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Trust Under the Algorithm: Employee Perceptions of Control, Fairness, and Autonomy in Algorithmic Management

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Abstract

The global diffusion of algorithmic management—where data-driven systems allocate work, evaluate performance, and enforce organizational rules—has transformed labor relations across diverse economic and cultural contexts. From digital labor platforms and multinational supply chains to service and manufacturing sectors in both developed and developing economies, algorithmic systems increasingly mediate the relationship between workers and organizations. While these technologies promise efficiency, objectivity, and scalability, their implications for employee trust remain underexplored, particularly from a global perspective. This study investigates how employees across algorithmically managed work environments perceive control, fairness, and autonomy, and how these perceptions shape trust in organizational systems operating under algorithmic governance. Grounded in organizational trust theory and justice-based frameworks, the study adopts a mixed-methods research design combining survey data with semi-structured interviews conducted among employees working under algorithmic oversight in multiple organizational settings. Quantitative findings indicate that perceived procedural fairness, transparency of algorithmic decision-making, and opportunities for autonomy significantly enhance employee trust, regardless of sector or national context. In contrast, opaque algorithms, intensive digital surveillance, and limited avenues for worker voice consistently undermine trust. Qualitative evidence reveals that these challenges are particularly pronounced in contexts characterized by labor precarity, power asymmetries, and weak institutional protections—conditions prevalent in many developing and transitional economies. The findings suggest that algorithmic management often reproduces existing global inequalities by amplifying managerial control while reducing employee agency, especially where workers lack bargaining power or access to explanations and appeals. At the same time, when organizations integrate human oversight, contextual sensitivity, and transparent communication into algorithmic systems, employees are more likely to perceive such technologies as legitimate and trustworthy. This study contributes to the growing global literature on algorithmic management by centering employee perceptions across varied labor contexts and highlighting trust as a critical mediator between technology and organizational outcomes. The study offers practical implications for policymakers and organizations worldwide, emphasizing the need for human-centered, context-aware algorithmic governance to foster fair, autonomous, and trust-based workplaces in an increasingly digitized global economy.

Keywords: Algorithmic management, autonomy, fairness, control, trust, workplace technology, employee perceptions.

1. INTRODUCTION

The increasing reliance on algorithmic systems to organize, monitor, and evaluate work has fundamentally altered the nature of managerial control in contemporary organizations. Commonly referred to as algorithmic management, this mode of governance involves the delegation of traditionally human managerial functions—such as task allocation, performance assessment, scheduling, and discipline—to data-driven algorithms. Initially concentrated within digital labor platforms, algorithmic management has rapidly diffused across organizational forms and sectors, including logistics, manufacturing, customer service, healthcare, and global supply chains. As algorithmic systems become embedded in everyday work practices worldwide, they are reshaping employment relations in

ways that challenge established theories of management, control, and trust.

Proponents of algorithmic management portray these systems as efficient, objective, and scalable solutions to the complexities of coordinating labor in increasingly digital and geographically dispersed organizations. By translating managerial judgment into formalized rules and data metrics, algorithms are assumed to reduce human bias and enhance procedural consistency. However, emerging scholarship suggests that algorithmic management does not eliminate control but reconfigures it, often intensifying managerial power while obscuring its sources. Unlike traditional supervisors, algorithms operate continuously, invisibly, and at scale, producing decisions that are difficult for workers to interpret, contest, or negotiate. This shift raises a central yet underexamined question: how do employees come to trust organizational systems when managerial authority is exercised through opaque algorithms rather than human actors?

Trust has long been recognized as a cornerstone of organizational life, enabling cooperation, commitment, and coordinated action under conditions of uncertainty. Classic models conceptualize trust as grounded in perceptions of ability, benevolence, and integrity attributed to decision-makers. Algorithmic management complicates this framework by relocating decision authority from identifiable human managers to socio-technical systems whose values, logics, and accountability structures are often unclear. Employees are thus required to place trust not only in organizational intentions but also in the design, operation, and fairness of algorithmic systems. Yet existing research has largely treated trust as an implicit or secondary outcome of algorithmic management, rather than as a central analytical lens through which employee experiences are understood.

This study argues that employee trust under algorithmic management is fundamentally shaped by perceptions of control, fairness, and autonomy—three interrelated dimensions that lie at the heart of employment relations. First, algorithmic control represents a significant departure from traditional hierarchical supervision. Digital monitoring technologies enable unprecedented surveillance of worker behavior, performance, and time use, often in real time. While such systems may enhance coordination, they can also generate feelings of constant visibility and loss of discretion, particularly when control is exercised without explanation or recourse. Understanding how employees interpret and respond to algorithmic control is therefore essential to assessing the legitimacy of algorithmic governance.

Second, perceptions of fairness play a critical role in shaping trust in algorithmic systems. Although algorithms are frequently framed as neutral and objective, workers often experience algorithmic decisions as opaque, inconsistent, or misaligned with contextual realities. Procedural fairness—clarity, transparency, and the ability to contest decisions—has been shown to be especially important in technologically mediated environments. When employees cannot understand how decisions affecting pay, performance, or continued employment are made, trust in both the system and the organization is undermined.

Third, autonomy remains a central yet contested feature of algorithmic management. Autonomy has long been associated with motivation, well-being, and meaningful work. Algorithmic systems sometimes promise flexibility, particularly in platform-based work arrangements, but this flexibility is frequently constrained by performance metrics, incentive structures, and automated sanctions that subtly compel compliance. As a result, autonomy under algorithmic management may function less as genuine self-determination and more as a reconfiguration of control, raising critical questions about employee agency in digitally governed workplaces.

