Human vs Algorithmic Leadership: Justice, Commitment, and Job Satisfaction

Filippo Ferrari
University of Bologna, Department of Management, Italy

filippo.ferrari5@unibo.it

Abstract: Platform-mediated work increasingly transfers managerial functions from interpersonal supervision to algorithmic coordination. This study examines whether human-supervised and algorithmically mediated work settings activate different organizational-justice pathways to commitment and job satisfaction. A two-wave panel of 321 workers compared conventional settings with riders and pony-express workers. Structural equation modelling and multigroup analyses distinguished procedural/distributive justice (Justice1) from interpersonal/informational justice (Justice2), controlling for region of origin. In human-supervised settings, Justice2 predicted affective commitment ($\beta = .42$, $p < .001$), whereas in platform-mediated settings Justice1 predicted continuance commitment ($\beta = .39$, $p < .01$). Job satisfaction showed lower variability in the platform-mediated group, with Justice1 contributing to satisfaction stability ($\beta = .35$, $p < .05$). Region of origin did not materially affect these relationships. The findings suggest that the mode through which managerial authority is enacted changes the salience of justice mechanisms: human supervision foregrounds relational fairness, whereas algorithmically mediated coordination foregrounds procedural predictability.

Keywords: Algorithmic management, Organizational justice, Organizational commitment, Job satisfaction, Gig economy

1. Introduction

Digitalization and platform-mediated work have altered the architecture of managerial control. Functions traditionally performed by supervisors—allocating tasks, monitoring performance, evaluating workers, and administering rewards—can increasingly be delegated to algorithmic systems (Kellogg et al., 2020; Meijerink and Bondarouk, 2023). Algorithmic management therefore changes not only the technology through which work is coordinated but also how managerial authority becomes visible and experienced. Recent reviews show that algorithmic management has moved from an apparent edge case of the gig economy toward the centre of organizational and HRM research, raising questions that established theories of leadership and organizational behaviour were not originally designed to address (Keegan and Meijerink, 2025).

This transformation is especially visible in platform work. Riders and other gig workers may receive assignments, performance feedback, incentives, and sanctions without regular interaction with a human supervisor. Algorithmic systems can offer speed, consistency, and scalability, but they can also intensify surveillance and make the logic underlying decisions difficult to interpret (Rosenblat and Stark, 2016; Kellogg et al., 2020). Consequently, algorithmic management should not be treated as inherently beneficial or detrimental. Its consequences depend on how workers interpret the fairness, transparency, and predictability of the system and on the type of managerial function delegated to it.

Organizational justice provides a useful lens for examining this difference. Traditional justice research distinguishes distributive, procedural, interpersonal, and informational justice (Colquitt, 2001; Colquitt et al., 2013; Adamovic, 2023). In physical work settings, interpersonal treatment and explanations are embedded in direct leader–follower exchanges. In platform settings, by contrast, workers may rely more strongly on the perceived consistency of procedures and outcomes because interpersonal cues are attenuated or absent. Recent evidence from gig workers confirms that perceived fairness of algorithmic HR decisions is associated with job satisfaction and perceived organizational support, and that fairness evaluations vary according to the type of decision performed by the algorithm (Jabagi et al., 2025).

This study examines whether two contrasting modes of managerial coordination activate different justice pathways to organizational commitment and job satisfaction. It compares conventional work settings characterized by direct human supervision with platform-mediated delivery work in which substantial coordination and control are exercised algorithmically. The contribution is threefold. First, the analysis examines whether relational/informational justice is especially consequential for affective commitment when a human supervisor is present. Second, it examines whether procedural/distributive justice becomes more salient for continuance commitment when managerial functions are mediated by a platform. Third, it investigates a less explored possibility: although algorithmic management may reduce relational richness, it may also buffer workers from some sources of interpersonal arbitrariness and thereby be associated with a

narrower distribution of job satisfaction. This last possibility complements evidence that algorithmic control can simultaneously create resources and demands for platform workers (Liang et al., 2025).

