BISMAN (BISNIS & MANAJEMEN): The Journal of Business and Management
ISSN Online : 2614 - 6592 ISSN Cetak : 2614 – 7734
https://ejurnal.unim.ac.id/index.php/bisman/index
DOI: https://doi.org/10.36815/bisman
Bisman (Bisnis dan Manajemen): The Journal of Business and Management

Algorithmic Management in the Future of Work
A Systematic Literature Review in the Context of Gig Workers

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Abstract

Algorithmic management has become a dominant managerial mechanism in gig work, yet its implications for workers and the future of digital employment remain fragmented in the literature. This study aims to systematically examine and synthesize prior research on algorithmic management in gig work by identifying its core mechanisms, benefits, challenges, unresolved research gaps, and implications for developing fair and inclusive algorithmic systems. This study adopts a Systematic Literature Review (SLR) design guided by the PRISMA framework. Peer-reviewed journal articles published between 2020 and 2025 were identified through structured searches of major academic databases. Following the PRISMA stages of identification, screening, eligibility assessment, and inclusion, a final sample of 34 eligible studies was retained for qualitative synthesis. Data were extracted using a structured coding scheme and analyzed through a combination of deductive Input–Process–Output (IPO) mapping and inductive thematic analysis, leading to the development of an extended Input–Process–Output–Outcomes (IPOO) analytical model. The findings indicate that algorithmic management has rapidly evolved into a central managerial system that reshapes power relations, performance evaluation, worker autonomy, and well-being through data-driven control, monitoring, and decision-making. While algorithmic systems enhance efficiency and structure short-term worker behavior, they also generate long-term social, ethical, and human sustainability challenges. These challenges highlight that the future of digital work increasingly depends on fairness, transparency, and human-centered governance in algorithmic systems. The originality of this study lies in extending the traditional IPO framework into the IPOO model to capture both immediate mechanisms and long-term consequences of algorithmic management in the gig economy.

Keywords: *algorithmic management; gig work; digital labor; IPOO model; future of work*

Abstrak

Manajemen algoritmik telah menjadi mekanisme manajerial yang dominan dalam pekerjaan gig, namun implikasinya terhadap pekerja dan masa depan kerja digital masih tersebar dalam berbagai studi. Penelitian ini bertujuan untuk menelaah dan mensintesis secara sistematis penelitian terdahulu mengenai manajemen algoritmik dalam pekerjaan gig dengan mengidentifikasi mekanisme utama, manfaat, tantangan, kesenjangan riset yang belum terjawab, serta implikasinya bagi pengembangan sistem algoritmik yang adil dan inklusif. Penelitian ini menggunakan desain Systematic Literature Review (SLR) yang dipandu oleh kerangka kerja PRISMA. Artikel jurnal yang telah melalui proses peer-review dan dipublikasikan pada periode 2020–2025 diidentifikasi melalui penelusuran terstruktur pada basis data akademik utama. Dengan mengikuti tahapan PRISMA yang meliputi identifikasi, penyaringan, penilaian kelayakan, dan inklusi, diperoleh sampel akhir sebanyak 34 studi yang memenuhi kriteria untuk dianalisis secara kualitatif. Data diekstraksi menggunakan skema pengodean terstruktur dan dianalisis melalui kombinasi pemetaan deduktif Input–Process–Output (IPO) serta analisis tematik induktif, yang menghasilkan

pengembangan model analitis Input–Process–Output–Outcomes (IPOO) yang diperluas. Hasil kajian menunjukkan bahwa manajemen algoritmik telah berkembang pesat menjadi sistem manajerial utama yang membentuk ulang relasi kekuasaan, evaluasi kinerja, otonomi pekerja, dan kesejahteraan melalui kontrol, pemantauan, dan pengambilan keputusan berbasis data. Meskipun algoritma meningkatkan efisiensi dan mengatur perilaku pekerja dalam jangka pendek, sistem ini juga menimbulkan tantangan sosial, etika, dan keberlanjutan manusia dalam jangka panjang. Temuan ini menegaskan bahwa masa depan kerja digital sangat bergantung pada keadilan, transparansi, dan tata kelola algoritmik yang berpusat pada manusia.

Kata Kunci: manajemen algoritmik; pekerjaan gig; tenaga kerja digital; model IPOO; pekerjaan masa depan

INTRODUCTION

Over the past decades, transformations in economic, political, environmental, and technological landscapes have fundamentally altered organizational systems, including performance management. The expansion of neoliberal labor policies has accelerated labor market flexibilization, giving rise to gig work as a dominant employment model characterized by task-based arrangements, minimal organizational attachment, and limited managerial interaction. Despite this structural shift, performance management frameworks remain largely grounded in assumptions derived from traditional employment relationships, creating a growing mismatch between managerial practices and the realities of gig work.

