Protection of Workers' Rights and Interests in the Big Data Era

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Abstract

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Preamble

Course Assignment: Reflections on Labor Rights Protection in the Big Data Era
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This paper reflects on Chapter 4 of *Data-Driven Law*, focusing on labor rights protection in the big data era.

Content Summary

Chapter 4 of *Data-Driven Law*, titled "The Big Move Toward Big Data in Employment" and authored by Aaron Crews, offers comprehensive analysis and novel perspectives on the emerging challenges employers face in the big data era—issues that were largely unconsidered before but have become critically important. The chapter opens with vivid examples illustrating the potential applications of big data in the workplace, then explores the relationship between cognitive computing and big data, analyzing the labor law consequences of applying cognitive computing to big data analytics. Beyond labor law implications, employers must also understand the legal ramifications under the Fair Credit Reporting Act (FCRA) and the Americans with Disabilities Act when collecting and utilizing big data during recruitment and selection processes, and

adopt targeted countermeasures. Notably, in the big data context, the Office of Federal Contract Compliance Programs (OFCCP) and the Equal Employment Opportunity Commission (EEOC) rely on standard deviation analysis to determine employment discrimination in investigations. However, influenced by big data, standard deviation analysis is becoming a less appropriate indicator of legal relevance. Additionally, big data applications in performance management and workplace discipline raise a series of data security concerns. Finally, the author describes the risks associated with class action litigation in the big data era.

Most of the content in Chapter 4 was entirely new to me, and the author's writing seemed to transport me into a completely different world. Among these materials, I found Section 5, "Litigation in a World of Big Data," particularly compelling. As the final section of Chapter 4, it discusses how algorithms have become not only primary targets in class action lawsuits but also legitimate targets in discrimination litigation. Plaintiffs in class actions may face numerous algorithmic challenges. First, because algorithms are constantly evolving, no single plaintiff is affected by all algorithms, which according to class action principles, reduces the number of plaintiffs and shrinks the scale of class actions. Second, in proving discrimination in discrimination lawsuits, if an employer successfully demonstrates a legitimate business reason for using an algorithm, the plaintiff must prove the existence of a less discriminatory alternative that serves the employer's legitimate business needs equally effectively. For plaintiffs in labor-related class actions, such proof is extremely difficult. It requires not only demonstrating that the employer's chosen algorithm is discriminatory but also identifying which individuals were discriminated against—a formidable challenge for most algorithms whose workings are known only to their developers. Furthermore, plaintiffs must prove the existence of a less discriminatory alternative. Unless the plaintiff becomes or can find an expert proficient in developing and measuring algorithmic performance, such proof often fails.

Problem Discovery

As noted above, successfully proving algorithmic discrimination in the big data era is exceedingly difficult for plaintiffs in class action discrimination lawsuits. Typically, plaintiffs in discrimination litigation are employees—that is, workers. Such a high burden of proof undoubtedly raises the threshold for workers to protect themselves from discrimination. This leads me to consider three related questions concerning labor rights protection in the big data era: protection of workers' labor intensity, protection of workers' personal information, and the burden of proof borne by workers.

Protection of Workers' Labor Intensity

With the development of big data and artificial intelligence, algorithms have been substantially improved and optimized across various dimensions. Simultaneously, the efficiency of using algorithms to achieve specific purposes has

increased. However, as algorithm developers and users benefit from enhanced efficiency, they often overlook the rising labor intensity and deteriorating work experience of workers subject to algorithmic control. For instance, in the food delivery industry, as the algorithms behind delivery platforms continuously optimize, the average order delivery time keeps decreasing. On the surface, this creates a win-win-win situation: delivery workers spend less time per order, consumers wait less, and platforms increase profits and market share. In reality, however, delivery workers' interests are harmed. As platforms mandate increasingly shorter delivery times, workers often resort to dangerous methods such as speeding and traffic violations to meet algorithmically determined deadlines. Upon completing deliveries, the algorithm continues optimizing further, shortening delivery times even more. This results in increased labor intensity and diminished work experience for delivery workers. Alarmingly, as algorithms continue to optimize, labor intensity increases further, trapping workers in an algorithmic "trap."[1]

The emphasis on protecting workers' labor intensity serves two purposes: first, to protect workers' right to adequate rest and promote healthy, sustainable work; second, to consider broader socioeconomic development. Excessive labor leads to declining employee health, resulting in absenteeism, presenteeism, work fatigue, and decreased productivity, which in turn causes economic losses for enterprises. Health problems affect not only workers' income through absenteeism but also incur medical expenses, psychological counseling fees, and health supplement costs to alleviate "overwork."[2] Research based on surveys and reasonable modeling has produced specific figures on the economic losses caused by overwork. One study of 5,147 urban employees nationwide found average per capita prevention costs of ¥1,684.52, medical expenses of ¥1,491.93, wage income losses of ¥1,128.13, productivity losses between ¥573.59 and ¥1,542.54, and total per capita economic losses between ¥4,877.67 and ¥5,846.63.[3] According to National Bureau of Statistics data, the average annual wage for urban non-private sector employees in 2020 was ¥97,379, while for urban private sector employees it was ¥57,727.[4] This translates to average monthly wages of ¥8,114.9 for non-private sector employees and ¥4,810.5 for private sector employees. The economic losses from overwork are staggering, exceeding 20 days' wages for non-private sector workers and 30 days' wages for private sector workers.

