

Navigating Precarity: Health and Safety Challenges in Southeast Asia's Gig Economy Food Delivery Sector

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This article examines the health and safety challenges of food delivery couriers in Southeast Asia within the gig economy, focusing on the roles of third-party platforms, like GrabFood, Foodpanda, and GoFood. It critically assesses how these platforms navigate courier safety amidst algorithmic management and precarious employment, employing a framework to evaluate corporate commitment, operational practices, and worker support. The study scrutinizes public corporate reports to reveal the gap between companies' safety claims and actual practices, advocating for more genuinely worker-centric safety measures. By highlighting discrepancies in the operationalization of health and safety standards, the research contributes to discussions on gig economy labor conditions, emphasizing the need for platforms to prioritize worker welfare alongside operational efficiency. This work calls for a shift towards sustainable models that do not compromise courier health and safety, filling a gap in the literature on the real-world impacts of algorithmic management and precarious work.

Keywords: Algorithmic Management; Corporate Accountability; Courier Safety; Gig Economy; Food Delivery



INTRODUCTION

The advent of the digital economy has heralded significant transformations across the globe, with Southeast Asia emerging as an important arena for these changes, particularly within the gig economy's food delivery sector (Tech Collective, 2019). This region's food delivery market has experienced remarkable growth, propelled by advancements in technology and evolving consumer behaviors (Lau & Ng, 2019; Momentum Works, 2024). The proliferation of major third-party food delivery platforms such as GrabFood, Foodpanda, and GoFood has been instrumental in this evolution, resonating with an increasing consumer shift towards online ordering. This trend has been notably accelerated by the COVID-19 pandemic's influence on dining preferences towards home delivery and takeout options (Poon & Tung, 2024).

However, alongside these developments, the rapid expansion of food delivery via app ordering has unearthed a range of challenges concerning the gig economy's impact on employment dynamics, particularly regarding working conditions (He et al., 2023; Perkiö et al., 2023). The integration of working conditions with algorithmic management systems within the food delivery industry underscores a critical facet of the app ecosystem, where platforms utilize algorithms to manage and allocate tasks to couriers (Lata et al., 2023). While these systems offer potential benefits in terms of efficiency and cost reduction, they also pose significant challenges to worker autonomy, safety, and satisfaction (Jarrahi et al., 2020; Shapiro, 2018; Wood et al., 2019).

Against this backdrop, this Research Workshop focuses on examining the primary health and safety challenges faced by food delivery couriers in Southeast Asia, with the aim of unveiling how platform companies are addressing these challenges. It draws upon key works in the field, such as those by Perkiö et al. (2023), which scrutinize workers' psychosocial and physical well-being in technologically mediated employment. It is rooted in the broader academic discourse on gig economy employment dynamics (Veen et al., 2019), algorithmic management (Wood et al., 2019), and their ramifications on worker health and safety. By focusing on this inquiry, this study contributes to addressing a gap in the existing literature, which has extensively discussed the impact of algorithmic management on worker autonomy, accountability, and satisfaction, but has paid insufficient attention to the specific health and safety implications for workers in the gig economy. Specifically, this research asks: How are the health and safety risks facing food delivery couriers in Southeast Asia being addressed by major platforms within the context of the gig economy?

The significance of examining these issues within the Southeast Asian context is underscored by the region's unique socio-economic landscape and its rapid adoption of digital platforms. The e-Conomy SEA 2023 report by Google, Temasek, and Bain & Company (2023) highlights the significant growth of the digital economy in Southeast Asia as a major socio-economic driver for the region.¹ Furthermore, while gig work varies globally, it can include highly skilled freelancers, including web developers, designers, and copywriters, with relatively high pay, greater freedom, flexibility, and control over their workload. In Southeast Asia, gig work tends to be more labor-intensive, with a significant portion stemming from on-demand ride-sharing or food delivery services (Tech Collective, 2019).

LITERATURE REVIEW

Health and Safety Challenges of Food Delivery Couriers in the Gig Economy

Food delivery couriers in Southeast Asia navigate a complex landscape marked by algorithmic management, precarious employment conditions, and various environmental hazards. The algorithmic management practices, which include task allocation, work pacing, and performance evaluation, often exacerbate the intensity

¹ Since 2016, Google and Temasek have spearheaded the e-Conomy SEA project, analyzing digital trends in six Southeast Asian countries (Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam). Bain & Company joined as a primary research partner in 2019, with their latest findings published in late 2023.

of work, leading to prolonged hours, reduced rest periods, and a heightened risk of accidents (Rani & Furrer, 2021; Shapiro, 2018; Wood et al., 2019). This system prioritizes efficiency and adherence to tight deadlines, placing immense physical and psychological stress on workers, manifesting in musculoskeletal disorders, chronic fatigue, anxiety, and burnout (Ahmad et al., 2023; Mbare, 2023; Wu et al., 2022).

