
Social Protection Gap for Blue-Collar Gig Workers in Indonesia: A PRISMA-Based Systematic Literature Review

Hapid Kamal*, Ana A.

Affiliation

(Technology and Vocational Education, Universitas Pendidikan Indonesia, Indonesia)

*Correspondence: hapid.kamal@upi.edu

Abstract

The rise of the digital economy in Indonesia has significantly increased the number of gig workers, particularly blue-collar workers in sectors such as transportation, construction, logistics, and mining. While offering flexibility, this employment pattern creates new vulnerabilities, including a substantial social protection gap characterized by limited access to social security, health insurance, occupational accident coverage, and income security. This study aims to map the social protection gap among blue-collar gig workers in Indonesia through a PRISMA-based Systematic Literature Review (SLR). Major databases including Scopus and Google Scholar were searched for publications between 2015 and 2025, with inclusion criteria covering studies on gig work, social protection, and the Indonesian context. The analysis reveals that most labor and welfare policies remain oriented toward formal workers, leaving blue-collar gig workers largely excluded from comprehensive protection schemes. Despite the rapid expansion of platform-based employment, existing regulations have not been sufficiently adapted to address non-standard forms of work. Policy implementation also faces structural challenges such as fragmented responsibilities among institutions, uneven platform compliance, and workers' limited awareness of rights and entitlements. Furthermore, disparities in coverage across sectors highlight the urgent need for context-specific strategies that address the heterogeneity of gig workers' experiences. This study highlights the critical urgency of evidence-based policy reform to extend social protection coverage, while also underscoring the necessity of stronger collaboration among government bodies, digital labor platforms, and worker organizations. Academically, the findings contribute to the discourse on labor transitions in the digital era and provide a foundation for comparative studies across developing economies. Practically, the results inform policymakers and stakeholders in designing inclusive and sustainable social protection systems that safeguard vulnerable workers in Indonesia's evolving digital economy.

Keywords: blue-collar workers, gig workers, PRISMA, protection gap, social protection.

1. Introduction

The rapid expansion of digital platforms has fundamentally transformed labor markets worldwide, giving rise to the gig economy as a significant employment model. In Indonesia, this transformation has been particularly pronounced, with millions of workers now engaged in platform-based work across various sectors. Blue-collar gig workers, including ride-hailing drivers, delivery couriers, construction workers, and logistics personnel, represent a substantial portion of this workforce. According to recent estimates, Indonesia's gig economy has grown by over 25% annually since 2018,

with blue-collar workers constituting approximately 60% of all gig workers (Pratomo, 2019; Hadiz & Yulianto, 2022).

While the gig economy offers flexibility and income opportunities, particularly for workers transitioning from informal or agricultural sectors, it simultaneously creates new forms of precarity. Unlike traditional formal employment, gig work is characterized by short-term contracts, algorithmic management, income volatility, and notably, the absence of conventional employer-employee relationships. This structural shift has profound implications for social protection, as Indonesia's welfare system remains largely designed around formal employment relationships (Tjandra, 2016; Ford & Honan, 2017).

The concept of social protection encompasses various mechanisms designed to reduce poverty and vulnerability by promoting efficient labor markets, diminishing people's exposure to risks, and enhancing their capacity to manage economic and social risks. For workers, this typically includes access to health insurance, pension schemes, unemployment benefits, occupational accident coverage, and maternity protection. However, the ambiguous employment status of gig workers often places them outside the coverage of these protection schemes, creating what scholars term the "social protection gap" (ILO, 2021; Rani & Furrer, 2020).

Indonesia's regulatory framework, primarily the Labor Law No. 13/2003 and its subsequent amendments, was designed for conventional employment relationships. The recent Omnibus Law on Job Creation (Law No. 11/2020) attempted to modernize labor regulations but has been criticized for inadequately addressing the unique challenges faced by platform workers. The Social Security Agency (BPJS Ketenagakerjaan) has launched initiatives to include gig workers, yet participation remains low due to affordability issues, lack of awareness, and absence of employer contributions (Suryahadi et al., 2020).

