

Regulatory Gaps and Legal Protection for Flexible Workers in the Digital Platform Economy

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ABSTRACT

The rise of the gig economy, characterized by short-term and flexible digital platform work, poses fundamental challenges to conventional labor law frameworks. This qualitative literature study examines the legal protections for workers in flexible contracts within Indonesia's gig economy. The analysis reveals a threefold problem: the inadequacy of the existing labor law framework (centered on the Manpower Act and the Job Creation Law) in regulating digitally-mediated work; substantive protection gaps in social security, wages, and occupational safety for gig workers; and the exacerbating role of algorithmic control, which creates subordination without legal employment status. The study further explores regulatory innovations from other jurisdictions, such as legal presumptions of employment in the EU, the ABC test in California, and portable benefit models. It concludes that Indonesia's current laws are structurally ill-equipped for the digital labor platform reality. A comprehensive regulatory overhaul is urgently needed, including the recognition of platform workers based on algorithmic control indicators, the establishment of portable social security schemes, guaranteed minimum earnings, algorithmic transparency mandates, and sectoral bargaining mechanisms. This reform is essential to ensure equitable protection for gig workers and to foster a just digital economy.

INTRODUCTION

Structural transformation in the world of work, driven by advances in information and communication technology, has given rise to a new form of employment relationship known as the gig economy. This term refers to a labor market dominated by short-term contracts and freelance work, in which workers are connected to employers or consumers through digital platforms. The emergence of platforms such as Uber, Gojek, Upwork, and Fiverr marks a significant shift from traditional, stable, long-term employment models toward more fluid, project-based arrangements. Developments in the digitalization of the manufacturing industry and legal aspects of data protection for workers indicate that technological transformation brings new challenges to employment relations (Osean et al., 2024). This shift is not merely a technological change, but a socio-economic transformation that alters how people earn income and how organizations manage human resources. Early research by Cappelli and Keller (2013) shows that companies increasingly adopt diverse work arrangements, combining core employees with

contingent workers in response to global competitive pressures and the demand for flexibility. The digital economy thus serves as a major catalyst in popularizing non-standard work arrangements that characterize the gig economy (Mas et al., 2022).

Within the architecture of the gig economy, flexible or short-term contracts function as the backbone of the legal relationship between platforms or employers and workers. These contracts are typically designed to meet the need for high operational flexibility, both from the perspective of employers who seek to adjust labor costs to fluctuations in demand, and from workers who desire autonomy over their working time and location. However, such flexibility is often achieved at the expense of legal certainty and social protection inherent in traditional employment status. The nature of the employment relationship becomes ambiguous, existing in a gray area between subordinate employment and independent work. Digital platforms often position themselves merely as technological intermediaries rather than employers, thereby attempting to avoid legal

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responsibilities as employers (Oey, 2024). This strategy creates new vulnerabilities for workers, who, although technically independent, are in practice still controlled by algorithms, rating systems, and strict platform policies.

Labor law frameworks in many countries, including Indonesia, are fundamentally built upon the assumption of a binary and stable relationship between a worker and an employer (Farianto, 2021). Law Number 13 of 2003 concerning Manpower in Indonesia, for instance, provides fundamental protections such as minimum wages, working hours, leave, social security, and compensation for termination of employment. These protections are generally attached to the status of “employee” within an employment relationship. When individuals are bound by short-term contracts or classified as independent partners by platforms, access to these comprehensive protections is often disrupted. This raises fundamental questions regarding the adequacy of existing legal regimes in addressing the realities of fluid and fragmented work arrangements. The gap between law in theory and practice continues to widen, placing many workers in legally and economically precarious positions.

The characteristics of work within the gig economy also present unique challenges distinct from conventional contingent work. The use of algorithms to allocate tasks, monitor performance, and even conduct evaluations or terminate working relationships automatically creates new forms of surveillance and control. Workers may formally have the freedom to choose their working hours, yet pressure to accept gigs in order to maintain high ratings or remain visible within the system can limit their actual autonomy. Efforts to build regional economic stability through effective legal protection for small and medium enterprises also highlight the importance of legal certainty for actors within the digital economic chain (Hardyansah & Putra, 2023). A study by Rosenblat and Stark (2016) reveals how algorithms in transportation platforms influence driver behavior in non-transparent ways. This form of algorithmic control complicates the application of traditional legal tests used to determine employment status, which typically rely on direct supervision and control by employers. Thus, technology not only changes how work is performed but also blurs the legal boundaries that define rights and obligations.

Therefore, examining legal protection for workers engaged in flexible contracts in the era of the gig economy is an academic necessity. Such analysis must explore the complex interaction between technology, labor markets, and law. The objective is

to map the existing regulatory landscape, identify key tensions between business flexibility and workers’ fundamental rights, and analyze emerging legal responses across jurisdictions in addressing protection gaps. By understanding these dynamics, clearer insights can be developed regarding the future of labor law in responding to digital disruption and ensuring that principles of social justice are not left behind in the pursuit of technology-driven economic efficiency.

The central issue that arises is the ambiguity and dispute over the legal status of gig workers. Many platforms consistently classify their workers as independent contractors or partners rather than employees. This classification strategically exempts platforms from employer obligations such as contributing to social security, providing paid leave, or ensuring workplace safety. However, in practice, the level of control exercised by platforms through algorithms, binding policies, and disciplinary systems often reflects a subordinate employment relationship. Judicial testing using employment parameters as regulated in Article 1 point 15 of Indonesian labor law becomes complex due to indirect and digitalized supervision. Workers are trapped in what Stone and Arthurs (2013) describe as “disguised dependency,” where they are economically dependent on a single platform but legally considered independent.