The precarious nature of gig work further aggravates these health and safety issues. Job insecurity and the absence of traditional employment benefits limit couriers' willingness to report safety concerns or take necessary health-related breaks (Chan, 2021; Defosse, 2022; Gregory, 2021). This scenario is compounded by environmental hazards such as traffic congestion, extreme weather conditions, and the potential for theft or assault, which significantly increase the physical risks to couriers (Binghay et al., 2022; Christie & Ward, 2019; He et al., 2023; Ibrahim et al., 2018; Zong et al., 2024). Moreover, the gig economy's demand-driven nature imposes significant psychosocial stressors on workers. For instance, the constant surveillance and performance metrics contribute to psychological distress (Perkiö et al., 2023). Essentially, the health and safety challenges faced by food delivery couriers in the gig economy encompass the impacts of algorithmic management, the precariousness of gig employment, environmental hazards, and considerable physical and psychosocial stress.

Framework for Evaluating Corporate Health and Safety Initiatives

Consequently, this Research Workshop draws upon a targeted framework to evaluate how major food delivery platforms address these health and safety challenges. Within this framework, consideration is given to corporate commitment in terms of the extent to which platforms publicly commit to health and safety standards, including the specificity of their policies; operational practices by way of how corporate practices are responsive to the unique challenges of gig work; and worker support systems identified by the availability and accessibility of health-related resources and support for couriers, such as insurance.

The framework for evaluating corporate health and safety initiatives leverages a broad theoretical and empirical base encompassing occupational health and safety, gig economy employment dynamics, and the principles of corporate responsibility towards worker welfare. This framework is informed by studies on the implications of algorithmic management for worker autonomy and safety (Wood et al., 2019) and by research addressing health and safety challenges unique to gig economy workers (He et al., 2023; Shapiro, 2018). By synthesizing insights from these areas, this framework aims to provide a more complete view of how major food delivery platforms address – or do not address – the health and safety concerns of couriers in Southeast Asia. This approach acknowledges the complex interplay between corporate practices, gig work's inherent characteristics, and the overarching need for supportive worker policies and systems, ensuring a comprehensive evaluation of platforms' efforts towards safeguarding courier welfare.

Employing this analytical lens, grounded in the nuances of the gig economy and informed by works on occupational safety for food delivery workers (Perkiö et al., 2023), this Research Workshop aims to dissect and critically assess the health and safety measures articulated and operationalized by Southeast Asia's leading food

delivery platforms. The goal is to scrutinize the efficacy and authenticity of these measures, providing insights into how well these corporations are fulfilling their responsibility towards courier health and safety.

METHODOLOGY

This Research Workshop adopts an interpretive approach to scrutinize the explicit and implicit narratives surrounding courier welfare within Southeast Asia's food delivery sector through the critical analysis (Bowen, 2009) of publicly available corporate reports, sustainability disclosures, and other relevant documents from the three leading companies in the region: Grab, Delivery Hero (operating as Foodpanda in Southeast Asia), and GoTo.² These documents are crucial for understanding the companies' commitments and actual practices concerning health and safety, reflecting their corporate ethos and responsiveness to the health and safety challenges their couriers face. This method leverages a critical reading strategy to differentiate between mere rhetoric and tangible actions, drawing upon the principles of Critical Discourse Analysis (Fairclough, 2013).

This choice of sources, while instrumental in revealing the companies' prioritization of courier welfare, introduces certain limitations. Firstly, the reliance on corporate disclosures as primary data sources poses a potential bias toward portraying positive initiatives and outcomes, as companies are inclined to present themselves favorably. This inherent bias may lead to overrepresenting successful safety measures and underreporting failures or shortcomings in addressing courier health and safety risks. To mitigate this bias, this analysis employs a critical reading framework to identify and assess the depth and genuineness of the platforms' commitments to courier welfare beyond surface-level claims. This process involves examining the specificity of safety protocols.

However, another limitation of this methodology is the potential lack of access to internal company data and direct insights from courier experiences, which could offer a more detailed understanding of the health and safety conditions on the ground. While this study focuses on corporate disclosures to highlight significant health and safety issues, it recognizes the value of future research incorporating primary data from couriers, including qualitative interviews and surveys, to capture the lived experiences and challenges of gig work in the food delivery sector.

