

AIGC+ Determination of Labor Relations in the Context of the “Gig Economy”

-- Taking Delivery Riders as an Example

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Abstract

The rise of generative artificial intelligence (AIGC) technology is injecting new momentum into the gig economy and reshaping the rights and obligations of platforms and workers, while also constantly challenging traditional standards for determining labor relations. This study takes food delivery riders as the research object, analyzes the dilemma of labor relations determination under AIGC, explores legal regulatory paths, and argues from the perspectives of "personal subordination" and "economic subordination" that AIGC deeply and implicitly controls the labor process through mechanisms such as dynamic path planning, blurring the boundaries of determination. A multi-level solution is proposed: in the judiciary, the substantive and modern interpretation of the subordination standard should be developed, examining the substantive control of algorithms; in legislation, the binary model should be broken through, creating a "quasi-employee" subject and implementing tiered protection; collaborative governance should strengthen the responsibility of platform algorithms and promote the construction of collective bargaining mechanisms, providing theoretical reference for building a new paradigm for determining labor relations and protecting the legitimate rights and interests of workers.

Keywords

AIGC, gig economy, labor relations determination, food delivery riders, algorithm governance.

1. Introduction

To thoroughly implement the national strategic policy of "promoting the healthy and sustainable development of the platform economy," the Ministry of Human Resources and Social Security officially issued the "Notice on Strengthening the Standardized Construction of the Gig Market" in 2023, explicitly proposing to "strengthen information services for the gig market, standardize the operational order of the gig market, and improve the protection of the rights and interests of gig workers." Under this policy framework, the wave of digital technology has given rise to the "gig economy," embodied in the platform economy, completely reshaping the traditional labor market and fostering a large-scale new employment group. Among them, food delivery riders, as a typical representative of this model, have seen their labor rights protection issues, especially the difficulties in determining labor relations, become a focus of attention in the fields of law, management, and public policy. The traditional labor relations determination system, rooted in the industrial era and characterized by long-term nature, personal subordination, and economic subordination, has proven inadequate in the face of the new forms of the gig economy, such as "task-oriented," "de-organized," and "algorithmic" approaches. Platform companies, through ingenious legal relationship design, generally define riders as "independent contractors" or "partners", thereby systematically circumventing

employer responsibilities under the Labor Law and Labor Contract Law, causing a large number of riders to fall into the "three-no" dilemma of lacking labor contracts, social insurance and basic protection [1].

Looking at the current state of research both domestically and internationally, scholars have conducted in-depth discussions on this issue from multiple dimensions. On the one hand, research focuses on the institutional deficiencies in labor rights protection. Pan Dan (2022) points out structural problems in the gig economy, such as legislative lag, an incomplete social security system, and an imbalance in the power dynamic between labor and capital. On the other hand, Liu Shanshi et al. (2022) delve into the control mechanisms of the labor process, meticulously analyzing the complex impact of algorithmic management on workers' autonomy. Research shows that online labor platforms achieve strict control over the labor process through algorithmic technology. While this control may superficially grant workers flexibility, it can secretly create a "work autonomy paradox." At the judicial practice level, Que Zibing (2021) reveals that current judgments generally adopt the "subordination" standard, but due to inconsistent understanding and application, inconsistent judgments in similar cases are frequent. In response, Ban Xiaohui (2019) proposes that the characteristics of subordination should be interpreted flexibly, and that an intermediate subject type between employees and self-employed individuals should be considered to break through the binary adjustment model of "all or nothing." Xie Fusheng et al. (2019) pointed out from the perspective of political economy that the gig economy, driven by the logic of capital elasticity accumulation, may not naturally achieve a win-win situation for labor and capital. Low-skilled full-time workers may face more severe income and job instability.

Existing research has laid a solid foundation for understanding labor relations issues in the gig economy, but most of its analytical paradigms are still based on the existing model of platform algorithm management. However, the new generation of artificial intelligence technology, represented by generative artificial intelligence (AIGC), is rapidly and deeply empowering the gig economy. This is not simply an upgrade of management tools, but a potential reshaping of labor organization methods, control forms, and the essence of legal relationships [2]. The deep involvement of AIGC in path planning, order allocation, etc., is quietly changing the factual basis of subordinate judgment. The innovation of this study lies in its forward-looking perspective on the dynamic evolution background of AIGC technology empowerment, systematically exploring how AIGC reconstructs the control and subordinate relationship in the labor process, thereby posing a fundamental challenge to the current labor relations identification standards.

