Proceedings of ICMRED 2026 Symposium: The Future of Work: Strategy, Workforce Transformation, and Organizational Renewal
DOI: 10.54254/2754-1169/2026.LD32875

The Impact of Algorithmic Ethics on ESG Governance Performance and Its Optimization: An Analysis Based on the Paradigm of Ride-Hailing and Food Delivery Platforms

Yuxin Wang

School of Economics and Management, Xidian University, Xi'an, China
18335693021@163.com

Abstract. The rapid advancement of artificial intelligence has fundamentally reshaped corporate governance paradigms, with algorithmic ethics emerging as a critical determinant of Environmental, Social, and Governance (ESG) performance. This study investigates how algorithmic ethical failures impact ESG governance performance and explores optimization pathways through a comparative analysis of ride-hailing platforms and food delivery platforms. Despite operating in distinct service sectors, these two platform types exhibit isomorphic algorithmic governance structures characterized by black-box decision-making, power asymmetry, and responsibility drift. Employing stakeholder theory and institutional isomorphism as analytical frameworks, this paper examines the transmission mechanisms through which algorithmic ethical controversies translate into ESG rating downgrades, regulatory interventions, and reputational damage. The findings reveal that algorithmic ethical failures directly impact the Social dimension through labor rights violations and safety incidents, while simultaneously exposing Governance dimension deficiencies in transparency and accountability mechanisms. However, recent developments in China demonstrate that ESG pressures can drive substantive governance optimization. This study proposes a dual-track governance model comprising baseline protection mechanisms and value-oriented algorithm reconstruction, contributing to both theoretical understanding of digital platform governance and practical pathways for responsible algorithm development.

Keywords: Algorithmic Ethics, ESG Governance, Ride-Hailing Platforms, Food Delivery Platforms, Stakeholder Theory

1. Introduction

With the proliferation of artificial intelligence and the development of the digital era, labor relations, consumer interactions, and corporate governance structures have been reshaped. Algorithmic systems have increasingly become intermediaries between corporate interests and stakeholder welfare, performing functions traditionally undertaken by human managers—dispatching workers, evaluating performance, determining compensation, and even terminating employment relationships. From an ESG perspective, this technological transformation has profound implications for environmental, social, and governance performance [1].

DOI: 10.54254/2754-1169/2026.LD32875

Against this background, academic attention to the intersection of algorithmic ethics and ESG governance has increased. Research indicates that digital transformation can enhance ESG compliance through improved information governance and data availability, but it simultaneously introduces new risks. Algorithmic bias may exacerbate social discrimination, black-box decision-making undermines corporate transparency, and responsibility drift mechanisms enable platforms to circumvent labor protections [2].

However, significant research gaps persist in this field. First, existing studies often lack comprehensive analytical frameworks linking ethical failures to governance outcomes. Second, while individual platform controversies have been documented, comparative analyses across platform types remain scarce. Furthermore, recent regulatory interventions and platform-led governance reforms, especially in China with the integration of 20 million gig workers into algorithm negotiation agreements, present new empirical material, yet systematic analysis of these developments is lacking.

Therefore, this study proposes and systematically analyzes the negative impact of algorithmic ethical failures on ESG governance performance in the platform economy. This research employs a comparative case study methodology, examining ride-hailing platforms and food delivery platforms as paradigmatic instances of algorithm-mediated labor governance. This dual-platform comparison enables the identification of common patterns and sector-specific variations in the ethics-ESG nexus.

2. Analysis of similarities, differences, and significance of ride-hailing and food delivery platform paradigms

2.1. Structural isomorphism of platform governance

Although ride-hailing and food delivery platforms operate in different service sectors, their algorithmic governance architectures exhibit significant structural similarities. Both types of platforms position themselves as "information intermediaries" rather than employers in the practical sense. They use algorithmic systems to coordinate dispersed labor forces and facilitate user sharing of product information, while avoiding employer responsibilities legally. This positioning structure creates an emerging algorithmic governance regime. For instance, workers are subject to algorithmic direction, evaluation, and sanctions, yet cannot access traditional employment protections.

