorithmic management. Employee representatives can contribute by negotiating rules concerning data collection, monitoring, transparency, algorithmic decision-making and procedures for challenging automated decisions. Their participation can also provide organisations with valuable information about the practical consequences of algorithmic systems that may not be apparent to senior managers or technology developers.

Ultimately, the implications of algorithmic management extend beyond individual managers, employees and representatives to the broader employment relationship. Effective implementation requires these groups to participate in an ongoing process of dialogue, accountability and technological governance. Rani et al. (2024) show that algorithmic management is increasingly present in conventional workplaces and can generate efficiency benefits while simultaneously raising concerns about job quality, surveillance and worker autonomy. A sustainable approach therefore requires managers to provide responsible oversight, employees to exercise informed participation, and employee representatives to protect collective interests and contribute to technological governance. When these responsibilities are properly balanced, algorithmic management can enhance organisational performance without weakening the trust, voice, fairness and human relationships on which productive workplaces ultimately depend.

The Future of Employee Relations in Algorithmically Managed Workplaces

The future of employee relations in algorithmically managed workplaces will increasingly be shaped by the interaction between technological advancement and the continuing need for human-centred employment practices. As organisations expand their use of artificial intelligence, predictive analytics and automated decision-making, algorithms are likely to become more deeply integrated into recruitment, work allocation, performance management, scheduling and employee development. Chen et al. (2026) observe that algorithmic management is evolving beyond simple monitoring toward more diverse configurations that can either support or constrain employees. This development suggests that the future workplace will not necessarily be one in which human managers disappear, but one in which managerial responsibilities are increasingly shared between human judgement and computational systems. The quality of future employee relations will therefore depend largely on how organisations define the boundaries between automated decision-making and human responsibility.

Employee autonomy, voice and participation are likely to become increasingly important as algorithmic systems become more sophisticated. The ability of employees to understand how decisions affecting their work are generated and to challenge decisions they consider inappropriate will be central to maintaining trust. Future employment relationships may therefore require stronger mechanisms for algorithmic transparency,

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explanation and appeal. Kellogg et al. (2020) describe algorithmic management as a contested terrain of organisational control, demonstrating that technological systems can become instruments through which managerial power is exercised and negotiated. Consequently, organisations that provide employees with opportunities to participate in the design and governance of workplace technologies are likely to establish more sustainable relationships than those that impose algorithmic systems without consultation.

The future is also likely to involve a stronger role for employee representatives in negotiating the conditions under which algorithmic management is introduced and operated. Trade unions, professional associations and other employee representatives may increasingly address issues such as workplace surveillance, personal data, automated performance evaluation, algorithmic bias and the right to human review. De Stefano and Doellgast (2023) argue that the expansion of artificial intelligence at work has significant implications for labour relations, worker participation and collective bargaining. This means that traditional employee representation may need to evolve beyond negotiating wages and conventional working conditions to include technological governance. Effective representation can help ensure that employees have a meaningful voice in decisions concerning technologies that affect their autonomy, security and everyday working experiences.

Ultimately, the future of employee relations in algorithmically managed workplaces will depend less on whether organisations adopt algorithms and more on how they choose to govern them. Technology can support more efficient, informed and responsive organisations, but it can also intensify surveillance, weaken discretion and reproduce existing inequalities when poorly designed or inadequately governed. Noponen et al. (2024) demonstrate that algorithmic management can simultaneously enable and constrain autonomy, reinforcing the importance of organisational choices in determining its consequences. A sustainable future therefore requires a human-algorithm partnership in which technological systems provide analytical and operational capabilities while managers, employees and their representatives retain meaningful responsibility, voice and judgement. The future of employee relations should instead be a deliberate effort to ensure that technological progress strengthens, rather than erodes, the trust, fairness, dignity and cooperation that sustain productive workplaces.

Conclusion

Algorithmic management is fundamentally reshaping employee relations by transforming how work is organised, monitored, evaluated and controlled. Its application can improve organisational efficiency, support faster decision-making and provide managers with valuable information for coordinating work. However, the analysis demonstrates that these benefits can be accompanied by significant challenges involving employee autonomy, workplace fairness, privacy, transparency, employee voice and commitment. When algorithmic systems are implemented primarily as instruments of control, they can weaken trust and reduce employees' sense of participation in organisational decisions. The implications therefore extend beyond technological adoption to the broader quality and character of the employment relationship.

The future of employee relations in algorithmically managed workplaces depends on achieving an appropriate balance between technological capability and human responsibility. Organisations should retain meaningful human oversight, promote transparency, protect employee privacy, provide opportunities for participation and establish mechanisms through which algorithmic decisions can be questioned or reviewed. Managers, employees and employee representatives must consequently share responsibility for ensuring that technological innovation remains consistent with fairness, dignity, autonomy and constructive workplace relationships. Algorithmic management should ultimately complement rather than replace human judgement, enabling organisations to benefit from digital technologies while preserving the trust, cooperation and employee voice necessary for sustainable organisational performance.

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