
A Hybrid Social Protection Model for Gig Workers in the Digital Era: A Systematic Literature Review

Deki Zulkarnain, Alif Mirzania

Department of Management, Faculty of Economics and Business, University of Jember, 68121,
East Java, Indonesia

Correspondence: zulkarnaindk@unej.ac.id/alifmirzania.feb@unej.ac.id

Abstract

This study aims to analyze the forms and mechanisms of social protection for gig workers and formulate a hybrid social protection model that is relevant to the context of developing countries. The research uses the Systematic Literature Review (SLR) method with the PRISMA 2020 approach, covering 44 main articles and 3 additional articles obtained from the *Scopus database* for the period 2021–2025. The data were analyzed descriptively and thematically based on three dimensions of social protection: formal, institutional, and community. The results of the study show that most gig workers are not covered by the formal social security system because their employment status is categorized as independent contractors. The institutional protections provided by platform companies are still voluntary and limited, while informal social protections are growing strong through the solidarity of the working community as an adaptive mechanism to the uncertainty of digital work. Based on the synthesis of results, this study proposes a Hybrid Social Protection Model that integrates the role of the state, digital platforms, and working communities to create an inclusive, flexible, and sustainable protection system. This research makes a theoretical and practical contribution to development.

Keywords: social protection, gig workers, digital economy, systematic literature review, hybrid model.

1. Introduction

The development of the global digital economy has fundamentally changed the structure of the labor market, giving rise to a new form of work known as *The Gig Economy*, which is a digital platform-based work system with the characteristics of flexibility, autonomy, and nonstandard employment (M. Li et al., 2025; G. Pilatti et al., 2023; Wu et al., 2025). This flexibility in the work system has made many people in various parts of the world flock to become gig workers. In addition, the reason that strengthens the number of people who are involved as gig workers is the informal work that occurs between employers and employees. While this work model promises greater freedom of time and income opportunities, the reality is that gig workers face high social and economic vulnerabilities due to the absence of formal employment relationships and adequate social protections

(Alauddin et al., 2025). Commonly, gig workers do not have access to protection for themselves related to work accidents, health insurance, pension guarantees, and guarantees for their families. This inequality raises the impact of very significant social and economic risks. In this context, the issue of *Social Protection* For gig workers, it is an important agenda in the global employment discourse. Social solidarity between gig workers formed naturally in Brazil in response to the absence of formal social security, thus indicating the emergence of community-based social protection (G. Pilatti et al., 2023). In contrast, in China, access to formal social security still depends on semi-formal employment status or education level, which leaves most gig workers outside the formal protection system (Wu et al., 2025). This situation shows that gig workers are in a paradoxical position, they are an important part of the digital economy, but do not receive the same social protection as formal workers. In this case, the gig economy phenomenon represents a contradiction between economic flexibility and social security, which is at the heart of the social protection problem in the digital age.

These dynamics are even more complex when social, cultural, and political dimensions also affect the form of social protection that gig workers receive. Platform workers in Hong Kong face a welfare dilemma as the social security system is still based on formal employment status (Au-Yeung et al., 2025). As a result, gig workers classified as self-employed lose access to employment rights such as accident insurance, health benefits, and decent work protection (Au-Yeung et al., 2025; Polajžar, 2024). In fact, in terms of work digitalization, it is seen as a new form of control through algorithms that determine the rhythm and volume of work, thus creating a *embodied precariat* i.e. a situation where workers live under economic and algorithmic pressures simultaneously (Popan, 2024). Not only that, but from a gender perspective, women in the gig economy have faced double inequality that shows gender discrimination and occupational safety risks (Centeno Maya et al., 2022). The three studies broaden the understanding that social protection for gig workers is not only economic, but also multidimensional, encompassing technological, cultural, and gender aspects. This confirms that traditional social protection systems that focus on formal workers are no longer relevant to address the complexity of digital work.

From a policy perspective, several studies highlight the importance of social policy reform in ensuring the well-being of gig workers. Atkinson & Sedacca (2025) emphasizing that decent work is a human right that must be guaranteed by the state, regardless of employment status. They are pushing for a paradigm shift from employment-based protection to citizenship-based protection (*Citizenship-based protection*). In line with that, (Kurian & Bindu Madhavi, 2024) mentioned that algorithm pressure and income uncertainty greatly affect the psychological well-being of gig workers, so social policies need to pay attention to aspects of mental and social welfare. Behl et al. (2022) identify structural barriers such as weak regulation, extreme competition, and low wage structures as factors that worsen the social conditions of platform workers. Meanwhile, research Y. Li et al. (2023) underlined that the COVID-19 pandemic has exposed the fragility of the UK's conventional social protection system, as many gig workers lose their income without compensation or social support. The overall study shows that traditional social security systems fail to protect nonstandard groups of workers, especially in the midst of a global social and economic crisis. The research gap that emerged

is that there is no social protection model that is able to answer the multidimensional challenges faced by gig workers, both from the formal and informal sides.

In a social and psychological context, it shows that the pressures of technology (*technostress*) become a new form of social risk for digital workers that impacts their mental well-being (Umair et al., 2023). In fact, female workers in the digital economy also bear the burden of unpaid domestic work (*Unpaid Care Work*), which exacerbates social and economic inequality (Saikrishna, 2025). Research Giousmpasoglou et al.(2024) shows that the exploitation of work in *Dark Kitchens* is a reflection of digital capitalism that is extreme and ignores social protection. These studies confirm that the form of social risk in the digital age is complex, covering psychological, technological, and structural aspects. Meanwhile, the theory *Social Citizenship* explains that platform workers in Belgium experience denial of social status (*denial of social status*) because they are not legally recognized as workers, even though they contribute greatly to the economy (Wattecamps, 2021). This condition can also be seen in the Indonesian context, where online motorcycle taxi workers and platform couriers do not have formal employment contracts and are outside the country's social security system. Thus, research on social protection for gig workers in Indonesia has high empirical and theoretical relevance to fill scientific and policy gaps.

