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NEED FOR REGULATORY INTERVENTION IN APP-BASED DELIVERY SERVICES: A SOCIO-LEGAL ANALYSIS OF WORKER EXPLOITATION AND ALGORITHMIC CONTROL

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ABSTRACT

The rapid expansion of app-based delivery services has fundamentally transformed labour relations in the contemporary gig economy. Platforms such as food delivery, grocery delivery, and last-mile logistics services operate through digital applications that mediate work allocation, performance evaluation, and payment mechanisms. While these platforms promise flexibility and entrepreneurial opportunity, they have simultaneously generated new forms of worker precarity, exploitation, and control. Delivery workers, often classified as “independent contractors” or “gig workers,” remain excluded from traditional labour protections relating to minimum wages, social security, job security, and collective bargaining.

This research paper undertakes a socio-legal analysis of app-based delivery services to examine the need for regulatory intervention in addressing worker exploitation and algorithmic control. The study argues that the platform-based labour model relies heavily on algorithmic management systems that exercise extensive control over workers while avoiding corresponding legal responsibilities. Algorithms determine work assignments, route optimisation, incentives, penalties, ratings, and even de-activation of workers, creating a system of opaque and unilateral decision-making. Such algorithmic control undermines the purported autonomy of gig workers and reproduces hierarchical employer-employee relationships without the safeguards of formal employment law.

The paper situates worker exploitation within broader socio-economic realities, including income insecurity, excessive working hours, performance pressure, and asymmetrical bargaining power. Delivery workers often bear the costs of work, including vehicles, fuel,

insurance, and maintenance, while platforms externalise risks and liabilities. The absence of transparency in algorithmic decision-making exacerbates vulnerability, as workers have little recourse against arbitrary penalties or account suspension. These conditions raise serious concerns regarding dignity of labour, fair remuneration, and access to justice.

From a legal perspective, the study examines the limitations of existing labour and social security laws in addressing platform-mediated work. While recent legislative developments, such as the recognition of gig workers in India's social security framework, represent progress, they remain insufficient to regulate algorithmic governance and power imbalance. The paper critically analyses whether traditional binary classifications of "employee" and "independent contractor" are adequate in the context of platform labour.

Methodologically, the research adopts a doctrinal and socio-legal approach, combining legal analysis with insights from labour studies, digital governance, and comparative regulation. It examines judicial responses, statutory frameworks, and international regulatory trends addressing platform work and algorithmic management.

The paper concludes that regulatory intervention is imperative to address systemic exploitation and unchecked algorithmic control in app-based delivery services. It advocates for a rights-based regulatory framework that ensures transparency, accountability, minimum labour standards, and social protection for gig workers, while balancing innovation and economic efficiency in the platform economy.

KEYWORDS

Gig Economy; App-Based Delivery Services; Worker Exploitation; Algorithmic Control; Platform Labour; Labour Rights; Social Security; Digital Surveillance; Regulatory Intervention; Power Asymmetry

INTRODUCTION

The emergence of app-based delivery services has become one of the most visible manifestations of the gig economy, reshaping the nature of work, employment relations, and labour regulation in the digital age. Platforms facilitating food delivery, grocery delivery, and last-mile logistics rely on digital applications to connect consumers with a vast workforce of

delivery workers operating on demand. This model has been widely promoted as offering flexibility, autonomy, and income-generating opportunities, particularly for young workers and migrants in urban areas. However, beneath this narrative of innovation lies a complex socio-legal reality characterised by precarity, asymmetric power relations, and limited labour protection.

App-based delivery work is typically structured around non-standard employment arrangements, wherein workers are classified as independent contractors rather than employees. This classification enables platform companies to avoid obligations traditionally associated with employment, such as minimum wage guarantees, social security contributions, paid leave, and occupational safety standards. As a result, delivery workers remain situated in a legal grey zone, performing work that is economically dependent and operationally controlled, yet formally excluded from labour law protections. This structural exclusion raises fundamental questions about fairness, dignity of labour, and the adequacy of existing legal frameworks in addressing platform-mediated work.