These dynamics are further complicated in a global context characterized by profound inequalities in labor market power, institutional protection, and technological governance. Algorithmic management systems are often developed in the Global North and deployed across diverse cultural and regulatory environments, frequently without sensitivity to local labor conditions. In many developing and transitional economies, where employment precarity and weak regulatory oversight prevail, algorithmic control may exacerbate existing power asymmetries and heighten worker vulnerability. Despite this, empirical research on algorithmic management remains disproportionately centered on Western contexts, limiting theoretical understanding of how trust is constructed—or eroded—across global labor regimes.

Addressing these gaps, this study examines how employees perceive control, fairness, and autonomy under algorithmic management and how these perceptions shape trust in organizational systems across diverse work contexts. By foregrounding employee perspectives and positioning trust as the central analytical construct, the study contributes to three streams of literature: algorithmic management, organizational trust, and global work and employment relations. In doing so, it advances a more nuanced and globally informed understanding of the conditions under which algorithmic management may be perceived as legitimate, sustainable, and worthy of employee trust.

Background and Rationale

As digital technologies permeate organizational life, algorithmic systems increasingly govern job allocation, evaluation, scheduling, and compensation (Lee, Kusbit, Metsky, & Dabbish, 2015). Termed

algorithmic management, these systems promise efficiency and scalability but raise concerns about their effects on human workers (Kellogg, Valentine, & Christin, 2020). Especially as work becomes more decentralized and automated, understanding how employees interpret algorithmic oversight — in terms of control, fairness, and autonomy — is essential to maintain trust within organizations.

Trust has long been recognized as a foundation for effective organizational functioning (Mayer, Davis, & Schoorman, 1995). However, whether trust is facilitated or undermined by algorithmic decision-making remains an open question. Grounding this study in organizational trust and technology adoption theories provides a critical lens into how algorithmic management reshapes human–machine work relations.

Problem Statement

Despite widespread deployment of algorithmic systems in workplaces, there is limited empirical insight into how these systems influence employee trust, particularly through perceptions of control, fairness, and autonomy. Existing studies tend to examine algorithmic management in isolation or from technical perspectives, neglecting subjective worker experiences (Rosenblat & Stark, 2016). Without understanding employee perceptions, organizations risk undermining trust, eroding morale, and facing resistance against technological change.

Aim

To investigate how employees, perceive control, fairness, and autonomy under algorithmic management and how these perceptions influence trust in organizational contexts.

Specific Objectives

1. To analyze employee perceptions of control in algorithmic management environments.
2. To explore perceptions of fairness in algorithmic decision processes.
3. To examine how autonomy is experienced under algorithmically governed work structures.
4. To determine the relationship between these perceptions and trust in organizational systems.

Research Questions

1. How do employees perceive control under algorithmic management?
2. What are employee perceptions of fairness regarding algorithmic decisions?
3. How does algorithmic management affect employee autonomy?
4. How do perceptions of control, fairness, and autonomy influence trust in algorithmic systems?

Scope and Delimitations

This study focuses on employees in sectors where algorithmic management has significant presence — such as gig platforms, logistics, and customer service centers. It does not include managerial or executive perspectives and excludes organizations without algorithmic oversight. While interview data provide rich subjective insight, the findings may not generalize to all cultural or industry contexts.

2. LITERATURE REVIEW

2.1 Algorithmic Management as a New Regime of Control

Algorithmic management has emerged as a defining feature of contemporary work organization, fundamentally reshaping how control is exercised within organizations. Broadly defined, algorithmic management refers to the delegation of managerial functions—such as task assignment, performance evaluation, scheduling, and discipline—to automated, data-driven systems (Lee *et al.,* 2015). While early research focused primarily on digital labor platforms, recent studies demonstrate that algorithmic governance has diffused across sectors including logistics, manufacturing, retail, healthcare, and professional services (Kellogg *et al.,* 2020). This diffusion signals a broader transformation in managerial authority, in which control is increasingly embedded in technological infrastructures rather than enacted through direct human supervision.

Scholars have conceptualized algorithmic management as a novel regime of control characterized by scale, opacity, and continuous surveillance. Unlike traditional bureaucratic or normative forms of control, algorithmic systems operate in real time and rely on quantification to shape worker behavior (Zuboff, 2019). This form of control is often less visible but more pervasive, as workers may not be aware of the full range of data collected or how it is used to generate managerial decisions. As a result, algorithmic management blurs the boundaries between supervision, evaluation, and discipline, intensifying managerial power while simultaneously depersonalizing its exercise (Rosenblat & Stark, 2016).

However, existing literature remains divided on whether algorithmic management represents a qualitative break from earlier forms of control or an extension of longstanding managerial logics. Some scholars argue that algorithms merely codify existing managerial practices, rendering control more efficient and consistent (Meijerink & Bondarouk, 2021). Others contend that algorithmic systems fundamentally alter power relations by reducing opportunities for negotiation, discretion, and resistance (Kellogg *et al.,* 2020). This tension highlights the need to examine how workers themselves interpret and respond to algorithmic control, particularly in relation to trust.

2.2 Employee Control and Surveillance Under Algorithmic Systems

Control has long been a central concern in labor process theory, and algorithmic management introduces new modalities of surveillance and discipline that extend classic debates. Digital monitoring tools embedded within algorithmic systems can track worker performance with unprecedented granularity, capturing metrics such as speed, accuracy, location, and responsiveness. These data are often used to automate performance evaluations and trigger rewards or sanctions, reducing the role of human judgment (Ajunwa, 2021).

Empirical studies consistently show that workers experience algorithmic surveillance as intrusive and anxiety-inducing, particularly when monitoring occurs continuously and without transparency (Wood *et al.,* 2019). The absence of clear explanations regarding how data are interpreted or weighted contributes to perceptions of arbitrary control. At the same time, algorithmic surveillance is frequently justified by organizations as necessary for efficiency, quality assurance, and risk management. This tension reflects a broader contradiction in algorithmic management: while control is intensified, accountability for decision-making becomes diffused across technical systems.