Blue-collar gig workers face particular vulnerabilities compared to their white-collar counterparts. They typically engage in physically demanding work with higher occupational hazards, earn lower incomes making voluntary social security contributions more challenging, possess limited bargaining power vis-à-vis platforms, and have lower levels of digital literacy affecting their ability to navigate available protection schemes. Studies have documented cases of gig workers suffering work-related accidents without adequate compensation, facing income shocks during economic downturns or health crises like the COVID-19 pandemic, and lacking retirement savings despite years of work (Rosser et al., 2021; Alisjahbana et al., 2022).

Despite growing concern about these issues, the existing literature on social protection for gig workers in Indonesia remains fragmented. Studies have addressed specific aspects such as occupational health and safety, income security, or platform governance, but comprehensive syntheses of the social protection gap are limited. Moreover, the rapid evolution of the gig economy means that regulatory responses and academic understanding are constantly playing catch-up with ground realities.

This study addresses these gaps through a systematic literature review following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol. By synthesizing

existing research, this study aims to: (1) map the dimensions and extent of the social protection gap for blue-collar gig workers in Indonesia; (2) identify key factors contributing to this gap, including regulatory, institutional, and operational barriers; (3) assess the effectiveness of existing policy interventions and platform initiatives; and (4) propose evidence-based recommendations for extending social protection coverage to this vulnerable workforce segment.

The novelty of this research lies in its systematic and comprehensive approach to synthesizing diverse streams of literature on gig work and social protection in the Indonesian context. Unlike previous studies that focus on single platforms or specific protection aspects, this review provides a holistic overview that can inform integrated policy responses. Furthermore, by employing the rigorous PRISMA methodology, this study ensures transparency, replicability, and systematic identification of research gaps that can guide future scholarly inquiry. The findings contribute to the broader discourse on labor transitions in the digital era and offer practical insights for policymakers, platform operators, labor organizations, and international development agencies working to ensure decent work in Indonesia's evolving economy.

2. Research Method

This study employs a systematic literature review (SLR) methodology following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The PRISMA framework ensures a transparent, comprehensive, and replicable approach to identifying, screening, and synthesizing relevant research on social protection gaps for blue-collar gig workers in Indonesia.

2.1. Search Strategy and Data Sources

A comprehensive literature search was conducted across multiple electronic databases to ensure thorough coverage of relevant studies. The primary databases included Scopus, Google Scholar, Web of Science, ProQuest, and Indonesian-specific databases including Portal Garuda and SINTA. The search covered publications from January 2015 to March 2025, capturing the period of significant gig economy growth in Indonesia.

The search strategy employed a combination of keywords related to three main concepts: (1) gig work and platform economy; (2) social protection and labor rights; and (3) the Indonesian context. The Boolean search string was constructed as follows:

("gig worker*" OR "platform worker*" OR "digital worker*" OR "on-demand worker*" OR "ride-hailing" OR "delivery courier*" OR "online transport*") AND ("social protection" OR "social security" OR "health insurance" OR "BPJS" OR "labor rights" OR "occupational safety" OR "income security" OR "pension" OR "welfare") AND ("Indonesia*" OR "Jakarta" OR "Surabaya" OR "Indonesian")

2.2. Inclusion and Exclusion Criteria

Studies were included if they met the following criteria: (1) focused on gig workers or platform-based work in Indonesia; (2) addressed aspects of social protection, labor rights, or worker welfare; (3) specifically included or discussed blue-collar workers in sectors such as transportation,

construction, logistics, or manual labor; (4) published between 2015 and 2025; (5) available in English or Bahasa Indonesia; and (6) employed empirical research methods or substantial policy analysis.

Studies were excluded if they: (1) focused exclusively on white-collar or professional gig work without addressing blue-collar workers; (2) addressed gig work in countries other than Indonesia without comparative analysis; (3) were opinion pieces, editorials, or news articles without empirical foundation; (4) focused solely on platform business models without discussing worker implications; or (5) were duplicates or multiple reports from the same study.

2.3. Study Selection Process

The study selection followed a four-phase PRISMA process. In the identification phase, the initial database searches yielded 1,847 records. After removing 312 duplicates, 1,535 records remained for screening. During the screening phase, titles and abstracts were independently reviewed by two researchers against the inclusion criteria, resulting in 284 potentially relevant studies. The full texts of these studies were then retrieved and assessed for eligibility. Studies lacking sufficient focus on blue-collar workers or social protection, or those not meeting quality standards, were excluded, leaving 67 studies for final inclusion.