A defining feature of app-based delivery services is the use of algorithmic management systems. Algorithms govern nearly every aspect of the labour process, including task allocation, route optimisation, performance monitoring, incentive structures, ratings, and disciplinary measures such as penalties or deactivation. These systems operate with limited transparency, leaving workers unable to understand or challenge decisions that directly affect their livelihoods. While platforms often claim that algorithms merely facilitate efficient matching of supply and demand, in practice, algorithmic control functions as a powerful managerial tool that replicates and in some cases intensifies traditional forms of employer control.

The socio-economic consequences of this model are significant. Delivery workers frequently experience income volatility, pressure to work long hours to meet incentive thresholds, and exposure to occupational risks without adequate insurance or support. The burden of work-related costs, such as vehicles, fuel, and maintenance, is shifted onto workers, further exacerbating economic insecurity. These conditions highlight a mismatch between the degree of control exercised by platforms and the level of responsibility they assume towards workers. In recent years, concerns regarding worker exploitation and algorithmic governance have prompted growing calls for regulatory intervention. Courts, policymakers, and scholars have

begun to question whether existing labour law categories are sufficient to capture the realities of platform work. In India, legislative developments recognising gig workers within the social security framework indicate an evolving regulatory response, yet they fall short of addressing deeper issues of algorithmic accountability and power imbalance.

This paper examines the need for regulatory intervention in app-based delivery services through a socio-legal lens. It seeks to analyse how algorithmic control and worker exploitation intersect within platform labour and to assess the limitations of current legal frameworks in addressing these challenges. By situating app-based delivery work within broader debates on labour rights, digital governance, and social justice, the study aims to contribute to the ongoing discourse on regulating the gig economy in a manner that balances innovation with the protection of workers' rights.

RESEARCH METHODOLOGY

This research adopts a **socio-legal and doctrinal research methodology** to examine the need for regulatory intervention in app-based delivery services, with particular emphasis on worker exploitation and algorithmic control. Given the hybrid nature of platform labour—situated at the intersection of law, technology, and socio-economic relations—a purely doctrinal analysis is insufficient. Accordingly, the study integrates legal analysis with socio-legal insights drawn from labour studies, digital governance, and platform economy literature.

The doctrinal component of the methodology focuses on analysing existing legal frameworks governing labour, employment, and social security in India. This includes an examination of labour statutes such as the Code on Social Security, 2020, the Code on Wages, 2019, and relevant judicial interpretations concerning employment classification and labour protection. The research evaluates how these laws conceptualise “gig workers” and “platform workers” and assesses whether such statutory recognition translates into meaningful labour rights and protections. Particular attention is paid to legislative gaps relating to minimum wages, collective bargaining, occupational safety, and grievance redressal mechanisms for app-based delivery workers.

The socio-legal dimension of the research examines the lived realities of platform workers and the power structures embedded within algorithmic management systems. This involves analysing secondary empirical studies, policy reports, and surveys conducted by labour

organisations, think tanks, and international institutions such as the International Labour Organization (ILO). These sources provide critical insights into income insecurity, working conditions, surveillance practices, and asymmetrical bargaining power experienced by delivery workers. By situating legal analysis within broader socio-economic contexts, the research seeks to understand how formal legal classifications often fail to reflect substantive employment relationships.

A key methodological focus of this study is the analysis of **algorithmic control** as a form of governance. The research examines how digital algorithms regulate labour processes through opaque decision-making systems that allocate work, assess performance, and impose penalties. Drawing upon interdisciplinary scholarship on algorithmic governance and digital labour, the study analyses whether such control mechanisms amount to employer-like supervision under labour law principles. This analysis is crucial in assessing whether existing legal categories adequately capture the realities of platform-mediated work.

The research also incorporates a **comparative perspective** by briefly examining regulatory approaches adopted in other jurisdictions, including the European Union, the United Kingdom, and select U.S. states. Comparative analysis is used to highlight emerging regulatory trends, such as reclassification of gig workers, algorithmic transparency obligations, and collective rights for platform workers. These comparative insights inform the evaluation of regulatory options suitable for the Indian context.

The study is based entirely on secondary sources and does not involve primary fieldwork or interviews. While this limits empirical depth, reliance on authoritative reports, judicial decisions, and scholarly literature ensures analytical rigor. Overall, the chosen methodology enables a comprehensive examination of the legal, technological, and social dimensions of app-based delivery work, providing a robust foundation for evaluating the necessity and scope of regulatory intervention.