Importantly, perceptions of control are not uniform across contexts. Workers with greater bargaining power or institutional protections may experience algorithmic oversight as less coercive, while those in precarious or informal employment contexts often perceive algorithmic control as absolute and unavoidable. Yet much of the existing literature focuses on control outcomes—such as stress or resistance—without sufficiently examining how perceptions of control shape trust in algorithmic systems. This gap limits understanding of how algorithmic management becomes normalized or contested within organizations.

2.3 Fairness and Algorithmic Decision-Making

Fairness represents a critical lens through which employees evaluate managerial authority, particularly in technologically mediated environments. Organizational justice literature distinguishes between distributive justice, concerning the fairness of outcomes, and procedural justice, concerning the fairness of decision-making processes (Colquitt, 2001). Algorithmic management directly implicates both dimensions, as algorithms often determine task allocation, pay, performance ratings, and employment continuity.

Although algorithms are frequently portrayed as objective and unbiased, research suggests that workers often perceive algorithmic decisions as unfair due to their opacity and rigidity (Lee, 2018). Procedural justice concerns are especially salient: when employees cannot understand how decisions are made or lack opportunities to challenge them, trust in the system deteriorates. Studies of platform workers reveal widespread frustration with rating systems and automated penalties that fail to account for contextual factors such as technical glitches or customer bias (Rosenblat & Stark, 2016).

Moreover, fairness perceptions are deeply shaped by broader institutional and cultural contexts. Algorithms developed in one regulatory or cultural environment may embed assumptions that do not translate across global labor markets, leading to outcomes that workers perceive as unjust. Despite this, empirical research rarely examines algorithmic fairness beyond Western contexts, limiting the generalizability of existing theories. A trust-centered approach that foregrounds fairness perceptions across diverse contexts is therefore essential.

2.4 Autonomy, Agency, and the Paradox of Flexibility

Autonomy has long been recognized as a core dimension of meaningful work and a key driver of motivation and well-being (Deci & Ryan, 2000). Algorithmic management complicates autonomy by simultaneously offering flexibility and imposing constraint. In platform-based work, for example, workers may choose when to log in or accept tasks, suggesting enhanced autonomy. However, this apparent flexibility is often undermined by algorithmic incentives, performance thresholds, and automated sanctions that shape worker behavior in subtle yet powerful ways (Prassl, 2018).

This paradox has led scholars to question whether autonomy under algorithmic management is genuine or illusory. Research indicates that workers frequently internalize algorithmic metrics, adjusting their behavior to meet opaque performance criteria, thereby exercising self-discipline in line with organizational goals (Kellogg *et al.,* 2020). In this sense, autonomy becomes a mechanism through which control is internalized rather than resisted.

Crucially, autonomy is also linked to trust. When employees perceive that algorithmic systems respect their judgment and allow meaningful discretion, trust is more likely to develop. Conversely, when autonomy is constrained by rigid rules and constant surveillance, workers may view algorithms as coercive rather than supportive. Yet autonomy has rarely been examined explicitly as a mediating factor between algorithmic management and trust, representing a significant gap in the literature.

2.5 Trust in Algorithmic Management: Conceptual Gaps

Despite the centrality of trust to organizational functioning, research on algorithmic management has not systematically integrated trust theory into empirical analysis. Studies often focus on outcomes such as stress, resistance, or compliance, treating trust as an implicit

background condition rather than a focal construct. Moreover, trust in algorithmic systems differs from interpersonal trust, as it involves confidence in both technical reliability and organizational intent (Mayer *et al.,* 1995).

Emerging work suggests that trust in algorithms is contingent on transparency, explainability, and perceived alignment with human values (Lee, 2018). However, these insights remain fragmented and under-theorized, particularly in relation to global labor dynamics. Existing research rarely considers how trust is shaped by power asymmetries, institutional weakness, or cultural variation in perceptions of authority.

2.6 Research Gap and Contribution

In summary, while substantial scholarship has examined algorithmic management through the lenses of control, fairness, and autonomy, these dimensions are rarely integrated into a coherent framework centered on employee trust. Furthermore, the global diffusion of algorithmic management has outpaced empirical research, resulting in a Western-centric understanding of worker experiences. This study addresses these gaps by examining how employee perceptions of control, fairness, and autonomy jointly shape trust in algorithmic management across diverse work contexts. By positioning trust as the central analytical construct, the study advances a more holistic and globally informed understanding of algorithmic governance in contemporary organizations.

3. RESEARCH METHODOLOGY

3.1 Research Design and Philosophical Orientation

This study adopts a mixed-methods research design to examine how employees perceive control, fairness, and autonomy under algorithmic management and how these perceptions shape trust in organizational systems. A mixed-methods approach is particularly appropriate for investigating algorithmic management, as it enables the integration of measurable patterns with in-depth insights into workers lived experiences. Algorithmic governance operates at the intersection of technology, organizational structures, and subjective interpretation; capturing its effects therefore requires both quantitative and qualitative analytical lenses.

Philosophically, the study is informed by a critical realist orientation, which recognizes that algorithmic management systems exist as objective organizational structures while acknowledging that employee perceptions of these systems are socially constructed and contextually embedded. This approach allows the study to move beyond purely positivist explanations of algorithmic efficiency and instead examine how power, inequality, and institutional context shape trust in algorithmically mediated workplaces. By combining statistical analysis with interpretive inquiry, the study seeks to generate theoretically grounded and empirically robust insights into employee trust under algorithmic management.

3.2 Research Context and Sampling Strategy

The empirical focus of the study spans multiple sectors in which algorithmic management plays a central role, including digital labor platforms, logistics and warehousing, and customer service operations. These sectors were selected for three reasons. First, they represent varying degrees of algorithmic intensity, from fully automated task allocation to hybrid human–algorithm decision-making. Second, they encompass both platform-based and traditional organizational settings, enabling comparative insights. Third, they are globally diffused sectors, employing workers across diverse institutional and regulatory contexts.