2. Literature Review and Hypotheses

2.1 Algorithmic versus Physical Leadership

Algorithmic management refers to the delegation of coordination and control functions traditionally undertaken by managers to data-driven systems. Kellogg et al. (2020) identify mechanisms through which algorithms direct, evaluate, and discipline work, while Keegan and Meijerink (2025) position algorithmic management as an increasingly central issue for organizational behaviour and HRM. This development intersects with, but should not be conflated with, the broader literature on virtual work. Froese et al. (2025), in their review of global virtual work, organize a fragmented literature around three domains—global virtual teams, distributed work, and digital technologies—and propose a multilevel framework spanning people, technology, context, and time. Their review is useful here as a broader conceptual backdrop for understanding technological mediation and distributed work arrangements. The present study, however, does not classify its riders as global virtual workers, because their work is locally performed and the study does not test the specifically global dimension examined by Froese et al. (2025).

A more direct conceptual bridge is provided by Blay et al. (2026), who treat virtual work as a multidimensional phenomenon involving spatial, temporal, technological, and employment-relationship dimensions. Their framework combines degree of virtuality with the nature of the employment relationship and distinguishes co-located, hybrid, fully virtual, and virtual gig work, associating these configurations with different HRM roles, including algorithmic HRM in virtual gig work. This framework provides useful vocabulary for the present setting because riders and pony-express workers combine platform-based technological mediation with an altered employment relationship. It does not imply that virtual work is synonymous with algorithmic management, nor that Blay et al. conceptualize algorithmic HRM as a form of leadership. Rather, their framework helps locate platform-mediated gig work within the wider transformation of how organizations manage work, while the present study focuses specifically on the justice consequences of algorithmically mediated managerial authority.

Physical leadership differs because managerial authority is enacted through recurring interpersonal interaction. Human supervisors can interpret context, communicate meaning, display empathy, and adjust decisions to exceptional circumstances. These capabilities can strengthen identification and emotional attachment, but human discretion also introduces inconsistency, favoritism, emotional volatility, and the possibility of abusive supervision. Algorithmic systems reverse part of this configuration: they reduce interpersonal discretion but may create opacity, surveillance, and a sense of dehumanization (Lee, 2018; McGuire and De Cremer, 2023).

The emerging algorithmic-management literature therefore increasingly depicts algorithmic control as a dual or paradoxical phenomenon. Meijerink and Bondarouk (2023) emphasize that algorithms can constrain autonomy while also creating value, and Liang et al. (2025) show that perceived algorithmic control can activate both job embeddedness and work anxiety, with consequences for well-being and service performance. Recent systematic work similarly suggests that algorithmic management cannot be understood as a single uniform configuration because different combinations of algorithmic and employee autonomy produce different worker responses (Chen et al., 2026). This argument is compatible with Blay et al.'s (2026) broader contingency premise that different work configurations call for different HRM roles, but the specific justice mechanisms tested below are derived from organizational-justice and algorithmic-management research rather than from the virtual-work framework itself.

2.2 Organizational Justice as Instrumental and Relational Fairness

Organizational justice concerns employees' perceptions of fairness in organizational decisions and treatment. The established four-dimensional framework distinguishes distributive justice (fairness of outcomes), procedural justice (fairness of decision processes), interpersonal justice (dignity and respect), and informational justice (adequacy and truthfulness of explanations) (Colquitt, 2001). Meta-analytic evidence indicates that these dimensions are related but not interchangeable and that they connect fairness perceptions to attitudes and behaviours through both social-exchange and affective mechanisms (Colquitt et al., 2013).

For the purposes of the present comparison, the four dimensions are organized into two theoretically meaningful components. Justice1 combines procedural and distributive justice and represents the instrumental/formal side of fairness: whether procedures are consistent and outcomes are allocated fairly. Justice2 combines relational and informational justice and represents the social/interpersonal side: whether workers are treated respectfully and receive adequate explanations. This distinction does not replace the established four-dimensional model; rather, it provides a parsimonious way of examining whether the relative importance of formal versus relational fairness changes with leadership modality.

