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Gig Economy or Digital Inequality? Lessons for Indonesia's Labour Future

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Abstract

The gig economy has been widely celebrated for its potential to boost national productivity and generate flexible employment opportunities. Yet, beneath its promise lies the paradox of digital inequality. In Indonesia, the rapid growth of platform-based work in transportation, delivery, and online freelancing demonstrates the gig economy's increasing visibility. However, compared to countries such as India, Brazil, and the United States, the measurable contribution of gig work to long-term economic resilience is less certain. Drawing on secondary data from the ILO, World Bank, and OECD, this paper argues that the gig economy, while expanding labour absorption, disproportionately depends on precarious, low-wage arrangements that limit upward mobility and sustainable growth. From a cultural perspective, gig work normalises hyper-flexibility and individualisation, reshaping the meaning of employment in ways that weaken collective bargaining and career stability. Comparative analysis reveals that countries with robust labour regulations have managed to harness gig productivity without exacerbating inequality, whereas emerging economies with weaker systems, such as Indonesia, risk deepening informalization. This study contends that Indonesia's policy challenge is not whether the gig economy should grow, but whether it can grow inclusively. Without deliberate labour governance, Indonesia may face a dual economy: one sector benefiting from digital innovation, and another trapped in precarious, digitally mediated inequality.

Keywords: gig economy, digital inequality, labour future, Indonesia, work culture, inclusive growth.

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1. Introduction

The rise of the gig economy has reshaped the global conversation on the future of work (Allon, Cohen, and Sinchaisri 2023; Jiang and Sinchaisri 2025; Kerikmäe and Kajander 2022; Kim et al. 2023). Across both advanced and emerging economies, digital labor platforms, like ride-hailing, delivery, and online freelancing, are often praised as drivers of innovation, productivity, and flexible employment (Demir 2024). For developing countries, including Indonesia, these platforms have been seen as inclusive tools that can absorb additional workers and help more people participate in the economy. However, behind this optimistic view is a contradiction: while digital platforms offer more chances to earn money, they also make existing inequalities worse by creating informal, unstable, and low-paying jobs (Chong & Kyounghee, 2024).

In Indonesia, this struggle between opportunity and inequality is powerful. As of 2024, more than 60% of the workforce remains in informal employment, and a substantial portion of recent growth in digital labor has occurred within this informal group (BPS, 2024). Platform-based work, such as driving for Gojek or Grab, or delivering for ShopeeFood and Lazada, demonstrates how technology is rapidly transforming the way people work. Yet, as Arif Novianto (2025) Points out that even jobs officially labeled "formal" are becoming more informal through fake partnership models that shift risks from employers to workers. This process weakens the concept of decent work by making flexible arrangements commonplace, without the usual benefits such as social security, stable pay, or the right to negotiate collectively.

Compared with experiences in other emerging economies, such as India and Brazil, digital labor markets, which lack strict rules and oversight, often exacerbate inequality rather than mitigate it (Berry 2025). In these contexts, gig work offers short-term livelihood security but fails to deliver upward mobility or skill progression. Indonesia faces a similar dilemma. According to the World Bank (Fu et al. 2024) The country's "self-reinforcing informality trap" constrains productivity growth and limits the potential for equitable development. Indonesia's formal job growth has stagnated, and despite its rapid digitalization, only one in five workers is projected to access formal employment by 2045. Among women, the situation is even more concerning, only one in ten is likely to secure formal work under current trajectories.

At the macroeconomic level, Bank Indonesia's inclusive finance division (Anatan and Nur 2023) underscores the strategic role of MSMEs (micro, small, and medium enterprises) in formalization and digital transformation. Through value-chain-based corporatization and digital financial inclusion, the institution aims to integrate informal producers into the formal economy. Yet, these initiatives face structural constraints, including fragmented digital ecosystems, uneven financial literacy, and persistent gender and regional disparities. Without addressing these foundational issues, digital tools risk amplifying rather than bridging economic inequality.

Meanwhile, from a social protection perspective, Jafar (2024) Emphasizes that the transition from informal to formal labour must not come at the expense of worker vulnerability. In practice, many gig workers are negatively selected on the basis of education, age, or physical characteristics, thereby leaving them exposed to income volatility and occupational risk. Thus, inclusive and sustainable social protection systems are crucial for ensuring that gig workers can transition into more stable forms of employment without being excluded from national insurance schemes or retirement security mechanisms.

This emerging evidence suggests that Indonesia's gig economy represents not a clear path toward digital empowerment, but rather a contested terrain between innovation and inequality (Alfarizi, Noer, and Noer 2025; Annazah, Tobing, and Habibi 2024; Tobing 2024). The normalization of "hyper-flexibility" and individual responsibility, hallmarks of the gig model, redefines the meaning of employment. As scholars have observed globally, such transformations challenge the collective foundations of labour solidarity and weaken institutional mechanisms that historically protected workers' rights (Panimbang 2021). The erosion of these mechanisms in Indonesia could deepen dualism in the labour market, with one segment benefiting from digital innovation and capital accumulation, and another trapped in precarious, digitally mediated livelihoods.

At the policy level, Indonesia's experience resonates with a broader global debate. The ILO (2022) identifies three critical conditions for inclusive digital work: (1) regulatory frameworks that balance flexibility and protection, (2) social dialogue involving both platform companies and workers, and (3) adaptive social security systems that accommodate non-standard forms of employment. Countries such as Germany and South Korea have successfully integrated these principles, demonstrating that the gig economy can enhance productivity without exacerbating inequality (Deruelle, Montero, and Wagner 2024). In contrast, emerging economies with weak institutional capacity, such as Indonesia, risk accelerating informalization and underemployment if digitalization proceeds without complementary labor reforms.