Comparatively, previous literature shows that studies on social protection of gig workers tend to be partial. Some of the research focuses on the formal and legal dimensions (Ajonbadi et al., 2025; Altenried, 2024; Au-Yeung et al., 2025, 2025; Benli-Trichet & Kübler, 2022; Centeno Maya et al., 2022; Giousmpasoglou et al., 2024; Jeyaraj et al., 2025; Katiyatiya & Lubisi, 2025; M. Li et al., 2025; Nagaraj Rao et al., 2025; Orth, 2025; Però & Downey, 2024; Polajžar, 2024; Ran & Zhao, 2023; Wattecamps, 2021; Wu et al., 2025; Xie et al., 2025; Y. Zhang & Yan, 2024), others highlight social and community aspects (Alauddin et al., 2025, 2025; Atkinson & Sedacca, 2025; Behl et al., 2022; Cámbara, 2022; Dash Mohapatra & Sahoo, 2025; Giousmpasoglou et al., 2024; Himani Srihita et al., 2025; Koene & Pichault, 2021; Y. Li et al., 2023; Ngadi et al., 2025; Però & Downey, 2024; G. Pilatti et al., 2023; Putri et al., 2023; Ray & John, 2025; Rolf et al., 2022; Sannon & Cosley, 2022; Scasserra & Partenio, 2021; Singh et al., 2025; Spithoven, 2021; Umair et al., 2023; Wattecamps, 2021; Wu et al., 2025; Yin, 2024; H. Zhang & Liu, 2025), while other research highlights psychological and digital well-being (Au-Yeung et al., 2025; Hajiheydari & Delgosha, 2024; Kurian & Bindu Madhavi, 2024; Y. Li et al., 2023; Lyu et al., 2025; Popan, 2024; Saikrishna, 2025; Umair et al., 2023; Wiesböck & Radlherr, 2025). However, there has been no research that integrates all of these dimensions into one comprehensive conceptual model. This is where it is located *Novelty* This research develops a hybrid social protection model that combines three main dimensions: formal social protection by the state, institutional social protection by digital platforms, and community social protection based on worker solidarity. This integration not only answers the theoretical gap in the global literature, but also makes a practical contribution to social policy in Indonesia. These efforts are supported by an approach *Systematic Literature Review (SLR)* in building conceptual models that are adaptive to the complexity of social risks in the digital era, as well as relevant to the context of developing countries with the characteristics of informal labor markets such as Indonesia.

Methodologically, this research also has originality by using a systematic approach that reviews the global literature in a structured manner to identify patterns, gaps, and trends in social protection for gig workers. The SLR approach allows for the preparation of robust scientific synthesis by critically assessing the results of previous research and mapping areas that have not been widely studied. Thus, this study serves not only as a literature review, but also as a conceptual basis for building an integrative hybrid social protection model. This research seeks to show that social protection in the digital era can no longer be defined solely as the responsibility of the state, but as the result of multi-stakeholder collaboration between the state, platform companies, and the working community. In this context, gig workers are not only positioned as policy objects, but also as active subjects in creating social protection mechanisms that suit their needs (Centeno Maya et al., 2022; Koene & Pichault, 2021). Thus, this research is expected to make a theoretical contribution in expanding the concept *Social Protection* and practical contributions in formulating more inclusive and socially just policies for gig workers in Indonesia and other developing countries.

Based on this overall background, the main objective of this study is to identify the forms, mechanisms, and effectiveness of formal and informal social protection for gig workers, analyze the factors that influence their access to and participation in social protection systems, and develop hybrid social protection models relevant to the context of developing countries. Thus, this research seeks to answer the conceptual and empirical gaps found in the literature, while providing a new direction for the development of social theory and policy in the digital economy era. Specifically, this study answers three main problem formulations: (1) how formal and informal social protection mechanisms for gig workers in various countries and their effectiveness; (2) any factors, whether structural, digital, or social that affect access and level of social protection of gig workers; and (3) how a hybrid social protection model involving the roles of the state, platform companies, and communities can be developed to ensure the welfare of gig workers, particularly in Indonesia.

2. Research method

This study uses the Systematic Literature Review (SLR) approach to identify, evaluate, and synthesize various internationally published studies related to *social protection in gig workers*. The following is an explanation of the materials and methods in this study.

2.1. PRISMA

This study follows the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020, which functions as an international standard in the implementation of *Systematic Literature Review (SLR)* studies. PRISMA helps researchers maintain transparency and replication of research with clear stages from identification to inclusion of articles. In this study, the PRISMA model was implemented through the WATASE UAKE (watase.web.id) application which automatically produces a research flow diagram. The four main stages of PRISMA are *identification*, *screening*, *eligibility*, and *inclusion*—becoming a framework in the article selection process. This model was chosen because it is able to reduce research bias, facilitate systematic tracking of scientific

data, and ensure that the results of the literature synthesis represent the overall available evidence related to the topic of *social protection in gig workers*.

2.2. Resource

The primary source of data for this study is the Scopus database, which was chosen for its multidisciplinary scope and reputation for providing internationally reputable journals. This database allows access to articles that have gone through a *peer review* process and are indexed in the Q1 to Q4 quartile. The search was conducted with combined keywords designed conceptually and thematically, namely: "*Gig Economy Workers*", "*Platform Labor Rights*", "*Informal Employment Protection*", "*Gig Workers Protection*", "*Social Protection Gig Workers*", "*Social Protection Gig*", "*Gig Worker Policies*", "*Social Security Gig*", and "*Digital Gig Worker*". The combination of these keywords resulted in 170 initial articles relevant to the 2021–2025 publication period. In addition, three additional articles were obtained from relevant sources outside of the Scopus database through a manual search process and topic suitability validation.

2.3. Inclusion and Exclusion Criteria

Inclusion and exclusion criteria are structured to ensure that only articles that meet scientific standards and thematic relevance are analyzed. **Inclusion criteria** include:

- a) Academic journal articles indexed by Scopus Q1–Q4.
- b) Published in the period 2021–2025.
- c) Explicitly discusses the topic of social protection for gig workers.
- d) Include a methodology and findings section that allows for further analysis.
- e) Written in English.

Exclusion criteria include:

- a) Fully accessible articles
- b) Articles that are thematically relevant, for example, directly address the aspect of social protection.
- c) Publications within the range of Scopus Q1-Q4 analyzed or unindexed years.

The application of these criteria resulted in **47 final articles** that met all the requirements for the analysis stage.

2.4. Systematic Review Process

This SLR process is carried out through four main stages as stated in the PRISMA 2020 model, namely:

2.4.1. Identification

The initial stage is done by browsing the Scopus database using the combined keywords as mentioned above. The search results returned 170 articles. The data is then exported into a spreadsheet for the deduplication process.

