

to absorb prohibitive political cost before seeking judicial relief.

Therefore, Indian federalism has survived considerable stress. But survival is not flourishing. The GST Council must be reformed from a federal friction to a federal reality before the gap

between its constitutional promise and its constitutional and institutional practice becomes constitutionally irreversible<sup>1091</sup>.

## HUMAN RIGHTS DIMENSIONS OF WORKPLACE SURVEILLANCE IN THE GIG ECONOMY: APP-BASED WORKER MONITORING, PRIVACY AND LABOUR RIGHTS

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### Abstract

The emergence of the gig economy has transformed labour relations by introducing algorithmic governance systems embedded within what Shoshana Zuboff terms “surveillance capitalism,” where data extraction becomes central to economic value creation. Digital labour platforms monitor workers through GPS tracking, behavioural analytics, biometric verification and automated performance systems. While such technologies enhance efficiency and market responsiveness, they also raise serious concerns regarding privacy, dignity, labour rights and democratic accountability. This article examines the human rights implications of workplace surveillance in the gig economy by analysing international human rights instruments, constitutional jurisprudence and comparative labour law developments. It argues that excessive surveillance creates asymmetrical power structures that undermine informational autonomy and weaken collective labour protections. The article further evaluates the adequacy of existing legal frameworks in India, the European Union and the United States and proposes a rights-based regulatory framework grounded in transparency, proportionality and worker participation.

**Keywords:** Workplace surveillance, gig economy, worker monitoring, privacy, labour rights

### I. Introduction

The growth of platform-based labour has fundamentally altered the relationship between employers, workers and technology by embedding control within systems of algorithmic governance, where decision-making authority is exercised through data-driven computational processes rather than direct human supervision. In recent years, digital platforms such as Uber, Ola, Swiggy, Zomato and Amazon Flex have expanded rapidly across the globe, creating new forms of labour

engagement based on flexibility and algorithmic management. Gig workers now constitute a significant segment of urban labour markets, particularly in developing economies where unemployment and informal work remain widespread. Despite promises of flexibility and autonomy, app-based workers increasingly operate under conditions of extensive digital surveillance.

Unlike traditional employment structures where managerial supervision occurred physically within workplaces, the gig economy relies upon

<sup>1091</sup> Granville Austin, *Working a Democratic Constitution: The Indian Experience* (Oxford University Press, 1999), pp. 560-562.

algorithmic systems that continuously monitor worker behaviour through digital applications. Workers are tracked through GPS systems, biometric verification technologies and automated rating mechanisms that assess productivity and efficiency. Such monitoring often extends beyond operational requirements and intrudes deeply into personal autonomy and informational privacy. Workers frequently remain unaware of how their data is processed, stored or used in determining wages, incentives and disciplinary actions<sup>1092</sup>. This transformation must be understood within the broader framework of surveillance capitalism, a term developed by Shoshana Zuboff to describe economic systems in which human experience is translated into behavioural data for prediction and control. Within gig platforms, worker activity is continuously datafied, producing economic value while simultaneously enabling behavioural monitoring and control.

The issue of workplace surveillance has therefore emerged as a major human rights concern. Human rights law recognizes that individuals possess inherent dignity and autonomy that cannot be subordinated entirely to commercial interests. However, platform capitalism has generated new forms of technological control that blur distinctions between labour management and data extraction. Gig workers often occupy precarious economic positions and consequently lack meaningful bargaining power to resist intrusive surveillance practices. Consent to monitoring therefore becomes largely symbolic rather than genuinely voluntary.

This article analyses workplace surveillance in the gig economy through the lens of human rights jurisprudence, labour law and constitutional principles. It examines the historical evolution of workplace monitoring, the rise of algorithmic governance and the growing tension between technological efficiency and human dignity. The article also evaluates comparative legal approaches and proposes a

human rights-based regulatory framework capable of addressing the challenges posed by digital labour systems.