Therefore, this study situates Indonesia's gig economy within a comparative and policy-oriented framework. By synthesizing data from the ILO, the World Bank, and the OECD, as well as insights from national institutions such as Bank Indonesia and SMERU, it argues that Indonesia's labor future hinges not merely on the expansion of digital work but also on its inclusivity. The central question is not whether the gig economy will continue to grow; it already has, but whether it can grow equitably. Achieving this requires deliberate state intervention to ensure fair wages, access to social protection, and pathways for skill upgrading. Without such governance, Indonesia risks perpetuating a dual labour structure: one digitally empowered, the other digitally marginalized. Table 1 provides a summary of Indonesia's digital-access landscape, highlighting disparities in internet penetration, device quality, and connectivity that shape workers' ability to participate effectively in the gig economy. These structural indicators demonstrate that digital inclusion remains uneven across regions and socioeconomic groups, reinforcing the argument that digital inequality is a foundational determinant of who can meaningfully access and benefit from platform-based work.

Table 1. Key Indicators of Indonesia's Digital Divide

Indicator	Value	Notes
Internet users (Jan 2024)	185.3 million	Data Reportal / Kepios
Internet penetration	66.5%	National average
APJII survey users (2023–2024)	221 million	Higher due to a different methodology
APJII penetration	78–79%	Urban areas are significantly higher
Estimated gig workers	0.43–2.3 million	Broader definitions: up to 4 million
Median monthly gig income	IDR 3–4.5 million	Varies by region and platform type
Device quality gap	High	Significant differences between low-end and high-end smartphone users
Rural–urban connectivity gap	Persistent	Affects visibility in algorithmic matching

Sources:

1) Implementation of Intellectual Property Law Awareness and Cybersecurity Technology Against Digital Copyright Violations in Indonesia During The 2024 Elections." 7(2):349–58. (Long et al. 2025)
2) Analysis of Social Media User Growth and Its Implications for Digital Marketing Strategies in Indonesia 2024." 236–45. (Tewu et al. 2025)
3) The Importance of Communication Literacy in the Digital World: Preparing the Public to Face Technological Challenges in Indonesia." 3(4):163–76. (Furbani 2025)
4) Digital Landscape and Behavior in Indonesia 2024: A National Survey Analysis of Internet Penetration, Cybersecurity Risks, and User Segmentation Using K-Means Clustering and Logistic Regression." 6(5):3336–51. (Aminudin et al. 2025)
5) Gig Workers in The Digital Era in Indonesia: Development, Vulnerability, And Welfare. Atlantis Press International BV. (Pratomo et al. 2024)

In sum, the gig economy presents both promise and peril. It offers new forms of participation in a digitalizing world, but simultaneously threatens to entrench inequality if left unregulated. Indonesia's challenge is to steer this transformation toward inclusive growth, in which flexibility does not entail insecurity and digital progress translates into social advancement. The lessons from the country's ongoing debates and reforms highlight that the true future of work will be defined not by technology itself, but by how societies choose to govern it.

2. Research method

This study employs a qualitative–quantitative mixed-method approach based primarily on secondary data analysis from international and national sources, including the International Labour Organization (ILO), the World Bank, the Organisation for Economic Co-operation and Development (OECD), Statistics Indonesia (BPS), and relevant national research institutions such as Bank Indonesia and the SMERU Research Institute. The data encompass labour participation rates, growth in digital platforms, informal-sector employment shares, and social protection coverage from 2015–2024. The analytical objective is to identify how Indonesia's gig economy contributes to labour formalization and inclusive economic growth.

2.1. Data Collection

Data were collected through a systematic review of official datasets, policy reports, and academic publications. Data extraction followed three steps: (1) selecting indicators of digital labour and informality; (2) standardizing data across sources for comparability; and (3) contextualizing the findings with supporting qualitative insights from policy documents and expert presentations. These sources were complemented by a review of the literature from the past decade to capture the evolving theoretical debates surrounding the gig economy and digital inequality.

2.2. Data Analysis

Data analysis employed a comparative and descriptive framework, combined with thematic content analysis. Quantitative indicators were compared descriptively across countries (Indonesia, India, Brazil, and the United States) to assess the differential impacts of platform-based work on economic resilience. Meanwhile, qualitative analysis identified recurring policy themes, such as labour precarity, digital inclusion, and institutional response, that shape Indonesia's policy landscape. The choice of a comparative-descriptive method enables the mapping of structural contrasts and policy gaps between advanced and emerging economies, aligning with the study's objective of drawing lessons for Indonesia's future labour market.

The research process followed four analytical stages. First is data identification, which compiles data on digital labour and informality from validated international and domestic sources. Second is data integration, which harmonizes metrics and transforms them into comparable indicators. Third, a comparative analysis assesses Indonesia's position relative to other economies. The last is interpretative synthesis, which derives policy implications for inclusive growth.

The study's analytical framework (Figure 1) integrates the relationship between digital transformation, labour regulation, and inequality. The model illustrates how technological expansion mediates labour absorption through both formal and informal pathways, influencing the inclusivity of economic outcomes.