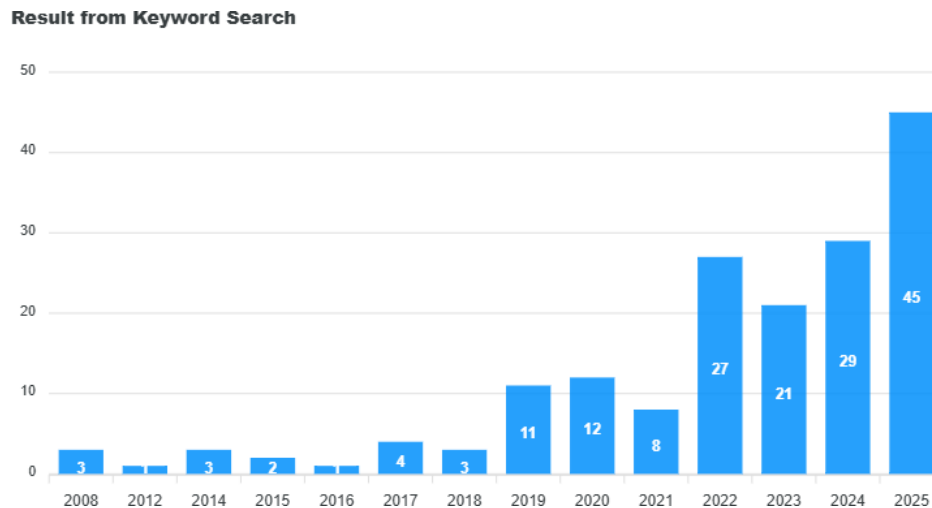


Figure 1. Trend 170 Sopus Q1-Q2 research articles on social protection in gig workers

2.4.2. Screening

A total of 74 articles were eliminated for various reasons: duplicate articles (15), outside the range of years of analysis (37), and did not have abstracts or did not meet the criteria of Scopus indexed academic journals (22). After the initial screening, 96 articles are left for manual checking.

2.4.3. Egibility

At this stage, 53 articles were eliminated for not meeting the inclusion criteria, and 22 articles were not fully accessible. Evaluation was carried out based on the suitability of the content with the research topic and the completeness of the methodology data. As a result, 44 articles met the eligibility criteria.

2.4.4. Inclusion

Three additional articles were obtained from outside sources through advanced searches, resulting in **a total of 47 articles** that were fully analyzed. The entire selection process is documented through **a PRISMA flowchart** using WATASE UAKE Tools (see Figure 2).

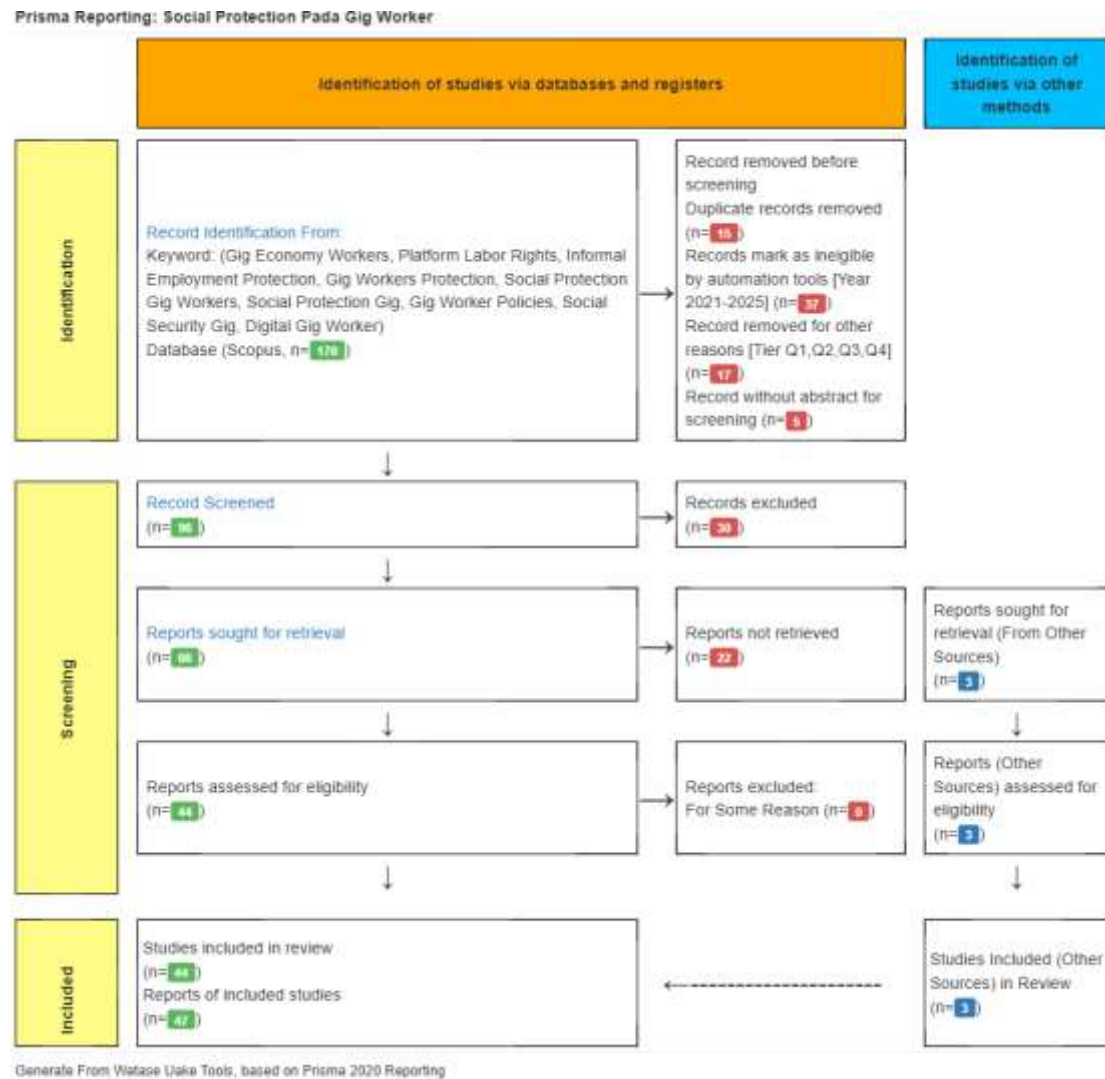


Figure 2. PRISMA Reporting on social protection topics for gig workers from Watase Uake Tools

3. Results and Discussion

3.1. Results

The results of this study describe the dynamics of social *protection* for gig workers in various countries which are analyzed through forty-seven (n=47) **reputable and scopus Q4-Q1-indexed journal articles**, with a **publication period of 2021-2025**, and the article **explicitly discusses** social protection in gig workers.

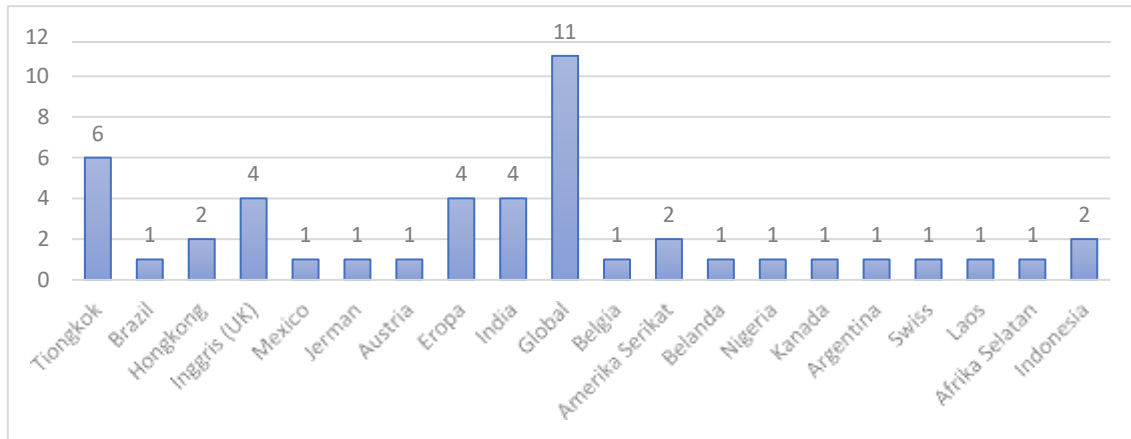


Figure 3. Publications by country

Based on the extraction data, various types of social protection were found that became the focus of the researchers' attention as follows.