A multi-stage sampling strategy was employed. In the quantitative phase, an online survey was distributed to employees working under algorithmic oversight. Respondents were recruited through professional networks, labor organizations, online worker forums, and targeted outreach to organizations using algorithmic management systems. To ensure analytical robustness, inclusion criteria required participants to have at least six months of experience working in an algorithmically managed environment. The final survey sample consisted of approximately 350 respondents, reflecting diversity in age, gender, job tenure, employment status, and national context.

For the qualitative phase, purposeful sampling was used to select participants from the survey respondents who indicated willingness to be interviewed. This approach allowed the study to capture a wide range of experiences, including variation in trust levels, job roles, and exposure to algorithmic systems. A total of 40 semi-structured interviews were conducted, which aligns with best practices for qualitative saturation in organizational research. This dual-sample design enhanced the credibility and depth of the findings.

3.3 Data Collection Procedures

3.3.1 Quantitative Data Collection

The survey instrument was designed to measure employee perceptions of algorithmic control, fairness, autonomy, and trust. Established and validated scales were adapted to the context of algorithmic management to ensure construct validity. Perceived control was measured using items capturing surveillance intensity, monitoring frequency, and perceived discretion. Fairness was assessed using procedural and distributive justice dimensions adapted from Colquitt's (2001) organizational justice scale. Autonomy was measured using items derived from self-determination theory (Deci & Ryan, 2000), focusing on decision latitude and perceived agency. Trust in algorithmic systems and the organization was measured using adapted items from Mayer et al.'s (1995) trust framework.

All items were measured on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." Prior to full deployment, the survey instrument was pilot-tested with a small group of workers to assess clarity, relevance, and reliability. Minor wording adjustments were made to improve comprehension across diverse cultural contexts.

3.3.2 Qualitative Data Collection

Semi-structured interviews were conducted to explore how employees interpret and make sense of algorithmic management in their daily work lives. An interview guide was developed around key themes, including experiences of algorithmic control, perceptions of fairness and transparency, autonomy and discretion, trust and mistrust, and coping or resistance strategies. The semi-structured format allowed participants to articulate their experiences in their own terms while ensuring consistency across interviews.

Interviews were conducted virtually and lasted between 45 and 75 minutes. All interviews were audio-recorded with participant consent and transcribed verbatim. To protect confidentiality, identifying details were removed, and pseudonyms were assigned. Field notes were maintained to capture contextual observations and researcher reflections, enhancing reflexivity and analytical depth.

3.4 Data Analysis

3.4.1 Quantitative Analysis

Quantitative data were analyzed using statistical software following a multi-step analytical procedure. First, descriptive statistics were generated to examine sample characteristics and distributional properties of key variables. Reliability analyses were conducted using Cronbach's alpha, with all scales exceeding the accepted threshold of 0.70. Confirmatory factor analysis was performed to assess construct validity and ensure discriminant validity among control, fairness, autonomy, and trust measures.

Multiple regression analyses were then employed to examine the relationships between perceptions of algorithmic control, fairness, autonomy, and trust. Control variables included age, gender, job tenure, employment status, and sector. Interaction effects were explored to assess whether the relationship between algorithmic management perceptions and trust varied across employment contexts. These analyses provided robust evidence of the predictive power of employee perceptions in shaping trust outcomes.

3.4.2 Qualitative Analysis

Qualitative data were analyzed using thematic analysis, following a systematic and iterative coding process. Initial open coding was conducted to identify recurring concepts related to control, fairness, autonomy, and trust. These codes were then refined through axial coding to identify relationships and patterns across cases. Finally, selective coding was used to integrate themes into a coherent analytical narrative aligned with the study's theoretical framework.

To enhance analytical rigor, coding decisions were continuously compared across interviews, and discrepant cases were examined to refine interpretations. Analytical memos were used to document emerging insights and theoretical linkages. This process allowed the study to move beyond surface-level descriptions and generate deeper insights into how employees construct trust under algorithmic management.

3.5 Integration of Quantitative and Qualitative Findings

Integration occurred at both the analytical and interpretive stages. Quantitative findings identified general patterns and relationships, while qualitative data provided contextual explanations and illuminated underlying mechanisms. For example, statistical associations between perceived transparency and trust were enriched by interview narratives describing how opaque algorithms undermine confidence and legitimacy. This triangulation strengthened the validity of the findings and enabled theory development grounded in empirical evidence.

3.6 Ethical Considerations

Ethical approval was obtained prior to data collection. Participants were informed about the study's purpose, voluntary nature, and confidentiality protections. Given the potential vulnerability of workers in algorithmically managed environments, particular care was taken to ensure anonymity and avoid any risk of employer identification. Participants were reminded that they could withdraw at any time without consequence.

3.7 Methodological Limitations and Reflexivity

While the mixed-methods design enhances robustness, certain limitations remain. The cross-sectional nature of the data restricts causal inference, and self-reported measures may be influenced by response bias. Additionally, although the study adopts a global lens, access constraints limited representation from certain regions. The researcher's interpretive role was acknowledged through reflexive practices, including memo-writing and critical engagement with assumptions.

4. DISCUSSIONS AND FINDINGS

This section presents and interprets the study's findings through an integrated discussion of quantitative results and qualitative insights. Rather than treating findings as purely empirical outcomes, the discussion situates them within broader theoretical debates on algorithmic management, organizational trust, and global labor governance. The analysis demonstrates that employee trust in algorithmic management is not a function of technological sophistication alone but is

fundamentally shaped by how workers perceive control, fairness, and autonomy within algorithmically governed systems. These perceptions are deeply embedded in organizational practices and broader institutional contexts, revealing algorithmic management as a socio-technical and political phenomenon rather than a neutral managerial tool.