Another issue lies in the limited or absent access to social security and basic employment benefits. Workers under flexible or short-term contracts are often excluded from national social security programs, including health insurance, workplace accident coverage, pensions, and unemployment benefits. In Indonesia, participation in the Social Security Administering Body (BPJS Ketenagakerjaan) is formally linked to employment relationships. When worker status is unclear, access to such protections becomes restricted. Strategic planning in small business development also indicates the importance of sustainability for individuals relying on unstable income sources (Hariani, 2022). This condition creates significant risks, particularly in gig sectors such as transportation and delivery that involve occupational hazards. In cases of illness, accidents, or lack of demand, workers lack adequate social safety nets. Income instability inherent in gig work further exacerbates the issue, making it difficult for workers to independently contribute to social security schemes. This protection gap renders gig workers highly vulnerable to economic and health shocks.

Wages and working conditions also represent

critical areas of concern. Gig workers are typically paid per task or project, without guaranteed minimum income. Platform-determined rates are often subject to unilateral changes and influenced by factors such as location, time, and ratings, which may introduce bias. The lack of transparency in algorithmic pricing and task allocation can result in unfair outcomes. Furthermore, the principle of a living wage, as mandated in Indonesian labor law, is difficult to implement within fragmented payment systems. Workers often work long hours to achieve adequate income, yet such hours are not recognized or compensated as overtime due to their non-employee status. Workers also bear operational costs such as vehicle maintenance, internet data, and work equipment, which significantly reduce their net income. This creates a situation in which workers bear much of the business risk while platforms benefit from the flexibility provided.

The exponential growth of the gig economy has transformed global labor demographics. The number of individuals relying partially or entirely on platform-based work continues to increase rapidly. This shift is not temporary but part of a broader restructuring of the labor market. The role of psychological capital and entrepreneurial education highlights the importance of preparedness in facing changes in the labor landscape (Khayru et al., 2022). Understanding the legal implications of this transformation is crucial, as it affects the welfare of a rapidly growing segment of the workforce. If legal frameworks fail to adapt, a new class of workers may emerge operating within the core of the digital economy yet lacking basic protections enjoyed by formal sector workers. This situation risks widening social inequality and undermining long-standing labor rights achievements. A systematic study is therefore required to assess the depth of the issue and formulate a foundation for inclusive policies.

Legal and policy debates on the future of work are intensifying across many countries. Various jurisdictions have experimented with different regulatory approaches, ranging from incorporating gig workers into traditional employment definitions, creating new legal categories such as “dependent contractors” or “platform workers,” to developing rights independent of employment status. Landmark court cases have challenged the classification of gig workers in countries such as the United States, the United Kingdom, and several European nations. Analyzing these developments provides valuable lessons for Indonesia. Literature review enables the evaluation of regulatory effectiveness, understanding unintended consequences, and identifying adaptable principles within Indonesia’s

legal and social context. This contributes to more evidence-based and responsive policymaking.

Ultimately, the integration of the digital economy into all aspects of life necessitates a re-evaluation of the labor social contract. Principles such as decent work, advocated by the International Labour Organization (ILO), remain relevant but require reinterpretation in the digital era. Academic inquiry plays a crucial role in constructing strong arguments to support this reinterpretation. By examining the challenges and opportunities presented by the gig economy, this research contributes to finding a new balance between economic flexibility for innovation and the stability and protection required by workers. Without such intellectual efforts, the law risks becoming obsolete, allowing injustices in the digital economy to persist without adequate normative frameworks.

This study aims to analyze the suitability and limitations of Indonesia’s labor law framework in protecting workers engaged in flexible contracts within the gig economy. Furthermore, it seeks to identify and examine substantive protection gaps, particularly in social security, wages, and occupational safety, while considering the influence of algorithmic control. Finally, the study aims to evaluate emerging legal innovations and regulatory approaches across jurisdictions as references for policy development in Indonesia. Theoretically, this research is expected to enrich labor law discourse by offering a critical perspective on technology-based employment relationships. Practically, the findings may serve as input for legislators, regulators, legal practitioners, and business actors in formulating more equitable and sustainable policies and practices within the digital economy.

RESEARCH METHOD

This study is a qualitative literature review aimed at developing a comprehensive and analytical understanding of the issue of legal protection for workers engaged in flexible contracts in the era of the gig economy. A qualitative approach is employed as it aligns with the exploratory and interpretative nature of the research, focusing on meaning-making, conceptualization, and the construction of legal arguments derived from various textual sources. As explained by Patton (2002), qualitative research enables researchers to explore the complexity of social phenomena in depth, including legal and normative dimensions, through the interpretation of textual data. The data used in this study are entirely secondary, consisting of both primary and secondary legal materials. Primary legal materials include Indonesian

legislation such as the Manpower Law, relevant court decisions, and international agreements. Secondary materials consist of labor law textbooks, reputable national and international journal articles, reports from organizations such as the ILO, and policy analyses from credible think tanks.

Data collection was conducted through a systematic search of academic and legal databases. Digital sources such as Google Scholar, JSTOR, HeinOnline, Sage Journals, and ScienceDirect were utilized to identify relevant journal articles. Official websites of government institutions, the Supreme Court, and international organizations such as the ILO were accessed to obtain legal and policy documents. The search process employed a combination of keywords in both Indonesian and English, including “gig economy,” “platform workers,” “flexible employment contracts,” “algorithmic management,” “worker legal status,” “freelance social security,” and their equivalents. The main inclusion criteria were topic relevance, source quality (verified through publisher reputation or citation impact), and publication timeframe, with particular attention to developments in discourse after 2023. Each collected source was recorded bibliographically and subjected to initial screening to assess its contribution to addressing the research questions.