2. The Real Dilemma of Labor Relationship Determination for Food Delivery Riders under AIGC Empowerment

The deep integration of AIGC technology in the gig economy has not only brought about innovation in technology and business models, but also significantly increased the complexity and difficulty of the traditional labor relations identification standards in practical application. This impact is not limited to the improvement of efficiency or the optimization of work processes, but is more deeply reflected in the fact that it has completely changed the interaction mode and power structure between the platform and riders through data-driven and intelligent decision-making methods [3]. In this context, the concept of "subordination," which has long been an important benchmark for judging labor relations, faces unprecedented challenges and risks of failure under the new labor forms. Specifically, with the full intervention of algorithms in work task allocation, performance evaluation and salary calculation, traditional labor control methods are gradually being replaced by concealed and digital management methods, making the relationship between workers and platforms more ambiguous and difficult to define.

2.1. The blurring of personality attributes: from manual instructions to algorithmic covert control

2.1.1. Deepening of labor process control

AIGC-driven algorithms can integrate real-time road conditions, weather, historical data and riders' personal behavior patterns to dynamically generate and enforce the "unique optimal" delivery route. Any deviation of a rider from the suggested route may be recorded by the system and directly affect their service rating and subsequent order allocation opportunities [4]. This "data-driven command" is more rigorous and unquestionable than the instructions of human managers, and in fact deprives riders of their autonomy in the execution of their work, making their personality subordination change from "accepting instructions" to "obeying the algorithm-generated optimization plan".

2.1.2. The Algorithm Black Box of Performance Evaluation Systems

AIGC further learns from massive amounts of data to build a highly complex, personalized and dynamically adjustable performance evaluation model. The system may no longer rely on a single overtime indicator, but instead integrate multiple features such as delivery time, customer evaluation sentiment, and riding trajectory stability to generate a "capability profile" that concerns the rider's livelihood [5]. The "black box" nature of this evaluation process makes it difficult for riders to understand the internal logic of their work evaluation, and they can only passively adapt and try their best to cater to the algorithm's preferences. The labor process is thus placed under a continuous, comprehensive and opaque supervision. Although this supervision mediated by technology is invisible, its control is far greater than that of the traditional model, but it is more difficult to be identified as a "management behavior" in the legal sense because of its technological cloak.

2.2. The increasing complexity of economic subordination: from stable wages to algorithm-dependent survival

2.2.1. Algorithmic pricing and instability of revenue streams

The platform uses AIGC to make large-scale market predictions and real-time dynamic pricing. The generated delivery fees are closely related to the real-time supply and demand relationship in the region, promotional activities, and even predicted user intentions. This makes the riders' income base extremely unstable and unpredictable. Underneath the appearance of "more work, more pay", there is an absolute dependence on the platform's pricing algorithm [6]. Riders lose the possibility of negotiating their labor remuneration. Their bargaining object is an impersonal, constantly self-optimizing algorithm system.

2.2.2. Systemic transfer of operational risks and data monopoly

The platform cleverly transfers the inherent risks of business operations, such as the regional and temporal fluctuations of orders, to individual riders through AIGC technology, while keeping the core data assets and algorithm control firmly in its own hands [7]. In order to make a living, riders are often forced to extend their working hours and increase their work intensity to cope with the incentives and punishments set by the algorithm, which profoundly reflects their economic disadvantage and deep dependence on the platform. However, under the current legal framework, this economic control relationship mediated by the algorithm is difficult to be simply equated with the economic dominance of the employer over the worker in the traditional labor relationship.

3. Legal Pathways to Address the Dilemmas in Labor Relations Determination in the AIGC Era

3.1. Modernization and Innovation of Judicial Determination Standards

3.1.1. Substantive Examination of Personality Subordination

Judges should look beyond the legal form of "independent contractors" and examine the economic substance of the employment relationship. The focus of examination should shift from "whether the rider is subject to human direction" to "whether the work process is substantially controlled by an external algorithm." When a rider's autonomy in choosing their work is compressed to its limit by the algorithm, and their behavior is primarily shaped by the algorithm's pre-set incentive and constraint mechanisms, a strong sense of personal subordination should be recognized.

