

Adaptation Of Informal Workers To Digital Transformation: A Qualitative Perspective In The Context Of The Platform Economy

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Abstract:

This research aims to deeply explore the adaptation strategies employed by digital informal workers in facing platform-based economic transformation. Using a qualitative approach with a phenomenological method and a constructivist paradigm, this research explores the subjective meanings of workers regarding changes in work roles, algorithmic power relations, and forms of digital resilience. Data were collected through in-depth interviews, limited participatory observation, and digital documentation, and analysed using the Interpretative Phenomenological Analysis (IPA) approach. The research results indicate that the adaptation of informal workers is intersectional and contextual, encompassing technological, social, symbolic, and emotional dimensions. The adaptation is not an autonomous choice, but rather a response to structural pressures within a flexible yet vulnerable work system. Moreover, digital communities have become important spaces for collective agency and resistance against opaque platform policies. This study offers a conceptual model of bottom-up digital agency, emphasising the active role of workers in shaping the meaning and identity of work amidst structural vulnerabilities. These findings have implications for more equitable and participatory digital labour policies, emphasising the importance of social protection, critical digital literacy, and the strengthening of informal worker communities.

Keywords: Digital Transformation, Informal Workers, The Platform Economy.

1. Introduction

The massive digital transformation in the last decade has changed the structure of the global labour market, including in Indonesia. The adoption of platform-based technologies such as ride-hailing, e-commerce, and freelance marketplaces has created a new work system that is dynamic but not always stable. According to the Central Statistics Agency (BPS), as of 2023, more than 59.3% of the Indonesian workforce works in the informal sector, where most are starting to digitalise through digital platforms such as Gojek, Grab, Tokopedia, and Shopee. However, this digitalisation does not always create inclusive economic opportunities. On the contrary, many informal workers face challenges in accessing technology, understanding platform algorithms, and building their socio-economic resilience (Powatu, 2024); (Cahyaningtyas et al., 2023). Various experts state that digital transformation has given rise to a platform economy that demands new adaptations from the workforce. (Lima, 2017) states that the workforce in the digital era faces digital precarity, which is a condition of work without certainty and protection. Meanwhile, according to (Cano-Urbina, 2016), app-based jobs often place informal workers in exploitative and uncertain work relationships. In Indonesia, (Hisnul et al., 2022) noted that although the digital economy offers

flexibility, worker adaptation heavily depends on uneven support for digital capacity and technology literacy.

Although the platform economy offers new opportunities for the informal sector, the reality shows a significant adaptation gap. The key question in this research is: How do adaptation strategies employed by informal workers respond to the pressures and opportunities of digital transformation? Additionally, what are their subjective perceptions of changes in work roles, income uncertainty, and work relationships with digital platforms?

First, the research by (Andrian, 2025) revealed the adaptation strategies of informal workers to digital pressures, but it remains descriptive without delving into psychosocial aspects. Secondly, (Mawardi et al., n.d.) highlight the role of women in the adaptation of MSMEs to digitalisation, but have not yet focused on the platform-based work sector. Thirdly, (Holiseh & Izzatusholekha, 2023) examined local government policies on the digitalisation of MSMEs, but overlooked the informal workers' aspect. Fourth, (Ahmetya et al., 2023) raises the issue of digital workers' flexibility, but has not yet provided a deep conceptual framework for adaptation. Fifth, the study by (Roy et al., 2016) touches on technological disruption for informal workers, but does not use a deep qualitative approach. These five studies enrich the discussion, but still leave room for research on the dimensions of adaptation from the subjective and contextual perspectives of the direct actors.

Unlike previous research that tends to be descriptive or focusses on macro policies, this study offers novelty through a phenomenological-qualitative approach that deeply explores the subjective experiences of digital informal workers such as ride-hailing drivers, instant couriers, and independent sellers in responding to platform economic transformations. The methodological novelty lies in uncovering dimensions of adaptation not covered in quantitative surveys, namely narratives of resilience, power relations with platforms, and the formation of work identities in the context of work unprotected by legal formalities. From a theoretical perspective, this research expands the discourse on microeconomic adaptation by proposing a new conceptual framework: technology-based resilience and bottom-up digital agency, which explains how individuals in the informal sector develop survival strategies amid a flexible yet vulnerable algorithmic work system. Thus, this study enriches the literature on digital economy and informal employment, particularly in developing countries.