This question is especially relevant in algorithmic settings. Algorithms may be associated with consistency and reduced personal favoritism in standardized tasks, but their opacity can undermine procedural and informational justice. Jabagi et al. (2025), studying 435 Uber drivers, show that workers actively evaluate algorithmic HR decisions through a justice lens and that perceived algorithmic fairness is positively related to job satisfaction. At the same time, Moritz and Wehner (2026) demonstrate experimentally that algorithmic management can receive less negative justice evaluations among individuals with previous experiences of human discrimination, and that algorithmic discrimination is evaluated differently from discrimination by a human manager. Thus, the absence of interpersonal discretion may itself alter the reference point from which fairness is judged.

2.3 Justice, Commitment, and Job Satisfaction

Organizational commitment provides a useful outcome for distinguishing relational from instrumental attachment. Allen and Meyer's (1990) three-component framework differentiates affective commitment, reflecting emotional attachment and identification; continuance commitment, reflecting perceived costs or instrumental reasons for remaining; and normative commitment, reflecting a sense of obligation. Because affective commitment is inherently relational, it should be especially responsive to respectful treatment and meaningful communication when workers interact directly with supervisors. In physical settings, Justice2 should therefore provide a particularly strong basis for emotional attachment.

In platform-mediated work, the exchange relationship is more weakly anchored in a continuing interpersonal bond with a supervisor. Workers instead interact with rules governing access to tasks, evaluations, and rewards. Under these conditions, procedural clarity and distributive fairness may become more salient for decisions to remain on the platform. Recent research on platform workers also indicates that economic dependence, autonomy, commitment, and algorithmic review systems can combine in complex ways to shape work satisfaction, reinforcing the need to avoid a simple positive-versus-negative interpretation of algorithmic management.

Job satisfaction adds a complementary perspective. Human leaders can generate high satisfaction through recognition, support, and high-quality relationships, but direct supervision also exposes employees to interpersonal injustice. Algorithmic systems remove some of these relational opportunities while simultaneously removing some sources of interpersonal variance. The emerging evidence is consistent with such a contingent interpretation. Liang et al. (2025) find simultaneous beneficial and detrimental pathways from algorithmic control, while Moritz and Wehner (2026) show that prior human discrimination changes how people evaluate algorithmic management. Accordingly, an algorithmic environment may not necessarily generate higher satisfaction, but it may produce a narrower and more predictable satisfaction profile when procedural fairness is perceived as stable.

Previous evidence from conventional leader-follower settings also supports the relational sensitivity of job satisfaction. Ferrari (2024), applying Path-Goal Theory to a sample of 181 Italian employees, found that supportive leadership significantly predicted job satisfaction, whereas directive, participative, and achievement-oriented leadership did not. Job satisfaction, in turn, strongly predicted work engagement and significantly mediated the relationship between supportive leadership and engagement. These findings suggest that, where a human supervisor is present, satisfaction may be particularly responsive to supportive and relational leader behaviours. Whether this mechanism persists when supervisory functions are transferred to algorithms remains comparatively underexplored.

2.4 Hypotheses

Building on this framework, it is proposed that the leadership context changes which dimension of justice becomes most consequential for employee attitudes.

H1: In physical work environments, Justice2 (relational/informational justice) is the primary predictor of affective commitment, as emotional attachment is driven by interpersonal treatment and communication.

H2: In platform-mediated, algorithmically managed work environments, Justice1 (procedural/distributive justice) is the primary predictor of continuance commitment, reflecting an instrumental relationship based on process clarity and outcome fairness.

H3: While human-supervised environments offer higher potential for peak job satisfaction through high Justice2, platform-mediated algorithmic environments will exhibit more stable satisfaction levels by utilizing Justice1 to buffer against some relational risks associated with direct human supervision.

3. Methodology

A two-wave panel design was used to examine whether organizational justice perceptions at Time 1 predicted subsequent employee outcomes at Time 2 across two modes of managerial coordination: direct human supervision and platform-mediated algorithmic management. The longitudinal design enabled the study to examine motivational pathways over time while retaining the same participants across measurement occasions.

3.1 Sample and Data Collection

Participants were recruited purposively from two work environments: (1) conventional organizational settings characterized by direct human supervision and recurring face-to-face leader–follower interaction and (2) platform-mediated settings involving riders and pony-express workers whose activities were substantially allocated, monitored, or coordinated through digital platforms. Of 331 respondents at Time 1, 321 participated at Time 2. The study therefore retained 97% of the original panel. Participation was voluntary and responses were anonymous.