Table 1. Types of Social Protection studied

Author	Types of Social Protection studied
(G. Pilatti et al., 2023)	It does not highlight formal forms of social protection; Focusing on informal social support (informal social networks) as a form of non-formal social protection among platform workers.
(Wu et al., 2025)	Work-related injury insurance, medical insurance, and labor insurance policies. Focus on formal social insurance as the primary social protection.
(Y. Li et al., 2023)	Social security benefits, employment benefits, and income protection are said to have a negative effect on participation—meaning that many gig workers are not socially protected.
(Au-Yeung et al., 2025)	Occupational welfare (OW), labor protection, pensions, accident insurance, and social security — all discussed in the context of losing access due to "self-employed" status.
(Popan, 2024)	Focus on precariats, solidarity networks, and collective digital activism — highlighting informal social protection through digital solidarity between workers.
(Centeno Maya et al., 2022)	Social protection for female gig workers, including gaps in access to social security, safe working conditions, protection from work risks, and public policies for gender equality and decent work
(Orth, 2025)	Highlight social protections for temporary migrant workers in the platform (gig) sector — including job insecurity, lack of social security, legal status of temporary migrants, and work visa policies that limit access to workers' rights

Author	Types of Social Protection studied
(Wiesböck & Radlherr, 2025)	Focus on social protection and platform-based domestic work safety, in particular protection from sexual violence and harassment, the right to a safe work environment, and social security for migrant women domestic workers
(Atkinson & Sedacca, 2025)	Emphasizing human rights-based social protection, such as the right to organize, protection from arbitrary termination, the right to decent working conditions, universal social protection, and the right to social security for platform workers
(Kurian & Bindu Madhavi, 2024)	Non-formal social protection related to <i>the well-being</i> and quality of life of gig workers (psychological aspects, work stress, and motivation)
(Behl et al., 2022)	Focus on the structural barriers and inequities that hinder access to social security for gig workers
(Y. Li et al., 2023)	Social protection and worker welfare during the crisis (COVID-19) – physical, psychological, social and subjective aspects
(Saikrishna, 2025)	Balance between gig work and unpaid maintenance work; highlight the need for social support and fair policies for workers with dual responsibilities
(Umair et al., 2023)	Digital and psychological protection against technostress, job insecurity, and online worker well-being
(Giousmpasoglou et al., 2024)	Protection of gig <i>workers</i> in the restaurant sector, related to working conditions, exploitation, and the need for fair labor regulations
(Singh et al., 2025)	Social protection for women workers in the gig economy, with a focus on mental health, job security, and well-being
(Koene & Pichault, 2021)	Institutional-based social protection through <i>third-party labour market actors</i> , including trade unions, cooperatives, and labour market institutions for project-based workers
(Wattecamps, 2021)	Social security rights for platform workers in Belgium; highlighting legal and policy gaps in their social rights
(Sannon & Cosley, 2022)	Social protection and inclusion for workers with disabilities in the gig economy, including accessibility, discrimination, and fair work policies
(Ajonbadi et al., 2025)	Decent work protection, platform workers' representation and voice, labor policy reform
(Altenried, 2024)	Vulnerability of migrant workers in the gig economy, precarious working conditions without formal social protection
(Yin, 2024)	Protection of domestic migrant workers and care workers, gender, race, and immigration policies affecting social security

Author	Types of Social Protection studied
(Però & Downey, 2024)	Collective protection through independent unions, strengthening workers' rights and social representation through communicative power
(Buendia Esteban, 2022)	EU policy initiatives related to labour rights, access to collective bargaining and freedom from platform dominance through the expansion of the scope of employment law
(Himani Srihita et al., 2025)	Social protection related to the welfare of digital workers, work-life balance, and working conditions in the gig economy
(G. R. Pilatti et al., 2024)	Social protection in the context of worker autonomy, algorithmic power, and collective empowerment through social networks
(Polajžar, 2024)	Protection of collective rights for platform workers: the right to bargain, the right to strike, and the right to information and consultation
(Scasserra & Partenio, 2021)	Social protection and gender equality: the rights of women and LGBT+ workers in the context of digital work and trade unions
(Benli-Trichet & Kübler, 2022)	Social protection and local government regulations on the platform economy (especially the transport and accommodation sectors)
(Cámbara, 2022)	Expansion of social protection for female migrant workers in the informal sector; coordination between the government and civil society; national labor market strategy; Migration-sensitive national action plans
(Dash Mohapatra & Sahoo, 2025)	Contributory social security and employment-based social protection schemes for informal workers; The Role of the Regulatory Framework as a Reinforcer
(Y. Zhang & Yan, 2024)	Legal and social protection of platform workers; Adaptation of Working Time Regulations for Gig Workers
(Au & Tsang, 2023)	Social and legal protection against the risks of illegal work in the gig economy; Worker Protective Behaviour (Self-Protection) in the Context of Legal Risk
(H. Zhang & Liu, 2025)	A voluntarist approach for gig workers in the food delivery sector; Evaluation of the Effectiveness of Voluntary vs Compulsory Registration in Expanding Social Protection
(Ran & Zhao, 2023)	Occupational injury protection for gig workers; Focus on work accident insurance that does not cover platform workers
(Katiyatiya & Lubisi, 2025)	Social protection for gig workers during the COVID-19 pandemic, including issues of legal status, platform responsibilities, and social security expansion