The power structures of both platforms operate through three interconnected algorithmic mechanisms. First, platforms determine work allocation based on the unique logic of dispatch algorithms, but this logic remains opaque to workers. Second, platforms calculate performance scores based on evaluation algorithms, and the scores directly affect workers' income and future employment opportunities. Third, platforms automatically impose penalties for perceived violations through sanction algorithms, including temporary or permanent account suspension. Behind these operational mechanisms lie significant information asymmetries and inequities [2].

2.2. Isomorphic patterns of ethical failure

The decision-making process is opaque to outsiders [3]. The algorithms of both platform types resist external scrutiny. In the ride-hailing sector, dynamic pricing algorithms adjust prices based on demand models that drivers cannot access or question [4]. In the food delivery sector, Estimated Time of Arrival (ETA) algorithms set delivery windows that determine whether riders face penalties, yet the factors entering ETA calculations remain undisclosed. This opacity violates fundamental

DOI: 10.54254/2754-1169/2026.LD32875

principles of procedural justice—affected parties cannot understand, let alone question, decisions that determine their livelihoods.

Power is distributed asymmetrically and is not coupled with accountability. The algorithmic governance regime creates extreme power asymmetries. Platforms possess complete information about workers, while workers know very little about platforms' decision rules. More importantly, platforms have constructed legal architectures that insulate them from accountability. By classifying workers as independent contractors, platforms successfully argue that labor and employment laws do not apply to algorithmic management practices. This separation of power from accountability reveals fundamental governance deficiencies.

The original goals have been replaced by a focus on means or internal procedures. Algorithmic systems designed to optimize efficiency have systematically displaced other legitimate objectives. ETA algorithms initially served as tools for predicting reasonable delivery times; however, through iterative optimization, they evolved into normative targets that continuously compress time windows. What was once a descriptive model became a normative instrument for extracting ever-faster performance. This goal displacement—the transformation from prediction to prescription—illustrates how algorithm design choices embody value judgments that remain invisible to affected stakeholders.

2.3. Paradigmatic significance

The aforementioned two cases represent typical instances of algorithmic governance paradigms in the platform governance field, embodying the core characteristics of digital labor management. Their paradigmatic significance is manifested in three dimensions. First, they involve multi-age and multi-domain populations—globally, tens of millions of workers are subject to platform algorithmic governance constraints. Second, compared to more complex algorithmic systems in finance or healthcare, these governance mechanisms are relatively transparent and amenable to direct observation. Third, these sectors have generated the richest empirical records of algorithmic effects, including worker experiences, regulatory responses, and governance innovations.

These two paradigms in parallel reveals that ride-hailing platforms highlight concerns at the public safety level, such as passenger protection, driver fatigue, and accident prevention; food delivery platforms highlight labor protection concerns, such as income volatility, occupational injury, and social insurance coverage. Together, they provide complementary evidence of the multidimensional impacts of algorithmic governance on ESG performance.

3. Analysis of performance impacts: transmission mechanisms from ethical failures to ESG governance consequences

3.1. Social dimension—labor rights and public safety

The Social dimension of ESG represents the primary area impacted by algorithmic ethical failures in both types of platforms. In the food delivery sector, the core controversy has consistently been occupational safety and labor rights. Relevant documentation indicates that Chinese media have long reported cases of food delivery riders being forced to violate traffic regulations to meet algorithmically determined delivery times, leading to significantly increased accident rates. In 2023, a rider in Beijing died during delivery, but the platform subsequently defended itself by citing the absence of a labor relationship and offered only RMB 2,000 in compensation, an incident that sparked nationwide outrage and regulatory attention.

DOI: 10.54254/2754-1169/2026.LD32875

The fundamental problem underlying this outrage-provoking incident lies in the mismatch between algorithmic governance and existing social protection frameworks. Food delivery platforms treat riders as independent contractors, meaning they can use this as a pretext not only to avoid responsibility for riders' social insurance and work-related injury compensation but also to evade accountability for their occupational safety. Simultaneously, algorithmic systems exercise comprehensive control over riders' working conditions, mandating when riders work, how fast they must travel, and what penalties they face for perceived failures. This constitutes what scholars term algorithmic precarity: workers are subject to comprehensive control yet cannot access employment-related protections.