## II. Historical Evolution of Workplace Surveillance

Workplace surveillance is not a phenomenon unique to the digital age. The origins of labour monitoring can be traced back to the Industrial Revolution when factory owners implemented systems of supervision designed to maximize productivity and discipline workers. Timekeeping devices, attendance registers and managerial oversight became essential components of industrial production systems. Workers were expected to conform to rigid schedules and productivity targets established by employers.<sup>1093</sup>

The twentieth century witnessed the emergence of scientific management theories developed by Frederick Winslow Taylor. Taylorism emphasized efficiency through standardization and measurement of worker activity. Employers increasingly relied upon performance metrics and productivity analysis to optimize labour output and minimize inefficiency. Surveillance became institutionalized as a managerial practice aimed at controlling labour behaviour.<sup>1094</sup>

The rise of information technology transformed workplace surveillance into a more sophisticated and invasive process. Employers began using electronic systems to monitor employee communications, computer usage and workplace interactions. Closed-circuit television cameras, keystroke logging software and digital productivity trackers became common within corporate environments. The expansion of the internet further enabled employers to collect and process vast quantities of employee data.

The emergence of platform capitalism accelerated these developments significantly.

<sup>1092</sup> Shoshana Zuboff, *The Age of Surveillance Capitalism* 210–15 (2019).

<sup>1093</sup> Michel Foucault, *Discipline and Punish: The Birth of the Prison* 135–69 (1977).

<sup>1094</sup> Frederick Winslow Taylor, *The Principles of Scientific Management* 36–40 (1911).

Gig economy platforms rely fundamentally upon data extraction and algorithmic coordination. Unlike traditional workplaces characterized by identifiable managerial structures, platform labour systems operate through decentralized technological infrastructures. Algorithms assign tasks, evaluate performance, determine incentives and impose disciplinary consequences with minimal human intervention.<sup>1095</sup>

Smartphones have become the primary instruments of both labour and surveillance within the gig economy. Delivery workers and ride-hailing drivers remain continuously connected to digital applications that monitor movement, speed, customer interaction and productivity. Surveillance is therefore no longer confined to workplace premises but extends into public spaces and personal devices. This shift represents a fundamental transformation in labour governance whereby technological systems increasingly replace human supervision.

### III. Human Rights and the Right to Privacy

The most significant legal issue associated with workplace surveillance concerns the right to privacy. International human rights law recognizes privacy as an essential component of personal liberty and dignity. Article 12 of the Universal Declaration of Human Rights provides that no individual shall be subjected to arbitrary interference with privacy, family or correspondence. Similarly, Article 17 of the International Covenant on Civil and Political Rights prohibits unlawful or arbitrary interference with privacy.<sup>1096</sup>

European jurisprudence has significantly shaped the legal understanding of workplace surveillance. In *Bărbulescu v. Romania* (2017), the European Court of Human Rights held that employee monitoring must satisfy requirements of transparency and proportionality,

emphasizing that workers must be informed about the nature and extent of surveillance<sup>1097</sup>. The Court of Justice of the European Union has also reinforced data protection norms through cases interpreting the General Data Protection Regulation, particularly regarding automated decision-making under Article 22 GDPR, which restricts decisions based solely on automated processing that significantly affect individuals<sup>1098</sup>.

In the United States, workplace surveillance is governed by a fragmented legal framework. The Electronic Communications Privacy Act (ECPA) permits employer monitoring under broad exceptions, particularly where consent—often implied—has been obtained. Courts have generally upheld employer surveillance practices, reflecting a more permissive legal environment that prioritizes managerial prerogatives over worker privacy.

In India, the constitutional recognition of privacy as a fundamental right in *Justice K.S. Puttaswamy v. Union of India* marked a transformative moment in digital rights jurisprudence. The Supreme Court emphasized that privacy includes informational self-determination and autonomy over personal data. The Court further observed that technological developments create unprecedented threats to individual liberty and dignity.<sup>1099</sup>

Gig economy surveillance practices directly implicate informational privacy because platforms collect extensive personal data regarding workers. GPS tracking systems monitor worker locations continuously, often even when workers are not actively engaged in assignments. Platforms also collect behavioural information relating to response times, driving patterns, communication behaviour and customer interactions. Such extensive

<sup>1095</sup> Valerio De Stefano, *Negotiating the Algorithm: Automation, Artificial Intelligence and Labour Protection*, Int'l Lab. Org. (2018).

<sup>1096</sup> International Covenant on Civil and Political Rights art. 17, Dec. 16, 1966, 999 U.N.T.S. 171.

<sup>1097</sup> *Bărbulescu v. Romania* (2017) ECHR 742.

<sup>1098</sup> Regulation (EU) 2016/679 (General Data Protection Regulation), art 5, 6, 22.

<sup>1099</sup> *Justice K.S. Puttaswamy v. Union of India*, (2017) 10 S.C.C. 1 (India).

monitoring creates conditions of perpetual observation that undermine personal autonomy.