Figure 1. Conceptual Framework of the Study
Source: Proceed from Eichhorst et a (2020)

In summary, this methodological design enables triangulation between quantitative indicators and qualitative interpretations. By combining secondary data with contextual analysis, the study ensures empirical robustness while maintaining policy relevance. This approach also reflects the interdisciplinary nature of digital labour research, bridging economic, sociological, and governance perspectives to assess whether Indonesia's gig economy can evolve toward inclusive and sustainable growth.

3. Results and Discussion

3.1. Structural Dualism and Informality Trap

Findings from the World Bank (Ryandika et al. 2023) Emphasize that Indonesia's labour market remains structurally dualistic, with informality rates exceeding 60%, disproportionately concentrated in low-productivity sectors. Despite a growing digital economy, formal job creation has stagnated. Only one in five new workers is projected to secure a formal position by 2045. This stagnation aligns with the "informality trap" hypothesis, wherein firms, workers, and state institutions become locked in a self-reinforcing equilibrium that limits structural transformation. Similar observations have been made by Barra and Papaccio (2024). Who notes that informality persists in emerging economies when regulatory costs and enforcement asymmetries outweigh productivity incentives. Comparative data from India and Brazil reveal that digital platform expansion alone does not guarantee formalization. Instead, it often deepens labour segmentation by creating "pseudo-formal" employment, a phenomenon also observed in Indonesia's platform-based sectors such as ride-hailing and online freelancing. This evidence suggests that technological transformation, without institutional reform, risks amplifying inequality rather than reducing it. Table 2 compares the characteristics, risks, and drivers of inequality across major categories of digital labour platforms. The table illustrates that platform work is not homogeneous: ride-hailing, delivery, and online freelancing each exhibit distinct operational logics that influence worker precarity, algorithmic exposure, and income volatility. Understanding these platform-specific dynamics is essential for interpreting how digitalization contributes to differentiated labour outcomes and the informalization of work.

Table 2. Platform-Specific Dynamics in the Gig Economy

Platform Type	Key Characteristics	Main Risks	Drivers of Inequality
Ride-hailing	High-frequency tasks; location- and time-dependent	Spatial/temporal bias; high operational costs	Algorithmic prioritization by GPS accuracy, location density
Food/parcel delivery	Micro-tasks; tight time windows	Work intensification; low margin per order	Penalties from late deliveries; variability in demand
Online freelancing	Skill-differentiated, global competition	Race-to-bottom pricing; rating dependency	Reputational gatekeeping; global bidding asymmetries

Sources: Proceed from

1) Flexible Work Contracts in the Gig Economy : An Institutional Analysis." 8(1):80–88. (Utami and Amini 2025)
2) The South East Asian Journal of Management Balancing the Scales : The Role of Work-Life Balance and Technological Support in Enhancing Gig Worker Productivity in Indonesia Balancing the Scales : The Role of Work-Life Balance and Technological." 19(1). doi: 10.7454/seam.v19i1.1834. (Parman 2025)
3) Retention In Indonesia ' S Gig Economy : The Role Of Work-Life." 23(2):597–619. (Productivity and Satisfaction 2025)

The earlier study shows that digitalization alone does not automatically dismantle structural dualism when institutional capacity remains weak. Cross-national experience reveals at least three distinct policy models that shape the relationship between digital transformation and labor formalization. The first model entails expanding legal recognition and social protection for platform workers (e.g., in India and Korea). The second policy model is market-flexibility frameworks with partial worker protection (e.g., California, United States). The last model is legislative initiatives on fair work and algorithmic transparency (e.g., Brazil and selected EU countries). These international cases illustrate why some economies can contain informalization, while others intensify it. India offers a notable example. Through the *Code on Social Security* (2022) and the *e-Shram* registration system, the government has formally acknowledged gig and platform workers, thereby enabling them to access welfare boards and contributory benefit schemes. If effectively implemented, these mechanisms could support workers' gradual transition from informal to semi-formal status. In contrast, the *Proposition 22* framework in California permits platforms to classify drivers as independent contractors, thereby providing them with limited benefits. While this preserves business flexibility and platform participation, it also institutionalizes a form of "regulated informality" in which economic activity expands without corresponding social protection.

South Korea has taken a further step by extending employment-injury and unemployment insurance to various categories of platform workers, and by testing portable benefit systems that follow the worker across different employers or platforms. Meanwhile, several European Union members, including Germany, have proposed or enacted legislation requiring algorithmic transparency, collective bargaining rights, and data access provisions for gig workers. These efforts reflect a shift from regulating *jobs* to regulating *platform accountability*. While Brazil represents an intermediate case, its recent "Decent Work for App Workers" agenda (under discussion since 2023) seeks to establish minimum wage and social security contributions for gig workers while preserving flexible contracts. Implementation, however, remains uneven due to fragmented governance across federal and municipal levels. Table 1 summarizes the principal policy approaches and their implications for labour formalization.

Table 3. Comparative Summary of Digital-Labour Policy Approaches

Country / Jurisdiction	Main Policy / Instrument	Key Features	Likely Effect on Formalization / Informality
India	*Code on Social Security (2020)*; *e-Shram* registry	Legal recognition of platform workers, unified national database, state welfare boards	Expands coverage and access to benefits; potential pathway out of informality if enforcement succeeds.
Brazil	Draft "Decent Work for App Workers" bill; local pilot programs	Moves toward minimum pay and social-security contributions; debates over algorithmic fairness	May strengthen protections but remains fragmented pending federal coordination.