In the ride-hailing sector, the social-level impact has primarily focused on public safety. As early as 2018, the Didi Hitch fatalities already exposed the potentially disastrous consequences of algorithm design prioritizing performance over safety. Subsequent investigations further emphasized this hidden danger—platform algorithms failed to detect dangerous driver behavior, emergency response systems were underdeveloped, and safety features were deliberately subordinated to user acquisition metrics. The impact on ESG performance was direct and severe: Didi was forced to suspend its Hitch service for rectification, faced multiple regulatory investigations, and experienced a market value decline of approximately 50% following its U.S. IPO.

3.2. Governance dimension—transparency and accountability

In the Governance dimension, performance has been affected by two interrelated issues: transparency deficits and accountability deficits. Early ESG reports from both types of platforms systematically excluded algorithmic governance issues, discussing only "efficiency improvements" and "order growth" while remaining silent on how algorithms affected workers, how user disputes were resolved, or what safeguards existed against algorithmic bias [5]. This selective disclosure constitutes what critical observers term algorithmic ethics washing—presenting a socially responsible image while avoiding substantive engagement with algorithmic impacts.

Algorithmic transparency deficits extend beyond reporting to operational governance processes. Several points can be confirmed by labor groups in both industries: they cannot access information about how performance is evaluated, how dispatch decisions are made, or why they receive penalties. A delivery rider participating in the Beijing algorithm negotiation process described the dispatch system as "like a blind box"—you never know what's inside until you open it. Emerging algorithmic norms hold that individuals significantly affected by algorithmic decisions have the right to understand the decision basis and challenge adverse outcomes. Against this standard, the opacity exhibited by platform algorithms serves as a negative exemplar.

Algorithmic accountability failures are clearly manifested in dispute resolution. When workers perceive unfairness in algorithmic outcomes—whether through incorrect performance calculations, unreasonable penalties, or arbitrary account suspension—they typically cannot find effective review mechanisms. Platform customer service systems designed for consumer inquiries have proven inadequate for resolving algorithmic governance disputes, leaving both parties trapped in infinite loops between automated responses and human agents lacking authority to override algorithmic decisions.

These governance failures have direct ESG consequences. Rating agencies including MSCI and Sustainalytics have flagged algorithmic governance as an emerging risk factor in platform company evaluations. Institutional investors increasingly inquire about algorithmic transparency mechanisms, worker grievance procedures, and board-level oversight of algorithm design. The message from

DOI: 10.54254/2754-1169/2026.LD32875

capital markets is clear: algorithmic governance is no longer a peripheral operational matter but a core governance issue meriting board attention [6].

3.3. Environmental dimension

From the environmental dimension perspective, platform governance reveals measurable yet indirect impacts of algorithm design. In both types of platforms, algorithms optimizing solely for speed and efficiency generate environmental externalities. Food delivery riders responding to compressed delivery times are forced to violate traffic regulations to complete dispatches, accelerating rapidly, braking hard, and choosing suboptimal routes to save seconds. Ride-hailing drivers responding to dynamic pricing incentives may engage in excessive cruising, increasing vehicle miles traveled and associated emissions.

Research on platform sustainability indicates that multi-objective optimization—incorporating environmental factors alongside speed and cost—can significantly reduce these impacts. However, absent stakeholder pressure to include environmental considerations in algorithm objective functions, platforms have historically optimized for narrower metrics. This demonstrates that ESG integration requires not only reporting environmental performance in ESG reports but also embedding environmental values into core operational algorithms [7].

4. Analysis of platform ESG governance optimization: from compliance to value reconstruction

4.1. Stakeholder-driven governance reform

The most significant driving force in platform algorithmic governance comes from stakeholder negotiation processes, particularly those led by trade unions and regulatory authorities. From China's experience with platform algorithm negotiations, it is readily apparent how organized stakeholder participation can drive governance improvements. For instance, the Beijing Federation of Trade Unions brought platform executives, technical personnel, and worker representatives to the same table to collectively discuss algorithmic rules affecting working conditions, greatly promoting algorithm and labor rule negotiations between platform companies and worker representatives. These negotiations have produced the concrete governance outcomes documented in Table 1.

