

Exploring the Dilemma and Path of Occupational Injuries of New Industry Practitioners

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Abstract: With the deep integration of the digital economy and traditional industries, new forms of employment relying on Internet platforms are developing rapidly, but their non-standardized employment mode makes practitioners face significant occupational safety risks. Such groups are often outside the traditional work injury insurance system due to the dispersed work scenarios and complex employment relationships, resulting in frequent occupational accidents and difficulties in obtaining relief through labor relationship determination. The root of the problem is that the algorithm-led labor scheduling mechanism weakens the employers' direct management of workers, and the lagging design of the occupational injury protection system and the lack of supervision by the administrative departments of the platform enterprises have created multiple institutional loopholes. This paper analyzes the occupational injury dilemma and causes of new industry practitioners, and conducts a preliminary investigation on the path to solving the occupational injury dilemma of new industry practitioners from four aspects: optimizing the platform labor supervision mechanism, reconfiguring the new type of labor relationship recognition system by the rule of law, innovating the legislation of laws and regulations related to the protection of occupational risks, and constructing a digital ecosystem of rights and interests protection empowered by technology.

Keywords: New business; Practitioners; Occupational injuries; Dilemmas; Pathways

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1. Introduction

Currently, new forms of employment present significant non-standardized characteristics, with flexible working mechanisms, decentralized work scenarios, and diversified employment modes, which have significantly increased the autonomy of workers in choosing their jobs while lowering the threshold for employment^[1]. Although this change has expanded the space for flexible employment, the risk aggregation effect of the industry characteristics has led to prominent occupational safety hazards for workers^[2]. Due to the temporary nature of the employment relationship and the ambiguity of the employer, the traditional work injury protection system based on a stable labor relationship encounters multiple adaptation difficulties, which are manifested in the difficulty of defining

responsibility, the failure of the fund collection mechanism, and the obligations of the employer overhanging the systemic obstacles ^[3]. Although recent pilot projects on occupational risk protection have attempted to break away from the traditional social security framework and implement an innovative mechanism decoupled from the labor relationship, there are still deep-rooted contradictions at the practical level, such as doubtful legal validity, fragmentation of regional policies, and fragmentation of the system design, which urgently require the construction of a theoretically supported and replicable systemic solution ^[4].

2. Analysis of occupational injury dilemmas of new industry practitioners

By concluding non-standardized contracts such as “technical service agreements” and “cooperative business agreements”, platform enterprises reconfigure the status of workers as independent service providers, thereby avoiding the employer’s responsibility in traditional labor relations ^[5]. This strategic legal circumvention leads workers to fall into an implicit control system dominated by algorithmic platforms that achieve precise scheduling and disciplinary deterrence of the labor process through order allocation algorithms, performance evaluation algorithms, and behavioral data monitoring, forming a “digital Taylorism” management model in which technological empowerment and deprivation of rights coexist ^[5].

2.1. Black-box algorithms

The so-called “black box algorithm” means that the platform is unable to disclose the algorithm based on the premise of commercial confidentiality and intellectual property protection. The existence of this “black box algorithm” greatly improves the level of the platform in labor management, manpower optimization, and allocation, effectively saves the platform’s support costs in management, calculation, and deployment, and also significantly improves the utilization rate of labor resources ^[6].

Compared with traditional employment, the new management model has created a “triple system vacuum”: first, workers’ work instructions are completely controlled by a non-public algorithmic decision-making system, forming a “data instruction-behavior response. Second, the cloud storage of key labor information such as salary rules, attendance records, and electronic contracts lacks statutory filing requirements, making it difficult for regulators to trace back the original data. Third, distribution efficiency is the core of “overtime downgrading”, “bad evaluation deduction”, and so on. The existence of algorithmic assessment mechanisms centered on distribution efficiency forces workers to adopt dangerous behaviors such as going against the flow of traffic and speeding in order to complete their tasks on time, which directly pushes up the incidence of traffic accidents in society ^[7]. In addition, this kind of technological management also induces brand new contradictions, which are all urgent to be solved by the relevant departments ^[4].