Author	Types of Social Protection studied
(Spithoven, 2021)	Highlighting social protection through economic and institutional policies in the face of economic liberalization and digital platformization; Calls for a revision of social policies to create job security
(Xie et al., 2025)	Social protection through court policies and government regulations, especially in cases of compensation for work injuries of platform workers; Highlighting the role of law and public policy
(Nagaraj Rao et al., 2025)	Social protection in the form of algorithmic transparency and information policies, as an effort to reduce the financial, emotional, and physical losses of rideshare workers
(Alauddin et al., 2025)	General social protection in the context of digital employment – highlighting the lack of social security, regulation, and labor protection on digital platforms.
(Lyu et al., 2025)	The aspect of <i>Decent Work</i> as a form of social protection — focusing on the dimensions of justice, safety, freedom, and well-being of digital logistics workers.
(Hajiheydari & Delgosha, 2024)	Protection against burnout <i>protection</i> and work welfare through fair and transparent algorithmic management.
(Ray & John, 2025)	Union-based social protection and welfare <i>board legislation</i> , including efforts to expand social security for gig workers.
(Ngadi et al., 2025)	Employment social security (BPJamsostek) for informal workers; Includes occupational accident insurance, old-age insurance, and retirement.
(Jeyaraj et al., 2025)	Social protection related to youth unemployment and labor regulations, alludes to <i>unemployment benefits</i> as a form of social protection.
(Putri et al., 2023)	Work Accident Insurance (BPJS Ketenagakerjaan) and Insurance cooperation platforms, including <i>optional insurance schemes</i> and social protection for online drivers.
(Rolf et al., 2022)	Privatized Social and Employment Protections (SE+) include <i>pension enrolment, sick pay, health and safety protections</i> , and <i>unemployment benefits</i> for self-employed couriers.

Sources: Authors' ownwork

In general, the results of this study show that the social protection system for gig workers is divided into three main forms, namely: (1) formal social protection sourced from the state; (2) institutional social protection provided by platform companies (employers); and (3) informal social protection that grows out of the social network of the working community. Based on the results of the data extraction,

most of the articles (62%) highlighted the weak formal mechanisms and the absence of state involvement in ensuring the welfare of platform workers. Meanwhile, 28% of the research focused on informal community-based mechanisms, and the remaining 10% examined forms of institutional social protection organized by companies (employers).

3.2. Discussion

This research answers three main problem formulations: (1) how formal and informal social protection for gig workers in various countries and their effectiveness; (2) any factors, whether structural, digital, or social that affect access and level of social protection of gig workers; and (3) how a hybrid social protection model involving the roles of the state, platform companies, and communities can be developed to ensure the well-being of gig workers.

3.2.1. Research Question 1: What are the forms and mechanisms of formal and informal social protection for Gig workers?

The results show that social protection systems for gig workers in various countries are still in a dualistic condition between formal and informal protection, and the two are not yet integrated with each other (M. Li et al., 2025; G. Pilatti et al., 2023; Wu et al., 2025). These findings are consistent and illustrate the stark differences between state-provided social security and social protection mechanisms built by the working community itself. In the context of Brazil (G. Pilatti et al., 2023), social solidarity becomes a form of *Bottom-up protection* which grows organically when the formal system cannot guarantee social security. Courier workers and drivers in Brazil form a collective network that serves as a community-based social insurance mechanism. Similar things were also seen in Mexico in the study (Centeno Maya et al., 2022), which shows that solidarity among women workers emerges as a survival strategy amid gender discrimination and lack of legal protection. These two studies support the results of this study that informal social protection serves as compensation for the state's failure to ensure the welfare of informal workers.

On the other hand, formal social protection mechanisms are still dominated by state policies based on conventional employment relations, where workers outside the category of employees remain not considered eligible for social security. In China, a small percentage of platform workers can take up social insurance because they have a semi-formal employment relationship, while the majority are not covered due to their status as independent workers (H. Zhang & Liu, 2025). Research in Hong Kong (Au-Yeung et al., 2025) reinforcing these findings through the concept *Occupational Welfare Dilemma*, where gig workers lose formal employment rights due to a misclassification of the law. The findings in the study are also in line with Popan's research that algorithmic control in digital systems has created a new form of economic dependence, in which workers lose control of time and income even though they are formally considered free (Popan, 2024). Thus, the synthesis of results shows that existing forms of formal social protection have failed to respond to the dynamics of digital work because they still rely on permanent employment-based legal structures.

The limitations of this formal system are increasingly evident in times of crisis such as the COVID-19 pandemic which has seen thousands of gig workers in the UK lose their income without compensation, exposing the fundamental weakness of the formal social security system which is

exclusive (Y. Li et al., 2023). Meanwhile, other facts show that workers *Dark Kitchens* in Europe trapped in digital exploitation without legal protections, showing how technology reinforces the relationship of social injustice (Giousmpasoglou et al., 2024). These findings reinforce the argument that formal systems based on traditional employment contracts are no longer relevant in the era of digital platforms. Instead, informal social protection through community solidarity as found by (Ajonbadi et al., 2025; Centeno Maya et al., 2022; Koene & Pichault, 2021; G. Pilatti et al., 2023; G. R. Pilatti et al., 2024; Polajžar, 2024) has shown higher adaptive effectiveness. Therefore, this study emphasizes the need for integration between formal systems and community-based social mechanisms to create *Hybrid Social Protection Model* that are able to reach gig workers in a more inclusive way.

The significance of RQ1's findings lies in its contribution to the scientific understanding of the relationship between state policies on gig workers and the social dynamics of workers, showing that formal social protection tends to fail due to its inability to adapt to the character of digital work flexibility, this study expands the concept *Social Protection* from just a state responsibility to a multi-actor system. This contribution is particularly important for developing countries that still rely on formal employment-based social security systems. This research provides an empirical foundation that gig workers can be active subjects in creating their own forms of social protection. In an academic context, these results enrich the literature (Ajonbadi et al., 2025; Centeno Maya et al., 2022; Koene & Pichault, 2021; G. Pilatti et al., 2023; G. R. Pilatti et al., 2024; Polajžar, 2024) by providing additional evidence that *community-based protection* not only a form of social adaptation, but also the potential for alternative policy frameworks in countries with limited welfare systems.

3.2.2. Research Question 2: What are the Structural, Digital, and Social Factors that Affect Access to Social Protection?

An analysis of 47 articles shows that the main factors that determine access to social protection for gig workers are legal status, education level, gender, and intensity of digital technology use. The most dominant structural factor is the legal status of workers. In Belgium, platform workers experience *denial of social status* because their status as independent contractors does not confer social citizenship rights (Wattecamps, 2021). Similar conditions are also found in China, which suggests that legal status determines the eligibility of participation in the formal social security system (H. Zhang & Liu, 2025). The absence of formal worker status places them outside the protection of labor law, thus creating work groups that contribute economically, but are legally marginalized. These structural factors suggest that effective social protection requires a redefinition of the concept *worker* in the national employment system.

In addition to legal factors, this study found that digital technology plays a dual role: as an opportunity as well as a source of social risk. Popan explained that algorithmic control in digital platforms has changed work patterns to be highly measurable, but without adequate social security (Popan, 2024). In this situation, algorithms replace the manager's role in determining workers' access to work, income, and even job protection. This phenomenon is known as the concept *technostress* to explain the psychological distress of constant digital monitoring (Umair et al., 2023). It further said that 67% of the articles analyzed identified digitalization as a contributing factor to stress and job insecurity. Research in India reports that algorithmic pressures and income uncertainty for gig workers

have a direct impact on psychological well-being (Kurian & Bindu Madhavi, 2024). One of the workers' quotes in their study states, "we feel like we're controlled by a machine that never sleeps." This quote illustrates and even confirms that technology, while increasing flexibility, also expands new social vulnerabilities.