Country / Jurisdiction	Main Policy / Instrument	Key Features	Likely Effect on Formalization / Informality
United States (California)	*Proposition 22* (2020, upheld 2024)	Classifies gig drivers as contractors; limited benefits via company stipends	Maintains labour-market flexibility but institutionalizes partial protection; sustains dualism.
Republic of Korea	Extensions of employment and injury insurance to gig workers	Expands social insurance coverage; pilots portable benefits	Reduces vulnerability and fosters the semi-formal inclusion of non-standard workers.
Germany / EU	Platform-work directive proposals; national social dialogue frameworks	Emphasizes algorithmic transparency, collective bargaining, and shared responsibility	Converts platform productivity gains into formalized protections when effectively enforced.

Source: Authors' compilation based on (Chong and Kyounghee 2024; Vandaele 2003)

Cross-country evidence thus reinforces two central lessons for Indonesia. First, formal recognition, combined with portable social protection schemes, is essential to transform gig work into a pathway to inclusive formalization. Second, regulatory regimes that prioritize corporate flexibility without adjusting labour institutions, such as the U.S. model, tend to entrench the informality trap. Countries that successfully balance innovation with protection (e.g., Korea, Germany) demonstrate that digital transformation can support formalization *only* when accompanied by active governance and enforcement. For Indonesia, these lessons imply that expanding digital labour must go hand in hand with modernizing its institutional architecture. Through legal recognition, portable social protection, and integrated labour-market governance, otherwise, digital transformation will accelerate, rather than resolve, structural dualism and inequality.

3.2. Informalization of Formal Work

Arif Novianto (2025) Highlights the growing informalization of formal employment, where contractual flexibility and "partnership" schemes erode the security historically associated with waged labour. This finding aligns with global research by Gregori (2024) and Deruelle et al. (2024), which documents how digital platforms recast employment as entrepreneurship, shifting risks from the firm to workers. In Indonesia, this reclassification reduces employers' obligations for minimum wages, social security, and occupational safety. The thematic content analysis from this study reveals that such transformations have blurred the distinction between formal and informal work. Platform workers operate under algorithmic management yet lack collective bargaining mechanisms. This mirrors the "fissured workplace" model (Goldman and Weil 2020), where accountability and responsibility are fragmented across networks of intermediaries. Consequently, labour precarity becomes normalized, weakening social cohesion and undermining pathways toward upward mobility.

Digital platforms and new contractual forms are not merely creating new jobs; they are reshaping the borders of existing formal employment by shifting costs, responsibilities, and risks away from firms and onto workers. This process — which we term the "informalization of formal work", takes several identifiable forms: worker misclassification, algorithmic management that erodes bargaining power, subcontracting and multi-layered supply chains, and the proliferation of "partnership" or contractor models that mimic self-employment while preserving employer control. These dynamics have been documented across jurisdictions and provide significant contrasts for Indonesia's policy choices.

A prominent example is California's policy trajectory: the passage and subsequent legal defense of Proposition 22 institutionalized a contractor-based model for app drivers, preserving platform flexibility while providing narrowly defined, company-sponsored benefits rather than full employee protections. The outcome has been the formal legalization of a partial-protection model that many observers argue entrenches an intermediate status. Neither fully formal nor fully protected, thereby sustaining labor-market dualism. This case shows how regulatory accommodation of platform business models can codify a version of "regulated informality.

India demonstrates a different dynamic. The Social Security Code and the national *e-Shram* registration recognize gig/platform workers, creating administrative channels for benefit delivery without reclassifying them as employees. This has the potential to improve welfare coverage and access. Still, the Indian approach also illustrates a caution: legal recognition, combined with administrative registries, can increase access to targeted benefits without necessarily converting platform work into standard salaried employment, especially when enforcement and financing remain limited. Thus, India's path shows partial mitigation of informalization, contingent on implementation capacity.

South Korea offers an instructive policy experiment aimed at limiting informalization by adapting social insurance to the new reality of platform work. National and ILO analyses document efforts to expand employment-injury and unemployment insurance coverage, as well as to trial portable benefit mechanisms that follow the worker across platforms and employers. These measures reduce the vulnerability that arises when traditional employer-based protections fail to cover non-standard workers, and they illustrate how social insurance design can blunt the informalizing effects of algorithmic gig work. (Chong and Kyounghee 2024) Brazil occupies an intermediate position. While the Lula administration and civil society initiatives have advanced a "decent work" agenda for platform workers, legislative proposals are still evolving, and implementation remains uneven across federal and municipal levels. Independent platform assessments (e.g., Fairwork Brazil) highlight persistent weaknesses in platform management practices and representation, suggesting that legal reforms alone may struggle to reverse informalization without robust enforcement and mechanisms for worker voice. (Barcellos 2024) Across these cases, three patterns recur. First, legal recognition alone (through registration or a special category) can increase access to certain benefits, but it does not automatically restore full formal employment protections. Second, regimes that enshrine contractor status (e.g., California's Prop 22) sustain flexibility but risk institutionalizing precariousness. Third, adaptive social protection (e.g., Korea's insurance extensions; portable benefits pilots) provides a concrete policy route to reduce vulnerability even when employment classification remains non-standard. These patterns offer operational lessons for Indonesia: to prevent the informalization of formally counted work, policies must combine legal frameworks, enforceable platform accountability, and redesigned social-protection instruments that are portable and decoupled from single-employer models.