To ensure reliability, both researchers independently screened 20% of the studies, achieving an inter-rater agreement of 89% (Cohen's kappa = 0.85), indicating substantial agreement. Disagreements were resolved through discussion and, when necessary, consultation with a third researcher.

2.4. Data Extraction and Quality Assessment

A standardized data extraction form was developed to systematically capture relevant information from each included study. Extracted data included: bibliographic information (author, year, title, journal); study characteristics (design, methods, sample size, data collection period); participant characteristics (type of gig work, sector, demographics); social protection dimensions addressed (health, pension, accident coverage, income security); key findings related to protection gaps; barriers and facilitators identified; and policy or practical implications.

Quality assessment was conducted using adapted criteria from the Mixed Methods Appraisal Tool (MMAT) for quantitative, qualitative, and mixed methods studies. Each study was evaluated on five criteria: appropriateness of research design, adequacy of sampling strategy, quality of data collection, appropriateness of analysis, and clarity of findings. Studies scoring below 60% on quality criteria were excluded from synthesis, ensuring only robust evidence informed the findings.

2.5. Data Synthesis and Analysis

Given the heterogeneity of study designs and outcomes, a narrative synthesis approach was employed. Thematic analysis was used to identify patterns across studies, with themes emerging inductively from the data while being guided by the study's research questions. The analysis focused on: (1) dimensions of social protection gaps (health, pension, accident, income); (2) contributing factors (regulatory, institutional, platform-related, worker-related); (3) variations across sectors and worker types; and (4) effectiveness of existing interventions.

Where possible, quantitative data on coverage rates, benefit levels, and outcome measures were tabulated to enable cross-study comparison. However, due to variations in measurement approaches and contexts, meta-analysis was not feasible. The synthesis prioritized understanding the complexity and context-specificity of social protection challenges rather than producing aggregate effect sizes.

2.6. PRISMA 2020 Flow Diagram

The PRISMA 2020 flow diagram represents the study selection process. The diagram below is editable for future updates.

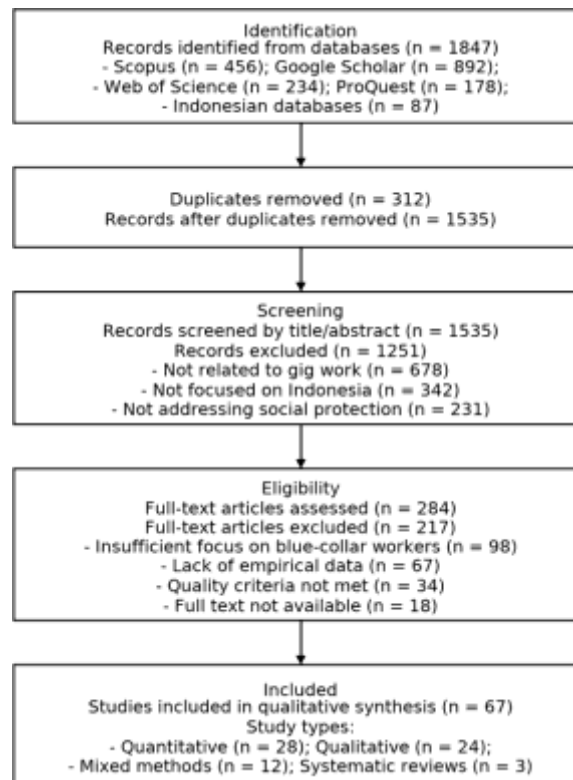


Figure 1. PRISMA Diagram

Note: This PRISMA diagram reflects studies retrieved up to March 2025. It includes only peer-reviewed literature indexed in major academic databases.

3. Results and Discussion

3.1. Characteristics of Included Studies

The systematic review included 67 studies published between 2015 and 2025. The distribution shows a marked increase in publications after 2018, coinciding with the rapid expansion of platform-based work in Indonesia. Geographically, studies were concentrated in major urban centers: Jakarta (38 studies), Surabaya (15 studies), Bandung (12 studies), Yogyakarta (10 studies), with 8 studies covering multiple cities or national-level analysis. This urban concentration reflects both the prevalence of gig work in cities and potential research gaps regarding gig workers in secondary cities and rural areas.