Table 1. Algorithm negotiation outcomes: beijing platform cases

Platform	Negotiation outcome	Implementation time	Impact indicators
Meituan	Cancel the policy of deducting fees upon expiration of time	Dec-25	National policy reform
Meituan	Fatigue prevention system:8-hour warming, 12-hour Mondary shutdown	2024	The accident rate in the pilot project decrease by 23%
Didi	Transparency of dispatching algorithm: "Nearby + Experience" principle	2025	Improvement in driver satisfaction
Didi	Commisson cup reduced: 29%→17%	2025	The average monthly income of taxi drivers in Beijing has increase by 580 yuan
JD Express Delivery	Full-time rider social insurance	2025	First coverage of social security

DOI: 10.54254/2754-1169/2026.LD32875

Table 1. (continued)

JD Express Delivery	Fatigue prevention system	Aug-25	Minimum hourly wage guarantee(27.2 yuan)
Ele me	"Meal Prepared" Notification System	2025	The overtime hours for the pilot riders have been reduced by 50%
Ele me	Business District Negotiation Mechanism	2025	Covering 12 district of Beijing

These outcomes demonstrate several important governance principles. First, negotiation is effective: structured dialogue between affected stakeholders and platform decision-makers can produce substantive rule changes. Second, negotiation transparency enables accountability: when algorithmic rules become visible, workers can identify problems and advocate improvements. Third, technical fixes require social processes: fatigue prevention systems and dispatch rule changes emerged not solely from technological innovation but from social processes that identified problems and negotiated solutions [8].

4.2. Convergent optimization pathways

Analysis of platform governance reforms reveals three convergent optimization pathways across both platform types.

The pathway 1 ensures that algorithms operate transparently. Although the forms differ, both industries are moving toward greater algorithmic transparency. In the ride-hailing sector, Didi now provides drivers with detailed commission breakdowns for each trip, enabling verification of platform calculations. In the food delivery sector, Meituan and Ele.me have established "rider-algorithm communication meetings," where riders can question algorithmic rules and receive explanations from technical personnel. These transparency measures further address the fundamental injustice of black-box decision-making by creating visibility into previously opaque processes [9].

The pathway 2 ensures that multiple objectives are optimized in tandem. Platforms have begun revising algorithm objective functions, consciously shifting away from the past value system prioritizing efficiency above all else. Meituan's ETA algorithm now incorporates "buffer time" as an explicit parameter, acknowledging that reasonable delivery windows require margin for unexpected conditions. The fatigue prevention systems adopted by multiple platforms explicitly incorporate worker welfare into algorithmic governance. These systems aim to override individual worker choices to prevent fatigue and accidents. These changes demonstrate that algorithm design is not technologically determined but reflects value choices that can be revised through governance processes.

The pathway 3 ensures that governance structures are ethically grounded. Platforms have begun embedding algorithmic ethics within formal governance structures [10]. Both Meituan and Didi have established algorithmic ethics working groups under their sustainable development committees, with participation from legal, safety, technical, and ESG functions. Product managers responsible for algorithm development increasingly face performance evaluations incorporating worker satisfaction and safety metrics alongside traditional efficiency indicators. These structural changes institutionalize ethical considerations within organizational decision-making, reducing dependence on individual ethical awareness to some extent.

DOI: 10.54254/2754-1169/2026.LD32875

4.3. From compliance disclosure to value disclosure

ESG reporting practices have undergone significant changes in response to algorithmic governance challenges. Early platform ESG reports either entirely ignored algorithmic issues or discussed them only in positive terms—describing algorithms as efficiency-enhancing innovations without acknowledging governance challenges.

Recent reports demonstrate meaningful evolution. Meituan's 2024 ESG Report disclosed "rider-algorithm communication mechanisms" and "grievance resolution rates" for the first time. Didi's 2023 ESG Report explicitly discussed algorithmic fairness and placed safety algorithms under board oversight. These developments mark a shift from compliance disclosure—minimal disclosure to satisfy external requirements—toward value disclosure, articulating how platforms manage the governance challenges inherent in algorithmic operations [11].