To analyze the collected data, this study applies thematic content analysis as proposed by Braun and Clarke (2006). This method is considered appropriate for identifying, analyzing, and reporting patterns or themes within qualitative data. The process begins with repeated and thorough reading of all materials to achieve familiarity. This is followed by a coding process, where relevant segments of text such as legal definitions, arguments regarding worker status, descriptions of protection gaps, or models of new regulatory approaches are identified and labeled. These codes are then grouped into broader themes that directly address the research questions, such as “Incompatibility of Labor Law,” “Algorithm-Induced Vulnerability,” and “Innovation in Legal Categories.” These themes are not only described but also critically examined and interconnected to construct a coherent analytical narrative. The validity and reliability of the analysis are ensured through source triangulation, by comparing and cross-checking findings from various types of literature (positive law, academic studies, and empirical reports) and from different jurisdictional perspectives, thereby producing a rich and well-grounded synthesis.

RESULT AND DISCUSSION

Analysis of the Indonesian Labor Law Framework in Addressing Flexible Contracts in the Gig Economy

The Indonesian labor law framework still pivots on the binary logic of formal employment relationships. Indonesia’s labor law framework, which centers on Law Number 13 of 2003 concerning Manpower, was essentially constructed to regulate employment relationships that are binary, subordinate, and relatively stable between workers and employers. This assumption is reflected in the normative definitions of employment relationships and workers regulated in Article 1, points 15 and 16 of the law, which require the elements of work, wages, and orders. This regulation forms a legal ecosystem with a comprehensive protection package ranging from minimum wages, working hours, and leave, to social security that is automatically attached to one’s status as a worker. This Law was subsequently significantly revised by Law Number 11 of 2020 concerning Job Creation, followed by a series of implementing regulations, including Government Regulation Number 35 of 2021 (Permana & Rijadi, 2023). A major change introduced was the flexibilization of the labor market, partly through more detailed and expanded regulations regarding Fixed-Term Employment Contracts. However, this approach actually further strengthens the dichotomous legal logic: workers are considered to fall within the formal employment relationship scheme with all its rights if they meet the definition, or they fall outside the scope of protection if they are defined as independent partners. This logic is what faces a frontal confrontation with the reality of work in the gig economy, where employment relationships often cannot be neatly categorized into one of those legal categories. This binary logic conflicts with the reality of the gig economy, which demands a more adaptive legal framework.

Government Regulation Number 35 of 2021 has become an important instrument post-Job Creation Law to regulate the flexibility of employment relationships. Government Regulation Number 35 of 2021 concerning Fixed-Term Employment Contracts, Outsourcing, Working Hours and Rest Periods, and Termination of Employment is a key instrument following the Job Creation Law for regulating flexible work. This Government Regulation allows Fixed-Term Employment Contracts not only for work that is temporary, seasonal, or related to new products, but also for other types of work to be regulated later. Normatively, this opens the opportunity for gig workers to be included in the Fixed-Term Employment Contract scheme. The regulation of royalties in the franchise business and its legal implications show that the clarity of the legal status of the parties is very important in every form of cooperation relationship (Putra & Wibowo, 2023).

However, the fundamental characteristic of Fixed-Term Employment Contract requires work that is "completed at once or temporary." Meanwhile, the work of an online driver or courier is repetitive, continuous, and constitutes the core of the platform business itself. Thus, applying Fixed-Term Employment Contract to them risks violating the prohibition on using Fixed-Term Employment Contract for work that is permanent and continuous in nature. Platforms, seeking to avoid obligations as employers, have a strong incentive not to use Fixed-Term Employment Contract and instead choose the legal construction of partnership agreements or business cooperation. Consequently, PP 35/2021 is actually less operational in bridging gig workers into the formal protection system. Government Regulation Number 35 of 2021 has not yet been able to answer the challenge of protecting gig workers whose work is continuous and essential.

The national social security system faces major challenges in protecting gig workers in the era of the digital economy. The national social security system regulated in Law Number 40 of 2004 concerning the National Social Security System and Law Number 24 of 2011 concerning the Social Security Organizing Agency (BPJS) also faces the same issues. Membership in the BPJS Employment and Health programs is formally linked to the status of a wage-earning worker. When the status of a gig worker is not recognized by the platform, they are not registered as mandatory participants. The influence of human resource quality on worker performance and employee loyalty shows that a healthy employment relationship depends heavily on the certainty of the protection provided (Darmawan et al., 2020). Although BPJS opens a self-employed participant scheme, the premium costs that must be borne entirely by the worker often become a heavy burden amidst uncertain income. Specific schemes such as BPJS Employment for Non-Wage Earners (PBPU) have not been effectively designed to capture the diversity and vulnerability of platform workers. This gap creates a paradox: workers at the forefront of the digital economy are instead trapped in long-term social protection uncertainty, vulnerable to health shocks, work accidents, and an old age without adequate pensions. This paradox reinforces the need for social security reform to be inclusive of gig workers.

The right to organize guaranteed by Law Number 21 of 2000 faces serious obstacles within the gig economy ecosystem. The right to associate, guaranteed by Law Number 21 of 2000 concerning Trade Unions/Labor Unions, is also hindered in the gig economy ecosystem. This collective right is built

on the assumption that workers are located in the same workplace, share common interests, and can be organized. The decentralized, fragmented nature of gig work managed through individual applications makes it difficult for workers to interact physically, identify colleagues, and build solidarity. Trade unions attempting to represent workers in the gig economy face various challenges related to both the nature of work in the gig economy and the legal rules currently governing gig workers (Cini & Tassinari, 2022). Platforms can also easily block or delete the accounts of workers deemed to be engaging in collective activities, under the pretext of violating service terms and conditions. As a result, the collective power that serves as a counterbalance in traditional industrial relations is almost non-existent. Workers face the platform alone, with a very weak bargaining position to negotiate rates, policies, or dispute resolutions. Existing labor union laws are not equipped with mechanisms to accommodate new forms of collective organization that suit the digital and algorithmic character of the modern workplace. The absence of digital collective mechanisms leaves gig workers without a counterbalance in modern industrial relations.