The issue becomes more concerning in the context of biometric surveillance. Many platforms require workers to submit facial recognition scans or biometric verification to prevent account sharing. Biometric data constitutes highly sensitive personal information because it is permanent and cannot easily be altered. Unauthorized access or misuse of such data may therefore create serious privacy and security risks.<sup>1100</sup>

The concept of informed consent within the gig economy also remains deeply problematic. Platform companies frequently justify surveillance practices on the basis that workers voluntarily accept terms and conditions while joining applications.

However, gig workers often face economic dependency and unequal bargaining power. Complex digital contracts and opaque privacy policies prevent workers from understanding the true extent of surveillance practices. Consent obtained under such circumstances cannot be regarded as genuinely free or informed.

#### IV. Surveillance, Dignity and Labour Rights

Workplace surveillance not only affects privacy but also undermines human dignity and labour rights. Human dignity forms the foundation of modern constitutional democracies and international human rights law. Excessive monitoring reduces workers to data points and performance metrics, thereby eroding their autonomy and individuality.<sup>1101</sup>

Gig workers frequently operate under intense pressure generated by algorithmic management systems<sup>1102</sup>. Automated rating mechanisms determine access to incentives, assignments and continued participation on digital platforms. Workers therefore remain

constantly anxious regarding customer reviews, response times and productivity targets. Such pressure often compels workers to engage in unsafe practices, including reckless driving and excessively long working hours. The psychological consequences of surveillance include stress, anxiety, burnout and emotional exhaustion.

The issue further intersects with labour rights recognized under international labour standards. The International Labour Organization has consistently emphasized that workers possess rights to fair working conditions, collective bargaining and decent work<sup>1103</sup>. However, most gig workers are classified as independent contractors rather than employees. This classification excludes them from labour protections relating to minimum wages, social security, workplace safety and procedural safeguards against arbitrary dismissal.<sup>1104</sup>

Algorithmic management systems further weaken labour rights by replacing human decision-making with opaque technological processes. Workers are often unable to understand how tasks are allocated, how incentives are calculated or why disciplinary actions occur. Account suspensions and deactivations frequently take place without meaningful explanation or opportunities for appeal. Such practices undermine procedural fairness and due process principles.

Surveillance also discourages collective organization among workers. Platform systems rely heavily upon individualized ratings and competition-based incentives that isolate workers from one another. Collective bargaining becomes difficult within environments where workers remain fragmented and economically precarious. The weakening of labour solidarity ultimately benefits platform corporations by

<sup>1100</sup> Phoebe V. Moore, *The Quantified Self in Precarity: Work, Technology and What Counts* 88–95 (2017).

<sup>1101</sup> Universal Declaration of Human Rights art. 1, G.A. Res. 217 (III) A (Dec. 10, 1948).

<sup>1102</sup> Alex Rosenblat, *Uberland: How Algorithms Are Rewriting the Rules of Work* (University of California Press, 2018) 102–110.

<sup>1103</sup> International Labour Organization, *Decent Work Agenda* (ILO, 1999).

<sup>1104</sup> International Labour Organization, *World Employment and Social Outlook: The Role of Digital Labour Platforms in Transforming the World of Work* (2021).

limiting resistance against exploitative working conditions.

#### V. Comparative Legal Approaches

The European Union has emerged as a global leader in regulating workplace surveillance and digital labour rights. The General Data Protection Regulation establishes strict principles governing data collection, transparency, proportionality and consent. The Regulation recognizes that personal data protection constitutes a fundamental right and imposes obligations upon corporations regarding lawful processing of personal information.<sup>1105</sup>

The proposed European Union Platform Work Directive represents a significant attempt to regulate algorithmic management within the gig economy<sup>1106</sup>. The Directive seeks to ensure transparency regarding automated decision-making systems and requires human oversight over significant employment-related decisions. Platform workers are also granted rights to access information concerning surveillance mechanisms and algorithmic evaluation systems. European courts increasingly recognize that disproportionate workplace surveillance may violate rights protected under the European Convention on Human Rights.

The United States adopts a comparatively employer-oriented approach toward workplace surveillance<sup>1107</sup>. Federal labour protections for gig workers remain fragmented, and many platform workers continue to be classified as independent contractors. Nevertheless, certain states such as California have attempted to strengthen labour protections through legislation addressing worker classification and digital labour rights. Academic debates surrounding algorithmic accountability and surveillance capitalism have also intensified within American legal scholarship.