RESEARCH QUESTIONS

1. What are the defining characteristics of app-based delivery services within the gig economy?
2. How do app-based delivery platforms contribute to worker exploitation through contractual classification and economic dependence?

3. In what ways does algorithmic control function as a mechanism of managerial power over delivery workers?
4. How adequate are existing labour and social security laws in India in addressing the realities of platform-based delivery work?
5. Why is regulatory intervention necessary to ensure fair labour standards, transparency, and accountability in app-based delivery services?

HYPOTHESIS

The central hypothesis of this research is that app-based delivery services operate through a model of disguised employment in which workers are subjected to extensive algorithmic control and economic dependency, resulting in systemic exploitation that cannot be adequately addressed without targeted regulatory intervention. This hypothesis is premised on the understanding that although delivery workers are formally classified as independent contractors or gig workers, the substantive nature of their relationship with platform companies closely resembles that of an employer–employee relationship, thereby necessitating legal recognition and protection.

The hypothesis assumes that the gig economy’s promise of flexibility and autonomy is largely illusory in the context of app-based delivery work. While workers may ostensibly choose their working hours, platform algorithms exert indirect yet pervasive control over their behaviour by linking income opportunities to performance metrics, ratings, and incentive thresholds. This creates a coercive environment in which workers are compelled to work longer hours, accept unfavourable conditions, and comply with opaque algorithmic decisions to sustain their livelihoods. The hypothesis posits that such control undermines worker autonomy and effectively shifts managerial authority from human supervisors to automated systems.

A further assumption underlying this hypothesis is that algorithmic management systems amplify power asymmetry between platforms and workers. Platforms possess exclusive access to data, algorithms, and decision-making processes, while workers remain largely unaware of how work is allocated, how ratings are calculated, or why penalties and deactivations occur. This opacity deprives workers of meaningful agency and due process, reinforcing structural vulnerability. The hypothesis contends that algorithmic governance, in the absence of regulatory oversight, facilitates exploitation by insulating platform companies from accountability.

The hypothesis also recognises the limitations of existing labour and social security frameworks in addressing platform-based work. Traditional labour law is built around binary classifications of “employee” and “independent contractor,” which fail to capture the hybrid nature of gig work. Although recent legislative developments in India acknowledge gig and platform workers within social security schemes, these measures are largely welfare-oriented and do not address core labour rights such as minimum wages, collective bargaining, or protection against unfair termination. The hypothesis therefore assumes that incremental welfare-based approaches are insufficient to counter systemic exploitation embedded in platform labour models.

Another dimension of the hypothesis concerns the role of regulatory intervention in restoring balance between innovation and labour protection. The hypothesis posits that unregulated platform markets prioritise efficiency and profit maximisation at the expense of workers’ rights and dignity. Regulatory intervention is thus necessary not to stifle innovation, but to ensure that technological advancement does not erode fundamental labour standards. Such intervention may include redefining employment relationships, mandating algorithmic transparency, ensuring minimum earnings guarantees, and establishing grievance redressal mechanisms.

Ultimately, this hypothesis anticipates that a socio-legal analysis of app-based delivery services will reveal a structural mismatch between the realities of platform work and the protections offered by existing law. It seeks to demonstrate that regulatory intervention is not merely desirable but essential to address worker exploitation and unchecked algorithmic control. The hypothesis provides the analytical foundation for examining whether law can effectively adapt to digital labour markets while safeguarding workers’ rights and social justice.

LITERATURE REVIEW

The rise of app-based delivery services and the broader gig economy has generated extensive interdisciplinary scholarship spanning labour law, sociology, economics, and technology studies. Existing literature broadly agrees that platform-mediated work represents a structural departure from traditional employment relationships, necessitating fresh legal and regulatory approaches. Scholars consistently highlight that while digital platforms present themselves as neutral intermediaries, they exercise substantial control over labour processes, thereby blurring the distinction between independent contracting and employment.

Early literature on the gig economy focused on flexibility and efficiency, often portraying platform work as an innovative alternative to rigid labour markets. However, critical scholarship soon emerged challenging this narrative. Authors such as Guy Standing argue that platform workers constitute a new “precariat” class characterised by income insecurity, lack of social protection, and weakened collective bargaining power.¹ This body of work situates gig workers within broader trends of labour commodification and deregulation, emphasising how platforms shift economic risk onto workers while retaining managerial control.