4.1 Algorithmic Control and the Reconfiguration of Managerial Authority

The findings reveal that algorithmic management introduces a distinct and intensified form of managerial control that significantly shapes employee trust. Quantitative analysis indicates a strong negative relationship between perceived algorithmic surveillance and trust, suggesting that continuous monitoring and automated evaluation undermine employees' confidence in organizational systems. This relationship remains robust across sectors and employment types, highlighting the pervasive impact of algorithmic control mechanisms.

Qualitative data illuminate how employees experience this form of control as both omnipresent and opaque. Participants frequently described algorithmic supervision as "invisible management," emphasizing the absence of identifiable decision-makers and the inability to negotiate or contextualize performance assessments. Unlike traditional supervisors, algorithms were perceived as inflexible and unforgiving, enforcing standardized metrics without regard for situational constraints. This aligns with prior research suggesting that algorithmic management intensifies control while simultaneously obscuring its exercise (Kellogg *et al.,* 2020).

Crucially, the findings suggest that trust is not undermined by control per se but by unaccountable control. Workers expressed greater acceptance of algorithmic oversight when performance expectations were clear and when human managers remained involved as interpreters or mediators of algorithmic decisions. In contrast, fully automated control systems generated feelings of powerlessness and suspicion. This finding extends labor process theory by demonstrating that algorithmic control reshapes not only the intensity of supervision but also its perceived legitimacy.

From a global perspective, these effects were particularly pronounced among workers operating in precarious labor markets. In contexts characterized by limited employment alternatives and weak institutional protections, algorithmic control was experienced as absolute and non-negotiable. Participants in these contexts frequently reported compliance driven by fear of deactivation or dismissal rather than trust or commitment. This highlights how algorithmic management may exacerbate existing power asymmetries, reinforcing structural inequalities across global labor regimes.

4.2 Fairness as the Central Pillar of Trust in Algorithmic Systems

Among all examined variables, perceived fairness emerged as the strongest predictor of trust in algorithmic management. Quantitative results show that procedural fairness—particularly transparency and consistency of algorithmic decision-making—has a stronger effect on trust than distributive outcomes alone. This finding underscores the importance of decision-making processes in technologically mediated workplaces and aligns with organizational justice theory, which emphasizes procedural justice as a key driver of legitimacy and trust (Colquitt, 2001).

Interview data further illustrate how fairness perceptions are constructed in everyday interactions with algorithmic systems. Participants frequently expressed frustration with automated decisions that lacked explanation or recourse, particularly when such decisions affected pay, task allocation, or continued employment. The inability to contest algorithmic outcomes was repeatedly cited as evidence of unfairness, even when outcomes were materially favorable. This suggests that fairness under algorithmic management is less about outcomes themselves and more about voice, transparency, and accountability.

Importantly, workers did not view algorithms as inherently unfair. Rather, mistrust arose when algorithmic systems were perceived as detached from organizational responsibility. Many participants articulated a desire for human oversight not as a rejection of technology but as a safeguard against error and arbitrariness. These finding challenges simplistic narratives that frame employee resistance to algorithmic management as technophobia and instead highlights rational concerns about justice and due process.

The global dimension of fairness perceptions is particularly salient. Participants in developing and transitional economies reported heightened perceptions of unfairness, often linked to algorithmic systems designed without sensitivity to local labor conditions or cultural norms. For example, performance metrics calibrated to Global North contexts were experienced as unrealistic or punitive when applied in resource-constrained environments. These findings suggest that algorithmic fairness cannot be understood in isolation from institutional context and that globally deployed algorithms may reproduce or intensify existing inequalities if not adapted to local realities.

4.3 Autonomy, Self-Regulation, and the Illusion of Flexibility

Autonomy emerged as a complex and ambivalent dimension of employee experience under algorithmic management. Quantitative findings indicate a positive relationship between perceived autonomy and trust, suggesting that when workers feel able to exercise discretion, they are more likely to view algorithmic

systems as legitimate. However, qualitative data reveal that autonomy under algorithmic management is often constrained, conditional, and unevenly distributed.

Many participants described algorithmic systems as offering nominal flexibility—such as the ability to choose work hours or accept tasks—while simultaneously imposing strict performance thresholds that effectively limit choice. This phenomenon aligns with the concept of "controlled autonomy," wherein workers are granted discretion only within narrowly defined parameters. As a result, autonomy becomes a mechanism through which control is internalized rather than resisted, as workers self-regulate to meet algorithmic expectations.

This dynamic has significant implications for trust. Workers who perceived autonomy as genuine—supported by reasonable performance standards and managerial flexibility—reported higher trust and engagement. Conversely, when autonomy was perceived as illusory, trust deteriorated, and workers described feelings of manipulation or deception. These findings extend self-determination theory by demonstrating that autonomy must be substantively meaningful, not merely formal, to support trust in algorithmic systems.

The study also reveals important global disparities in autonomy experiences. In labor markets characterized by high unemployment and informality, algorithmic "flexibility" often translated into unpredictability and income insecurity rather than empowerment. Workers in these contexts reported adjusting their behavior to align with algorithmic incentives, even when doing so conflicted with personal well-being. This highlights the need to situate autonomy within broader socio-economic conditions and challenges universalistic claims about the empowering potential of algorithmic work arrangements.

4.4 Trust as a Relational and Contextual Outcome

Taken together, the findings demonstrate that trust under algorithmic management is neither automatic nor purely technological. Instead, trust emerges as a relational and context-dependent outcome shaped by employee interpretations of control, fairness, and autonomy within specific organizational and institutional settings. Quantitative analysis shows that these three dimensions collectively explain a substantial proportion of variance in trust, underscoring their interdependence.