This mismatch becomes particularly evident in the context of performance evaluation. Conventional appraisal mechanisms—such as supervisor-based assessments or 360-degree feedback presuppose stable hierarchies, sustained interpersonal interaction, and direct managerial oversight. However, gig work is predominantly mediated through digital platforms where human supervision is replaced by algorithmic systems. Consequently, platforms increasingly rely on algorithmic management, defined as data-driven and automated systems that govern task allocation, scheduling, monitoring, and performance evaluation in near real time (Adekoya et al., 2023). While algorithmic management is often positioned as a functional solution to scalability and efficiency challenges in platform-based work, its implications for performance management remain contested.

Existing empirical evidence presents a paradox. On the one hand, algorithmic management has been associated with increased work motivation (Liu et al., 2024; Behl et al., 2022), enhanced efficiency and standardization (Veen et al., 2020; Heiland, 2021), greater operational flexibility (Kurian & Madhavi, 2024; Adekoya et al., 2025; Wu & Huang, 2024), and improved accountability and productivity (Ai et al., 2023; Ye et al., 2022; Chen et al., 2023). On the other hand, these systems have been criticized for intensifying control, reducing worker autonomy (Veen et al., 2020; Duggan et al., 2023), amplifying work pressure and stress that may lead to burnout (Lang et al., 2023; Zhang et al., 2023), dehumanizing employment relationships (Yu et al., 2025; Cortellazzo & Vaska, 2025), and reinforcing information and power asymmetries between platforms and workers (Bucher et al., 2021; Dupuis, 2023). This duality indicates that algorithmic management functions not merely as a neutral performance tool but as a socio-technical system with profound organizational and psychological consequences.

Despite the rapid growth of research on algorithmic management, significant gaps persist. Much of the performance management literature continues to prioritize formally employed workers embedded in conventional organizational structures, while gig worker who experience fragmented employment relations, income uncertainty, and limited institutional protection remain marginal in theoretical and empirical inquiry. More critically, existing studies tend to examine algorithmic management in isolation, focusing either on efficiency outcomes or worker wellbeing, without systematically integrating these perspectives within a performance management framework. As a result, the role of algorithmic management as a comprehensive performance management system for gig workers remains insufficiently theorized and empirically synthesized.

Addressing this gap, the present study conducts a Systematic Literature Review (SLR) to synthesize and critically evaluate existing research on algorithmic management as a form of performance management in the gig economy. Specifically, this study seeks to (1) map how algorithmic management has been conceptualized and operationalized in prior research, (2) identify its documented benefits and challenges, including organizational, social, and psychological implications for gig workers, and (3) highlight unresolved research gaps that warrant further investigation. By consolidating fragmented findings, this study aims to contribute to the development of more balanced, transparent, and inclusive algorithmic performance management systems and to provide a robust conceptual foundation for future research on digitally mediated work

LITERATURE REVIEW

Algorithmic Management

The concept of performance management has undergone substantial development over time. In the current digital era, a new form based on digital technology has emerged, namely algorithmic management. Baiocco et al. (2022) define algorithmic management as the use of computer-programmed procedures to coordinate labor inputs within an organization, meaning that the workforce is governed through automated controls embedded in computational systems. Moreover, Möhlmann et al. (2021) describe algorithmic management as the process of collecting and utilizing large-scale data on digital platforms to develop learning algorithms that perform coordination and control functions previously carried out by managers, aligning with the growing literature on technological advancements such as big data and machine learning. Algorithmic management has rapidly gained attention in human resource management research as scholars seek to understand how the application of autonomous decision-making algorithms influences, reinforces, or disrupts HR roles, activities, and ecosystems (Yu et al., 2025; Cortellazzo & Vaska, 2025; Bucher et al., 2021; Duggan et al., 2023; Veen et al., 2020; Heiland, 2021).

Duggan et al. (2020) further explain that autonomous decision-making within algorithmic management represents a control mechanism in which self-learning algorithms are authorized to design and execute decisions that affect workers, thereby reducing human involvement and supervisory oversight in the work process. Platform workers operate

between two worlds: a market-like environment offering flexibility and autonomy, and an organization-like environment characterized by monitoring and control. This duality creates three main tensions arising from algorithmic management: work execution tension between autonomy and real-time surveillance; work compensation tension related to income uncertainty due to rating systems and algorithmic adjustments; and work belonging tension, where workers feel isolated yet still desire community connection with fellow workers (Möhlmann et al., 2021).