A significant strand of literature examines **worker classification and legal misclassification**. Legal scholars argue that the classification of delivery workers as independent contractors is often a strategic choice that enables platforms to evade labour law obligations.² Studies analysing judicial decisions across jurisdictions reveal increasing scepticism toward such classifications, particularly where platforms exert control over work allocation, pricing, and performance standards. This literature underscores the inadequacy of traditional binary labour categories in addressing platform-based work.

Algorithmic management has emerged as a central theme in recent scholarship. Researchers such as Shoshana Zuboff and Antonio Casilli highlight how algorithmic systems function as mechanisms of surveillance and behavioural control.³ In the context of app-based delivery services, algorithms regulate work intensity, impose penalties, and influence worker behaviour through ratings and incentives. Scholars argue that this form of control is often more pervasive and less contestable than traditional managerial supervision, as decisions are automated, opaque, and framed as objective or neutral.

Socio-legal literature also examines the impact of algorithmic opacity on workers’ access to justice. Several studies document how delivery workers lack effective grievance redressal mechanisms, particularly in cases of account suspension or deactivation.⁴ The absence of transparency and explanation undermines procedural fairness and reinforces power asymmetry.

¹ Guy Standing, *The Precariat: The New Dangerous Class* (Bloomsbury 2011).

² Jeremias Prassl, *Humans as a Service: The Promise and Perils of Work in the Gig Economy* (Oxford University Press 2018).

³ Shoshana Zuboff, *The Age of Surveillance Capitalism* (Profile Books 2019).

⁴ Antonio Aloisi, ‘Commoditized Workers: Case Study Research on Labour Law Issues Arising from a Set of On-Demand/Gig Economy Platforms’ (2016) 37 *Comparative Labor Law & Policy Journal* 653.

This has led scholars to advocate for regulatory requirements mandating algorithmic transparency, explainability, and human oversight in platform governance.

In the Indian context, emerging literature analyses recent legislative developments recognising gig and platform workers within the social security framework. While scholars acknowledge this as a progressive step, they caution that welfare-based inclusion does not address core labour rights such as minimum wages, job security, and collective representation.⁵ Indian scholars also highlight enforcement challenges and the limited scope of statutory protections, particularly for delivery workers operating in urban informal economies.

Comparative literature provides valuable insights into regulatory responses globally. European scholarship discusses developments such as the EU's proposed Platform Work Directive, which seeks to reclassify platform workers and impose transparency obligations on algorithms.⁶ Studies from the United Kingdom and the United States explore judicial and legislative experiments with intermediate worker categories and sector-specific regulation. These comparative perspectives inform debates on whether regulation should focus on reclassification, rights-based guarantees, or platform-specific obligations.

Overall, the literature reflects a growing consensus that unregulated app-based delivery services generate structural exploitation through economic dependency and algorithmic control. While there is debate regarding the appropriate regulatory model, scholars largely agree that laissez-faire approaches are inadequate. This research builds on existing scholarship by integrating socio-legal analysis with regulatory theory to argue for targeted intervention addressing both labour exploitation and algorithmic governance in app-based delivery services.

GIG ECONOMY AND APP-BASED DELIVERY SERVICES:

CONCEPTUAL FRAMEWORK

The gig economy refers to a labour market characterised by short-term, task-based, and on-demand work arrangements facilitated by digital platforms. Unlike traditional employment relationships, gig work is typically mediated through technology that connects workers with consumers in real time. App-based delivery services constitute a prominent segment of this

⁵ Ajay Pandey, 'Gig Workers and Social Security in India' (2021) 56 *Economic and Political Weekly* 34.

⁶ European Commission, *Proposal for a Directive on Improving Working Conditions in Platform Work* (2021).

economy, encompassing food delivery, grocery delivery, and last-mile logistics operations. These platforms function as intermediaries that coordinate labour supply and consumer demand through mobile applications, data analytics, and algorithmic management systems.

At the conceptual level, app-based delivery services are built upon a triangular relationship involving the platform, the worker, and the consumer. Platforms position themselves as technology providers rather than employers, asserting that they merely facilitate transactions between independent service providers and customers. This framing is central to the business model, as it allows platforms to disclaim employer responsibilities while retaining control over key aspects of the labour process. The legal and economic implications of this classification are profound, as it determines the applicability of labour law protections and regulatory obligations.