2.2. Mismatch of existing labor relations with new forms of labor relations

Labor relations, as the legal expression of social relations of production, are centered on the dual subordination of workers to their employers in terms of physical dependence and economic dependence ^[5]. In new forms of employment, this subordination has undergone a structural change: although new industry practitioners receive service orders and supervision from platforms, they also have a certain degree of freedom and autonomy, such as the freedom to choose their working hours and plan their own service routes ^[6]. On the economic level, the income of workers no longer relies on fixed salaries, but on the fragmented service fees paid by consumers, while

the platform realizes capital gains through the way of order commission, thus forming a distribution model of “no base salary + variable income.” This technology enables an intermediary management mode for the platform and consumers, offering great benefits, but the labor relationship between the labor force and the platform into the “algorithmic black box” predicament, that is, the laborer is not fully autonomous in management. The laborer is not fully autonomous and lacks the traditional employment status credentials. Article 10 of China’s Social Insurance Law makes it clear that the obligation to participate in insurance is premised on the existence of a labor relationship, but new industry practitioners are unable to meet the requirements of “acceptance of time and attendance management” and “monthly payment of wages by the employer”, leading to insufficient participation in work-related injury insurance and at the same time It is difficult to match more labor laws ^[2].

3. Analysis of the reasons for the formation of the plight of occupational injuries of employees in new industries

3.1. Inadequate system for related occupational injuries

In the new industry, there is an “incomplete labor relationship” between employees and the platform, while the relevant laws of our country are based on the complete labor relationship ^[8]. Therefore, it is difficult for new industry practitioners to find special laws and regulations or use legal channels to protect their legitimate rights and interests when they encounter occupational injuries. At the same time, the imperfection of the relevant occupational injury system leads to the fact that new industry practitioners cannot have comprehensive insurance protection, not to mention other welfare benefits ^[9].

3.2. Difficulties in data statistics and management

At present, the occupational injury data of the new industry is characterized by “three lows”, namely, a low rate of active declaration on the platform, a low rate of cross-regional data sharing, and a low degree of completeness of records within 48 hours of the occurrence of injuries. At the same time, the new industry zero-work economy covers a wide range of work scenarios, such as webcasting, instant delivery, remote technical outsourcing, etc. The data on occupational injuries in the new industry is characterized by “three lows.” The many contents covered and the emergence of the “three lows” have greatly increased the difficulties in data collection and statistics for the relevant departments ^[10]. In addition, due to the lack of uniformity in occupational injury standards and data exchange protocols, the labor information storage systems of various platforms are incompatible with each other, resulting in the “data island effect.” In addition to visible “injuries”, the optimization of algorithms will also conceal some “invisible occupational injuries”, such as anxiety, cervical and lumbar spondylosis, tenosynovitis, etc., which are often excluded from the traditional statistical caliber ^[11].

3.3. Ambiguous standards for the determination of labor relations in new industries

China’s current labor rights and interests recognition system is mainly based on the triple attachment characteristics: the applicability of rules and regulations, subject qualification compliance, access to remuneration and business relevance, and the labor process under control. Specifically manifested in the organization attachment, economic attachment, and personality attachment of the trinity of discernment criteria ^[8]. The platform-based labor model generated in the digital economy era shows significant differences. The application of an intelligent algorithm scheduling system and instant evaluation mechanism has objectively formed a decentralized management structure, leading to the virtualization of the control relationship between practitioners

and platforms. This technology-enabled flexible labor mode makes it difficult to effectively adapt the established dependency determination criteria ^[10].