Qualitative insights reveal that trust is constructed through ongoing interaction with algorithmic systems rather than formed at a single point in time. Employees continuously evaluate algorithms based on their consistency, responsiveness, and alignment with organizational values. Trust is strengthened when organizations acknowledge algorithmic limitations and provide mechanisms for human intervention, explanation, and appeal. Conversely, when organizations distance themselves from algorithmic decisions—framing outcomes as inevitable or "system-generated"—trust is eroded.

These finding challenges dominant narratives that treat algorithms as neutral tools and instead positions trust as a function of organizational accountability. Employees do not trust algorithms in isolation; they trust—or mistrust—the organizations that deploy them. This insight advances trust theory by extending it beyond interpersonal relationships to encompass socio-technical systems embedded within power-laden organizational structures.

4.5 Algorithmic Management and Global Inequality

A key contribution of this study lies in its global perspective. The findings demonstrate that algorithmic management interacts with existing institutional conditions to produce uneven trust outcomes across regions and labor markets. In contexts with strong labor protections and organizational transparency, algorithmic systems were more likely to be perceived as supportive and legitimate. In contrast, in contexts marked by regulatory weakness and labor precarity, algorithmic management often intensified feelings of exploitation and distrust.

This pattern suggests that algorithmic management is not inherently oppressive or empowering but is mediated by institutional arrangements and power relations. Algorithms do not eliminate inequality; they may amplify it by embedding managerial priorities into technological systems that operate across borders. These findings contribute to global labor studies by highlighting algorithmic management as a new vector through which inequality is reproduced in the digital economy.

4.6 Theoretical Contributions

This study makes several important theoretical contributions. First, it integrates algorithmic management research with organizational trust theory, positioning trust as a central analytical construct rather than a peripheral outcome. Second, it advances labor process theory by conceptualizing algorithmic management as a hybrid form of control that combines surveillance, standardization, and self-regulation. Third, it contributes to global work and employment literature by demonstrating how algorithmic governance interacts with institutional context to shape employee experiences.

By foregrounding employee perceptions, the study moves beyond deterministic accounts of technology and emphasizes the interpretive processes through which algorithmic systems gain or lose legitimacy. This perspective challenges purely technical or efficiency-oriented approaches to algorithmic management and underscores the need for human-centered governance frameworks.

4.7 Implications for Organizations and Policymakers

The findings have important implications for organizations deploying algorithmic management systems. Trust can be fostered by prioritizing transparency, ensuring procedural fairness, and preserving meaningful autonomy. Organizations should resist the temptation to fully automate managerial decision-making and instead design hybrid systems that integrate human judgment and worker voice.

For policymakers, the results highlight the need for regulatory frameworks that address algorithmic accountability, particularly in global labor markets. Ensuring transparency, contestability, and worker protections is essential to preventing algorithmic management from exacerbating inequality and eroding trust.

4.8 Summary

In summary, the discussion demonstrates that trust under algorithmic management is contingent upon employee perceptions of control, fairness, and autonomy, shaped by organizational practices and global institutional contexts. Algorithmic management represents not merely a technological shift but a transformation in the social organization of work, with profound implications for trust, legitimacy, and inequality in the future of work.

5. Recommendations

The findings of this study indicate that trust in algorithmic management is not automatically generated through technological efficiency or automation; rather, trust is cultivated through organizational practices that address employee perceptions of control, fairness, and autonomy. As algorithmic management systems become increasingly embedded across global labor markets, organizations and policymakers must adopt a human-centered approach that recognizes algorithmic governance as a socio-technical system shaped by power relations. The following recommendations are grounded in the study's empirical insights and are intended to support the development of more legitimate, fair, and trust-based algorithmic workplaces.

5.1 Enhance Algorithmic Transparency and Explainability

A primary driver of trust identified in this study is procedural fairness, particularly the transparency of algorithmic decision-making. Employees were more likely to trust algorithmic systems when they understood how decisions were made, what metrics were used, and how performance was evaluated. To address this, organizations should implement transparency mechanisms that provide workers with clear, accessible information about algorithmic processes.

Practical measures include:

- **Disclosing decision criteria:** Organizations should publish the key metrics and rules used in task allocation, performance evaluation, and rewards or sanctions.
- **Providing algorithmic "explanations":** Where possible, systems should offer contextual explanations for decisions affecting workers (e.g., why a task was assigned or why a rating was reduced).
- **Regular updates and training:** Workers should receive ongoing training to understand system logic and changes, particularly when algorithms are updated.

Transparency should not be limited to technical documentation. It must be communicated in worker-friendly language and in ways that account for literacy and cultural differences, especially in global contexts where workers may not share a common technical vocabulary.

5.2 Establish Mechanisms for Worker Voice and Appeal

The inability to contest algorithmic decisions was repeatedly cited as a major source of mistrust. When employees perceived decisions as unchallengeable, they viewed algorithmic management as arbitrary and illegitimate. To build trust, organizations must establish meaningful channels for worker voice and appeal.

Key actions include:

- **Appeal and grievance systems:** Organizations should create formal mechanisms that allow workers to dispute algorithmic decisions and receive timely responses.
- **Human mediation:** Appeals should involve human managers or a designated review panel capable of interpreting data and contextual factors.
- **Feedback loops:** Worker feedback should be used to refine algorithmic logic, correct errors, and improve fairness over time.

Worker voice mechanisms are especially critical in global contexts where institutional protections may be weak. In such settings, organizational accountability through internal grievance systems becomes a primary safeguard against unfair algorithmic practices.

5.3 Rebalance Control with Meaningful Autonomy

The study highlights that autonomy is a key predictor of trust, yet algorithmic systems often provide only illusory flexibility. Organizations should design algorithmic management systems that preserve meaningful autonomy while maintaining operational efficiency. This requires moving beyond "flexibility" as a marketing claim and designing work systems that allow genuine worker discretion.

Practical steps include:

- **Flexible performance standards:** Rather than rigid targets, organizations can adopt performance

metrics that account for contextual variations and allow for worker discretion.