FINDINGS AND DISCUSSION

Transparency and Data Reporting

Before assessing the transparency of Southeast Asian platform companies vis-à-vis road safety for food delivery couriers, it is worthwhile to examine the current data

2 These platforms were selected due to their dominant positions in Southeast Asia's food delivery market. Grab holds a significant portion, approximately 50%, of the market across Southeast Asia. At the same time, Food Panda, under the umbrella of Germany's Delivery Hero, plays a crucial role across several Southeast Asian countries. GoTo, on the other hand, is the foremost service in Indonesia, underscoring the varied landscape of food delivery services across the region (Momentum Works, 2024).

availability. Beyond Southeast Asia, there is a widespread issue in identifying and addressing the unique hazards food delivery couriers encounter. The International Labour Organization (ILO) collates labor statistics across various sectors, yet a conspicuous data void persists regarding the safety of food delivery workers (ILO, 2024). The picture is no better if we look at individual nations known for generally extensive labor market data.

In Southeast Asia, official and publicly available data is similarly sparse. However, in Malaysia, the Transport Minister, responding to a question in the Dewan Negara (Malaysian Parliament), interestingly disclosed that between 2018 and May 2022, 112 food delivery riders were killed in road accidents, offering a rare insight into the occupational hazards faced by couriers in the region (Ibrahim et al., 2023; Zulkifli, 2023). Singapore also provides some insight, indicating, albeit through very low numbers, that a significant portion of vehicular-related fatalities involved delivery riders in 2021.³ A subsequent survey highlighted the high rate of accidents requiring medical intervention among this workforce (Ministry of Manpower, 2021a; Kok, 2022). However, these instances of data sharing are exceptions rather than the norm. Indeed, the general lack of detailed incident data not only complicates the identification and mitigation of risks but also highlights a broader concern regarding the precarious nature of gig work on the safety and welfare of couriers (Lee et al., 2015; Veen et al., 2019; Wood et al., 2019).

Corporate Transparency in Southeast Asia's Food Delivery Industry

Table 1 highlights the distinct strategies employed by Southeast Asia's foremost food delivery platforms – Delivery Hero, Grab, and GoTo – in addressing courier safety and welfare. Delivery Hero's approach, as detailed in its annual reports, offers a general overview of safety initiatives but stops short of providing specific information on courier incidents, such as fatalities and injuries. The company acknowledges the existence of a "rider safety team" dedicated to promoting courier health and safety (Delivery Hero, 2023, p. 59). Yet, it does not furnish concrete data allowing for a comprehensive assessment and improvement of courier safety. This lack of specificity creates a gap between the company's safety discourse and the detailed information necessary for effectively evaluating and enhancing courier welfare.

Grab⁴ claims that 99.99% of its rides and deliveries are completed without any safety incidents (Grab, 2023b, p. 9), a figure sourced from a narrow definition of incidents. According to Note 7 in Grab's ESG Report 2022, incidents are categorized as

3 "Of the six vehicular-related fatalities, four were work-related traffic accidents (WRTAs) involving delivery or dispatch riders. Of these, three were due to the negligence of other road users" (Ministry of Manpower, 2021a). However, this information is not available in the official report by the Singapore Ministry of Manpower (2021b), and there is no mention of delivery riders in the subsequent annual reports by the Ministry of Manpower (2022). Interestingly, in the same year, a Food and Courier Delivery Workgroup was formed "comprising tripartite partners including the WSH Council, the National Delivery Champions Association and companies such as GrabFood and Singpost" to tackle "the rising number" of work-related traffic accidents (WRTAs) (Ministry of Manpower, 2021a).

4 Grab and GoTo incorporate both e-hailing (car sharing) and p-hailing (delivery) services within their operational frameworks. Nonetheless, the safety data provided by these companies fail to offer a distinct breakdown between the experiences of drivers and riders.