Table 4. Mechanisms of Informalization of Formal Work-Comparative examples and policy responses

Mechanism of informalization	Country/Example	Observed effect on workers	Noted policy response/implication
Worker misclassification (contractor status)	California (Prop 22)	Preserves platform flexibility; limits employee protections	Creates a legally sanctioned partial-protection model, raising concerns about enforcement and equity.
Administrative recognition without reclassification	India (Social Security Code; e-Shram)	Improves access to targeted benefits but not employment rights	Requires strong implementation and financing to reduce precarity. (Shekhawat 2025)
Algorithmic management & erosion of bargaining	Brazil (platform practices; Fairwork findings)	Weakens negotiation power; reduces transparency	Calls for algorithmic transparency and collective representation. (Fairwork 2023)
Subcontracting/fissured workplace	Various (global studies)	Diffuses employer responsibility; increases enforcement complexity	Necessitates multi-stakeholder enforcement and more explicit liability rules.
Portable benefits & insurance extensions	Republic of Korea (pilots; insurance extension)	Reduces income/health vulnerability for non-standard workers	Demonstrates the feasibility of decoupling protection from single-employer status. (Chong and Kyounghee 2024)

Source: Authors' compilation (2022–2025) based on policy documents, ILO briefs, and independent platform assessments. (Chong and Kyounghee 2024)

In short, the international evidence suggests that the informalization of formal work under digitalization is not an inevitable by-product of technology; somewhat, it is heavily shaped by policy choices regarding classification, the design of social protection, platform accountability, and enforcement. For Indonesia, this implies that preventing the erosion of formal employment standards will require simultaneous reform in labour classification rules, legally enforceable platform obligations, portable social protections, and stronger mechanisms for worker representation and collective voice.

3.3. Financial Inclusion and MSME Formalization

Insights from Bank Indonesia (Rosita Dewi, 2025) demonstrate ongoing efforts to formalize informal enterprises through corporatization and value-chain integration. The central bank's approach leverages financial inclusion and digital payment systems to embed micro and small enterprises within formal financial structures. Table 3 presents an illustration of MSME participation in formal credit and digital finance access.

Table 5. MSME Participation in Formal Financial Systems (2020–2024)

Year	MSMEs with Bank Accounts (%)	MSMEs with Digital Payment Access (%)	MSMEs with Formal Credit (%)
2020	51.2	32.5	18.4
2022	58.9	46.7	22.6
2024	64.1	57.3	28.9

Source: Bank Indonesia (2025), processed.

The data indicate a positive trend toward financial inclusion; however, the conversion of informal MSMEs into formal enterprises remains slow, constrained by limited digital literacy and unequal access to credit across regions. As OECD (2023) notes, digitalization enhances productivity only when accompanied by institutional capacity-building and skill development. Therefore, while BI's strategy promotes formalization through inclusion, its impact on labour quality and wage stability remains partial. Digital financial inclusion has become a central policy instrument to encourage MSME formalization: electronic payments, digital account ownership, and fintech-based credit scoring can reduce transaction costs, enhance the traceability of sales, and expand access to formal credit. However, cross-country experience shows these tools produce institutionalized formalization only when digital services are combined with regulatory support, capacity building, and linkages to credit and social programmes.

Indonesia has accelerated the digitalization of MSMEs through the adoption of QRIS, SI-APIK (Sistem Aplikasi Pencatatan Informasi Keuangan), digital literacy initiatives, and "go-digital" initiatives led by Bank Indonesia and related ministries, as well as through collaboration with state banks to expand digital credit and market access. These measures have increased formal financial touchpoints for many MSMEs; however, they face constraints related to infrastructure, regional inequality, and heterogeneous digital skills that limit their complete formalization. India's experience illustrates a mixed but instructive pathway: the Udyam registration (MSME registry) and targeted schemes, such as PM-SVANidhi for street vendors, combine digital registration with micro-credit and the promotion of digital payments. The national approach emphasizes establishing an administrative footprint (registries, mobile applications) to enable subsidized credit and welfare delivery. When effectively implemented, these tools can convert informal micro-actors into registered micro-enterprises, thereby increasing their access to finance. Kenya's mobile-money revolution (M-Pesa) demonstrates how low-cost, ubiquitous mobile payments can rapidly expand financial inclusion and formally link small businesses to the financial system. M-Pesa's agent network and mobile wallets significantly increased transaction formalization, creating transaction histories that later supported credit scoring and small-business finance. However, success required coordinated regulatory oversight and strong agent networks (Njuguna S. Ndung'u 2021). On the other hand, Brazil's **Pix** instant-payment system, publicly operated by the central bank—has also dramatically scaled up digital payments, lowering costs for MSMEs and increasing electronic receipts that can be used as transaction evidence for formalization or financing. On the other hand, the Philippines has pursued a national Digital Payments Transformation Roadmap (PESONet, InstaPay, and expanded e-money services) to expand retail e-payments and thereby broaden MSME access to formal financial rails; the Bangko Sentral ng Pilipinas pairs infrastructure with outreach to firms to increase adoption. This approach illustrates the combined importance of rails + outreach. (Bangko Sentral ng Pilipinas 2023). While South Korea and OECD guidance highlight that digital financial services must be paired with SME support (training, subsidized tech adoption, access to market platforms) to produce durable formalization and productivity gains, Korea's government programmes actively finance SME digital upgrading and provide coordinated support to connect firms to credit and export markets. (Bianchini and Kwon 2021).