Methodologically, the studies employed diverse approaches: 28 quantitative studies using surveys or secondary data analysis, 24 qualitative studies employing interviews and ethnographic methods, 12 mixed-methods studies, and 3 systematic reviews or meta-analyses. The most studied sectors were ride-hailing and delivery services (45 studies), followed by construction (12 studies), logistics and warehousing (8 studies), and mining and extraction (2 studies). This distribution indicates significant research attention to transportation-related gig work, likely due to its visibility and the prominence of platforms like Gojek and Grab, while other blue-collar gig sectors remain under-researched.

3.2. Dimensions of Social Protection Gaps

3.2.1. Health Insurance Coverage

Health insurance emerged as one of the most critical protection gaps. Studies consistently reported that while Indonesia's universal health coverage program (BPJS Kesehatan) theoretically extends to all citizens, gig workers face substantial barriers to enrollment and utilization. Survey data from multiple studies indicated that only 42-58% of blue-collar gig workers maintained active health insurance coverage, compared to over 80% for formal sector workers. Among those enrolled, many held the subsidized class (Penerima Bantuan Iuran), which provides limited service access and often involves long waiting times.

The primary barriers identified include: affordability challenges, as workers must pay premiums entirely from variable incomes without employer contributions; administrative complexity in registration and premium payment processes; lack of awareness about enrollment procedures and available benefits; and platform ambiguity regarding responsibility for facilitating enrollment. Several studies documented cases of workers delaying medical treatment due to lack of coverage or inadequate benefits, resulting in worsened health outcomes and increased financial burden when treatment became unavoidable.

3.2.2. Occupational Accident and Safety Coverage

Occupational accident coverage through BPJS Ketenagakerjaan represents perhaps the most severe protection gap. Studies found that fewer than 15% of blue-collar gig workers had active accident insurance coverage. Ride-hailing drivers, delivery couriers, and construction workers face significant occupational hazards—traffic accidents, road rage incidents, falls, equipment injuries—yet lack systematic protection. Analysis of accident data revealed that gig workers involved in occupational accidents often bore full financial costs themselves, with some studies documenting cases of workers falling into debt or poverty following serious injuries.

While some platforms introduced private insurance schemes, these were generally criticized for inadequate coverage limits, complex claim processes, and narrow definitions of work-related accidents. For instance, several platforms' insurance only covered accidents occurring during active trips with passengers or deliveries, excluding accidents during waiting periods or travel to pickup locations, despite workers being "logged in" to the platform. This narrow coverage left workers vulnerable during significant portions of their working hours.

3.2.3. Pension and Old-Age Security

Retirement security emerged as a largely invisible but profound gap. Studies found that fewer than 10% of gig workers maintained active pension contributions, and among those who did, contribution amounts were typically minimal. The immediate income pressures facing most gig workers meant that retirement planning was not prioritized. Qualitative studies revealed that workers often viewed gig work as temporary or transitional, despite many having been engaged for years, leading to neglect of long-term security planning.

The absence of employer matching contributions represents a significant disadvantage compared to formal employment. In traditional formal work, employers typically contribute an amount equal to or greater than the worker's contribution. For gig workers, bearing the full contribution burden makes participation prohibitively expensive relative to incomes. Several studies projected that current gig workers would face severe income insecurity in old age, potentially creating a future cohort of elderly poor.

3.2.4. Income Security and Unemployment Protection

Income volatility and lack of unemployment protection constituted another critical dimension. Studies documented high income instability among blue-collar gig workers, with monthly earnings varying by 30-60% based on demand fluctuations, weather conditions, platform algorithm changes, and personal circumstances. Unlike formal workers with relatively predictable incomes and potential severance or unemployment benefits, gig workers face continuous income risk without safety nets.

The COVID-19 pandemic starkly illustrated this vulnerability. Studies examining the pandemic's impact found that many gig workers experienced income drops of 50-80% during movement restrictions, with no access to unemployment benefits or paid leave. While the government implemented social assistance programs, gig workers often fell through the cracks—too visible to qualify as informal workers receiving specific aid, yet too precarious to access formal worker protections. This experience highlighted the urgent need for income protection mechanisms adapted to non-standard work.