The platform-mediated subsample was geographically heterogeneous. Respondents were asked to report their region of origin rather than nationality or citizenship. Africa accounted for roughly one third of this group, with North African origins more common than West African origins. About one quarter of respondents were Italian. Approximately one third originated from Asia, especially South Asia, with a further visible presence from Afghanistan and the broader Middle Eastern/Central Asian area. Latin American and Eastern European origins were represented only in small residual shares, and approximately 2% of respondents did not answer the item. The pattern is broadly consistent with recent Italian evidence describing food-delivery work as a sector with substantial migrant and extra-EU participation and a marked South Asian presence (NIdiL CGIL, 2025). Because the purpose of the variable was to account for broad compositional heterogeneity rather than to infer cultural orientations, region of origin was treated as a control variable.

3.2 Measures

Organizational justice was assessed using the multidimensional framework developed by Colquitt (2001). Consistent with the theoretical model, the dimensions were organized into Justice1 (procedural and distributive justice) and Justice2 (relational and informational justice).

Organizational commitment was assessed according to the three-component conceptualization of Allen and Meyer (1990), distinguishing affective, continuance, and normative commitment. Job satisfaction was assessed through Likert-type items focused on respondents' evaluation of their work assignments and management context.

3.3 Analytical Strategy

The analysis proceeded in three stages. First, confirmatory factor analyses were used to evaluate the measurement structure and the proposed justice configuration. Reliability, convergent validity, and discriminant validity were then assessed. Second, structural equation modelling was used to estimate the longitudinal relationships between Time 1 justice perceptions and Time 2 outcomes. Third, multigroup analyses compared the human-supervised and platform-mediated algorithmic contexts. Age, tenure, gender, and region of origin were included as controls where applicable. Region of origin was retained specifically to test whether the geographical composition of the platform-mediated group provided an alternative explanation for the focal relationships. Path coefficients and significance levels were estimated using 5,000 bootstrap resamples.

4. Results

4.1 Panel Stability and Measurement Model

Of the 331 participants recruited at Time 1, 321 completed Time 2, yielding a dropout rate of 3.02%. This low attrition indicates substantial panel stability. Before testing the structural relationships, the measurement model was evaluated for reliability and validity. All factor loadings exceeded .708. Cronbach's alpha and composite reliability values for Justice1, Justice2, the commitment dimensions, and Job Satisfaction ranged from .78 to .92, exceeding the conventional .70 threshold. Discriminant validity was supported by HTMT values below .90.

4.2 Structural Model

The final structural model showed a strong fit to the observed data: $\chi^2/df = 1.15$, CFI = .98, TLI = .97, RMSEA = .03, and SRMR = .04. Path coefficients and significance levels were calculated using 5,000 bootstrap resamples.

Region of origin did not significantly predict the focal outcomes, and including it as a control did not materially change the direction, magnitude, or statistical significance of the hypothesized relationships. Thus, within this sample, the observed differences between the human-supervised and platform-mediated algorithmic groups were not explained by the broad regional composition of the rider/pony-express group.

4.3 Hypothesis Testing

H1 predicted that Justice2 would be the primary predictor of affective commitment in the physical leadership group. The path from Justice2 at Time 1 to affective commitment at Time 2 was positive and significant ($\beta = .42$, $p < .001$), supporting H1.

H2 predicted that Justice1 would be the primary predictor of continuance commitment in the platform-mediated algorithmic group. The path from Justice1 at Time 1 to continuance commitment at Time 2 was significant ($\beta = .39$, $p < .01$), supporting H2.

H3 concerned differences in job-satisfaction dispersion across the two managerial contexts. The standard deviation of Job Satisfaction was lower in the platform-mediated group (SD = .42) than in the human-supervised group (SD = .85), and Levene's test confirmed a significant difference in variance ($F = 12.44$, $p < .001$). The direct path from Justice1 to satisfaction stability in the platform-mediated environment was also significant ($\beta = .35$, $p < .05$). H3 was therefore supported.