Parent-Rocheleau et al. (2024) outline five dimensions of algorithmic management: monitoring, goal setting, scheduling, performance rating, and compensation. Monitoring refers to the use of algorithmic systems to collect and report real-time behavioral and performance data. Goal setting involves assigning tasks and performance targets determined by algorithms that can dynamically adjust to changing work environments. Scheduling relates to automated work scheduling based on performance data, worker availability, and customer demand. Performance rating consists of evaluating and ranking workers through ongoing automatic calculations of quantitative metrics. Finally, compensation refers to the determination of pay calculated by algorithms based on indicators such as productivity, customer satisfaction, and dynamic pricing mechanisms.

Gig Worker

In the era of Neoliberalism, individuals are granted extensive freedom to manage their own means of earning income, leading to the rise of gig workers. Gig workers are individuals who work independently through short-term contracts and connect with customers via digital platforms (Jabagi et al., 2019). These platforms function as digital labor marketplaces that match service providers with clients and govern all rules, evaluation systems, and work allocation. According to Jabagi et al. (2019), gig workers are characterized by their independent status as freelance contractors, the absence of direct human supervision—replaced by algorithmic monitoring—high flexibility in determining work time and location, project-based work arrangements, and strong dependency on platform architecture.

Davidson et al. (2023) identified four types of gig workers based on Self-Determination Theory (SDT): Ambivalent Outsiders, Competent Cogs, Independent Insiders, and Committed Comrades. These types range from low levels of autonomy, competence, and identification to the most ideal profile with high commitment, long working hours, and top customer ratings. Their findings show that perceived competence differs across segments; workers with lower perceived competence tend to perform worse, possess lower education and experience, and show less motivation to continue gig work. This lack of skills and experience likely reduces self-perceived competence, which ultimately has a negative impact on performance (Davidson et al., 2023).

RESEARCH METHOD

This study employs a Systematic Literature Review (SLR) design guided by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to identify, screen, and synthesize scientific evidence on the role of algorithmic

management in shaping work dynamics, digital organizational structures, and the future of work within the gig economy. The adoption of the PRISMA approach ensures that the review process is conducted in a systematic, transparent, and replicable manner, thereby enhancing methodological rigor and credibility. The overall study selection process following the PRISMA guidelines is illustrated in Figure 1.

The identification stage involved a comprehensive literature search conducted across multiple academic databases, including Scopus, ProQuest, Elicit, and Google Scholar. Keyword combinations were developed to capture the core concepts of the study, namely gig work, algorithmic management, platform-based labor, and the future of work. This initial search yielded a broad pool of potentially relevant studies published between 2020 and 2025. During the screening stage, duplicate records were removed, and titles and abstracts were examined to assess their relevance to the research objectives. A purposive sampling technique was applied to ensure conceptual alignment with the focus on algorithmic n-academic, opinion-base al labor and algorithmic