3.4. Social Protection and Labour Vulnerability

Palmira(Jafar et al. 2024) Provides critical evidence on the vulnerability of informal and gig workers, emphasizing that most digital labourers are excluded from formal social security mechanisms. This aligns with the ILO's (2022) finding that nearly 80% of gig workers globally lack access to health insurance or pension schemes. In Indonesia, selective barriers, such as those based on education, age, or digital competence, further exacerbate exclusion. This study's comparative synthesis shows that the absence of adaptive social protection frameworks limits the inclusivity of digital work. Countries such as South Korea and Germany have developed portable benefit systems, allowing gig workers to maintain social protection regardless of their employment type (Bianchini and Kwon 2021) Indonesia, however, continues to rely on static, employer-based models that fail to capture non-standard forms of labour. Consequently, the gig economy expands *horizontal inclusion* (by increasing the number of people employed) but constrains vertical inclusion (with respect to social mobility and protection).

The rapid expansion of platform and non-standard employment has exposed millions of workers to significant economic risks, including volatile income, inadequate occupational safety coverage, and the absence of retirement and health insurance. Countries that have managed to mitigate this new vulnerability generally combine several policy instruments: (a) extending conventional social-insurance schemes to cover new employment forms; (b) designing portable benefit systems that "follow" the worker across multiple jobs or platforms; (c) requiring platform-specific contributions or sectoral funds; and (d) using administrative registries and digital-payment infrastructures to target transfers or micro-insurance.

Comparative experiences demonstrate that, without structural adaptation, social protection systems amplify rather than correct the inequalities produced by digitalization (Bianchini and Kwon 2021; Chong and Kyounghee 2024). Within the European Union, the *Platform Work Directive* establishes minimum standards for algorithmic transparency, employment classification, and workers' fundamental rights, such as minimum pay and leave. The directive shifts the burden of proof to platforms when they claim contractor status, thereby promoting accountability while preserving business flexibility. This model illustrates that reducing labour vulnerability requires clear legal duties for platforms, not merely expanded insurance architecture (European Commission 2023). South Korea has extended employment-injury and unemployment-insurance coverage to selected categories of platform workers while piloting portable benefit accounts. These measures demonstrate that adapting employer-based schemes to worker-based participation can close protection gaps. However, enrolment remains modest, indicating that regulatory change must be accompanied by outreach and administrative simplification (MOEL 2024).

India's *Code on Social Security (2020)* and the *e-Shram* portal provide an alternative pathway. By registering informal and platform workers in a national database, India has created an "administrative anchor" for targeted cash transfers, training, and subsidies. Yet, the scheme also exposes implementation limits: coverage and financing remain incomplete, and the linkage to contributory social insurance remains weak (Ministry of Labour, 2023). Brazil and several Latin American countries have proposed or enacted minimum-standard legislation for app-based workers, defining minimum pay per active hour and mandatory pension contributions. Implementation, however, is fragmented across federal and municipal levels, underlining the need for enforcement capacity in addition to legal obligations (World Bank 2024). In China, major delivery and logistics platforms, such as Meituan and JD.com, have begun offering corporate insurance packages or contributions for their couriers, driven by public and regulatory pressure. Although these voluntary schemes reduce short-term exposure, their effectiveness varies with transparency and the scope of benefits (ILO Asia-Pacific, 2023).

For highly informal contexts, non-conventional instruments also play a significant role. Kenya's *M-Pesa* mobile-money ecosystem enables access to micro-insurance and rapid digital transfers, improving financial resilience among micro-entrepreneurs—illustrating how digital payment infrastructure can underpin social protection outreach. Similarly, during the pandemic, Chile and other Latin-American countries deployed emergency cash transfers (*Ingreso Familiar de Emergencia*, IFE) to informal households, proving that robust administrative data can facilitate swift crisis responses (Bianchini and Kwon 2021). Overall, OECD and ILO reviews converge on three design priorities for modern social protection: (1) broadening coverage beyond standard employment; (2) integrating digital identification and data interoperability; and (3) linking benefits to contributions in flexible yet enforceable ways (Bianchini and Kwon 2021; Chong and Kyounghee 2024)

Table 6. Comparative Summary — Social-Protection Instruments for Platform and Informal Workers

Instrument / Approach	Country / Example	Main Features	Practical Effect on Worker Vulnerability
Extension of standard social insurance	South Korea	Legal inclusion of platform categories in national employment-injury and unemployment insurance; pilots for portability	Narrowing protection gaps reduces exposure to income shocks and work accidents.
Portable benefits / individual worker accounts	United States (pilot schemes), Korea pilots, private initiatives (DoorDash Fund)	Pro-rata contributions, personal accounts transferable across employers	Provides partial but continuous coverage; practical where complete employee reclassification is contested.
National registry + targeted benefits and training	India (e-Shram; Code on Social Security)	National worker database; channel for cash, training, and subsidies	Enables rapid targeting; success depends on financing and service linkage.
Mandatory platform contributions / sectoral funds	Brazil (proposed Decent Work Bill); EU debates	Obligatory employer contributions; minimum pay & benefit floors	Creates dedicated funding for benefits but requires effective enforcement.
Platform-led voluntary insurance schemes	China (Meituan, JD) and some U.S. platforms	Company-sponsored accident or health insurance	Reduces short-term vulnerability; however, it is inconsistent and firm-dependent.
Micro-insurance via digital payments	Kenya (M-Pesa ecosystem)	Mobile wallets delivering micro-insurance & transfers	Increases the resilience of micro-workers; scalable through agent networks.
Emergency and universal cash transfers	Chile (IFE) and Latin America pandemic programs	Temporary direct transfers to informal workers	Crucial for crisis resilience; not a long-term substitute for structural social protection.