India presents a particularly important case study due to the rapid expansion of digital labour platforms. The Code on Social Security, 2020 formally recognizes gig workers and platform workers within statutory frameworks. However, the legislation does not provide comprehensive protections relating to workplace surveillance or algorithmic accountability.<sup>1108</sup>

The enactment of the Digital Personal Data Protection Act, 2023 constitutes an important development within Indian privacy law<sup>1109</sup>. The legislation establishes obligations relating to consent, lawful processing and data protection. However, critics argue that the law remains insufficient to address structural inequalities between digital platforms and workers. Indian courts have yet to comprehensively examine the constitutional implications of algorithmic management and workplace surveillance within the gig economy.

#### VI. Need for a Human Rights-Based Regulatory Framework

Existing labour and privacy laws remain inadequate to address the realities of algorithmic management and digital surveillance<sup>1110</sup>. Most legal frameworks were developed within industrial contexts characterized by identifiable employers and physical workplaces. Gig economy platforms, however, operate through technological infrastructures that blur distinctions between employment, surveillance and data extraction.

A human rights-based regulatory framework is therefore essential. Such a framework must recognize that technological innovation cannot justify unrestricted interference with privacy and dignity. Human rights principles require that workplace surveillance satisfy standards of<sup>1111</sup>, necessity and proportionality. Platforms should therefore collect only data strictly necessary for

<sup>1105</sup> Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (General Data Protection Regulation).

<sup>1106</sup> European Commission, Proposal for a Directive on Platform Work COM(2021) 762 final.

<sup>1107</sup> Orly Lobel, *The Law of the Platform* (Minnesota Law Review, 2016) 87–92.

<sup>1108</sup> Code on Social Security, No. 36 of 2020, India Code (2020).

<sup>1109</sup> Digital Personal Data Protection Act, 2023 (India).

<sup>1110</sup> Mireille Hildebrandt, “Law as Computation in the Era of Artificial Legal Intelligence” (2018) 68 University of Toronto Law Journal 1–32.

<sup>1111</sup> European Data Protection Board, Guidelines on Automated Decision-Making (2020).

operational purposes and should not engage in excessive behavioural monitoring.

Algorithmic transparency constitutes one of the most important aspects of regulatory reform. Workers must possess the right to understand how automated systems allocate work, evaluate performance and determine disciplinary outcomes. Significant employment-related decisions should involve meaningful human review rather than purely automated processes. Workers should also possess effective remedies against discriminatory or arbitrary algorithmic decisions.

Independent oversight mechanisms are equally important. Governments should mandate periodic audits of algorithmic systems to identify discriminatory outcomes and assess compliance with privacy standards. Regulatory authorities should possess powers to investigate platform practices and impose penalties for violations of labour and privacy rights. Collective bargaining rights must also be strengthened within the gig economy. Workers should possess opportunities to participate in decisions concerning workplace surveillance and algorithmic governance. Labour unions and worker associations can play crucial roles in ensuring accountability and protecting workers from exploitative technological practices.

## VII. Conclusion

The gig economy has fundamentally transformed labour relations by replacing traditional managerial supervision with algorithmic governance systems. While digital platforms provide flexibility and economic opportunity, they simultaneously create unprecedented risks for privacy, dignity and labour rights<sup>1112</sup>. Workplace surveillance within the gig economy extends beyond operational management and increasingly functions as a mechanism of economic discipline and behavioural control.

Excessive monitoring undermines informational autonomy and creates conditions of perpetual

observation incompatible with democratic values and constitutional principles. Gig workers remain particularly vulnerable due to precarious employment structures and unequal bargaining power. Existing labour and privacy laws therefore require substantial reform to address the realities of platform capitalism and algorithmic management.

Human rights principles must remain central to the future regulation of digital labour systems<sup>1113</sup>. Privacy, dignity and fair working conditions cannot be subordinated entirely to technological efficiency or commercial profitability. Regulatory frameworks should ensure transparency, accountability, worker participation and meaningful oversight over automated decision-making systems.

The challenge before contemporary legal systems is not merely technological regulation but the preservation of human autonomy within increasingly automated economies. Unless democratic societies develop effective safeguards against exploitative surveillance practices, the future of work risks becoming characterized by invisible technological domination rather than genuine economic freedom.

<sup>1112</sup> Rosenblat (n 15) 150–155.

<sup>1113</sup> Cohen (n 5) 210–215.