Protection of Workers' Personal Information

Even before the big data era, workers' personal information protection existed as an issue, requiring employers to maintain confidentiality regarding certain employee information and imposing restrictions on its use. However, in the big data era, this issue has become more prominent and attracted greater attention. Automated processing of employee personal information has expanded employers' ability to monitor employees and influence their behavior, further increasing the risk of personal information infringement. Examples include surveillance equip-

ment installation, email monitoring, social media monitoring, and telephone eavesdropping. Employers possess not only the right to manage employees but also statutory rights to access relevant information, while employees have duties of loyalty and information provision, creating a conflict between protecting employee information and employers' business autonomy rights to access such information.[5]

In this conflict, employees' personal information is often the sacrificed party. First, due to power imbalances in employment relationships, employees often voluntarily provide personal information. Some employers even demand employees' social media usernames or passwords to learn more about applicants or workers, which employees typically cannot refuse if they wish to obtain or retain employment. Through these accounts, employers can monitor online behavior, personal characteristics, interests, and information affecting work capacity. Second, employees' right to know is restricted. While employers have the right to know employees' personal information, employees also have the right to know how their information is used. In practice, however, employers collect and store this information, leaving employees unaware. Information asymmetry between employers and employees is common and legally permitted. The law allows information asymmetry only when employees know their personal information is being accessed, but often they do not.

Notably, the privacy components of workers' personal information require special attention. Big data technology is characterized by more comprehensive information with larger data samples, leaving workers' private information vulnerable to excessive collection and improper use. Additionally, large-scale data development may leak others' information and violate privacy. Reasons for privacy infringement include: (1) expanding boundaries of privacy violation, as technological developments enable data collectors to gather workers' private information across regions and countries with reduced barriers, leaving workers with nowhere to hide and facing privacy risks during both work and non-work hours; (2) data profiling technology enables employers to conduct so-called "comprehensive evaluations" of workers' capabilities and decide whether to continue employment, which disadvantages workers due to lack of participation or consent in automated decision-making; and (3) difficulty determining the boundary between legitimate use and illegal infringement of workers' information, as intelligent tools have stronger privacy infringement capabilities with "highly deceptive" methods and increasingly severe consequences.[6]

Excessive Burden of Proof on Workers

Algorithms are technical tools that employers can use to improve management efficiency or exploit legal loopholes to commit illegal acts and infringe upon employees' rights and interests. Common unfair algorithmic applications in the labor field are often technical and concealed, subtly affecting employees' work intensity, promotion, and termination, making individual resistance difficult. When employees seek to protect their rights and interests, they face significant

challenges. As discussed in Section 5 of Chapter 4 of *Data-Driven Law*, workers seeking to prove employers' algorithms are discriminatory must demonstrate both that the algorithm is discriminatory and which employees were affected. Additionally, plaintiffs must prove the existence of a less discriminatory alternative. This burden of proof is unduly heavy for employees. This situation not only undermines healthy labor relations and sustainable economic development but also exposes employees to algorithmic exploitation, making them victims of technological bullying and potentially distorting their values and moral concepts until they become playthings in employers' algorithmic hands.

Solutions

In response to the problems outlined above, I propose the following solutions.

Addressing Labor Intensity Protection

While algorithms bring greater convenience to daily life, we must not consider rationality and efficiency as the sole design criteria. Otherwise, humans become slaves to algorithms, and workers' labor merely follows machine commands, resulting in human alienation from labor. "Through alienated labor, man produces not only his relationship to the object and his act of production as alien and hostile powers."[7] Human environmental factors must be incorporated into rational design, accounting for the emotions and experiences of vulnerable groups. Only by fully considering human factors can algorithms achieve a benign and harmonious relationship with human society. For example, when designing algorithms for food delivery time determination, developers should consider delivery workers' intensity and experience—not merely shorter delivery times, but efficiency improvements within a range that ensures safe and reasonable delivery times. Specifically, algorithm design should reasonably schedule rest periods, as brief breaks can effectively alleviate fatigue and increase productivity. Furthermore, government should regulate and strictly supervise enterprise working hours, overtime pay, and related issues to protect employees' right to rest.