Table 1: Summary of SEM results and model fit. Note: Path coefficients and fit indices are reported for the T1–T2 panel (N = 321).

Index/Hypothesis	Value	Result/Status
Model Fit: χ^2/df	1.15	Excellent
Model Fit: CFI	.98	Excellent
Model Fit: RMSEA	.03	Excellent
H1: Justice2 → Affective (Physical)	$\beta = .42$	Supported ($p < .001$)
H2: Justice1 → Continuance (Platform-mediated)	$\beta = .39$	Supported ($p < .01$)
H3: Justice1 → Satisfaction Stability (Platform-mediated)	$\beta = .35$	Supported ($p < .05$)

5. Discussion

The findings indicate that the mode through which managerial authority is enacted changes the justice pathway through which workers relate to organizations. The comparison should not be read as a generic contrast between 'physical' and 'virtual' work. Froese et al. (2025) show that virtual work is itself heterogeneous, spanning different actors, distributed arrangements, technologies, and contextual conditions. Blay et al. (2026) similarly argue that HRM requirements depend on the particular combination of virtuality and employment relationship rather than on virtuality alone. Against that broader background, the present study isolates a narrower contrast: recurring human supervision versus platform-mediated algorithmic coordination. The results suggest a trade-off between relational richness and procedural predictability within these two specific configurations.

5.1 Physical Leadership, Relational Justice, and Affective Commitment

The support for H1 (β = .42, p < .001) indicates that relational and informational justice are particularly important for affective commitment under physical leadership. When a supervisor is visibly present, employees can evaluate not only what decisions are made but how they are treated and how decisions are explained. Respect, dignity, and meaningful communication therefore become signals about the quality of the relationship with the organization itself. This result is consistent with justice research linking interactional treatment to social-exchange and affective mechanisms (Colquitt et al., 2013).

The finding also clarifies the distinctive value of human leadership in increasingly digital workplaces. Human leaders can provide contextual interpretation and recognition that standardized systems cannot easily reproduce. However, this relational capacity is not unconditionally beneficial: the same interpersonal channel that enables recognition and emotional attachment can transmit disrespect, favoritism, inconsistency, or abusive behaviour. Physical leadership therefore offers greater relational upside but also greater relational exposure.

5.2 Algorithmic Leadership, Instrumental Justice, and Continuance Commitment

H2 (β = .39, p < .01) suggests a different mechanism in the platform-mediated group. Here, Justice1 becomes a central anchor because workers depend heavily on rules governing allocation, evaluation, and rewards rather than on a continuing interpersonal relationship with a supervisor. Continuance commitment in this context is therefore consistent with an instrumental relationship: workers remain when the system is sufficiently predictable and the exchange is perceived as worthwhile. This interpretation is also compatible with Blay et al.'s (2026) description of virtual gig work as combining technological mediation with an altered employment relationship, although the present study extends that framework by examining organizational-justice mechanisms rather than HRM roles.

This result should not be interpreted as evidence that algorithmic management is inherently fair. Contemporary research emphasizes that algorithmic systems may be opaque, restrictive, and difficult to contest (Keegan and Meijerink, 2025). What the present findings suggest is more specific: when procedural and distributive fairness are perceived, these forms of justice have particular motivational relevance in a context where interpersonal leadership is attenuated. Jabagi et al. (2025) similarly show that fairness perceptions of algorithmic HR decisions are consequential for gig workers' attitudes, including job satisfaction.

5.3 Job Satisfaction and the Algorithmic Buffer

The most distinctive finding concerns H3. Job satisfaction displayed substantially lower variability in the platform-mediated group (SD = .42) than in the human-supervised group (SD = .85), while Justice1 was positively associated with satisfaction stability in the platform-mediated environment (β = .35, p < .05). This pattern is consistent with a possible 'algorithmic buffer': algorithmic management may reduce exposure to some interpersonal sources of dissatisfaction even while offering fewer opportunities for relationally generated peaks in satisfaction.