3.3. Factors Contributing to Protection Gaps

3.3.1. Regulatory and Legal Ambiguity

A fundamental factor underlying protection gaps is regulatory ambiguity regarding gig workers' employment status. Indonesian labor law distinguishes between employees (entitled to full labor protections) and independent contractors (excluded from most protections). Platforms typically classify workers as independent contractors or partners, avoiding employer obligations. However, studies analyzing the actual work relationships found characteristics of both employment and independent contracting: platforms exercise substantial control through algorithms, performance metrics, and behavioral rules, suggesting an employment relationship, yet workers use their own equipment, set their own hours, and work for multiple platforms simultaneously, suggesting independence.

This ambiguity has resulted in inconsistent enforcement and legal uncertainty. Several studies examined court cases and regulatory interpretations, finding contradictory rulings. Some labor inspectorates have ordered platforms to register workers as employees, while others have accepted the

independent contractor classification. This inconsistency leaves both workers and platforms in uncertain legal terrain, discouraging systematic protection measures.

3.3.2. Institutional Fragmentation

The governance of social protection in Indonesia involves multiple institutions—Ministry of Manpower, Ministry of Social Affairs, BPJS Kesehatan, BPJS Ketenagakerjaan, and various local government agencies—each with distinct mandates and limited coordination. Studies documented how this fragmentation creates gaps and inefficiencies. Gig workers often receive conflicting information from different agencies, face duplicative registration processes, and find no single entry point for accessing comprehensive protection.

Moreover, responsibilities for regulating platforms and protecting platform workers remain unclear. Is it primarily a labor issue (Ministry of Manpower), a social welfare matter (Ministry of Social Affairs), a digital economy question (Ministry of Communication and Informatics), or a local government concern? This ambiguity has resulted in limited accountability and weak enforcement of existing protections.

3.3.3. Platform Business Models and Practices

Platform business models and operational practices significantly influence protection outcomes. Studies analyzing platform policies found wide variations in worker treatment. Some platforms have proactively introduced insurance schemes, financial literacy programs, and facilitated BPJS registration, viewing worker welfare as part of sustainable business. Others have minimized responsibility, treating workers purely as service providers using the platform's technology.

Commission structures and earning mechanisms also affect workers' ability to afford protection. Platforms taking 20-25% commissions leave workers with thin margins, making voluntary social security contributions financially difficult. Algorithmic management practices—performance ratings, acceptance rate requirements, surge pricing—create pressures for workers to prioritize immediate earnings over long-term security. Several studies documented workers skipping insurance payments or working despite illness or injury to maintain platform standing or meet income needs.

3.3.4. Worker Characteristics and Awareness

Worker-level factors also contribute to protection gaps. Studies found low awareness of social protection rights and available schemes among many blue-collar gig workers. Educational attainment, digital literacy, and previous work experience influenced awareness levels. Workers transitioning from informal or agricultural sectors often lacked familiarity with formal social protection systems, while those with previous formal employment experience were more likely to maintain insurance coverage.

Financial constraints represented the most frequently cited barrier. Even when aware of schemes, many workers reported being unable to afford premiums while meeting daily living expenses. The immediate need to maximize take-home income to support families meant that social protection, perceived as providing future or uncertain benefits, was deprioritized. Cultural factors also emerged, with some workers expressing fatalistic attitudes or preferring informal mutual aid networks over formal insurance.

3.4. Sectoral and Demographic Variations

The review identified significant variations in protection gaps across sectors and demographic groups. Ride-hailing drivers generally had somewhat better protection access than other blue-collar gig workers, likely due to greater platform formalization, higher visibility, and stronger worker organizing. Construction gig workers faced particularly severe gaps, with minimal health and safety enforcement and almost no pension coverage. Logistics and delivery workers fell in between, with emerging but still inadequate protections.

Demographic factors also mattered. Female gig workers, while fewer in number in blue-collar sectors, faced additional vulnerabilities including lack of maternity protection and gender-specific safety risks inadequately addressed by platforms or regulations. Younger workers (under 30) showed lower insurance participation rates, possibly viewing themselves as lower risk or prioritizing immediate income. Migrant workers in cities faced particular challenges accessing subsidized health insurance, which is often administered at the local level where they lack official residence status.