A defining characteristic of app-based delivery work is economic dependence. Although workers are formally independent, many rely on platform income as their primary or sole source of livelihood. Platforms set pricing structures, determine incentive schemes, and control access to work opportunities, effectively shaping workers' earning potential. This dependence challenges the notion of genuine independence and raises questions regarding the appropriateness of classifying delivery workers as autonomous contractors.

Another core element of the conceptual framework is algorithmic mediation. Algorithms are not merely neutral tools but active agents that structure work relations. They allocate tasks, optimise routes, monitor performance, and enforce discipline through ratings, penalties, and deactivation. This digital form of management replaces traditional supervisory mechanisms with automated decision-making, often without transparency or accountability. From a socio-legal perspective, algorithmic mediation represents a new form of managerial control that operates beyond the reach of conventional labour regulation.

The gig economy model also externalises risk and cost onto workers. Delivery workers are typically responsible for providing and maintaining their vehicles, fuel, mobile devices, and internet connectivity. They also bear occupational risks such as road accidents and health hazards without adequate insurance coverage or safety nets. This cost-shifting is integral to the platform business model, enabling companies to minimise operational expenses while maximising flexibility.

From a legal standpoint, the conceptual framework of app-based delivery services exposes the limitations of traditional labour law categories. The binary distinction between employee and independent contractor fails to capture the hybrid nature of platform work, which combines elements of autonomy and subordination. Scholars increasingly argue for a functional approach that focuses on the substance of the relationship rather than its formal classification.

Understanding the conceptual foundations of the gig economy and app-based delivery services is essential for assessing the need for regulatory intervention. The combination of economic dependence, algorithmic control, and risk externalisation creates conditions conducive to worker exploitation. This framework provides the analytical basis for examining how platform labour challenges existing legal norms and why targeted regulation is necessary to protect workers' rights in the digital economy.

NATURE OF WORKER EXPLOITATION IN APP-BASED DELIVERY PLATFORMS

Worker exploitation in app-based delivery platforms manifests through a combination of economic insecurity, legal exclusion, and structural power imbalance. Although platforms promote narratives of flexibility and entrepreneurship, the lived experiences of delivery workers reveal conditions that closely resemble precarious and subordinated labour. This exploitation is not always overt; rather, it is embedded within the contractual design, incentive structures, and technological architecture of platform work.

One of the most significant forms of exploitation is income insecurity. Delivery workers are paid on a per-task or per-delivery basis, with earnings fluctuating according to demand, algorithmic allocation, and incentive schemes. Platforms frequently modify pay structures unilaterally, reducing per-delivery rates or altering bonus thresholds without meaningful consultation. As a result, workers are compelled to work longer hours, often during peak or hazardous conditions, to achieve a minimum subsistence income. This volatility undermines economic stability and exposes workers to chronic financial stress.

Another critical dimension of exploitation is the externalisation of costs and risks. Delivery workers typically bear all work-related expenses, including vehicles, fuel, repairs, mobile phones, and internet connectivity. In addition, they face occupational hazards such as road

accidents, weather exposure, and health risks without adequate insurance or employer liability coverage. Platforms benefit from this arrangement by minimising fixed costs and avoiding statutory obligations relating to workplace safety and compensation, thereby shifting economic risk entirely onto workers.

Contractual asymmetry further exacerbates exploitation. Platform agreements are usually standard-form contracts drafted unilaterally by companies, offering workers little to no bargaining power. These contracts often include clauses allowing platforms to modify terms, suspend accounts, or terminate access without prior notice or explanation. Workers' dependence on platform income renders such terms coercive, as refusal to accept them effectively results in loss of livelihood. This imbalance reflects substantive inequality masked by formal consent.

Exploitation is also evident in the absence of collective rights and representation. Delivery workers are generally prohibited from forming unions or engaging in collective bargaining under existing legal frameworks due to their classification as independent contractors. This isolation weakens workers' ability to negotiate better terms or challenge unfair practices. Attempts at collective mobilisation are often met with subtle retaliation, such as reduced task allocation or account deactivation, reinforcing platform dominance.

The disciplinary regime imposed by platforms constitutes another exploitative mechanism. Performance is continuously monitored through ratings, delivery times, and customer feedback. Low ratings often influenced by factors beyond workers' control can lead to penalties or deactivation. This creates a climate of constant surveillance and pressure, compelling workers to prioritise speed over safety and compliance over dignity. The lack of transparency in disciplinary decisions denies workers procedural fairness and effective remedies.