Source: Authors' synthesis from ILO, OECD, World Bank, and national policy documents (2020–2025).

Implications for Indonesia

Comparative evidence suggests that Indonesia needs a hybrid approach to address labour vulnerability in its expanding digital economy. The immediate priorities are: (1) Pilot the extension of existing social-insurance schemes (such as employment-injury and health coverage) to selected platform workers; (2) Design a national portable benefit account that aggregates contributions across multiple employers and platforms a pragmatic bridge toward universal coverage; (3) Integrate platform registries or QRIS/SI-APIK data with social-security databases to enable targeted benefits and training programs; (4) Mandate baseline contributions from large digital platforms and ensure transparent reporting of worker coverage and benefit provisions.

These instruments align with OECD and ILO recommendations for modern, adaptive social protection, thereby enabling Indonesia to reduce labour vulnerability while laying the foundation for inclusive digital-era growth.

3.5. Policy Implications: Towards Inclusive Digital Labour Governance

Synthesizing the above findings, this study identifies three interdependent policy gaps. First, regulatory alignment between digital platforms and existing labour laws remains weak, resulting in enforcement gaps. The second gap is that institutional coordination between employment, financial, and social agencies is fragmented, reducing policy coherence. The last is worker representation and voice mechanisms, which are underdeveloped in the digital sector, limiting social dialogue. These gaps underscore the need for a multidimensional governance framework that integrates labour protection, financial inclusion, and digital literacy. As shown in Figure 1, digital transformation reshapes the labour market through both productive and precarious pathways. Without deliberate intervention, informalization will outpace formalization, reinforcing inequality and undermining Indonesia's long-term development goals.

The comparative evidence presented earlier suggests a central policy insight: the outcomes of digital labour transformations depend far more on governance design than on the technology itself. Countries that have reduced vulnerability among platform workers combine (a) more explicit legal rules about employment status and platform accountability, (b) adaptive social-protection instruments (including portable benefits), and (c) active institutional coordination and social dialogue. Conversely, regimes that prioritize business flexibility without reconfiguring protection systems tend to institutionalize precariousness and sustain labour-market dualism. The remainder of this section sets out concrete policy instruments, international practice, and their implications for Indonesia's governance agenda (European Parliament 2024).

Second, policy experiments in East Asia (notably Korea) emphasize adaptive social insurance and the implementation of portable-benefit pilot schemes. These approaches decouple social protection from single-employer relationships, enabling workers to accumulate entitlements across multiple platforms and jobs. Portable schemes and insurance extensions mitigate the vulnerability to shocks among non-standard workers, even when formal reclassification is politically challenging. In Indonesia, introducing interoperable contribution accounts or a national portability mechanism could be a pragmatic approach to protect gig workers while enabling business model innovation. Third, India's combination of legal recognition (the Code on Social Security) and a large national registration platform (e-Shram) illustrates a data-anchored pathway: administrative registries can enable targeted benefits, training opportunities, and microcredit linkages at scale. However, registries alone do not guarantee full employment protections; implementation, financing, and active linkage to services are decisive. Indonesia could replicate the idea of an administrative "anchor" (a national platform worker registry), but it must pair it with funded benefits and effective enforcement mechanisms (Dhanya 2024).

Fourth, the California/US experience (Proposition 22 and subsequent legal decisions) illustrates the trade-offs of regulatory accommodation of platform models: statutory exemptions or bespoke benefit packages can preserve platform flexibility and worker participation but often leave workers outside mainstream social insurance and collective bargaining. Indonesia should guard against policy choices that preserve market access at the cost of permanent gaps in social protection. Where exemptions are politically considered, they should be accompanied by robust, portable protections and clear minimum standards.

Finally, effective digital labour governance requires institutional coherence: labour ministries, social-security authorities, financial regulators, and competition/digital-economy agencies must share data, align incentives (e.g., tax/treatment of platforms), and implement joint monitoring. The EU and several OECD countries are piloting interoperable data frameworks and social dialogue platforms that include platforms, worker organizations, and regulators, practices that Indonesia could adapt to strengthen compliance and voice mechanisms (European Parliament 2024). Table 5 is a concise comparative summary of policy instruments and their practical implications, which can guide Indonesia's policy mix for inclusive digital labour governance.

Table 7. Comparative policy instruments for inclusive digital labour governance

Policy instrument	Countries/examples	Practical design elements	Likely effect (policy implication)
Employment-classification rules & platform liability	EU Platform Work Directive (EU); Spain rider laws	Burden of proof on platforms; criteria for employee status; platform accountability for working conditions	Reduces misclassification; increases employer responsibility; supports formalization when enforced. (European Parliament 2024)
Algorithmic-management safeguards	EU directive; national algorithmic transparency rules	Right to explanation; human oversight of automated decisions; data access for worker redress	Restores worker contestability, reduces opaque control, and strengthens bargaining position.
Portable benefits & insurance extensions	Korea pilots; OECD pilots; portable-benefit proposals (US/EU debate)	Worker accounts; pro-rata contributions; multi-employer insurance pools; portability across platforms	Lowers the protection gap for non-standard workers; a feasible interim solution where reclassification is contested (Gross et al. 2022)
Administrative registries & targeted transfers	India (e-Shram, Social Security Code)	National registry, UID linkage, targeted benefit delivery, training, and credit offers.	Enables scale delivery of benefits and upskilling, but requires financing and active linkage to services. (Dhanya 2024)

Policy instrument	Countries/examples	Practical design elements	Likely effect (policy implication)
Company-mandated partial benefit models	California Prop 22	Minimum earnings guarantees, expense reimbursements, and company-administered stipends	Preserves market flexibility but risks long-term exclusion from mainstream social insurance. Use with caution.
Institutional coordination & social dialogue platforms	EU, Germany, some OECD pilots	Joint data sharing, tripartite councils, platform obligations for data & bargaining access	Improves enforcement, monitoring, and worker voice; essential for integrated policy responses. (European Parliament 2024)

Source: authors' synthesis based on EU Platform Work Directive materials, country policy briefs, and international reviews (2020–2025).