Law Number 2 of 2004 concerning Industrial Relations Dispute Settlement limits access to dispute resolution only to workers with formal employment relationships. In terms of industrial relations dispute resolution, Law Number 2 of 2004 concerning Industrial Relations Dispute Settlement provides a path through the Industrial Relations Court (PHI). However, access to the PHI is only open to parties who have an employment relationship. If a gig worker cannot prove the existence of an employment relationship based on Article 1 paragraph (15) of the Manpower Law, then they cannot file a lawsuit with the PHI. The development of entrepreneurial intentions as an effort to improve the economic level of consumer households shows that economic independence can be an alternative for workers in the gig economy era, yet it still requires basic protection guarantees (Halizah & Darmawan, 2022). The only available path is through an ordinary civil lawsuit in the District Court, a process that is much more complicated, slow, and expensive for individual workers. The resource disparity between workers and large technology companies makes this civil litigation path nearly impossible to pursue. Thus, dispute resolution mechanisms designed to protect workers are instead inaccessible to those who are most vulnerable in the digital economy. Limited access to the PHI leaves gig workers trapped in legal uncertainty without effective protection.

Occupational Health and Safety (OHS) protection in Law Number 1 of 1970 faces major challenges in the context of gig work. Occupational health and safety (OHS) protection regulated in Law Number 1 of 1970 concerning Occupational Safety has become highly relevant yet difficult to implement. Gig workers such as drivers and couriers face direct physical risks on the highway. The law requires employers to provide a safe and healthy workplace. However, in the gig model, the "workplace" is public roads, and the platform's responsibility toward OHS is often denied. The influence of entrepreneurial education, self-efficacy, locus of control, and achievement motivation on entrepreneurial intentions shows that mental preparation and skills are crucial for independent workers facing uncertain work risks (Halizah et al., 2022). Workers in the gig economy platform face various safety risks, and research looking at factors beyond individual behavior is still very limited (Taylor et al., 2023). Platforms may provide safety guidelines within the application, but they rarely provide formal training, comprehensive work accident insurance, or take responsibility for medical costs if an accident occurs. The employer's legal obligation to protect worker safety becomes blurred when the platform defines itself merely as a technology service provider. The blurred definition of "workplace" makes OHS protection for gig workers difficult to enforce effectively.

The PDP Law opens a new dimension of gig worker protection through the right to personal data. Law Number 27 of 2022 concerning Personal Data Protection (PDP Law) introduces a new dimension of protection that directly touches the core of the gig economy. Platform workers provide massive amounts of personal data, location data, transaction data, and performance data to the platform. The PDP Law grants workers, as data subjects, the right to obtain clarity on the purpose of data processing, the right of access, and the right to rectification. In principle, this law could be a tool to question the transparency of algorithms that govern work allocation, rate setting, and performance evaluation. However, its effectiveness remains to be proven. Intensive algorithmic monitoring has the potential to violate worker privacy, and the power imbalance may make workers reluctant to demand their data rights for fear of their accounts being blocked. The PDP Law stands as an important instrument, but it has not yet been organically integrated with the labor law framework to form holistic protection for digital workers. The PDP Law serves as an important instrument, but it needs integration with labor law so that digital worker

protection is more comprehensive.

The analysis concludes that there is a fundamental mismatch between the labor law framework and the reality of the gig economy. Overall, the analysis shows that the existing Indonesian labor law framework operates within a paradigm that differs from the reality of the platform economy. The law seeks to categorize and grant rights based on status, while platforms build relationships deliberately designed to avoid such status determination. Instruments such as the Fixed-Term Employment Contract post-Job Creation Law actually further strengthen this dichotomy rather than bridging the gap. The potential of social media as a means of online business promotion shows that digital platforms have great power in shaping economic opportunities, but can also create dependency for their users (Infante & Mardikaningsih, 2022). Substantive protections such as social security, the right to organize, access to the PHI, and OHS are theoretically available, yet access to them is blocked by the primary gate: the recognition of worker status. This situation creates a class of workers who *de facto* work for a platform, but *de jure* do not have a legal relationship that binds the platform to take responsibility. The law becomes like a grand building with locked entrance doors, while gig workers crowd outside without the appropriate keys. The inability of existing laws to accommodate these new forms of employment relationships is not merely a technical issue, but a systemic failure to respond to fundamental transformations in work organization. Consequently, although the legal framework appears normatively complete, in practice, it leaves gig workers in a highly vulnerable condition, without a social safety net and without effective legal channels to fight for their rights. This systemic failure underscores the need for legal reform to be able to respond to the transformation of digital work.

Substantive Protection Gaps: Social Security, Wages, and Occupational Safety Under Algorithmic Control

The most crucial protection gap arises within the national social security system, which fails to reach gig workers. The first and most crucial protection gap lies in the national social security system, which is supposed to function as a safety net for all citizens. Law Number 40 of 2004 concerning the National Social Security System (SJSN) is philosophically based on the principle of universality; however, in its operationalization through Law Number 24 of 2011 concerning the Social Security Organizing Agency (BPJS), it is divided into programs for Wage Earners

and programs for Non-Wage Earners or the general public. Gig workers who are not recognized as wage earners by platforms are legally cast into the PBPU (Non-Wage Earner) or independent participant schemes (Barus, 2024). The level of access independent workers have to social protection shows how a country handles work on digital platforms (Sieker, 2022). This scheme shifts the entire financial burden onto the workers' shoulders, with premiums that must be paid in full without contributions from the party utilizing their services. Consequently, many gig workers choose not to participate because unstable income makes premiums feel like an onerous burden. This gap is not merely an administrative issue but a systemic failure to accommodate new forms of work where the employer denies employment status while still reaping economic benefits from the worker. As a result, the risks of illness, work accidents, old age, and death become entirely an individual responsibility, eroding the principle of social solidarity that serves as the foundation of the SJSN. This systemic failure underscores the need for social security reform so that the principle of solidarity truly applies universally.