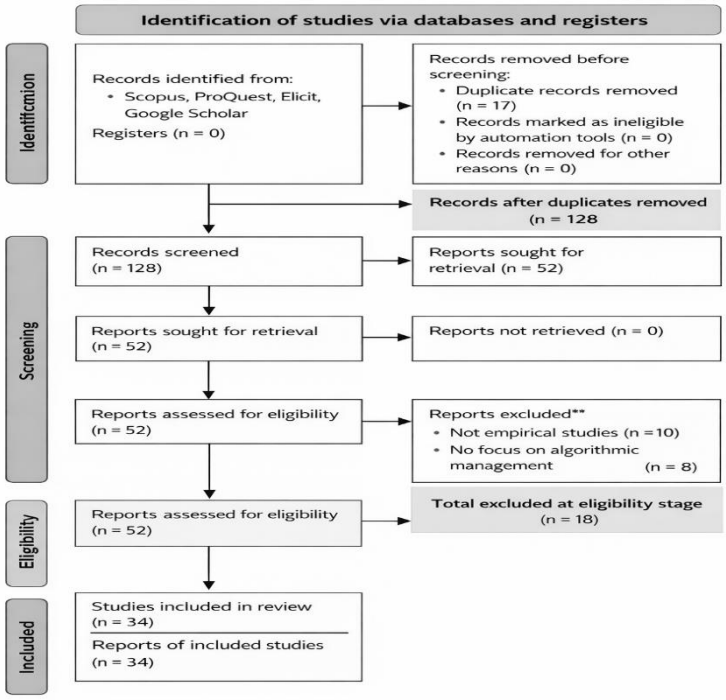


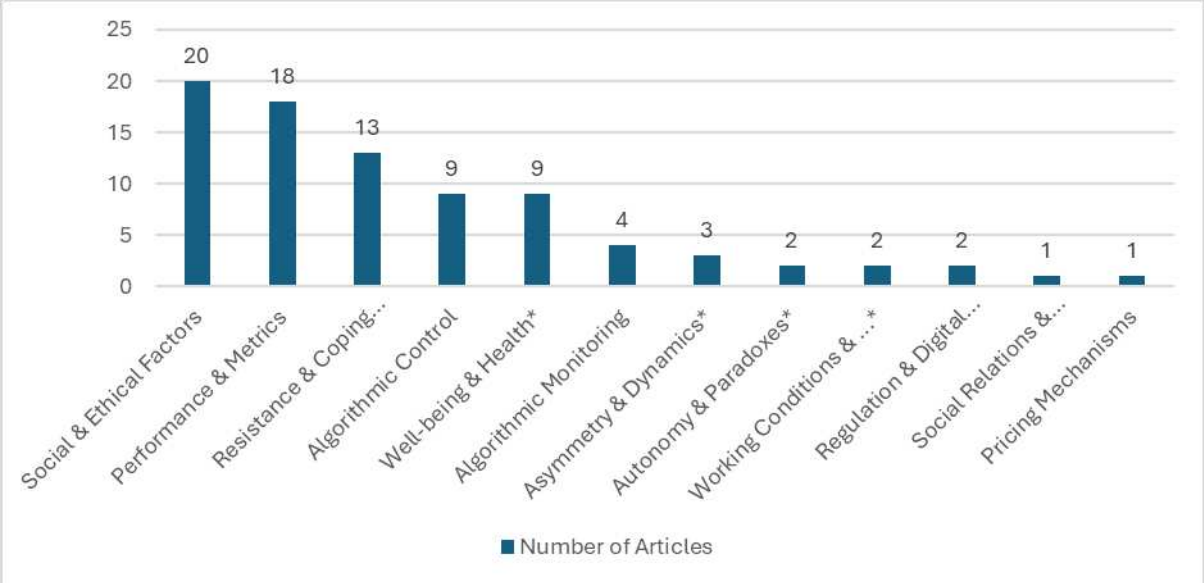
Figure 1 PRISMA flow diagram of the study selection process for the systematic literature review.

The eligibility stage involved a more in-depth assessment based on predefined inclusion and exclusion criteria. Included studies were peer-reviewed journal articles published in English and indexed in reputable international journals (Q1–Q2), explicitly discussing algorithmic management practices and their implications for gig workers or platform-based organizational systems. Studies lacking empirical grounding, focusing on

traditional employment contexts, or addressing digital labor without algorithmic dimensions were excluded. Following this process, a final dataset of 34 eligible articles was retained for analysis. The included studies were systematically analyzed using a structured coding instrument designed to extract key conceptual and analytical elements. The coding sheet covered four main categories input algorithmic control, monitoring, and reward systems process changes in working conditions and social relations output worker performance and well-being and outcomes human sustainability ethical governance and long-term implications. Instrument validity was ensured through expert judgment and cross-verification among coders, while reliability was strengthened through inter-coder consistency checks and systematic documentation. Data collection proceeded in three stages metadata standardization abstract-level content extraction using the coding instrument and manual verification to ensure thematic alignment. Data analysis employed a hybrid thematic synthesis combining content analysis with principles of structural topic modeling. The analytical process followed two main steps. First, a deductive mapping based on the IPO framework proposed by Kadolkar et al. (2024) was conducted to identify core mechanisms of algorithmic management. Second, an inductive refinement was applied to capture emerging themes in recent literature, leading to the extension of the framework into an IPOO (input–process–output–outcomes) analytical model. This model enabled a comprehensive synthesis of both short-term and long-term consequences of algorithmic management within digital labor ecosystems.

As this study does not involve human participants, formal ethical approval was not required. Nevertheless, ethical standards were upheld through the exclusive use of legitimate scholarly sources, appropriate citation practices, and respect for intellectual property. Data validity was enhanced through source triangulation, inter-coder reliability checks, and transparent reporting of methodological procedures. While the study is limited by its reliance on abstract-level analysis, variations in methodological reporting across studies, and a relatively modest sample size, the PRISMA-based methodological design provides a robust and reliable foundation for conceptualizing the evolution of algorithmic management and its implications for the structure, dynamics, and future of platform-based work.