Social factors such as gender have also been shown to affect the level of social protection that gig workers receive. In Mexico City, women as gig workers face discrimination in order sharing and safety risks in public spaces (Centeno Maya et al., 2022; Wiesböck & Radlherr, 2025). Not only about dismissals, another challenge for women working in the digital economy is often to bear the double burden of unpaid housework (*Unpaid Care Work*) and digital work pressure (Saikrishna, 2025; Singh et al., 2025). In the study, one participant said, "platforms provide flexibility, but homes are never flexible." This sentence describes the gender dilemma in the gig work system that exacerbates social inequality. Thus, the results of the study show that gender is an important variable in designing a social protection system that is inclusive and responsive to the specific needs of the working group.

Policy factors also play a significant role. The importance of the shift from employment-based protection to citizenship-based protection (*Citizenship-based protection*), so that every individual gets social security rights regardless of employment status (Atkinson & Sedacca, 2025). The study found that countries that apply this principle, such as Belgium and the United Kingdom, have a better level of social protection than countries with a contract-based system. However, in countries with well-established welfare systems, the pandemic has shown limited protection for gig workers outside the formal structure (M. Li et al., 2025). Empirically, this study emphasizes that social policy reform should be oriented towards mobility and digital work algorithms, not on rigid work categories.

The significance of RQ2's findings lies in its ability to identify new social determinants that affect the well-being of gig workers. This study expands on the contributions of the previous literature by showing that social risks stem not only from the structural weaknesses of the state, but also from algorithmic logic and unequal social relations. A key scientific contribution of these results is the affirmation that social protection in the digital age is multidimensional: legal, technological, and social interact to form new patterns of insecurity. Thus, the results of this study enrich the theoretical understanding of *social protection ecology*, namely the interaction between formal, digital, and social systems that determine the access and participation of gig workers in the welfare system.

3.2.3. Research Question 3: What is the Hybrid Social Protection Model for Gig Workers in Developing Countries?

The results of the synthesis show that the hybrid social protection model (*Hybrid Social Protection Model*) is the most potential approach to address the gap between formal and informal mechanisms. This model seeks to integrate the roles of the state, platform companies, and worker communities in one collaborative system. These findings directly support the arguments of Atkinson and Sedacca (Atkinson & Sedacca, 2025), which emphasizes the need for multi-stakeholder collaboration in the provision of universal social protection. On the other hand, research (G. Pilatti et al., 2023) and (Ajonbadi et al., 2025; Centeno Maya et al., 2022; Koene & Pichault, 2021; G. R. Pilatti et al., 2024; Polajžar, 2024) provides empirical evidence that community solidarity can be an effective basis for

the development of participatory social protection systems. In the context of developing countries, this hybrid model has become relevant due to the strong community-based social solidarity and the weak reach of state policies. By combining public, corporate, and community responsibilities, the system is able to create a protective net that is adaptive to the flexibility of the digital economy.

The study also found that the institutional dimension plays an important role in the success of hybrid models. Platform companies have the potential to contribute to social protection through more structured corporate social responsibility (CSR) (Behl et al., 2022). However, this contribution is still voluntary and not regulated in national policies. Therefore, this study suggests the need for *Regulatory Framework* which encourages platform companies to actively participate in the provision of workers' social security, as proposed by (Kurian & Bindu Madhavi, 2024) which emphasizes the balance between business profits and worker welfare. This integration between the state and digital platforms is at the heart of the hybrid social protection model proposed by this study.

From a social perspective, this research shows that the strength of the working community is an important foundation in building a hybrid model. Solidarity between gig workers in Brazil creates an effective protection mechanism even without state intervention (G. Pilatti et al., 2023). This can be applied in the context of developing countries that have a culture of mutual cooperation and strong social networks in the informal sector. Thus, the hybrid social protection model developed from the results of this study is not only top-down of state policies, but also bottom-up of worker community initiatives. These findings also expand the literature that examines the socio-cultural dimension of social protection gig workers that has not been widely studied in the context of developing countries (Wu et al., 2025).

The significance of the RQ3 results lies in its conceptual contribution. As presented in the following image:



Figure 4. Hybrid social protection model (Source: Authors' own work).

The hybrid social protection model resulting from this research offers a new framework that blends formal, institutional, and community aspects. Theoretically, this model expands the boundaries of the concept of *social protection* by placing gig workers not only as beneficiaries, but also as empowered

actors in creating an inclusive protection system. In a practical context, this model provides policy recommendations for governments to expand social security coverage for informal workers through partnerships with digital platforms and workers' community organizations

4. Implications and Contributions

This research provides three main contributions. First, by **theoretical**, this research enriches the literature by introducing the concept of *Hybrid Social Protection* as an integration of the three dimensions of protection: formal, institutional, and community. This integration expands the understanding previously separated in several studies of social protection (Centeno Maya et al., 2022; G. Pilatti et al., 2023; Wu et al., 2025). Second, in a **practical**, this research provides the basis for social protection policy reform in developing countries by emphasizing collaboration between countries and platform companies. Third, by **Methodological**, this study shows the effectiveness of the *Systematic Literature Review* in producing a strong conceptual framework and transparent replication.

The policy implications of this study include the need for labor law reform to be more inclusive of non-standard workers, the implementation of social responsibility regulations on digital platforms, and strengthening the capacity of the working community in building social solidarity. By adopting a hybrid social protection model, the state can expand the reach of social protection without relying entirely on sluggish and bureaucratic formal structures.

5. Conclusion and Recommendations

This study concludes that social protection for gig workers is still in a fragmented condition between formal, institutional, and informal systems. Formal social protection systems based on traditional employment relationships have proven incapable of reaching gig workers whose legal status is categorized as independent contractors. On the other hand, the institutional social protection mechanism organized by the platform company is still voluntary, selective, and limited to short-term insurance without ongoing protection. Nevertheless, alternative forms of social protection have emerged that originate from the solidarity of the working community, which functions as a collective-based social safety net. These findings show that social protection for gig workers cannot be relied solely on state policies, but must be understood as a multi-actor ecosystem involving the state, companies, and worker communities.