Government Regulation Number 36 of 2021 concerning Wages fails to reach the reality of gig worker income. The context of wages presents an equally deep protection gap. Government Regulation Number 36 of 2021 concerning Wages, as a derivative of the Job Creation Law, regulates in detail the structure and scale of wages, minimum wages, and their components. This regulation carries the basic assumption that a clear employment relationship exists between the wage giver and the wage receiver. In the platform economy, the payments received by gig workers are not constructed as "wages" but rather as "incentives," "fees," or "profit sharing." This reconstruction of legal language strategically removes workers from the scope of PP 36/2021. Strengthening student entrepreneurial intentions through the empowerment of soft skills and hard skills shows that competency development is key in facing the uncertainty of the working world (Mardikaningsih, 2022). Furthermore, the principle of minimum wage, which is territorial and sectoral in nature, cannot be applied to dynamic rates determined by algorithms based on market demand (surge pricing). Workers may work during busy periods with high rates, but must also endure slow periods with very low or even zero income. The average hourly income might be far below the regional minimum wage, yet this cannot be legally contested because the payment does not meet the definition of wages in the laws and regulations. Thus, the principle of a living wage, which is a constitutional right for every working citizen,

becomes an illusion for gig workers. The right to a living wage becomes superficial when gig workers are excluded from the formal definition of wage earners.

Law Number 1 of 1970 concerning Occupational Safety is unable to reach the reality of distributed gig work. In the realm of occupational health and safety, protection gaps arise from the inability of Law Number 1 of 1970 concerning Occupational Safety to reach the reality of fluid and distributed workplaces. This law regulates the employer's obligation to guarantee safety in the "workplace." For online transportation and delivery workers, the workplace is the public road – a public space that is outside the direct control and responsibility of the platform. Platforms can argue that they do not operate the vehicles or manage the traffic, thus the OHS obligations shift entirely to the workers as independent "partners." The utilization of waste paper through recycling and the development of an entrepreneurial spirit show that creativity and independence can be solutions in facing economic limitations (Nurmalasari & Mardikaningsih, 2022). However, platforms often set strict delivery time targets, rating systems that punish lateness, and incentives that encourage speed, which indirectly create high-risk working conditions. When an accident occurs, workers cannot file a claim as a work-related accident that is the employer's responsibility based on the Manpower Law and the implementing regulations concerning Work Accident Insurance (JKK). They must rely on private insurance, which is often inadequate, or BPJS Health with benefits that are more limited compared to JKK. The narrow definition of "workplace" causes gig workers to lose access to proper OHS protection.

Algorithmic control deepens protection gaps by hiding power relations behind computer code. The characteristics of algorithmic control play a central role in deepening each of these substantive gaps. Algorithms are not merely operational tools but a governance mechanism that performs traditional managerial functions such as recruitment (by activating/deactivating application access), assignment, supervision (via GPS and real-time data), performance evaluation (through star systems and reviews), and even termination of employment (through account termination or shadow banning). This control is impersonal and hidden, yet its impact is very real. The competitive advantage of MSMEs viewed from technology orientation and entrepreneurial competence shows that adaptation to technology and innovation are keys to success in the digital era (Putra & Darmawan, 2022). In terms of social security, algorithmic control creates a *de facto*

economic dependency relationship between the worker and the platform, yet this relationship is legally denied. This dependency should be the basis for imposing social security contribution obligations on the platform, as per the principles in traditional employment relationships. By hiding power relations behind computer code, platforms successfully evade this social responsibility. Algorithms make worker dependency real, while still legally negating the platform's social responsibility.

Algorithms in the wage system create sophisticated exploitation that deepens injustice for gig workers. Regarding the wage system, algorithms exacerbate gaps by introducing sophisticated and non-transparent forms of exploitation. Workers do not know exactly how the algorithm determines the rate for a particular trip or order. Decisions are made based on complex, undisclosed variables, creating extreme information asymmetry. Dynamic pricing models can lead to two workers performing identical routes at nearly the same time receiving different rates. This procedural injustice weakens the workers' position to fight for fair earnings. Even worse, algorithms can be used to lower aggregate base rates or reduce incentive values decisions that, in a formal employment relationship, would require negotiation with workers or their unions. In the platform economy, these changes can be made unilaterally by simply altering a few lines of code, without dialogue or accountability. Algorithmic non-transparency makes the right to a decent income increasingly difficult to fight for in the platform economy.

Gig service algorithms directly increase occupational safety risks by encouraging dangerous practices. Algorithmic control also directly increases occupational safety risks. Algorithms are designed to maximize efficiency and service speed parameters that often conflict with safety principles. Systems that provide incentives for completing a certain number of orders within a specific timeframe or set very tight estimated travel times encourage workers to violate traffic signs, reduce rest periods, or work in conditions of exhaustion. The role of business capital, education level, and technology in increasing business income shows that a combination of resources and knowledge is vital to achieving economic sustainability (Sinambela et al., 2021). When an incident occurs, data from the algorithm and GPS can actually be used by the platform to blame the worker, by showing evidence that the worker violated platform policies. Thus, technology that should be able to monitor safety instead turns into a tool to shift responsibility. The Occupational

Safety Law is not equipped with provisions requiring employers to ensure that the algorithmic systems they use do not encourage unsafe work practices. Without algorithmic regulation, OHS protection for gig workers remains fragile, and platform responsibility is easily avoided.