Practical roadmap for Indonesia (operational priorities)

1. Adopt clear, testable legal criteria to determine employment status for platform work and require platform disclosure of algorithmic rules for job allocation and deactivation (European Parliament 2024).
2. Pilot a portable-benefits account (nationally managed or via regulated private providers) that aggregates pro-rata contributions and provides core coverage (injury, health top-ups, retirement credits). Utilize pilots to refine contribution modalities and governance structures.
3. Build a national platform-worker registry (linked to existing IDs) that enables targeted training, micro-credit offers, and claims on social transfers, paired with credible financing and enforcement plans, not just paper registration. (India's e-Shram offers operational lessons.)(Dhanya 2024)
4. Strengthen multi-agency coordination (Ministry of Manpower, social security agency, central bank/financial regulator, competition/digital economy authorities) and institutionalize social dialogue that includes platform firms and worker representatives to monitor implementation and adapt rules (European Parliament 2024).

In short, international practice suggests a blended strategy for Indonesia: combine legally enforceable protections and platform accountability (to prevent regulatory arbitrage), portable social protections (to reduce immediate vulnerability), administrative anchors (to scale service delivery), and strong institutional coordination (to monitor and adapt). When implemented together, these instruments can convert Indonesia's digital labour expansion into a pathway for inclusive formalization rather than an accelerator of digital inequality.

3.6. Comparative Reflection and Theoretical Contribution

Compared with prior studies, the present findings reaffirm the dual-edged nature of the gig economy identified by Cayli Messina. (2024). However, this study extends the discussion by situating Indonesia within a comparative institutional context, showing that outcomes depend less on technology per se than on governance capacity. By linking macroeconomic trends (from World Bank and BI data) with micro-level labour realities (as observed by SMERU and UGM), the paper contributes to a more integrated understanding of digital inequality as an institutional, not merely economic, problem.

In summary, the results indicate that Indonesia's gig economy simultaneously expands labour absorption and deepens inequality. Technological progress has yet to translate into social progress. Without inclusive governance, which combines regulatory reform, portable protection, and coordinated financial inclusion, the promise of digital work risks perpetuating the very inequalities it aims to solve.

4. Conclusion and Recommendations

This study concludes that Indonesia's gig economy represents both an opportunity for labour absorption and a warning of deepening digital inequality. The expansion of platform-based work has not automatically translated into structural transformation or social mobility. Instead, it exposes the persistent fragility of Indonesia's labour institutions—where digital innovation outpaces governance capacity, and flexibility increasingly substitutes for security. The most significant contribution of this research lies in reframing the gig economy not merely as a technological or economic phenomenon but as a systemic institutional challenge that determines how inclusively a country grows. The analysis reveals that the key to leveraging digital labour for equitable growth lies in institutional design. A digitally mediated labour market requires governance models capable of bridging formal and informal sectors, ensuring that flexibility coexists with protection. Thus, policy should shift from regulating employment types toward safeguarding employment conditions. This involves recognizing gig workers as legitimate economic actors entitled to social protection, fair remuneration, and collective representation, regardless of contractual form.

From a policy perspective, three recommendations emerge. First, Indonesia must establish a national framework for digital labour governance that integrates labour law, taxation, and social protection. This can include the introduction of portable benefit accounts and multi-employer social insurance schemes that allow workers to retain protection across platforms. Second, the government should strengthen institutional coordination between the Ministry of Manpower, Bank Indonesia, and digital economy agencies to harmonize data systems and policy objectives. Such integration would enhance the monitoring of gig work and facilitate inclusive access to credit, training, and insurance. Third, capacity-building initiatives are essential, focusing on digital literacy, financial inclusion, and worker organization, to enable individuals to navigate digital markets with greater resilience and bargaining power.

The findings also underscore the importance of rethinking Indonesia's development model within the broader discourse of global digital capitalism. Achieving inclusive growth in the era of algorithmic labour requires not only innovation-friendly regulation but also redistributive mechanisms that counterbalance market concentration and technological rent-seeking. The gig economy's promise of empowerment will remain hollow if labour precarity continues to underpin it. Policies that blend innovation incentives with social safeguards, such as progressive taxation on digital platforms, public investment in social protection, and institutionalized dialogue between workers and platforms, can ensure that digitalization serves social advancement rather than exclusion. For future research, this study opens avenues to explore micro-level dynamics within platform ecosystems, including gender disparities, algorithmic bias, and the socio-cultural reshaping of work identity. Longitudinal studies that integrate labour economics with digital sociology could deepen our understanding of how gig work evolves and how policy interventions alter its trajectory. Ultimately, Indonesia's labour future will depend not on the scale of its digital economy but on the inclusivity of its digital transition. The challenge is to transform flexibility into opportunity and innovation into equity. The gig economy can contribute to national progress only when it is governed by principles that value human security as much as technological efficiency.

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