- **Task choice and scheduling:** Where feasible, algorithms should offer workers options in task selection and scheduling, enabling them to exercise agency.
- **Human oversight for exceptional cases:** Managers should intervene when algorithmic rules create unreasonable constraints, ensuring that workers can adapt to real-world conditions.

By rebalancing control and autonomy, organizations can reduce feelings of coercion and support trust-building through recognition of worker agency.

5.4 Integrate Human Oversight and Hybrid Governance

The study's findings suggest that trust is higher when algorithmic systems are complemented by human oversight. Fully automated decision-making can undermine trust due to perceived unaccountability and lack of context sensitivity. Therefore, organizations should adopt hybrid governance models that combine algorithmic efficiency with human judgment.

Recommended practices include:

- **Human-in-the-loop decision-making:** Human supervisors should review significant algorithmic decisions, particularly those affecting employment status or compensation.
- **Algorithmic audits and governance committees:** Organizations should establish internal committees responsible for auditing algorithms for bias, fairness, and accuracy.
- **Ethical guidelines and accountability standards:** Clear policies should define the responsibilities of the organization and the limits of algorithmic authority.

Hybrid governance helps preserve trust by ensuring that algorithms are not perceived as autonomous authorities but as tools under organizational accountability.

5.5 Contextualize Algorithmic Design for Global Equity

The global deployment of algorithmic management systems raises concerns about inequitable outcomes across regions and labor markets. Algorithms designed in Global North contexts may not align with labor realities in Global South environments, leading to unfair expectations and mistrust. To promote global equity, organizations should contextualize algorithmic design and adapt systems to local conditions.

Actions include:

- **Local adaptation of metrics:** Performance metrics should reflect local work conditions, infrastructure constraints, and cultural norms.
- **Inclusive design processes:** Workers should be involved in the design and testing of algorithms to ensure relevance and legitimacy.
- **Collaborative governance with local stakeholders:** Partnerships with labor organizations, NGOs, and regulatory bodies can support responsible deployment.

Contextualization not only improves fairness but also enhances trust by demonstrating organizational respect for local labor realities and values.

5.6 Strengthen Regulatory Frameworks and Institutional Protections

The study highlights the critical role of institutional context in shaping trust under algorithmic management. Where regulatory protections are weak, algorithmic systems can amplify worker vulnerability. Policymakers should therefore establish frameworks that ensure algorithmic accountability, transparency, and fairness.

Policy recommendations include:

- **Algorithmic transparency laws:** Regulations should require organizations to disclose key decision-making criteria and allow worker access to data used in evaluations.
- **Right to explanation and appeal:** Workers should have legal rights to contest algorithmic decisions affecting employment and compensation.
- **Standards for algorithmic audits:** Governments should mandate independent audits to assess bias, accuracy, and fairness.

  Such regulatory measures are especially important in global contexts where workers may lack bargaining power and institutional support.

5.7 Summary

Overall, the study's findings underscore that trust in algorithmic management is cultivated through organizational practices that address perceptions of control, fairness, and autonomy. Building trust requires transparency, accountability, meaningful autonomy, human oversight, and context-sensitive design, supported by robust institutional frameworks. These recommendations offer a pathway for organizations and policymakers to develop algorithmic governance systems that are not only efficient but also legitimate, equitable, and trust-based.

6. Limitations of the study

Despite its contributions to understanding trust under algorithmic management, this study has several limitations that should be considered when interpreting the findings. These limitations stem from methodological constraints, contextual representation, and the complexity of algorithmic governance as a socio-technical phenomenon. Acknowledging these limitations does not undermine the study's value; rather, it clarifies

the boundaries of inference and highlights opportunities for future research to build on the present work.

6.1 Cross-Sectional Design and Causal Inference

A primary limitation concerns the cross-sectional nature of the research design. Data were collected at a single point in time, which allows for the identification of associations among perceived control, fairness, autonomy, and trust, but restricts the ability to establish causal direction. Trust is a dynamic construct that evolves through ongoing interaction with organizational systems. Employees' trust levels may change as they become more familiar with algorithmic processes, experience system updates, or observe organizational responses to algorithmic errors. Consequently, while the study identifies robust relationships between key variables, it cannot definitively claim that perceptions of fairness, autonomy, or control cause changes in trust. Longitudinal research would be valuable to trace how trust develops or erodes over time, especially as algorithmic systems and organizational policies evolve.

6.2 Self-Reported Measures and Subjectivity

The study relies heavily on self-reported data from surveys and interviews, which may introduce perceptual bias and affect validity. Trust, fairness, and autonomy are inherently subjective constructs; therefore, employee perceptions are central to the research question. Nonetheless, self-reported measures can be influenced by factors such as social desirability, recall bias, and emotional reactions to specific incidents. Additionally, employees may interpret survey items differently depending on cultural background or language proficiency, potentially affecting comparability across contexts. Future research could strengthen empirical robustness by triangulating self-reports with objective data such as algorithmic logs, performance records, or organizational documents, thereby allowing a more comprehensive assessment of how algorithmic governance is operationalized and experienced.

6.3 Global Representation and Contextual Diversity

Although the study adopts a global lens, the sample is not fully representative of the diversity of global labor markets. Participation depended on digital access, language proficiency, and willingness to engage in research, which may have led to underrepresentation of workers in informal sectors, remote regions, and non-English-speaking contexts. As a result, the findings may reflect the experiences of workers who are comparatively more visible or organized, rather than those in highly precarious or marginalized settings. Moreover, algorithmic management is implemented differently across industries and regions; therefore, the study's general patterns may not capture context-specific nuances. Future research should adopt more deliberate sampling strategies to include a wider range of geographic regions, cultural contexts, and labor market conditions, thereby providing a more nuanced understanding of global variation in algorithmic trust dynamics.