The inaccessibility of formal dispute mechanisms makes gig workers increasingly vulnerable to unilateral platform decisions. The inaccessibility of formal dispute resolution mechanisms exacerbates the impact of all these gaps. When gig workers feel aggrieved by algorithmic decisions whether regarding payment, termination of access, or safety issues they have almost no effective legal recourse. Reports must be submitted through the application's customer service, whose decisions may also be automated and offer no room for substantive appeal. Challenges in implementing the Job Creation Law regarding workers' constitutional rights show that legal reforms need to consider the balance between flexibility and rights protection (Suyuti et al., 2023). Court pathways are closed due to the absence of a recognized employment relationship. This procedural powerlessness forces workers to accept conditions as they are, even if they are substantively detrimental. This creates a work environment where the platform's unilateral power becomes absolute, shielded by a wall of algorithmic obscurity and a lack of legal recognition. Without access to formal disputes, gig workers are trapped in algorithmic dominance without adequate legal protection.

The principle of corporate accountability becomes blurred in a work ecosystem controlled by algorithms. The principle of accountability or corporate responsibility becomes blurred in an environment controlled by algorithms. Who is responsible for decisions made by computer code? Is it the programmer, the platform manager, or the company as a legal entity? Existing labor laws do not regulate legal liability for losses caused by algorithmic systems in the context of employment. The effectiveness of the Job Creation Law in guaranteeing the rights of contract workers shows that regulatory implementation still faces challenges in protecting vulnerable workers (Terubus et al., 2024). When an algorithm unfairly discriminates against certain workers or causes psychological stress due to constant pressure, there are no articles in the Manpower Law or the Occupational Safety Law that can hold the platform accountable. This regulatory gap leaves gig workers exposed to new forms of risk that have not yet been mapped by the law. Without clear rules, algorithmic risks are left without adequate legal accountability mechanisms.

Working hours and rest period regulations in the Manpower Law are irrelevant to gig work patterns. The regulations regarding working hours and rest periods in the Manpower Law and PP 35/2021 are also inapplicable. Theoretically, gig workers are free to choose when to work, but economic pressure and algorithmic designs that incentivize specific hours can force them to work far beyond normal working time limits. There is no recognition of overtime, no guaranteed holidays, and no protection against chronic fatigue. The impact of the gig economy on worker welfare and labor market stability shows that this new work model brings significant consequences that must be addressed by policy (Ishaq & Darmawan, 2021). The boundary between work time and personal time becomes extremely blurred because the application is always active and ready to provide order notifications. This erosion of boundaries damages worker welfare, yet it remains beyond the reach of labor law protections that regulate working hours rigidly based on physical presence. The blurred boundaries of working time make legal protection against chronic fatigue for gig workers unattainable.

Overall, the protection gaps for gig workers reflect a systemic design that separates control from responsibility. In the aggregate, the analysis shows that the substantive gaps in social security, wages, and occupational safety are not accidental legal vacuums, but rather the direct consequence of a business model deliberately designed to separate economic control from legal responsibility. Algorithmic control functions as a technical device that enables this separation by creating an illusion of worker autonomy while maintaining strict operational control. Legal protection for workers in labor crimes shows that law enforcement against violations of worker rights still faces various obstacles (Arrosyid et al., 2024). Existing regulations, such as the SJSN Law, the BPJS Law, PP 36/2021, and the Occupational Safety Law, were all created with the assumption that control and responsibility go hand in hand. The platform economy breaks this link, taking control through algorithms but casting the responsibility onto individual workers and the state. Therefore, closing these protection gaps cannot be achieved merely by expanding the interpretation of old regulations; instead, it requires a new regulatory approach that specifically governs platform responsibility for the consequences of the algorithmic systems they operate and creates social protection schemes detached from the confines of traditional employment relationship definitions while remaining funded by the entities profiting from that work. Algorithmic-based regulatory reform is key to ensuring

fair and sustainable social protection for gig workers.

Regulatory Innovation and New Legal Categories: Lessons from Cross-Jurisdictional Approaches

The European Union offers an ambitious regulatory experiment through the draft Directive on Platform Work. The most structured and ambitious regulatory experiment comes from the European Union, with the draft Directive on Platform Work proposing a revolutionary legal presumption. Unlike reactive approaches that wait for case-by-case court rulings, this directive creates a presumption that someone performing platform work is a worker if there are indicators of specific control and direction. These indicators explicitly include elements such as the determination of rates or wages by the platform, performance monitoring through electronic means, and restrictions on the freedom to organize work schedules or accept work from other parties. The legal basis for protecting worker rights and employment contracts in the startup ecosystem during the era of flexible work shows that legal protection needs to be adjusted to the characteristics of new employment relationships (Nugraha et al., 2024). In its consultation documents, the European Commission emphasized the importance of addressing the misclassification of worker status on platforms and considered introducing rules that flip the burden of proof or create a rebuttable presumption regarding worker status (Kullmann, 2021). If implemented, the burden of proof would shift to the platform to prove that no employment relationship exists a significant reversal of logic. This approach recognizes that algorithmic technology is capable of creating subordination equivalent to direct human orders. For Indonesia, this principle of legal presumption is highly relevant to overcoming the deadlock in proving the element of "orders" in Article 1 of the Manpower Law. Rather than forcing digital work facts into the framework of old definitions, this new framework builds a definition based on the manifestations of technological control, offering a way out of the "subordination without status" paradox. Legal presumption based on algorithmic control could inspire Indonesian labor reform in the platform era.

The United States demonstrates fragmented yet innovative gig economy regulatory dynamics at the state level. The U.S. offers a more fragmented panorama, but with significant innovations at the state level. The California Assembly Bill 5 (AB5) of 2019 implemented the strict "ABC test" to determine worker status (Gilliland III, 2022). An individual is presumed to be an employee unless the service user can prove three things: that the worker is free from the control and

direction of the service user; that the work is performed outside the service user's usual course of business; and that the worker is customarily engaged in an independently established business. The development of self-competence and supervision to achieve professionalism shows that individual capacity building and good oversight are key in every form of employment relationship (Sinambela et al., 2020). This test effectively captures many gig workers, as driving or delivery work is the core business of platforms like Uber or Lyft. The subsequent intense political and litigation response gave rise to Proposition 22, an industry-sponsored exemption that provides a limited benefit package (such as health subsidies and income guarantees) without granting full employee status. This dynamic highlights two important points. First, industry resistance will be very strong against full reclassification efforts. Second, it shows the emergence of a "middle way" or a third category model that grants certain rights without full worker status. For Indonesia, the lesson lies in the need to anticipate similar resistance and carefully consider whether to push for full worker status or design a hybrid category with a tailored package of rights. The third category model in the U.S. teaches that a regulatory compromise might be more realistic for Indonesia.