3.5. Existing Interventions and Their Effectiveness

Several interventions aimed at extending social protection to gig workers have been implemented with varying success. BPJS Ketenagakerjaan launched programs specifically targeting informal and gig workers, simplifying registration and offering flexible payment options. Studies evaluating these initiatives found modest uptake, with participation rates improving from under 5% to around 12-15% in some localities. However, sustainability concerns remain, as many enrolled workers have difficulty maintaining regular contributions.

Platform-initiated insurance schemes represent another intervention type. While providing some coverage, studies found these generally inadequate in benefit levels and coverage scope. Independent evaluations revealed that actual claim payouts averaged only 30-40% of what workers would receive under formal BPJS coverage for equivalent situations. Moreover, these schemes sometimes served to substitute for, rather than complement, formal social protection, potentially reducing pressure for systemic reform.

Worker organizations and cooperatives have emerged as important actors. Studies documented how driver and courier associations facilitate collective bargaining with platforms, provide mutual assistance during emergencies, and conduct awareness-raising about rights and protections. In some cases, cooperatives have negotiated group insurance rates or created savings pools for members. However, organizing remains challenging given the dispersed nature of gig work and sometimes hostile platform responses to collective action.

Pilot programs by NGOs and international organizations have tested innovative approaches, such as subsidized insurance schemes, digital platforms for facilitating BPJS registration, and financial literacy training. Evaluations of these pilots showed promising results in increasing coverage among participants. However, scalability and sustainability beyond pilot phases remain questionable without integration into government systems and sustained funding.

3.6. Comparative Perspectives and Global Context

Several studies positioned Indonesia's situation within broader global trends. Comparative analysis revealed that social protection gaps for gig workers are widespread internationally, but their severity and specific dimensions vary based on national welfare regimes and regulatory approaches. Countries with universal social protection systems decoupled from employment status (like some European nations) have experienced less severe disruption from gig work growth. In contrast, countries where protection is closely tied to formal employment (like Indonesia) face more substantial challenges.

Studies examining regulatory responses in other countries identified various approaches: some have extended employee status to platform workers; others have created intermediate or third categories with specific rights and obligations; some have mandated portable benefits that follow workers across platforms; and others have required platforms to contribute to social protection funds proportional to worker earnings. Indonesia has primarily relied on voluntary participation and platform goodwill, an approach that evidence suggests is insufficient for achieving comprehensive coverage.

4. Conclusion and Recommendations

This systematic literature review provides compelling evidence of substantial social protection gaps facing blue-collar gig workers in Indonesia. Across multiple dimensions—health insurance, occupational accident coverage, pension security, and income protection—gig workers experience significantly lower coverage rates and benefit levels compared to formal sector workers. These gaps are not merely technical oversights but reflect fundamental structural misalignments between Indonesia's welfare system, designed for formal employment relationships, and the emerging realities of platform-based work.

The review identified multiple intersecting factors contributing to these protection gaps. Regulatory ambiguity regarding employment status creates legal uncertainty that platforms exploit to avoid employer obligations. Institutional fragmentation across multiple government agencies results in coordination failures and accountability gaps. Platform business models and practices, particularly commission structures and algorithmic management, create conditions where workers struggle to afford voluntary social protection. Worker-level factors, including low awareness, financial constraints, and varying previous work experiences, further impede protection access. These factors interact to create a system where comprehensive social protection for gig workers remains elusive despite policy intentions.

Sectoral and demographic variations highlight the heterogeneity of gig workers' experiences and protection needs. While ride-hailing workers have received considerable attention and somewhat better protections, construction and logistics gig workers face more severe vulnerabilities. Female workers, migrants, and younger workers each face specific additional barriers. This diversity suggests that one-size-fits-all solutions will be inadequate; effective policy responses must be context-sensitive and adaptable to different worker situations.

Existing interventions—government programs, platform initiatives, worker organizing, and pilot projects—have produced modest improvements but remain insufficient for closing protection gaps

comprehensively. The limitations of current approaches underscore the need for more fundamental reforms rather than incremental adjustments to existing systems. Based on the synthesis of evidence, several recommendations emerge for policymakers, platforms, worker organizations, and researchers.