The aim of this research is to deeply explore how informal workers form adaptation strategies in facing the challenges of digitalisation and how they interpret changes in work within the platform system. This research contributes on two levels: first, at the theoretical level by enriching the literature on informal work adaptation in the context of the digital economy of developing countries; second, at the

practical level by providing input for policymakers and platform providers to create a more inclusive and sustainable digital work system.

2. Research Methods

This research uses a qualitative approach with a phenomenological method because it aims to explore the subjective experiences and meanings constructed by informal workers in facing digital transformation through economic platforms. The phenomenological approach allows for an in-depth exploration of experiences that are personal and contextual, especially in understanding the dimensions of work resilience, flexibility, and power relations in an algorithm-based work ecosystem. The paradigm underlying this research is constructivist, which views social reality as the result of intersubjective construction. Therefore, the reality of "adaptation" is understood not as a universal truth, but as a unique and meaningful experience within a specific social context (Aveling et al., 2015).

This research is designed as a qualitative field study with a focus on the narrative reconstruction of the adaptation experiences of digital informal workers. The subjects of the research include platform-based informal sector workers, such as online motorcycle taxi drivers, instant couriers, independent online sellers, and freelancers. The research locations are focused on cities with high levels of digitalisation such as Jakarta, Surabaya, and Yogyakarta. Informants were selected through purposive sampling techniques based on the criteria of having at least one year of work experience and dependence on digital platforms. To expand the data coverage, snowball sampling techniques were also used by leveraging the social networks of these workers.

Data collection was conducted through semi-structured in-depth interviews to open up exploratory space for the informants' personal narratives. The researcher also involved limited participatory observation to understand the work context and social dynamics in the field. Digital documentation such as application screenshots, platform regulations, and social media interactions were also used as data triangulation materials. Data analysis refers to the Interpretative Phenomenological Analysis (IPA) model, including verbatim transcription, coding process, and construction of meaning themes. To ensure data validity, source triangulation, member checks, and audit trails are used, as well as critical researcher reflection to avoid interpretative bias (Almalki, 2016).

3. Results and Discussion

3.1 The Social-Digital Landscape of Informal Workers: Between Technological Capital and Structural Gaps

The majority of respondents come from the platform-based informal sector, such as online motorcycle taxi drivers, instant couriers, and online traders. Although their formal educational backgrounds vary, digital skills are more determined by the intensity of application usage rather than academic capabilities. This emphasises that the digital divide is multidimensional not only

related to access to technology but also to social and cognitive capital (van Deursen & van Dijk, 2015).

Younger workers, with early exposure to technology, demonstrate adaptive abilities to the complexities of digital systems. On the other hand, more senior workers often can only access basic functions, indicating that digitalisation in the context of informal work is not a neutral process. The socio-economic structure influences the ability and type of adaptation to digital transformation (Onyima & Ojiagu, 2017).

3.2 Economic Coercion and Early Adaptation: Digitalisation as a Survival Strategy

The initial motivation for workers to join the digital ecosystem was more driven by economic pressure than by the desire for flexibility. The pandemic, rising living costs, and the shrinking access to formal employment have been the main triggers. For them, digital platforms offer quick access to income, albeit with flexible and unstable working conditions.

This phenomenon aligns with the concept of forced precarity where flexibility is not a choice, but rather a compulsion due to the absence of more stable work alternatives (Casas-Cortés, 2014). In the context of Indonesia, digitalisation tends to be a survival-oriented means rather than an entrepreneurship-oriented one (Jurriens & Tapsell, 2017), contrasting with the dominant narrative in Western literature that glorifies the gig economy as a free choice.

3.3 Forced Resilience: Navigating Uncertainty and Algorithmic Logic

Digital informal workers face various structural challenges such as income uncertainty, time pressure from app notifications, and asymmetric relationships with consumers. In such conditions, the resilience shown reflects forced adaptation rather than autonomous capability.

The concept of flexploitation describes this reality: the flexibility offered by platforms often conceals systemic exploitation practices (Coyle, 2017). Adaptation becomes a kind of compromise against an impartial economic order, as emphasised in the study by (Muduev et al., 2021), where workers have no bargaining power over algorithmic work terms that change unilaterally.