4. Effective paths to solving occupational injuries of employees in new businesses

4.1. Optimizing the platform's mechanism for regulating the use of labor

Administrative and supervisory departments need to build a full-chain regulatory system to effectively safeguard the rights and interests of new industry practitioners through a triple mechanism protection system: first, establish a platform responsibility list system, strengthen the regularized supervision of legal obligations such as occupational safety training, verification of social security payments, and filing of labor contracts, and implement a restraining mechanism linking credit ratings and administrative penalties ^[12]. Second, promote the digital transformation of social security, and build a one-stop digital service platform that integrates functions such as policy consultation, rights and interests complaint, and evidence deposit. Third, the government-enterprise data interoperability mechanism has been improved, and dynamic monitoring of the rights and interests of employees has been realized through the platform's labor information filing system, forming a new governance pattern that combines preventive supervision and remedial protection.

4.2. Rule of law restructuring of the system for recognizing new types of labor relations

Under the current legal framework for social security, social insurance rights and interests only cover workers in traditional employment relationships, thus leading to a lack of due institutional rights and interests for practitioners of new forms of employment. At the same time, the structural contradiction between the expansion of the platform economy and the prevention and control of occupational risks has become increasingly prominent. Although digital technology innovation has broken through the framework of traditional employment relationships, the substantive labor relationship has not changed ^[13]. Therefore, the relevant departments can build a dual-track judgment model of "technical dependence + composite elements", and incorporate new control elements such as algorithmic scheduling and data supervision into the evaluation system of employment relationships, so as to realize the dynamic adaptation of legal norms and the development of the digital economy.

4.3. Renewal of laws and regulations on occupational risk protection

Based on the continuity of the principle of public welfare in the social security system, the relevant departments should create a flexible occupational injury protection mechanism within the existing legal system. The legislative design should focus on three dimensions: first, breaking through the limitations of the labor relationship in terms of coverage, and establishing a universal occupational safety protection network. Second, to implement a differentiated rate mechanism in the distribution of responsibility, the main body has established a standard labor relationship to follow the traditional rules of occupational injury insurance, while the flexible employment group builds a "platform-led contributions + practitioners to supplement the contribution" model of sharing ^[14]. Thirdly, in the determination procedure, the "core element review system" is implemented, focusing on the substantive relevance of the cause of work, reducing the proportion of weight of the temporal and spatial elements, establishing the burden of proof allocation system of "practitioner's main evidence + platform's co-evidence", and synchronously optimizing the dispute processing process to achieve Synchronized optimization of the dispute handling process achieves the enhancement of the system's operational efficiency.

4.4. Building a technology-enabled digital ecosystem for rights protection

In light of the digital characteristics of new employment forms, it is recommended that a “blockchain + smart contract” mechanism for labor relations be established. Legislation should clarify the evidentiary effect of data messages such as platform algorithmic logs, order-taking trajectories, and compensation payment records, and require platforms to upload labor data in real time to the distributed ledger system set up by human resources and social services departments^[15]. Simultaneously develop an intelligent monitoring system, use big data analysis to identify hidden labor control behaviors, and automatically trigger early warnings for risks such as continuous overtime order taking and unusual compensation deductions. At the level of dispute resolution, explore the establishment of a “digital arbitration tribunal” mechanism, allowing practitioners to directly access chained evidence through encrypted identity authentication, use artificial intelligence to assist in generating reports on the focus of disputes, and realize the full range of “data traceability-intelligent analysis-rapid adjudication.” The system can realize the whole-process digital rights and interests relief mode of “data traceability—intelligent analysis—fast ruling.” This system not only breaks through the data barriers of traditional labor relationship determination, but also forces platforms to operate in compliance through technological rigid constraints.

5. Conclusion

All in all, the emergence of the injury dilemma of new industry practitioners is essentially a “game” between technical regulation and the current rule of law. A reasonable view and improving this injury predicament not only improves the safety and security of freelancers, but also can further improve China’s labor law. For this reason, the future development of the rule of law in labor should focus on building a dynamic governance framework with flexible adaptability, and establishing a government-led, platform-operated, technology-supported ecology of common governance, which can not only maintain the vitality of the digital economy, but also build up a firm line of defense for the rights and interests of workers, and ultimately form a new paradigm of governance for the digital era that takes into account the occupational characteristics of the new industry and the fairness of the society.

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