Protecting Workers' Personal Information

Since employers typically hold the stronger position, most research focuses on protecting employees as the vulnerable party. Studies on employee personal information protection generally follow two approaches. First, building on the premise that employers have obligations to protect employee personal information, scholars argue that "macro-level legislation should clarify rules and regulations protecting workers' personal information, establish the basic scope of personal information, set employers' obligations to protect workers' personal information, and prescribe relevant labor law liabilities for violations."[8] Second, from the perspective of employees' personality rights, scholars contend that employees have autonomous decision-making rights over their personal information, emphasizing that "the scope of workers' privacy information should

be strictly limited to achieve legitimate purposes, transparent methods, standardized procedures, orderly management, and smooth remedies to effectively protect workers' privacy rights."[9]

While both approaches protect employee personal information, I believe the solution requires establishing a comprehensive workers' personal information protection system. Only through multi-faceted, integrated optimization can optimal protection be achieved. Legislatively, we should not only affirm employers' obligations to protect employee personal information and establish employees' autonomous decision-making rights but also include personal information protection provisions in labor contracts and define restrictions on employers' use of employee personal information.[10] Regarding restrictions on employers' use of employee personal information, we can draw from foreign experiences. For example, the U.S. Fair Credit Reporting Act (FCRA) requires employers to provide "clear and conspicuous" written disclosure in a "standalone" document to consumers before obtaining consumer reports from consumer reporting agencies (CRAs), explaining the nature and scope of the investigation. Employers must permit employees to request information about the "nature and scope" of investigations and must respond in writing within five days. Applicants or employees must provide written permission for employers to obtain consumer reports, which in practice can be oral, written, or electronic. Employers must also certify to CRAs the "permissible purpose" of their reports and compliance with relevant FCRA provisions and state and federal equal opportunity laws. After obtaining consumer reports or investigative consumer reports about employees or applicants, if employers intend to take "adverse action" based on report contents, they must provide "pre-adverse action" notices including a copy of the consumer report and a summary of statutory rights before implementing adverse action.

Additionally, as workers, employees should remember that providing information and privacy must be voluntary—that is, employees have the right to decide what information can be used, by whom, for what purposes, and under what conditions.

Alleviating the Excessive Burden of Proof

Regarding the excessive burden of proof on workers, legislation could add provisions on algorithmic applications to laws protecting workers' rights and interests. This could include explicit provisions for partial reversal of the burden of proof, strengthening the evidentiary burden on algorithm implementers. As algorithm implementers, employers should prove not only the business reasons for their chosen algorithms but also that their chosen algorithm is the least discriminatory among available options. If employers cannot prove their chosen algorithm is the least discriminatory available, workers' claims should be considered successful. This approach helps resolve workers' difficulties in providing evidence and obtaining expert testimony. Institutionally, the state could establish specialized agencies for labor sector algorithms. When employees seek to prove

algorithmic discrimination, such agencies could provide professional expertise and technical assistance, overseeing investigation, verification, and resolution of algorithmic discrimination or unfairness. Since such agencies may require substantial funding, the state should permit diversified revenue streams: partial state support, fees from employees seeking verification, and income from algorithm-related work using the agency's expertise to maintain operations.

In the big data era, we must address workers' excessive burden of proof, personal information protection, and labor intensity control. Solving these problems and better protecting workers' rights requires multi-party participation and comprehensive coordination. Beyond legislative improvements, new state agencies, and enhanced workers' rights awareness and self-protection, employer participation is also essential. While labor rights protection faces many new challenges, it will also continue to improve.

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[1] Zhang Yu, Jin Wei. "Research on the Protection of Labor Rights and Interests of Workers in New Forms of Employment—Taking the Food Delivery Platform as an Example." *Economy and Social Development* 19, no. 01 (2021): 61-66.

[2] Wang Xin, Yang Jing. "Overwork and Its Individual Economic Losses." *Population and Economics*, no. 03 (2021): 128-142.

[3] Ibid.

[4] National Bureau of Statistics, "Interpretation of 2020 Average Wage Data for Urban Unit Employees," National Bureau of Statistics website, http://www.gov.cn/shuju/2021-05/19/content_{5608867}.htm, last accessed November 21, 2021, 10:38.

[5] Wang Yan, Chen Yehong. "Research on the Protection of Workers' Personal Information in the Digital Economy Era." *Social Sciences Review* 36, no. 01 (2021): 120-128.

[6] Su Weijie. "Privacy Protection for Chinese Workers in the Big Data Era: Lessons from EU and US Legislation." *Social Science Forum*, no. 4 (2020): 143-155.

[7] Marx. *Economic and Philosophic Manuscripts of 1844*. Beijing: People's Publishing House, 2018, 48.

[8] Wang Yan, Chen Yehong. "Research on the Protection of Workers' Personal Information in the Digital Economy Era." *Social Sciences Review* 36, no. 01 (2021): 120-128.

[9] Tian Silu. "Legal Protection of Intelligent Labor Management and Workers' Right to Privacy." *Huxiang Forum*, no. 02 (2019): 32.

[10] Ed Walters, *DATA-DRIVEN LAW: DATA ANALYTICS AND THE NEW LEGAL SERVICES* 86-127 (2019).