British jurisprudence through the case of *Uber BV v Aslam (2021)* emphasizes the importance of the substance of the employment relationship. In the United Kingdom, the development of jurisprudence through the *Uber BV v Aslam (2021)* case in the Supreme Court produced significant enlightenment. The court rejected contract clauses labeling drivers as independent partners and ruled that they were "workers" (a category between employee and independent contractor). This ruling emphasizes the substance of the economic relationship rather than the form of the contract (Posner, 2021). Studies on education levels and the consequences of licensing, as well as interest in creating small business permits, show that an understanding of regulation is vital for business actors (Mardikaningsih & Arifin, 2021). The judges assessed that Uber controlled critical factors: they set rates, determined contract terms, monitored order acceptance, and utilized a disciplinary system. The court concluded that drivers work *for* Uber, not *with* Uber. This judicial approach, which focuses on economic reality and dependency, could inspire more progressive interpretations by judges in the Indonesian Industrial Relations Court (PHI). Rather than stopping at the text of the contract, judges could be encouraged to trace evidence of algorithmic control, economic dependency on a single platform, and the integration of work into the platform's core

business to arrive at a substantial assessment of an employment relationship. An economic reality-based approach provides an opportunity for Indonesian judges to interpret employment relationships more progressively.

Sectoral bargaining offers a pragmatic alternative for setting minimum standards for gig workers. Various jurisdictions are also developing sectoral bargaining approaches specifically for platforms. In New Zealand, efforts are underway to enable collective bargaining for gig workers, even though their status might not be that of an employee (Proctor-Thomson et al., 2021). In several European countries, trade unions have negotiated framework agreements with major platforms to establish certain minimum standards (Aloisi & Gramano, 2020). The correlation between worker welfare and industrial relations shows that dialogue and negotiation between workers and employers are vital for creating fair working conditions (Mardikaningsih, 2021). This approach recognizes that while full legal classification is still debated, the need to establish basic standards through social dialogue remains urgent. This is a pragmatic alternative that Indonesia could adopt by empowering existing trade unions or encouraging the formation of platform worker associations to engage in "tripartite plus" dialogues with the government and platform companies. Government regulations could provide a legal umbrella for this sectoral bargaining model, creating space to set sectoral minimum rates, safety standards, and grievance procedures without having to first resolve the debate over status. Sectoral bargaining provides a middle ground to protect gig workers without waiting for legal status certainty.

The right to an algorithmic explanation serves as a crucial regulatory innovation to counter platform non-transparency. Regulatory innovation is also emerging in the form of the "right to an algorithmic explanation." Regulations such as the European Union's General Data Protection Regulation (GDPR) grant individuals the right not to be subject to decisions based solely on automated processing, including profiling, which produces legal or similarly significant effects. Although its application in employment relationships is still in its early stages, this principle has the potential to be a powerful tool. Business continuity: MSME competence shows that the ability to adapt and understand the business environment is essential for business survival, including for independent workers in the digital era (Mardikaningsih et al., 2022). Workers can request explanations as to why a certain decision such as a rating downgrade, termination of access, or claim rejection was made by the algorithm. This approach

addresses the issue of non-transparency at the core of algorithmic control. Indonesia, with Law Number 27 of 2022 concerning Personal Data Protection, has actually adopted a similar principle in the article regulating automated decision-making. This potential needs further development through technical regulations that specifically govern its application in platform work relationships, thereby giving workers a legal weapon to challenge algorithmic decisions deemed unfair. Strengthening the right to an algorithmic explanation can become a legal weapon for gig workers facing the dominance of platform technology.

Portable benefits offer an elegant solution for gig workers moving between platforms. The concept of portable benefits developed in the United States offers an elegant solution to social security issues. In this model, benefits (such as pensions and health insurance) are attached to the individual worker rather than a single employer. Aspen explains that benefits must be shared fairly, with each company contributing according to earnings, type of work, or time spent by the worker, including micro-work across various employers or platforms (Azar, 2020). Each platform where a person works provides a proportional contribution to that individual's benefit fund. This model fits the reality of gig workers who may work for several platforms simultaneously. Indonesia could study this model to reform the BPJS Employment system by creating a scheme where platforms are required to pay contributions based on the duration or income of workers on their platform, regardless of legal status. These funds accumulate in individual worker accounts, providing social security that follows them from one gig to another, addressing the issue of fragmentation. A portable benefits scheme could be a breakthrough to ensure sustainable social protection for gig workers.

Local ordinances show that gig worker protection can begin at the city or regional level. Several cities and states have also pioneered very specific regulations. New York City, for example, has established regulations requiring food delivery companies to pay a minimum hourly rate to drivers, taking into account the time spent waiting for orders. This regulation recognizes that unpaid waiting time is a major issue. Similarly, regulations on algorithmic transparency have been implemented, requiring platforms to disclose certain data on how work is allocated. The potential of social media as a means of online business promotion shows that digital platforms have a major influence in shaping economic opportunities (Infante & Mardikaningsih, 2022). This local ordinance approach demonstrates that protection can start at a more operational and specific level before being adopted

nationally. Regional governments in Indonesia, such as DKI Jakarta, which has a large number of gig workers, could pioneer regional regulations that set minimum standards for online transportation and delivery workers as a policy laboratory before they are adopted at the national level. Regional regulations can serve as policy laboratories to protect gig workers before they are implemented nationally.