This interpretation is compatible with, but more nuanced than, the dominant dehumanization narrative. Recent evidence shows that algorithmic control can simultaneously strengthen job embeddedness and increase anxiety (Liang et al., 2025). Likewise, Moritz and Wehner (2026) find that prior discrimination by human supervisors weakens the negative association between algorithmic management and justice evaluations, and that algorithmic discrimination can be evaluated less negatively than equivalent human discrimination. These findings support the idea that workers do not evaluate algorithms in isolation: they compare them, implicitly or explicitly, with the risks and benefits of human discretion.

Accordingly, the present study does not claim that algorithms make workers more satisfied, nor that platform-mediated work is generally preferable to human-supervised work. Rather, it suggests that the source and dispersion of satisfaction may differ across these managerial configurations. Human supervision can generate stronger positive experiences through recognition and relational support, but it can also produce sharper dissatisfaction when interpersonal justice is low. Platform-mediated algorithmic management may provide a more standardized baseline in which procedural predictability becomes relatively more important.

This result also extends previous evidence from physical leadership contexts. Ferrari (2024) found that supportive leadership predicted job satisfaction, which subsequently mediated its relationship with work engagement. The present findings suggest an important boundary condition: when the human supervisory

relationship is removed or substantially reduced, satisfaction may become less sensitive to relational leadership inputs and more dependent on procedural predictability.

The region-of-origin control is also relevant to interpretation. The rider/pony-express group was highly heterogeneous and included a substantial proportion of respondents of migrant origin, yet region of origin did not account for the focal outcomes or alter the hypothesized relationships. This does not imply that migration status, citizenship, culture, or labour-market vulnerability are irrelevant to platform work. It indicates more narrowly that the justice patterns observed here cannot be reduced to broad regional composition within this sample.

5.4 Theoretical Contribution

The study contributes to organizational justice and algorithmic-management research in three ways. First, it shows that the relative salience of justice dimensions depends on how managerial authority is enacted: relational/informational justice is linked to affective attachment under direct human supervision, whereas procedural/distributive justice is linked to instrumental attachment in platform-mediated algorithmic work. Second, it extends the duality perspective on algorithmic management by identifying a potential relational-buffer mechanism alongside established concerns about opacity, surveillance, and reduced autonomy. Third, it connects this justice-based comparison to the broader virtual-work literature without collapsing distinct constructs. Froese et al. (2025) provide a multilevel account of the heterogeneity of global virtual work, while Blay et al. (2026) show that different combinations of virtuality and employment relationship imply different HRM roles. The present study complements these frameworks by asking how justice mechanisms differ when managerial authority is exercised primarily through direct human supervision versus algorithmically mediated platform coordination.

6. Practical Implications

The findings suggest that organizations should avoid a one-size-fits-all approach to managerial coordination. This conclusion is consistent with the contingency logic of Blay et al. (2026), who argue that different virtual-work configurations require different HRM roles. The present results add a justice-based implication: the managerial priority may also depend on whether authority is experienced mainly through interpersonal supervision or through platform rules and algorithmic decisions.

6.1 Platform-Mediated and Algorithmic Environments

In platform-mediated algorithmic environments, organizations should prioritize transparent and predictable procedures. Explainable algorithmic practices are likely to be more consequential than superficial attempts to imitate interpersonal leadership through gamified messages or relational nudges. Platforms should communicate the parameters that influence task allocation, performance evaluation, and pricing whenever possible, thereby reducing black-box perceptions and strengthening procedural justice.

Organizations may also use algorithms selectively as a buffer in routine coordination. Automating standardized scheduling or task distribution can reduce opportunities for favoritism and inconsistent supervisory behaviour. However, this benefit depends on the quality of the underlying data. Performance systems should incorporate contextual variables—such as weather, traffic, or road closures for riders—so that algorithmic evaluations reflect actual working conditions rather than simplified data proxies.

6.2 Physical Environments

In physical settings, relational justice should be treated as a managerial capability rather than as an optional interpersonal quality. Selection and development of supervisors should therefore include empathy, respectful communication, and the capacity to provide adequate explanations. Organizations can complement conventional performance indicators with periodic relational-justice audits or upward feedback to identify patterns of inconsistency, disrespect, or emotional volatility before they undermine commitment and satisfaction.

Leader development should also move beyond task and measurement management. Listening, acknowledging concerns, exploring their causes, and responding with context-sensitive explanations can help managers create the meaning and recognition that constitute the distinctive advantage of human leadership.