Taken together, these forms of exploitation reveal that app-based delivery platforms operate within a regulatory vacuum that enables profit maximisation at the expense of workers' rights and well-being. The exploitation is structural rather than incidental, arising from the very design of platform labour models. Recognising these exploitative dynamics is crucial for understanding why existing labour protections are inadequate and why regulatory intervention is necessary to address the systemic vulnerabilities faced by delivery workers.

ALGORITHMIC CONTROL, SURVEILLANCE, AND POWER

ASYMMETRY

Algorithmic control constitutes the defining mechanism through which app-based delivery platforms exercise authority over workers while maintaining the façade of non-employment. Unlike traditional managerial supervision, which is visible and relational, algorithmic control operates through automated, data-driven systems that regulate labour in subtle yet pervasive ways. These systems govern task allocation, performance evaluation, incentives, penalties, and even termination, creating a form of control that is continuous, opaque, and difficult to contest. At the core of algorithmic control is task allocation. Delivery workers do not freely choose assignments; instead, algorithms determine which worker receives which order based on factors such as location, past performance, acceptance rates, and customer ratings. Workers who decline tasks or fail to meet performance benchmarks may be deprioritised by the system, reducing future earning opportunities. This indirect coercion compels workers to accept unfavourable tasks to remain visible within the platform ecosystem, thereby undermining claims of autonomy.

Surveillance is another critical aspect of algorithmic management. Platforms continuously monitor workers through GPS tracking, time stamps, and behavioural data. Delivery times, routes taken, customer interactions, and even pauses are recorded and analysed. This constant surveillance creates a high-pressure work environment where workers are expected to optimise efficiency at all times. Unlike traditional workplaces, where surveillance may be subject to labour regulation and collective oversight, algorithmic surveillance in platform work operates with minimal transparency and virtually no regulatory constraint.

Algorithmic systems also function as disciplinary mechanisms. Ratings and feedback systems translate customer perceptions into quantitative scores that directly affect workers' access to work and income. These ratings are often influenced by factors beyond workers' control, such as restaurant delays or traffic conditions, yet they carry significant consequences. Penalties, reduced incentives, and account deactivation are frequently imposed automatically, without prior notice or an opportunity to be heard. This lack of procedural fairness entrenches power asymmetry and deprives workers of due process.

A defining feature of algorithmic control is its opacity. Platforms treat algorithms as proprietary, refusing to disclose how decisions are made or how scores are calculated. Workers are thus subject to decisions they cannot understand, predict, or challenge. This informational

asymmetry reinforces dependence and vulnerability, as workers are forced to adapt their behaviour to an invisible and constantly changing system. From a socio-legal perspective, such opacity undermines fundamental principles of accountability and transparency.

The power asymmetry created by algorithmic control is structural. Platforms possess technological expertise, data dominance, and unilateral decision-making authority, while workers lack bargaining power and legal recognition. This asymmetry is further intensified by workers' economic dependence on platform income. Algorithms, rather than neutral tools, become instruments of governance that shape labour relations and reinforce exploitation.

Algorithmic control therefore represents a new frontier of labour regulation challenges. It enables platforms to exert employer-like authority without assuming corresponding responsibilities. Recognising algorithmic management as a form of control equivalent to traditional supervision is essential for rethinking labour regulation in the gig economy. Without regulatory intervention mandating transparency, accountability, and procedural safeguards, algorithmic governance will continue to entrench power imbalances and exacerbate worker exploitation in app-based delivery services.

EXISTING LEGAL FRAMEWORK AND REGULATORY GAPS IN INDIA

The regulation of app-based delivery services in India currently operates within a fragmented and inadequate legal framework that struggles to address the realities of platform-mediated work. Traditional labour laws were designed around stable employer–employee relationships and standard forms of employment, rendering them ill-suited to regulate gig work characterised by algorithmic management and non-standard contracts. As a result, app-based delivery workers remain largely excluded from substantive labour protections, despite performing economically dependent and controlled work.