A license-based approach provides the government with a direct instrument to enforce protection standards for gig workers. Another alternative is a license-based approach or operating permits for platforms. The government could require that to obtain or renew an operating permit, a platform must comply with a specific set of labor standards. These standards could include obligations to provide work accident insurance, contribute to social security funds, or adhere to a code of ethics regarding algorithmic transparency. This regulatory approach leverages the government's position as a licensor to enforce worker rights without going through lengthy status litigation processes. In Indonesia, the authority to grant business permits and supervise digital platforms resides across various ministries and agencies, such as Kominfo. Coordination to embed worker protection requirements into platform operating licenses could become an effective policy instrument. Operating licenses can be used as a policy entry point to ensure platforms bear their social obligations.

A special tax or levy on platform transactions offers a financial breakthrough for gig worker protection. A more radical approach is to impose a special tax or levy on platform transactions to fund a social safety net for gig workers. The funds collected could be used to subsidize BPJS premiums, provide training allowances, or establish emergency funds. This approach recognizes that platforms derive economic value from the flexible work provided by workers and, therefore, have a social responsibility to contribute to their protection system. This is a form of internalizing external costs (externalities) that have previously been borne by workers and the state. The conceptualization of cultural organizational studies shows that organizational structures and work cultures influence each other in shaping employment practices (Ishak et al., 2016). From the perspective of Indonesian labor law, this represents a financial breakthrough that can fill funding gaps to expand social security coverage while the debate over legal status continues.

Cross-jurisdictional reviews show that gig worker reform demands general principles rather than a single solution. The conclusion from this cross-

jurisdictional review is that there is no single universal solution. However, general principles emerge: recognition of the reality of algorithmic control, shifting the burden of proof, creating status-independent rights, ensuring technological system transparency, and collective funding for social protection. The influence of competence, independence, and workload on audit quality shows that key factors in a control system significantly determine the quality of outcomes (Darmawan et al., 2016). For Indonesia, the challenge is to perform a smart "legal transplantation" adapting these principles while considering the existing political-legal constellation, union strength, and institutional capacity. A combination of reforming the definition of employment relationships (perhaps through legal presumption), strengthening sectoral regulation through bargaining, utilizing the PDP Law for algorithmic transparency, and innovating portable social security funding could form a comprehensive policy package. These steps, if taken, would steer Indonesian labor law out of the deadlock of the worker-contractor dichotomy toward a framework that is more agile, fair, and aligned with the future of work that has already arrived. Through smart legal transplantation, Indonesia can build an adaptive and equitable labor framework in the platform era (Mahyanalia et al., 2017). Job insecurity and an integrative review for future research indicate that labor issues will continue to be a challenge within the dynamics of a changing world of work.

CONCLUSION

This literature study concludes that legal protection for workers under flexible employment contracts in Indonesia's gig economy era faces three interconnected layers of problems. First, the existing labor law framework, centered on the Manpower Law and the Job Creation Law, is built upon a binary and stable employment relationship paradigm, thus failing to reach fluid and digitized work relations. Instruments such as Fixed-Term Employment Contracts do not align with the continuous yet fragmented nature of platform work. Second, due to this mismatch, deep substantive protection gaps emerge in three vital areas: social security, wages, and occupational safety. Gig workers are trapped outside the formal social security system, lack minimum wage guarantees, and bear high occupational risks without adequate protection. Third, the characteristics of algorithmic control at the core of platform operations further deepen these gaps. Algorithms create new forms of subordination and economic dependency that factually resemble employment relationships but are legally denied,

leading workers to experience "subordination without status" and "control without responsibility." These three issues demonstrate a systemic failure of conventional law in responding to the fundamental transformation of work organization and management.

The findings of this research have fundamental implications for various stakeholders. For policymakers and legislators, the primary implication is the need to think beyond patchwork amendments. New regulations must boldly recognize the reality of algorithmic control as a basis for establishing rights and obligations, perhaps through the introduction of legal presumptions or new worker categories. For judges and law enforcement officials, the implication is an encouragement to perform progressive interpretations of the elements of "orders" and "employment relationships" in the Manpower Law, considering evidence of technological control as a manifestation of subordinative relations. For platform companies, the implication is that business models relying on the denial of worker status will face increasing regulatory and social pressure; adapting by contributing to portable protection systems and ensuring fair labor standards has become a strategic necessity. For labor unions and associations, these findings imply the need for innovation in organizational strategies and struggle, shifting from traditional factory-based union models toward collective advocacy that utilizes technology and focuses on specific platform worker issues.

Based on the analysis conducted, several strategic recommendations are proposed. First, the Government together with the House of Representatives (DPR) need to draft a specific law or an omnibus law on digital labor that regulates comprehensively. This draft must include a definition of "platform workers" based on indicators of algorithmic control and economic dependency, alongside a package of inherent basic rights such as the right to algorithmic information, guaranteed minimum earnings, access to social security with mandatory platform contributions, and occupational safety protection. Second, the Government needs to issue technical implementing regulations for the Personal Data Protection (PDP) Law that explicitly govern the rights of platform workers regarding transparency and objections to automated decisions, as well as mandatory algorithmic audits for large-scale platforms. Third, the Ministry of Manpower along with BPJS Employment must design and implement a portable social security scheme that allows for the accumulation of contributions from multiple platforms, with premium payment mechanisms deducted directly from each transaction. Fourth, the establishment of a "tripartite plus" dialogue forum

involving platform worker representatives is necessary to formulate sectoral standards and industrial codes of ethics. Without these systematic and bold policy interventions, Indonesia's digital economic growth will be overshadowed by widespread vulnerability and social injustice among the workers who serve as its backbone.

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