3.4 Hidden Power in the System: Algorithmic Bias and Lack of Transparency

Workers' main complaints include an unfair rating system, automatic penalties, and an opaque order distribution. Although platforms like Gojek and Grab operate with similar logic, differences in work algorithms create new uncertainties.

This condition creates what is called digital precarity where dependence on digital systems narrows the space for negotiation (Kamanga & Matthews, 2020). Algorithms become central actors that determine work relations, while workers lose the agency to define or even understand the logic of platform work.

3.5 Digital Communities: A Space for Negotiation Amid Structural Fragmentation

Amid the individualisation of the digital work system, online communities based on applications like WhatsApp and Telegram have emerged. These communities serve as spaces for sharing strategies, solidarity, and collective protection against the platform's unilateral policies.

This phenomenon highlights the importance of social embeddedness in the digital work ecosystem (Maich et al., 2021). Communities not only serve as channels of communication but also as forms of structural resistance against the neoliberal individualistic logic (Pitt & Diaconescu, 2015). This collective solidarity forms an alternative resilience network that is not provided by the state or platforms.

3.6 Ambiguous Work Identity: Partner, Freelancer, or Labourer?

Most workers define themselves as "partners," "freelancers," or "entrepreneurs," yet in reality, they have no control over their working hours or rates. This shows a dissonance between the narrative of identity and the reality of work.

(De Stefano, 2020) proposed the concept of gig illusion, where the rhetoric of entrepreneurship serves to obscure exploitative work relationships. The identity that is formed is an ideological construct that smooths over subordinate relations, not a representation of true independence.

3.7 Towards Theoretical Synthesis: Adaptation as an Intersectional Process

The findings show that the adaptation of informal workers in the digital ecosystem cannot be viewed linearly or singularly. Adaptation occurs within an intersectional spectrum, encompassing social, technological, symbolic, and emotional dimensions.

The proposed multidimensional adaptation model shows that workers are not merely objects of digitalisation, but also active subjects who create the meaning of work and spaces of resistance (Davison & Ou, 2017). This offers an antithesis to the normative adaptation approach that overly emphasises efficiency and technological rationality.

3.8 Policy Reflection: The Urgency of Digital Justice and Social Protection

Findings point to an urgent need for evidence-based regulation, including job protection that guarantees universal social security and digital literacy. Policy approaches should place the concrete experiences of workers as the foundation, not merely market logic or technological efficiency.

This recommendation aligns with (Berg, 2016) view, which emphasises the importance of fair and participatory labour regulations in addressing the challenges of the digital economy. Social protection must be designed not only to accommodate work flexibility but also to balance the unequal power relations within the digital structure.

4. Conclusion

This research shows that the adaptation process of informal workers to digital transformation within the platform economy ecosystem is neither linear nor homogeneous, but rather complex, multidimensional, and highly contextual. The

adaptation that occurs not only encompasses technological dimensions but also social, emotional, and symbolic ones, all of which are influenced by socio-economic structures, power relations with algorithmic systems, and the dominant narrative about digital entrepreneurship.

Although digital platforms provide relatively quick and flexible access to work, informal workers often find themselves in subordinate positions vulnerable to covert exploitation through algorithmic mechanisms, unilateral sanctions, and income uncertainty. In this context, the resilience of workers is not the result of systemic protection, but rather a form of survival strategy that is both individual and collective.

The conceptual model of "digital agency from below" offered by this research emphasises that informal workers are not just victims of the digital system, but also active actors who create meaning, resistance, and new work identities amidst the structural vulnerabilities they experience.

Based on these findings, responsive and fair policies are needed to address the dynamics of digital work in the informal sector. Social protections such as health insurance and compensation for algorithmic job termination must be accommodated inclusively. Digital literacy needs to be expanded to critical aspects, so that workers can understand and navigate algorithmic systems. Regulations must ensure platform transparency in work distribution and performance sanctions. The term "partner" must be legally reviewed to avoid obscuring labour rights. The digital worker community must be supported as a form of collective agency. The government needs to facilitate training and infrastructure for these communities. The narrative of workers must be the foundation of policy through a participatory approach. Digital justice is not sufficiently guaranteed by technology, but must be built from the workers' own experiences.

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