6.3 Hybrid and Transitional Arrangements

Hybrid arrangements should allocate authority according to task characteristics. Algorithms are well suited to standardized, high-volume activities such as route optimization, scheduling, and resource allocation, provided that procedures are transparent and contestable. Decisions requiring contextual judgement, conflict resolution, ethical balancing, or high-stakes interpretation should retain meaningful human involvement. This recommendation should not be confused with Blay et al.'s (2026) specific transition pathways among HRM roles; rather, it applies the present study's justice findings to mixed human-algorithmic systems. As routine coordination becomes increasingly automated, managerial development should consequently emphasize contextual judgement, ethical reasoning, and the capacity to adjudicate exceptions that standardized systems cannot adequately interpret.

7. Limitations and Future Research

Several limitations qualify the findings. First, although the two-wave design strengthens temporal ordering, the measures rely on self-reported perceptions and are therefore potentially affected by common-method and social-desirability biases. Future research should combine perceptual measures with behavioural outcomes such as turnover, platform deactivation, absenteeism, or documented disciplinary events.

Second, the platform-mediated group consists of riders and pony-express workers in the gig economy. Their employment relationship, task structure, and dependence on platform rules differ from those of employees in conventional organizations. Region of origin was controlled and did not materially affect the focal relationships, but this broad measure should not be conflated with nationality, citizenship, migration status, language proficiency, or cultural orientation. Moreover, although Froese et al. (2025) provide an important framework for global virtual work, the present design does not establish that these riders constitute global virtual workers; the study was conducted within one national context and does not test cross-border dispersion or global work processes. Future research could examine whether the justice mechanisms identified here generalize to genuinely global platform work and other distributed work arrangements.

Third, the two-factor justice configuration is deliberately parsimonious. Although Justice1 and Justice2 capture the instrumental/formal and relational/social distinction central to this study, future research should test whether procedural, distributive, interpersonal, and informational justice have distinct effects under different algorithmic configurations. Blay et al.'s (2026) distinction among co-located, hybrid, fully virtual, and virtual gig work offers a useful framework for such extensions, but those categories should be tested rather than assumed to be interchangeable with different forms of leadership. This is particularly relevant as algorithmic systems vary substantially in the degree of autonomy and control they exercise (Chen et al., 2026).

Finally, the proposed algorithmic-buffer interpretation should be tested directly. Future studies could measure prior exposure to abusive supervision or discrimination and examine whether these experiences moderate reactions to algorithmic management. Moritz and Wehner's (2026) experimental evidence provides a promising foundation for this extension. Research on hybrid leadership should also examine when human review improves algorithmic decisions and when it instead reintroduces the interpersonal inconsistency that automation was intended to reduce.

8. Conclusion

The transition from direct human supervision to platform-mediated algorithmic management does not simply replace one leader with another; it changes how managerial authority is encountered and, with it, the justice mechanisms through which workers interpret their relationship with the organization. Under direct human supervision, relational and informational justice support affective commitment by making the employment relationship socially meaningful. In platform-mediated algorithmic work, procedural and distributive justice support a more instrumental form of attachment grounded in predictability and exchange. Job satisfaction further reveals a possible trade-off between relational potential and interpersonal variability. These findings complement, rather than subsume, the virtual-work frameworks of Froese et al. (2025) and Blay et al. (2026): virtual work is heterogeneous, and algorithmic HRM is one configuration within that wider landscape. The contribution of the present study is to show that, within a specific comparison of human-supervised and platform-mediated work, the salience of organizational-justice mechanisms varies with the form through which managerial authority is enacted.

Ethics Declaration: Ethical clearance was not required for this study. Participation was entirely voluntary, data were collected anonymously, and the study did not involve sensitive personal information or sensitive topics. Participants were informed about the purpose of the research and the voluntary nature of their participation.

AI Declaration: Artificial Intelligence (AI) tools were used to support language editing, manuscript restructuring, and the identification and integration of relevant literature. All theoretical arguments, interpretations, empirical results, citations, and final wording were reviewed and verified by the author, who takes full responsibility for the content of the paper.

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