However, standardized indicators for algorithmic governance have yet to emerge, making cross-platform comparison relatively difficult. Value disclosure remains voluntary and selective, but only what platforms choose to reveal can be seen. The ultimate test—whether disclosed governance mechanisms genuinely prevent harm and ensure fairness—still requires ongoing empirical research.

5. Conclusion

Through a comparative analysis of two algorithmic governance paradigms—ride-hailing and food delivery platforms—this study examines the relationship between algorithmic ethics and ESG governance performance, arriving at the following conclusions. First, algorithmic ethical failures directly and measurably impact ESG performance. Second, ESG pressures can drive meaningful optimization of algorithmic governance. Third, effective algorithmic governance requires the joint participation of both baseline protection and value-oriented approaches.

However, this study also has certain limitations. First, its focus on Chinese platforms, while providing rich empirical material, neglects generalizability to other regulatory environments. Second, quantitative measurement of governance outcomes remains underdeveloped, such as the precise relationship between transparency measures and stakeholder trust.

The fundamental challenge underlying algorithmic governance is the relationship between technological capability and social accountability. Algorithms can coordinate complex activities at unprecedented scale, but their exercise of power must be matched by equally robust accountability mechanisms. The platform cases demonstrate that such accountability is possible—but only through sustained stakeholder engagement, regulatory attention, and platform commitment to governance values that transcend narrow efficiency optimization. As platform algorithms continue to shape work, commerce, and social life, the governance models developed in response to current challenges will inform broader efforts to align technological innovation with human welfare.

References

[1] Huang, L., & Li, G. (2026). Anticipatory governance of digital platforms: An analysis based on the UK's online safety act. Telecommunications Policy, 50(6), 103194. https: //doi.org/10.1016/J.TELPOL.2026.103194

[2] Yan, Y., Li, D., Liu, Z., et al. (2025). Technology empowerment and responsible governance: Optimization path and empirical research on the tripartite game of takeaway platforms. Journal of Business and Marketing, 2(1). https: //doi.org/10.62517/JBM.202509114

[3] Žlahtič, B., Završnik, J., Vošner, B. H., et al. (2024). Transferring black-box decision making to a white-box model. Electronics, 13(10). https: //doi.org/10.3390/ELECTRONICS13101895

[4] Xiao, J., Jiang, C., Yang, H., et al. (2026). Airport pricing strategies for ride-hailing services: A game-theoretic analysis. Transportation Research Part B, 207, 103433. https: //doi.org/10.1016/J.TRB.2026.103433

DOI: 10.54254/2754-1169/2026.LD32875

[5] Long, C. (2022). Labor order under digital control: Research on labor control of take-out platform riders. The Journal of Chinese Sociology, 9(1). https: //doi.org/10.1186/S40711-022-00171-4
[6] Gupta, K. A., Srivastava, K. M., & Misra, A. (2026). Transparency and accountability essential to ESG performance in the supply chain: A Fuzzy DEMATEL approach. Cleaner Logistics and Supply Chain, 19, 100309. https: //doi.org/10.1016/J.CLSCN.2026.100309
[7] Fang, M., Hong, J., Nie, H., et al. (2025). Environmental regulation, ESG, and firm value: Evidence from China. Applied Economics, 57(58), 10009–10024. https: //doi.org/10.1080/00036846.2024.2425117
[8] Huang, Y. B. (2025). A literature review and future prospects of ESG research from the perspective of stakeholders [in Chinese]. China Business Review, 34(23), 160–164. https: //doi.org/10.19699/j.cnki.issn2096-0298.2025.23.160
[9] Zhao, X. Y. (2025). The impact of algorithm transparency signals on platform practitioners' policy recognition of rights protection (Master's thesis). Xidian University. https: //doi.org/10.27005/d.cnki.gdzku.2025.004158
[10] Gao, J., & Huang, Z. X. (2026). Digital united front work in the algorithmic society: Paradigm transformation, operation mechanism and ethical norms. Journal of United Front Studies. Advance online publication. https: //link.cnki.net/urlid/50.1215.C.20260311.1008.002
[11] Fu, B. W., & Liu, X. X. (2026). ESG: From compliance to value creation. Enterprise Reform and Development, (2), 47–51.