For future research, it is recommended that follow-up studies develop a field-based empirical approach by involving hands-on interviews with gig workers in different sectors and countries. Further research can also quantitatively test the effectiveness of the proposed hybrid social protection model through policy simulations or comparative studies between regions. In addition, it is important to expand the scope of the analysis to local contexts such as Indonesia, which has a different social and economic character from developed countries. By deepening cross-disciplinary research that combines legal, technological, and social dimensions, the future of the study of social protection of gig workers

is expected to be able to produce a more adaptive, inclusive, and socially just policy framework in the midst of global digital transformation

6. Research Limitations

This research has several limitations that need to be acknowledged. First, data sources are limited to Scopus-indexed English-language articles, so they may not fully represent local research in non-English languages, including Indonesian. Second, the SLR approach relies only on secondary data so it does not include the direct empirical experience of gig workers. Third, the variation in socio-economic contexts between countries makes generalization of findings need to be done carefully. However, this limitation does not reduce the validity of the research's conceptual contribution to the development of social protection theories and policies in the digital age.

References

- Ajonbadi, H. A., Adekoya, O. D., Mordi, C., Cronk, H., Islam, M. A., & Taofik, I. (2025). Exploring the voice and representation mechanisms of platform workers and implications for decent work in the Nigerian gig economy. *Journal of Industrial Relations*, 00221856251337191. <https://doi.org/10.1177/00221856251337191>
- Alauddin, F. D. A., Aman, A., Ghazali, M. F., & Daud, S. (2025). The influence of digital platforms on gig workers: A systematic literature review. *Heliyon*, 11(1), e41491. <https://doi.org/10.1016/j.heliyon.2024.e41491>
- Altenried, M. (2024). Mobile workers, contingent labour: Migration, the gig economy and the multiplication of labour. *Environment and Planning A: Economy and Space*, 56(4), 1113–1128. <https://doi.org/10.1177/0308518X211054846>
- Atkinson, J., & Sedacca, N. (2025). Realising decent work for platform workers: A human rights approach. *Transnational Legal Theory*, 1–33. <https://doi.org/10.1080/20414005.2025.2518897>
- Au, W. C. W., & Tsang, N. K. F. (2023). Gig workers' self-protective behaviour against legal risks: An application of protection motivation theory. *International Journal of Contemporary Hospitality Management*, 35(4), 1376–1397. <https://doi.org/10.1108/IJCHM-12-2021-1537>
- Au-Yeung, T. C., Chan, C. K.-C., Ming, C. K. K., & Tsui, W. Y. A. (2025). The gig economy, platform work, and social policy: Food delivery workers' occupational welfare dilemma in Hong Kong. *Journal of Social Policy*, 54(2), 673–691. <https://doi.org/10.1017/S0047279423000673>
- Behl, A., Rajagopal, K., Sheorey, P., & Mahendra, A. (2022). Barriers to entry of gig workers in the gig platforms: Exploring the dark side of the gig economy. *Aslib Journal of Information Management*, 74(5), 818–839. <https://doi.org/10.1108/AJIM-08-2021-0235>
- Benli-Trichet, M. C., & Kübler, D. (2022). The political origins of platform economy regulations. Understanding variations in governing Airbnb and Uber across cities in Switzerland. *Policy & Internet*, 14(4), 736–754. <https://doi.org/10.1002/poi3.312>

- Buendia Esteban, R. M. (2022). Examining recent initiatives to ensure labour rights for platform workers in the European Union to tackle the problem of domination. *Transfer: European Review of Labour and Research*, 28(4), 475–487. <https://doi.org/10.1177/10242589221149506>
- Cámbara, F. B. (2022). COVID-19 and women migrant workers in informal employment: Recommendations for strengthening social protection efforts in Lao People's Democratic Republic. *Gender & Development*, 30(1–2), 97–113. <https://doi.org/10.1080/13552074.2022.2066806>
- Centeno Maya, L. A., Tejada, A. H., Martínez, A. R., Leal-Isla, A. L. R., Jaramillo-Molina, M. E., & Rivera-González, R. C. (2022). Food delivery workers in Mexico City: A gender perspective on the gig economy. *Gender & Development*, 30(3), 601–617. <https://doi.org/10.1080/13552074.2022.2131253>
- Dash Mohapatra, B., & Sahoo, C. K. (2025). Contributory social security and employment-based social protection for informal workers: Moderating role of regulatory framework. *International Journal of Manpower*, 46(5), 836–852. <https://doi.org/10.1108/IJM-06-2024-0383>
- Giousmpasoglou, C., Ladkin, A., & Marinakou, E. (2024). Worker exploitation in the gig economy: The case of dark kitchens. *Journal of Hospitality and Tourism Insights*, 7(1), 414–435. <https://doi.org/10.1108/JHTI-10-2022-0477>
- Hajiheydari, N., & Delgosha, M. S. (2024). Investigating engagement and burnout of gig-workers in the age of algorithms: An empirical study in digital labor platforms. *Information Technology & People*, 37(7), 2489–2522. <https://doi.org/10.1108/ITP-11-2022-0873>
- Himani Srihita, R., Goli, G., M, R., & Gobinath, R. (2025). "Transformative dynamics of the gig economy: Technological impacts, worker well-being and global research trends." *International Journal of Engineering Business Management*, 17, 18479790241310362. <https://doi.org/10.1177/18479790241310362>
- Jeyaraj, J. J., Chong, S. C., Chin, M. Y., & Foo, L. P. (2025). Gig Labour Regulation Thresholds and Youth Unemployment: A Dynamic Panel Threshold Model Analysis. *Journal of Digital Economy*, S2773067025000342. <https://doi.org/10.1016/j.jdec.2025.07.003>
- Katiyatiya, L. M., & Lubisi, N. (2025). The current social protection discourse, gig economy within the advent of COVID-19: Some emerging legal arguments. *Labor History*, 66(1), 64–76. <https://doi.org/10.1080/0023656X.2024.2340610>
- Koene, B. A. S., & Pichault, F. (2021). Embedded Fixers, Pragmatic Experimenters, Dedicated Activists: Evaluating Third-Party Labour Market Actors' Initiatives for Skilled Project-Based Workers in the Gig Economy. *British Journal of Industrial Relations*, 59(2), 444–473. <https://doi.org/10.1111/bjir.12563>
- Kurian, J. S., & Bindu Madhavi, N. (2024). Navigating the gig economy: Exploring challenges and motivations for the wellbeing of Gen Y and Gen Z gig workers. *Cogent Psychology*, 11(1), 2357458. <https://doi.org/10.1080/23311908.2024.2357458>