Policy Recommendations: First, clarify the legal status of platform workers through either extending employee status to workers meeting specific criteria of control and dependence, creating an intermediate employment category with tailored rights and obligations, or establishing a presumption of employment that platforms must rebut with evidence of genuine independence. Second, mandate platform contributions to social protection schemes proportional to worker earnings, removing the burden of full self-financing that currently prevents participation. Third, establish a unified registration and contribution system allowing workers to accumulate benefits across multiple platforms and activities. Fourth, strengthen enforcement mechanisms with adequate resources for labor inspectorates and meaningful penalties for non-compliance. Fifth, develop income security mechanisms appropriate for gig work, such as income smoothing schemes, access to unemployment assistance during demand downturns, or minimum earning guarantees.

Platform Responsibilities: Digital labor platforms should recognize their role in ensuring worker welfare as part of sustainable business practices. This includes implementing comprehensive insurance coverage with adequate benefit levels and broad definitions of work-related incidents, facilitating easy BPJS registration and contribution payment through platform interfaces, ensuring commission structures leave workers with viable incomes after contributions, transparently sharing data with researchers and policymakers to inform evidence-based policy, and engaging constructively with worker organizations rather than resisting collective representation.

Worker Organization Support: Government and civil society should support the development of strong, democratic worker organizations capable of collective bargaining and mutual assistance. This includes protecting workers' rights to organize without platform retaliation, providing resources for worker education about rights and protections, facilitating formation of cooperatives that can negotiate collectively and provide pooled benefits, and including worker representatives in policy-making processes affecting platform work.

Research Agenda: This review identified several research gaps requiring attention. Longitudinal studies tracking individual workers over time would illuminate career trajectories, cumulative protection gaps, and long-term welfare outcomes. Research on under-studied sectors, particularly construction and logistics gig work, would reveal sector-specific vulnerabilities and protection needs. Experimental evaluations of policy interventions would provide causal evidence on effectiveness of different approaches. Comparative studies examining how different regulatory frameworks affect protection outcomes could inform Indonesian policy development. Finally, research examining the intersection of gig work with other dimensions of inequality, including gender, ethnicity, migration status, and disability, would ensure inclusive policy design.

The urgency of addressing these protection gaps cannot be overstated. As Indonesia's gig economy continues expanding, delayed action will result in a growing population of vulnerable workers facing insecurity and risk. The COVID-19 pandemic provided a preview of the consequences when large

numbers of workers lack adequate protection—massive income loss, health vulnerabilities, and limited state capacity to provide emergency assistance. Future shocks, whether health crises, economic downturns, or environmental disasters, will similarly expose unprotected workers to catastrophic risks.

Moreover, the protection gap has broader social implications beyond individual worker welfare. Inadequate social protection contributes to inequality, as gig workers bear risks individually while platforms capture economic gains. It creates gender inequalities, as women face additional barriers to gig work participation without adequate protections. It undermines human capital development, as workers without health coverage delay treatment and experience worse health outcomes. It threatens future fiscal sustainability, as today's unprotected workers become tomorrow's elderly poor requiring social assistance.

Addressing social protection gaps for gig workers is not merely a labor issue but a fundamental question of social justice and inclusive development. As Indonesia aspires to become a high-income country and leader in the digital economy, ensuring that economic transformation benefits all workers, not just privileged segments, is essential. The gig economy offers real opportunities for flexible earning and entrepreneurship, but these benefits can only be realized sustainably if accompanied by adequate social protection that allows workers to manage risks and plan for the future.

This study contributes to academic discourse by providing a comprehensive, systematic synthesis of knowledge on social protection for blue-collar gig workers in Indonesia. It maps the dimensions of protection gaps, identifies contributing factors, assesses existing interventions, and proposes evidence-based recommendations. By employing rigorous PRISMA methodology, the review ensures transparency and replicability while identifying research gaps to guide future inquiry. The findings have practical relevance for policymakers designing welfare reforms, platform operators considering corporate social responsibility, worker organizations advocating for members' rights, and international agencies supporting Indonesia's development.

Moving forward, the challenge is translating evidence into action. Political will, stakeholder collaboration, and sustained commitment are required to transform Indonesia's social protection system to be inclusive of gig workers. The path forward involves neither rejecting the gig economy nor accepting current protection gaps as inevitable, but rather building regulatory and institutional frameworks that enable the gig economy's benefits while ensuring fundamental protections for all workers. This systematic review provides an evidence base to inform that transformation, with the hope that future reviews will document progress toward comprehensive, sustainable social protection for all workers in Indonesia's evolving digital economy.

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