Based on the reviewed articles, a significant increase in academic studies related to algorithmic management in the context of the gig economy has been identified, peaking in 2022. This increase indicates a shift in academic focus from mere operational efficiency toward broader social, digital ethics, and existential issues related to the future of work. Most of the studies examined originate from reputable journals such as the Journal of Organizational Behavior, Human Relations, and Information Systems Research. These articles largely highlight the increasing role of algorithms as a new form of work management that is automated, data-driven, and replaces traditional human supervision.



Social and Ethical Factors

The theme of social and ethical factors highlights injustices within digital work systems caused by algorithmic biases and the lack of system transparency. Automated, decision-making processes often reinforce existing social inequalities, such as racial, gender, and geographic bias. In the context of the future of work, ethical considerations should serve as a foundational element in system management to ensure that algorithmic systems evolve more fairly and transparently. Therefore, it is recommended to integrate ethical principles into the design and deployment of algorithmic management systems to ensure the sustainability of digital work environments. Human-centered approaches are necessary so that technology does not serve merely as a tool for "efficiency" but as an instrument for social justice. Transparency in algorithmic decision-making, worker participation in system design, and platform accountability for social impacts should be considered essential elements for creating an inclusive and ethical work ecosystem. By embedding ethics and fairness into algorithmic governance, the future of work can move toward systems that are not only productive but also humane and equitable.

Digital Performance and Evaluation

Algorithmic performance metrics may increase accuracy and evaluation speed, yet they also carry the potential to dehumanize work. Gig workers are assessed primarily through numerical indicators (ratings, response time, order completion scores), shifting the value of work from processes to outcomes. Over time, this practice contributes to a redefinition of performance in the digital era. In the context of gig worker, performance is constructed as task-based, outcome-oriented and continuously monitored through algorithmic metrics rather than developmental or relation criteria. Performance for gig worker primarily evaluated through response time, completion speed, and income per task,

all of which directly influence access to future work opportunities and income stability. Thus, redefining performance within digital environments must include human-oriented dimensions that are often overlooked by algorithm-based systems. This algorithmic construction of performance shifts its meaning from human capability and skill development toward short-term algorithmic compliance, encouraging workers to prioritize speed, availability, and customer appeasement over creativity, autonomy, and sustainable work practices. Performance evaluation should not rely solely on quantitative outcomes; it must also encompass qualitative aspects such as collaboration, creativity, and worker well-being. A holistic approach can balance technological efficiency with human aspects, ensuring that workers are not reduced to objects of digital surveillance. Consequently, fair and inclusive performance management systems can foster a sustainable digital work environment and strengthen human–technology relations in a more ethical manner.

Resistance and Adaptive Strategies

Gig workers exhibit various forms of resistance to algorithmic control, ranging from system manipulation to the creation of online communities. These phenomena demonstrate the emergence of "digital agency," reflecting workers' ability to negotiate spaces of autonomy within data-driven work systems. In future work frameworks, this represents a shift in the power relationship between humans and technology. Digital agency indicates that workers are not entirely passive under algorithmic control; instead, they can develop adaptive strategies to maintain autonomy and dignity. This is evident in the solidarity of online communities, rapid information exchange, and tactical innovations in responding to platform policies. Over time, these dynamics may pave the way for more participatory work models, where power between humans and technology is renegotiated toward greater balance and fairness. Thus, the future of work will be shaped not only by the sophistication of algorithms but also by human adaptability, collaboration, and agency within digital ecosystems.

Algorithmic Control and Monitoring

Algorithmic control serves as a core mechanism in digital labor organizations. Automated systems such as GPS tracking, rating-based task assignment, and algorithmic penalties create a new infrastructure of surveillance. This reflects a paradigm shift in management toward post-human management, where human control is replaced by real-time, data-driven oversight. While the increased efficiency is evident, new challenges arise related to transparency, accountability, and the balance of power between systems and workers. It is therefore essential to develop algorithmic governance models that balance productivity with workers' rights and fairness. Approaches such as Human-in-the-Loop—where human judgment remains involved in automated decision-making—can help ensure equitable digital work systems. Within gig worker platforms, these algorithmic control mechanisms not only monitor work activities but automated systems. Rating based task allocation, dynamic penalties, and incentive structures shape what counts as good performance without direct human supervision, leading gig workers to internalize algorithmic expectations and align their behavior with system-defined performance

thresholds. The transition toward post-human management must not only optimize performance but also ensure sustainability and justice within algorithmic work environments.