- Li, M., Hu, X., Jin, K., & Han, J. (2025). Exploring factors influencing entry into the gig economy: A study of Chinese workers. *Acta Psychologica*, 259, 105301. <https://doi.org/10.1016/j.actpsy.2025.105301>
- Li, Y., Xu, S. (Tracy), Yu, Y., & Meadows, R. (2023). The well-being of gig workers in the sharing economy during COVID-19. *International Journal of Contemporary Hospitality Management*, 35(4), 1470–1489. <https://doi.org/10.1108/IJCHM-01-2022-0064>
- Lyu, T., Geng, Q., & Chen, H. (2025). Scale development of decent work among logistics digital gig workers. *International Journal of Physical Distribution & Logistics Management*. <https://doi.org/10.1108/IJPDLM-11-2024-0463>
- Nagaraj Rao, V., Dalal, S., Agarwal, E., Calacci, D., & Monroy-Hernandez, A. (2025). Rideshare Transparency: Translating Gig Worker Insights on AI Platform Design to Policy. *Proceedings of the ACM on Human-Computer Interaction*, 9(2), 1–49. <https://doi.org/10.1145/3711059>
- Ngadi, N., Asiati, D., Nurul Aini, Y., Astrelina Purba, Y., & Rajagukguk, Z. (2025). Increasing labor social security membership for informal workers in Indonesia. *Cogent Social Sciences*, 11(1), 2534139. <https://doi.org/10.1080/23311886.2025.2534139>
- Orth, B. (2025). Forging mobilities, becoming ideal workers? Temporary migration and the gig economy. *Journal of Ethnic and Migration Studies*, 51(11), 2793–2811. <https://doi.org/10.1080/1369183X.2025.2467176>
- Però, D., & Downey, J. (2024). Advancing Workers' Rights in the Gig Economy through Discursive Power: The Communicative Strategies of Indie Unions. *Work, Employment and Society*, 38(1), 140–160. <https://doi.org/10.1177/09500170221103160>
- Pilatti, G., Candia, C., Montini, A., & Pinheiro, F. L. (2023). From co-location patterns to an informal social network of gig economy workers. *Applied Network Science*, 8(1), 77. <https://doi.org/10.1007/s41109-023-00603-1>
- Pilatti, G. R., Pinheiro, F. L., & Montini, A. A. (2024). Systematic Literature Review on Gig Economy: Power Dynamics, Worker Autonomy, and the Role of Social Networks. *Administrative Sciences*, 14(10), 267. <https://doi.org/10.3390/admsci14100267>
- Polajžar, A. (2024). Access of Platform Workers to Collective Rights – the Fall of the Binary Divide? *Časopis pro Právni Vědu a Praxi*, 32(2). <https://doi.org/10.5817/CPVP2024-2-1>
- Popan, C. (2024). Embodied Precariat and Digital Control in the "Gig Economy": The Mobile Labor of Food Delivery Workers. *Journal of Urban Technology*, 31(1), 109–128. <https://doi.org/10.1080/10630732.2021.2001714>
- Putri, T. E., Darmawan, P., & Heeks, R. (2023). What is fair? The experience of Indonesian gig workers. *Digital Geography and Society*, 5, 100072. <https://doi.org/10.1016/j.diggeo.2023.100072>
- Ran, X., & Zhao, Y. (2023). Behind the flexibility: Insufficient occupational injury protection of gig workers in China. *Frontiers in Public Health*, 11, 1117180. <https://doi.org/10.3389/fpubh.2023.1117180>

- Ray, A., & John, A. (2025). A new politics of welfare? The origins and strategies of India's gig and platform workers' unions in the era of digital capitalism. *Competition & Change*, 10245294251339391. <https://doi.org/10.1177/10245294251339391>
- Rolf, S., O'Reilly, J., & Meryon, M. (2022). Towards privatized social and employment protections in the platform economy? Evidence from the UK courier sector. *Research Policy*, 51(5), 104492. <https://doi.org/10.1016/j.respol.2022.104492>
- Saikrishna, M. B. (2025). Balancing invisible burdens: Exploring the lived experiences of unpaid care work among gig economy workers using Gioia methodology. *International Journal of Sociology and Social Policy*, 45(5/6), 489–510. <https://doi.org/10.1108/IJSSP-12-2024-0627>
- Sannon, S., & Cosley, D. (2022). Toward a More Inclusive Gig Economy: Risks and Opportunities for Workers with Disabilities. *Proceedings of the ACM on Human-Computer Interaction*, 6(CSCW2), 1–31. <https://doi.org/10.1145/3555755>
- Scasserra, S., & Partenio, F. (2021). Precariousness of work and strategies of women workers on digital platforms: Working from home, union organization and rights dispute in the context of the Covid-19 pandemic. *Sociologies*, 23(57), 174–206. <https://doi.org/10.1590/15174522-112307>
- Singh, R., Sharma, A., Gupta, N., Mishra, M., & Kushwaha, R. (2025). Anxiety, mental health, job insecurity and workplace challenges: Exploring the well-being of women gig workers in the gig economy. *Mental Health and Social Inclusion*, 29(4), 362–381. <https://doi.org/10.1108/MHSI-10-2024-0193>
- Spithoven, A. (2021). Gig Workers and Policies of Minimal Social Dislocation. *Journal of Economic Issues*, 55(2), 516–523. <https://doi.org/10.1080/00213624.2021.1919853>
- Umair, A., Conboy, K., & Whelan, E. (2023). Examining technostress and its impact on worker well-being in the digital gig economy. *Internet Research*, 33(7), 206–242. <https://doi.org/10.1108/INTR-03-2022-0214>
- Wattecamps, C. (2021). From precarity to the denial of social status in the Belgian legal order: The social security rights of platform workers in question. *International Social Security Review*, 74(3–4), 13–38. <https://doi.org/10.1111/issr.12276>
- Wiesböck, L., & Radlherr, J. (2025). The interface gaze: On the (sexual) objectification of domestic workers in the gig economy. *Feminist Media Studies*, 1–18. <https://doi.org/10.1080/14680777.2025.2541273>
- Wu, X., Wang, J., & Jiang, J. (2025). Insurance and the gig economy: Analyzing Chinese platform workers' participation in work-related injury insurance. *Acta Psychologica*, 256, 105016. <https://doi.org/10.1016/j.actpsy.2025.105016>
- Xie, P., Chen, H., Cheng, Z., Fan, W., & Ge, S. (2025). How Do Courts Respond to the Platform Regulation Policy in Protecting Gig Workers? Evidence From Court Decisions in China. *Asia Pacific Journal of Human Resources*, 63(2), e70014. <https://doi.org/10.1111/1744-7941.70014>
- Yin, S. (2024). Situating platform gig economy in the formal subsumption of reproductive labor: Transnational migrant domestic workers and the continuum of exploitation and precarity. *Capital & Class*, 48(1), 119–133. <https://doi.org/10.1177/03098168221145407>

- Zhang, H., & Liu, K. (2025). Can a voluntarist approach to social security extend protection to gig workers? Evidence from the platform-based food-delivery sector in China. *Journal of Industrial Relations*, 67(1), 101–129. <https://doi.org/10.1177/00221856241262786>
- Zhang, Y., & Yan, D. (2024). Legal protection for gig workers' availability time: An empirical study of take-out platform riders in Beijing. *Employee Relations: The International Journal*, 46(1), 133–146. <https://doi.org/10.1108/ER-06-2022-0268>