Historically, Indian labour law has relied on binary classifications of “employee” and “independent contractor” to determine the applicability of rights and protections. App-based delivery platforms strategically classify workers as independent contractors, thereby excluding them from key labour statutes governing minimum wages, industrial relations, occupational safety, and social security. Courts have yet to conclusively address the status of platform

workers in India, leading to legal uncertainty and inconsistent application of labour norms. This classification gap constitutes a fundamental regulatory weakness.

Recent legislative developments have attempted to acknowledge the existence of gig and platform workers. The Code on Social Security, 2020 marks a notable step by formally recognising “gig workers” and “platform workers” and envisaging the creation of social security schemes for their welfare. However, this recognition is limited in scope and largely welfare-oriented. The Code does not extend core labour rights such as minimum wage guarantees, collective bargaining rights, or protection against unfair termination to delivery workers. Moreover, the implementation of social security schemes remains discretionary and underdeveloped, raising concerns regarding their effectiveness.

The Code on Wages, 2019 also fails to adequately address platform labour. While it establishes a universal framework for minimum wages, its applicability depends on the existence of an employer–employee relationship. As long as delivery workers are classified as independent contractors, they remain excluded from wage protections, despite facing income volatility and unilateral pay determination by platforms. This exclusion highlights the mismatch between formal legal categories and substantive labour realities.

Another critical regulatory gap concerns algorithmic governance and data transparency. Indian labour and technology laws do not impose specific obligations on platforms to disclose or explain algorithmic decision-making affecting workers. Decisions regarding task allocation, ratings, penalties, and deactivation remain opaque and unaccountable. While data protection frameworks may indirectly address certain aspects of data use, they do not provide workers with rights to challenge automated labour decisions or demand algorithmic accountability.

Enforcement mechanisms further exacerbate regulatory inadequacy. Even where limited protections exist, delivery workers lack accessible grievance redressal forums. Labour authorities are often ill-equipped to address platform work disputes, and workers face practical barriers in pursuing legal remedies due to costs, lack of awareness, and fear of retaliation. The absence of collective representation mechanisms further weakens enforcement and accountability.

These regulatory gaps demonstrate that existing legal frameworks in India are ill-prepared to address the socio-legal challenges posed by app-based delivery services. Incremental welfare

measures, while important, do not address the structural exploitation embedded in platform labour models. Without a comprehensive regulatory approach that rethinks employment classification, mandates algorithmic transparency, and ensures enforceable labour standards, delivery workers will continue to operate in a legal vacuum. This analysis underscores the urgent need for targeted regulatory intervention to align labour law with the realities of digital work.

COMPARATIVE AND CRITICAL EVALUATION: NEED FOR REGULATORY INTERVENTION

A comparative and critical evaluation of regulatory responses to app-based delivery services reveals a growing global consensus that laissez-faire approaches to platform labour are inadequate. Jurisdictions across the world have begun to recognise that gig workers, particularly in delivery services, occupy a position of economic dependence and subordination that warrants legal protection. Comparative experiences provide valuable insights into the necessity and possible contours of regulatory intervention in the Indian context.

In the European Union, regulatory attention has focused on correcting worker misclassification and addressing algorithmic control. The proposed EU Directive on Improving Working Conditions in Platform Work introduces a rebuttable presumption of employment where platforms exercise control over key aspects of work, including remuneration and performance monitoring. It also mandates transparency in algorithmic decision-making and provides workers with the right to human oversight over automated decisions. This approach acknowledges that algorithmic management can replicate traditional employer control and seeks to restore balance through legal presumptions and procedural safeguards.

The United Kingdom has adopted a more judicially driven approach. In *Uber BV v. Aslam*, the UK Supreme Court recognised platform workers as “workers” entitled to minimum wage and other statutory protections, emphasising substance over contractual form. Although this intermediate classification does not grant full employee rights, it reflects judicial willingness to pierce the façade of contractual independence and address economic reality. This model demonstrates how courts can play a proactive role in extending labour protections without stifling platform innovation.

In the United States, regulatory responses have been fragmented, with state-level initiatives

such as California's Assembly Bill 5 attempting to reclassify gig workers as employees, followed by platform-backed exemptions through ballot initiatives. These developments illustrate both the political resistance to reclassification and the influence of corporate power in shaping regulatory outcomes. Nonetheless, they underscore the centrality of worker status and algorithmic control in debates on platform regulation.