Well-being and Human Dimensions

The well-being of gig workers is often affected by performance pressures and income uncertainty driven by algorithmic systems. The future of work paradigm requires balancing algorithmic efficiency with human sustainability. Based on the literature, algorithmic transparency and worker participation play a crucial role in maintaining psychological well-being in digital work environments. Enhancing worker well-being in the digital era depends not only on efficient systems but also on ethical algorithm design and implementation. Algorithmic transparency helps workers understand the basis of decisions that affect their income and performance evaluations, while worker involvement in system design strengthens their sense of control and fairness. Integrating these elements is essential to creating more inclusive work environments that balance psychological, social, and professional dimensions. The future of work, therefore, should focus on work models that prioritize not only productivity but also long-term human well-being.

Autonomy and the Flexibility Paradox

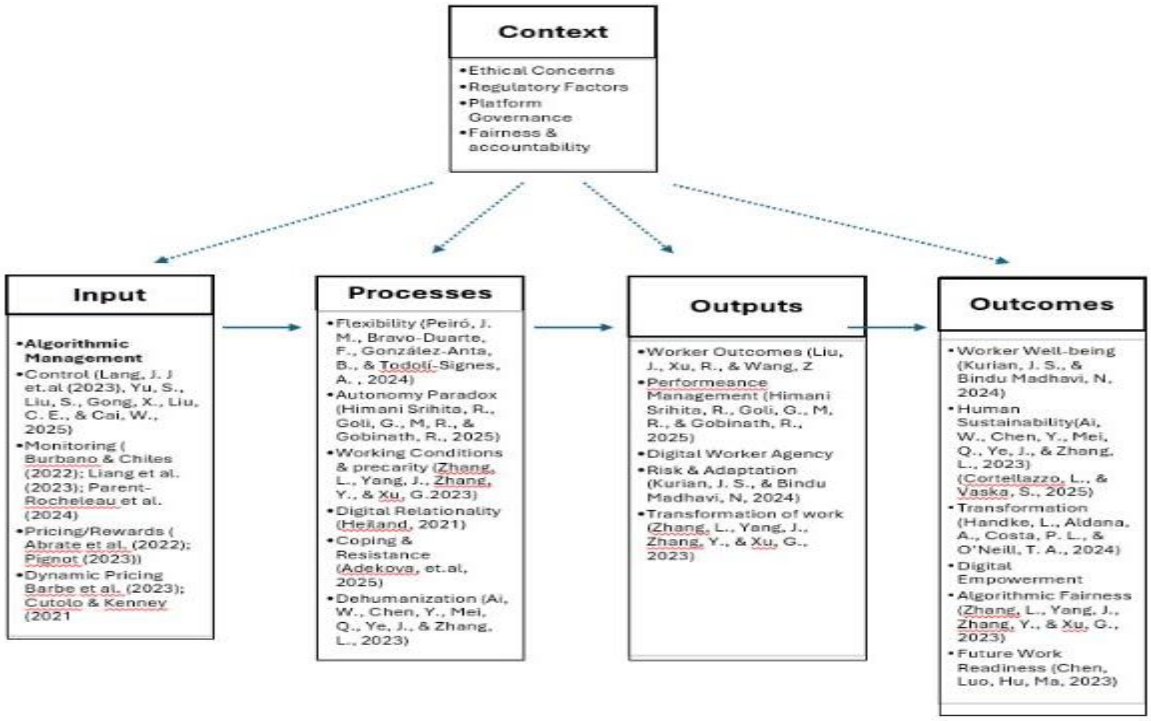
The freedom promised by the gig economy is often illusory. While workers have flexible working hours, they remain controlled by algorithmic systems that determine task allocation and incentives. This paradox symbolizes the ambiguity of the future of work, where freedom and control coexist within digital algorithmic systems. This paradox reflects a fundamental transformation of modern work structures, where individual autonomy coincides with new forms of digital subordination. Flexibility is used as a key "selling point" of the gig economy, yet workers remain bound by algorithmic mechanisms regulating their workload, rhythm, and performance values. The tension between perceived freedom and hidden control underscores the need for adaptive and equitable regulatory frameworks. In the context of the future of work, a major challenge lies in balancing individual flexibility, social protection, and system efficiency to ensure a fair, sustainable, and human-centered digital work ecosystem.

Regulation and Digital Governance

The analysis reveals that several studies emphasize the importance of digital governance in regulating algorithm-based work relations. Regulations are needed to ensure transparency, worker protection, data security, and audit mechanisms that promote fairness within algorithmic systems. These aspects serve as key determinants for achieving a fair, ethical, and sustainable future of work. Digital governance plays a vital role in ensuring that technological innovations align with ethical values and social justice. Strong regulations can serve as risk-control mechanisms while also building trust among workers, platforms, and other stakeholders. Audit mechanisms and transparency in decision-making are essential to minimize discriminatory practices and enhance the accountability of digital

systems. In the long term, inclusive and adaptive digital governance can become the foundation for creating a future of work oriented toward human well-being, ethical responsibility, and social sustainability.