3.1.2. Comprehensive judgment on economic subordination

The assessment of economic subordination needs to go beyond the form of payment and comprehensively examine the rider's dependence on the platform's data and algorithm system, the singularity and substitutability of their income sources, and whether the platform controls core means of production and successfully transfers operational risks through algorithms. Specific manifestations of algorithmic control, such as the breadth and depth of data collection, the non-negotiable nature of algorithmic decisions, and their dominance over riders' job opportunities and income levels, should be included in core performance indicators.

3.2. The tiered construction of the legislative protection model

3.2.1. Legal creation of "employee-like" intermediary entities

A new identity called "quasi-employee" or "dependent self-employed" can be created through legislation. The purpose of this new identity is to include workers who have a substantial dependence on a specific platform at the personal or economic level [8]. Although these workers are highly dependent on the platform, they do not have all the characteristics of traditional labor relations. In this case, setting a unique identity category specifically for these workers provides an effective legal way to solve the "either/or" dilemma that has always been faced in identifying workers' identities, thereby defining workers' identities more flexibly and accurately.

3.2.2. Design of a tiered rights protection system

For delivery riders who are identified as "employees", it is advisable to grant them some of the core, but not all, rights stipulated by labor law, thereby forming a tiered protection model. Specifically, such riders should enjoy a minimum income guarantee calculated by AIGC through scientific and reasonable methods to ensure that their basic income remains at a reasonable level. At the same time, they should be included in the social insurance system, especially the important project of occupational injury insurance, to deal with various unexpected risks they may encounter at work. In addition, these riders should also have the right to demand transparency in the algorithm decision-making process. The algorithms related to order dispatch and assessment of the platform should be open and transparent to avoid unfair phenomena. Furthermore, when riders disagree with the algorithm decision results, they should also have the right to appeal to human review in order to correct any possible erroneous decisions in a timely manner [9]. By taking such measures, while fully protecting the flexibility of the food delivery industry, a solid safety net can be provided for the workers, thereby achieving the goal of building a fairer and more sustainable labor environment.

3.3. Exploring Diversified Collaborative Governance Mechanisms

3.3.1. Strengthening and implementing platform algorithm responsibility

Legislation should disclose core rules while protecting trade secrets, clarifying the "algorithmic responsibility" of platform companies when using AIGC and other algorithmic technologies, and mandating their obligations to ensure algorithmic transparency and human oversight to guarantee the fairness, impartiality, and non-discrimination of algorithmic systems. Platform companies should change their mindset, incorporating rights protection logic into the design of AIGC systems and establishing effective mechanisms for rider appeals and human intervention review.

3.3.2. Promoting and Empowering Collective Consultation Mechanisms

We should strongly support and regulate the formation or participation of food delivery riders in industry-specific or regional labor organizations [10]. Currently, the food delivery industry is developing rapidly, and there are a large number of food delivery riders, but they are often in a weak position when facing powerful platforms. By forming or joining labor organizations, riders can effectively communicate with platforms with the power of the collective. This collective consultation can fundamentally change the structural weakness of individual riders, provide solid organizational support for the protection of their rights [11], and promote the healthier and more orderly development of the food delivery industry.

4. Conclusion and Outlook

AIGC's empowerment of the gig economy is a double-edged sword. While greatly improving the efficiency of resource allocation, it also deepens the crisis of rights protection for gig workers such as food delivery riders through the implicit control and risk transfer of algorithms, and poses a disruptive challenge to the labor relations identification system rooted in the industrial era [12]. Adhering to traditional standards or simply classifying them into the existing legal relationship category is no longer able to meet the actual needs of technological iteration and business development. The way out in the future lies in the judiciary actively interpreting the subordinate standard in a substantive and modern way, breaking through the binary framework and building a tiered rights protection system at the legislative level, and building a responsible and warm algorithm governance ecosystem by strengthening platform responsibility and promoting collective bargaining [13]. Only through the synergistic evolution of law and technology can we truly harness the power of technology in the era driven by AIGC, achieve a balanced progress between business innovation and the protection of workers' rights, and ultimately promote the gig economy towards a healthy, fair and sustainable future.

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