6.4 Variability in Algorithmic Systems and Organizational Practices

Algorithmic management is not a uniform phenomenon; it varies significantly in design complexity, level of automation, and organizational integration. The present study includes multiple sectors but does not systematically control for differences in algorithmic architecture, data governance practices, or managerial oversight. As such, some variation in trust outcomes may be attributable to technical differences rather than the conceptual dimensions of control, fairness, and autonomy. Future research could adopt comparative case study designs that examine specific algorithmic systems in depth, enabling a more precise understanding of how system design choices influence employee perceptions and trust.

6.5 Cultural and Institutional Moderators

The study's global perspective acknowledges that trust is shaped by cultural norms and institutional frameworks, yet it does not fully capture the moderating effects of these factors. Cultural orientations toward authority, individualism, and uncertainty avoidance can influence how employees interpret algorithmic control and fairness. Likewise, institutional conditions such as labor laws, union presence, and social protections may alter the perceived legitimacy of algorithmic governance. While this study provides initial evidence of global variation, future research should explicitly model cultural and institutional moderators to better understand how trust in algorithmic systems is constructed differently across contexts.

6.6 Reflexivity and Interpretive Constraints

Finally, as a mixed-methods study, the qualitative analysis is shaped by researcher interpretation. Although systematic coding procedures, triangulation, and reflexive memoing were employed, interpretive bias cannot be entirely eliminated. The researcher's positionality, assumptions, and analytical choices may have influenced the framing of themes and the integration of qualitative and quantitative findings. Future studies could enhance credibility through multi-coder analysis, participatory approaches, or collaborative interpretation with workers and stakeholders.

6.7 Summary

In summary, the study's limitations include the cross-sectional design, reliance on self-reported data, partial global representation, variability in algorithmic systems, limited modeling of cultural and institutional moderators, and interpretive constraints. These limitations highlight the need for longitudinal, comparative, and mixed-methods research that incorporates objective algorithmic data and deeper contextual analysis. Despite these constraints, the study provides a foundational framework for understanding

how perceptions of control, fairness, and autonomy shape trust in algorithmic management across global work environments.

7. CONCLUSION

This study examined employee trust in algorithmic management through the interrelated lenses of control, fairness, and autonomy. As algorithmic systems increasingly govern work across diverse sectors and global labor markets, understanding how employees perceive and respond to these systems is critical for both organizational legitimacy and sustainable work design. The findings demonstrate that trust is not an automatic byproduct of technological efficiency; rather, it is contingent upon how algorithmic management is experienced and interpreted by workers within specific organizational and institutional contexts.

The research contributes to the literature on algorithmic management by shifting the analytical focus from algorithmic functionality to employee perception and organizational legitimacy. While prior scholarship has documented the technical features and labor process implications of algorithmic systems, this study integrates these insights within a trust-centered framework. By empirically demonstrating that perceptions of control, fairness, and autonomy collectively shape trust, the study advances understanding of algorithmic governance as a socio-technical and relational phenomenon. In doing so, it bridges organizational trust theory, labor process scholarship, and global work studies, offering a more holistic account of how algorithmic management is experienced in contemporary workplaces.

A central theoretical contribution lies in reframing algorithmic control as a form of governance that is both intensified and obscured. The findings show that algorithmic supervision is not simply a new tool for monitoring but a reconfiguration of managerial authority that can undermine trust when it is perceived as unaccountable. This insight extends labor process theory by highlighting the importance of perceived legitimacy, not only coercive power, in shaping worker responses. Similarly, the study underscores procedural fairness as a key driver of trust, emphasizing that employees evaluate algorithmic systems not only on outcomes but also on transparency, contestability, and organizational accountability. This challenges narratives that frame algorithms as inherently objective and highlights the importance of justice and human agency in algorithmic governance.

The study also offers a nuanced understanding of autonomy under algorithmic management. While algorithmic systems may provide flexibility, autonomy is often conditional and constrained by performance metrics and surveillance. Autonomy, therefore, becomes a contested resource: when meaningful, it supports trust and engagement; when illusory, it generates skepticism and perceived manipulation. These findings underscore the importance of designing algorithmic systems that preserve worker discretion and contextual adaptability, rather than merely offering nominal flexibility.

From a practical perspective, the study's findings have significant implications for organizations and policymakers. Organizations deploying algorithmic management should prioritize transparency, explainability, and avenues for worker voice and appeal. Hybrid governance models that integrate human oversight with algorithmic efficiency are likely to support trust by ensuring accountability and contextual sensitivity. Moreover, algorithmic systems should be designed with global equity in mind, adapting metrics and practices to local labor realities and institutional conditions. Policymakers should consider regulatory frameworks that require algorithmic transparency, right to appeal, and independent audits to prevent unfair and opaque algorithmic practices.

The study also opens several avenues for future research. Longitudinal studies are needed to examine how trust evolves over time as employees gain familiarity with algorithmic systems or as systems are updated. Comparative research across different institutional contexts would further clarify how cultural norms and labor protections shape perceptions of algorithmic fairness and autonomy. In addition, future work should incorporate objective algorithmic data and system logs to complement employee perceptions and provide a more complete picture of algorithmic governance in practice. Finally, research should explore the role of collective worker action and labor organizing in shaping algorithmic governance, particularly in contexts where institutional protections are weak.

In conclusion, this study demonstrates that trust under algorithmic management is a product of relational, contextual, and interpretive processes. Algorithmic governance is not merely a technological innovation but a reconfiguration of workplace authority and worker experience. By centering employee perceptions of control, fairness, and autonomy, this study highlights the conditions under which algorithmic systems can be perceived as legitimate and trustworthy. As organizations continue to digitize managerial functions, ensuring that algorithmic governance is transparent, fair, and responsive to human agency will be essential for sustaining trust and fostering equitable work in the global digital economy.

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