Based on the thematic synthesis and conceptual development derived from the literature, this study adapts the IPO framework which consists of input, process, and output as developed by Kadolkar et al., 2024, and extends it into the IPOO model which consists of input, process, output, and outcomes to capture the long term dynamics of algorithmic management within the context of the future of work. This conceptual model illustrates that algorithmic management not only influences worker behavior and performance in the short term, but also shapes the structural, social, and ethical transformation of future digital work systems, particularly within platform-based and gig economy contexts where algorithmic systems directly mediate work allocation and evaluation. The addition of the outcomes dimension enables a deeper analysis of human sustainability, ethical governance, and workforce readiness in an increasingly automated digital era.

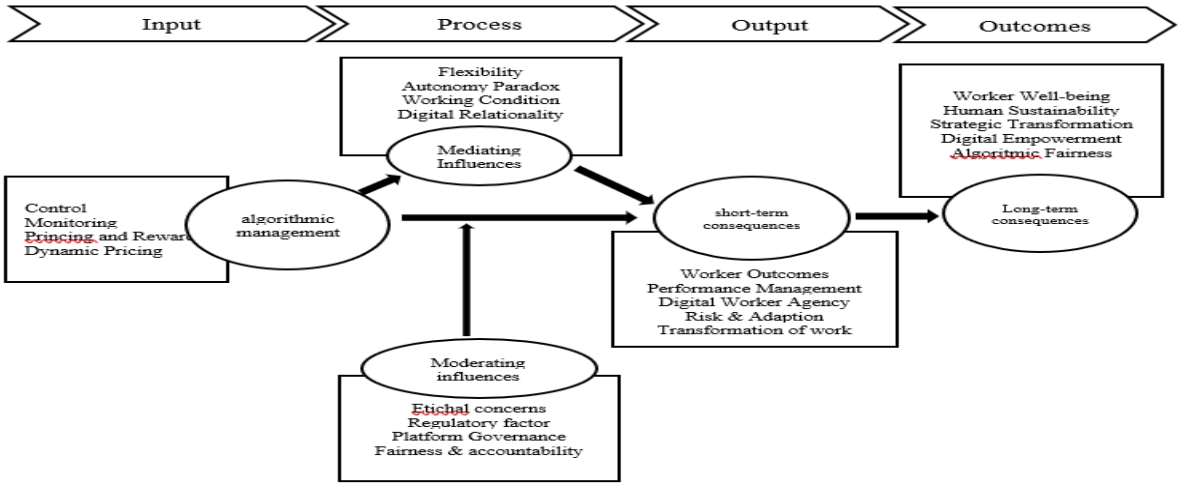


This model expands the original IPO framework introduced by Kadolkar, Kepes, and Subramony, 2024, in the Journal of Organizational Behavior, by adding the outcomes dimension to capture the long term consequences of algorithmic management for workers and social structures. The input component includes elements of control, monitoring, and data driven reward algorithms. The process component describes human and algorithm interaction and digital adaptation mechanisms. The output component reflects the direct effects on worker performance, well-being, and agency, with performance conceptualized

in the gig economy as algorithmically mediated task efficiency, rating stability, income consistency and platform visibility rather than developmental or relational achievement. The outcomes component includes human sustainability, ethical governance, algorithmic fairness, and future work readiness. The framework is also influenced by contextual factors such as social, ethical, and institutional environments, which moderate relationships across components. The IPOO model emphasizes that the future of digital work is shaped not only by algorithmic efficiency, but also by the extent to which these systems preserve human values and social justice within data driven work ecosystems.

This review shows that algorithmic management has evolved from an administrative technological tool into a managerial control mechanism that reshapes work relations in platform-based environments. It reallocates functions such as task assignment, monitoring, and performance evaluation from human managers to data-driven and real time systems, which alters power dynamics and the social structure of contemporary organizations. While this shift increases efficiency, it also raises ethical concerns regarding transparency, fairness, and the legitimacy of data-based decisions, especially in gig work settings where workers have limited opportunities to contest or interpret algorithmic judgments.

At the input stage, the review identifies four core components of algorithmic management: control, monitoring, pricing, and dynamic scheduling. These inputs shape worker behavior by replacing traditional supervision with automated decision rules. As algorithms determine task allocation, time standards, and performance parameters, work relations become more transactional and mechanistic, producing efficiency gains that are often accompanied by the erosion of humanistic and relational aspects of management. The process stage highlights how workers negotiate their position within algorithmic systems. Studies consistently report an autonomy paradox, in which perceived freedom coexists with strong dependence on algorithmic logic that governs job availability and rewards. This condition creates precarious and fluid work arrangements that are associated with emotional exhaustion, burnout, and reduced work-life balance. At the same time, workers develop digital coping strategies through online communities that provide solidarity, information sharing, and resistance to algorithmic power. The process dynamics therefore reflect an ongoing negotiation between human agency and technological control.