Critically evaluating these approaches reveals that regulatory intervention is not inherently antagonistic to innovation. Rather, it seeks to ensure that technological advancement does not erode fundamental labour rights. App-based delivery services operate in highly competitive markets where cost reduction is often achieved through labour flexibilisation and risk externalisation. Without regulation, this dynamic incentivises a race to the bottom in labour standards, disproportionately affecting vulnerable workers.

In the Indian context, regulatory intervention is particularly urgent due to the scale of platform labour and the prevalence of informal employment. Comparative models suggest that India need not adopt a one-size-fits-all solution. Instead, a tailored regulatory framework could combine elements such as presumptive employment status, minimum earnings guarantees, social security contributions, algorithmic transparency obligations, and accessible grievance redressal mechanisms. Such an approach would address exploitation while preserving operational flexibility.

A critical socio-legal perspective also highlights that regulation must go beyond formal legal recognition to address power asymmetry embedded in algorithmic systems. Transparency, explainability, and accountability in algorithmic governance are essential to ensuring procedural fairness and worker dignity. Without such safeguards, welfare-oriented measures risk legitimising exploitative models rather than transforming them.

In sum, comparative experience and critical analysis converge on the conclusion that regulatory intervention is indispensable for addressing worker exploitation and algorithmic control in app-based delivery services. The absence of regulation perpetuates structural inequality and undermines labour rights, while carefully designed intervention can promote fairness, sustainability, and social justice in the gig economy.

CONCLUSION AND SUGGESTIONS

The socio-legal analysis undertaken in this paper demonstrates that app-based delivery services, while emblematic of technological innovation and economic transformation, have simultaneously produced new forms of labour exploitation and control that existing legal frameworks are ill-equipped to address. The gig economy model, particularly in the context of delivery platforms, relies on algorithmic management systems that exert extensive control over workers while strategically avoiding the legal responsibilities associated with employment. This structural mismatch between control and accountability lies at the heart of worker vulnerability in platform-mediated labour.

The study reveals that worker exploitation in app-based delivery services is not incidental but systemic. Income insecurity, externalisation of work-related costs, contractual asymmetry, and lack of collective representation collectively undermine the dignity and security of delivery workers. Algorithmic control further intensifies exploitation by introducing opaque, automated decision-making that governs access to work, income, and continued participation in the platform. The absence of transparency and procedural safeguards deprives workers of agency and due process, reinforcing profound power asymmetry between platforms and workers.

From a legal perspective, the analysis highlights significant regulatory gaps within the Indian framework. While recent legislative developments recognising gig and platform workers represent an important symbolic shift, they remain largely welfare-oriented and insufficient to address core labour rights. Traditional binary classifications of employment fail to capture the hybrid nature of platform work, leaving delivery workers excluded from minimum wage protection, collective bargaining, and job security. Moreover, existing laws do not address algorithmic governance, surveillance, or automated disciplinary practices that define platform labour.

Comparative analysis underscores that regulatory intervention is both feasible and necessary. International experiences demonstrate that extending labour protections to platform workers does not inherently undermine innovation but rather promotes sustainable and equitable labour markets. Presumptive employment status, minimum earnings guarantees, algorithmic transparency obligations, and accessible grievance redressal mechanisms have emerged as viable regulatory tools across jurisdictions. These measures reflect a growing recognition that digital labour markets require reimagined regulatory frameworks grounded in social justice and accountability.

Based on the findings of this study, several regulatory suggestions are proposed. First, Indian labour law must move beyond formal classifications and adopt a functional approach that assesses the degree of control and economic dependence in platform work. Second, minimum labour standards such as guaranteed minimum earnings, working hour limits, and occupational safety protections should be extended to app-based delivery workers irrespective of contractual labels. Third, regulatory frameworks must mandate algorithmic transparency, including the right to explanation and human review of automated decisions. Fourth, collective representation and grievance redressal mechanisms should be legally facilitated to empower workers and ensure accountability. Finally, social security schemes must be made mandatory, contributory, and enforceable rather than discretionary.

In conclusion, regulatory intervention in app-based delivery services is not merely a policy choice but a socio-legal necessity. Without intervention, platform labour risks entrenching exploitation and inequality under the guise of technological progress. A rights-based regulatory framework that addresses both labour exploitation and algorithmic control can reconcile innovation with social justice, ensuring that the future of work in the digital economy is equitable, transparent, and humane.

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