At the output stage, algorithmic management generates immediate consequences for performance, well-being, and worker agency. In the context of gig workers, their performance outcomes are defined through algorithmic metrics such as customer ratings, task acceptance rates, response time, completion speed, and earnings per task, which directly determine income opportunities and continued access to platform work. Algorithmic evaluation enhances objectivity and efficiency but tends to ignore contextual and qualitative aspects of human behavior. As a result, workers adjust their actions to satisfy algorithmic expectations rather than intrinsic work values. This performance regime encourages continuous self-optimization and metric-driven behavior among gig workers, often prioritizing speed and availability over autonomy, creativity, and sustainable work practices. Nevertheless, some studies document new forms of digital worker agency, including strategic adaptation, platform navigation, and informal collective practices, which indicate that workers can influence algorithmic systems in subtle ways.

The outcomes stage captures the long-term implications of algorithmic management. Continuous performance pressure increases cognitive and psychological strain, which threatens human sustainability in digital work systems. However, algorithmic management also creates opportunities for digital empowerment through personalized learning, adaptive skill development, and data-driven training. These positive outcomes depend on the implementation of algorithmic fairness and ethical governance to ensure that digital technologies support, rather than undermine, human well-being and social justice.

The findings reveal a fundamental ambivalence in algorithmic management. It delivers efficiency but also risks alienation, inequity, and dehumanization. The future of digital work therefore requires a shift from management by algorithm toward management with algorithm, which integrates analytical precision with human judgment, empathy, and ethical considerations. The proposed IPOO model illustrates how algorithmic management operates through inputs, process mechanisms, short-term outputs, and long-term outcomes to shape the structural, social, and ethical landscape of the future of work particularly in gig economy environments where performance, control, and autonomy are deeply intertwined through algorithmic systems.

CLOSING

Conclusion

This study concludes that algorithmic management has evolved into a central mechanism shaping the structure, dynamics, and long-term trajectory of work in the gig economy. Based on a systematic synthesis of the reviewed literature, the findings demonstrate that algorithmic management operates through four interconnected components, namely input, process, output, and outcomes. At the input stage, algorithmic control, monitoring, and dynamic incentive mechanisms determine how work is structured and allocated. During the process stage, workers experience a tension between perceived autonomy and algorithmic supervision, which leads to both adaptive strategies and work-related pressure. At the output stage, algorithmic evaluation directly influences worker performance, well-being, and agency. In the long-term outcomes, algorithmic management contributes to broader transformations related to human sustainability, ethical governance, and the evolving nature of digital work relationships. Overall, the findings confirm that algorithmic management functions not merely as a technological tool, but as an influential managerial system that reshapes worker behavior, power relations, and the foundations of platform-based work.

Recommendations

Based on the findings, future research is recommended to empirically examine algorithmic management by incorporating the perspectives of both workers and platform organizations to better capture its practical implications for performance and well-being. Further studies may also adopt interdisciplinary approaches by integrating insights from ethics, labor law, and human resource management to develop more responsible and sustainable models of algorithmic governance. From a practical standpoint, digital labor platforms are encouraged to enhance transparency, accountability, and worker participation in the design and implementation of algorithmic management systems..

Urgency

The urgency of this study arises from the increasing reliance on algorithmic management as a dominant performance management mechanism in the gig economy and broader digital labor markets. Without a comprehensive understanding of its mechanisms and consequences, algorithmic systems risk reinforcing power asymmetries, undermining worker autonomy, and generating ethical and sustainability challenges. Therefore, this research is timely in addressing both theoretical and practical needs to better understand how algorithmic governance is shaping the future of work and its implications for human-centered and sustainable employment systems.

Novelty

The novelty of this study lies in its integration of algorithmic management within the Input–Process–Output–Outcomes (IPOO) framework as a comprehensive conceptual

model for analyzing both the mechanisms and impacts of algorithmic governance in the gig economy. Unlike prior studies that primarily focus on technical features or isolated outcomes, this research provides a systematic mapping that connects algorithmic managerial processes with both short-term effects and long-term consequences for workers and digital labor ecosystems. As such, the study offers a distinct conceptual contribution to the literature on management and digital work by positioning algorithmic management as a transformative performance management system.

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