	Delivery Hero (DH)	GoTo	Grab
Corporate Commitment	<p>Fair Pay Initiative – An undisclosed comparison of pay rates.</p> <p>Global Rider Safety Performance Dashboard – Delivery Hero claims to strive for transparency in rider safety through a dashboard, yet no data is publicly accessible.</p> <p>Fatal Accidents Questionnaire – Launched in 2022 to understand and mitigate fatal accidents in Delivery Hero’s operations, yet no findings have been shared.</p>	<p>Policy Strengthening and Direction – GoTo’s Annual Report (GoTo, 2023b) lacks explicit references to courier well-being, including health and safety aspects. However, their Sustainability Reports highlight efforts to improve safety policies, provide well-being training for drivers, and develop incident response infrastructure, primarily through the Driver Care Unit (DCU). It remains ambiguous if these initiatives encompass GoTo couriers.</p>	<p>Almost Incident-free – Grab asserts that 99.99% of rides and deliveries occur without safety incidents (Grab, 2023b, p. 9). However, this statistic is derived from a narrowly defined scope: Note 7 in Grab’s ESG Report 2022 states that incidents are “Defined as all reported and validated road safety incidents caused by driver-partners or passengers across our mobility and delivery businesses in 2022, including road accidents, harassments and crimes (Grab, 2023b, p. 73)</p>
Operational Practices	<p>Decentralized Safety Management – Delivery Hero delegates safety management to local offices to ensure compliance and adherence to local laws/regulations.</p> <p>Rider Safety Team – Headed by a Safety Principal, this team is said to aim for enhanced health and safety, focusing on understanding rider injuries and fatalities, though findings are not disclosed.</p> <p>Safety Training – scant details except passing references to localized training materials for riders tailored to local risks and regulations.</p>	<p>Training Programs – References to training on safe driving (riding?) and first aid are made sporadically.</p> <p>Health and Safety Initiatives – Risk assessments are conducted to identify hazards related to drivers’ work conditions, habits, and health.</p>	<p>Safety training and initiatives – Mandatory safety training is required for all new driver-partners, with claims of multiple initiatives to lower road accidents, though details are sparse.</p> <p>Comprehensive Safety Management Framework – Grab emphasizes its commitment to partner safety through unspecified safety features and protocols alongside a vague safety management framework to ensure secure journeys.</p>
Worker Support Systems	<p>Insurance Coverage – No mention of insurance coverage in their Annual Report (2023), but a basic insurance program with courier-paid premium top-ups is highlighted in their online magazine (Foodpanda Malaysia, 2023).</p>	<p>Insurance Coverage – Basic insurance with ‘subsidized’ premiums.</p>	<p>Insurance Coverage – Grab offers its partners free work-related accident insurance, though the coverage details are limited, with options for partners to enhance their insurance at an additional cost.</p>
Sources	Delivery Hero, 2023; Foodpanda Malaysia, 2023	GoTo, 2021; GoTo, 2022; GoTo, 2023a; GoTo, 2023b	Grab, 2023a; Grab, 2023b

Table 1. Health and safety strategies in Southeast Asian food delivery.

“reported and validated road safety incidents caused by driver-partners or passengers”, encompassing road accidents, harassment, and crimes (Grab, 2023b, p. 73). The specificity of Grab’s definition prompts scrutiny regarding the exhaustiveness of their safety reporting. This definition likely omits a range of incidents, including vehicle issues, environmental hazards, incidents caused by third parties, or poor road surfaces, leading to potentially underreported safety concerns. The lack of clarity around what constitutes an incident and how they are validated raises transparency issues, undermining trust in Grab’s safety claims and complicating the evaluation of its safety initiatives.

Conversely, GoTo provides some level of transparency regarding courier fatalities and injuries, although the data’s trajectory does not follow a clear pattern, ranging from 136 fatalities in 2019 to 51 in 2022. There is an unexplained but highly significant drop in reported injuries from 1,470 in 2019 to eight in 2022 (GoTo, 2021; GoTo, 2022; GoTo, 2023). However, the initial data collection on injuries was conducted through an “on-the-ground ambulance team in Indonesia,” focusing on “high-consequence cases” (GoTo, 2021, p. 29), which might have introduced biases and inaccuracies. More recent reports (GoTo, 2022; GoTo, 2023) show no methodological account for the numbers. Indeed, this lack of clarity concerning the methodology for the most recent figures underscores the necessity for improved and transparent data collection methods to fully capture the safety risks faced by couriers.

The varied reporting methodologies among these platforms underscore a prevalent issue in the gig economy: the struggle to reconcile corporate safety pledges with tangible operational actions. The prevalent use of algorithmic management for assigning tasks and evaluating performance often places a higher value on operational efficiency than on courier welfare, leading to a disparity between public safety commitments and the conditions couriers face. Furthermore, the inherently precarious employment conditions within the gig economy amplify couriers’ susceptibility to safety hazards, emphasizing the importance of developing more transparent and thorough reporting frameworks to advocate effectively for safer working environments (Veen et al., 2019; Wood et al., 2019).

Commitment, Operations, and Support

Reflecting on the concerns regarding algorithmic management and its implications for courier health and safety, Delivery Hero’s narrative around initiatives such as the Fair Pay Initiative and the Global Rider Safety Performance Dashboard indicates a corporate acknowledgment of these challenges. However, the absence of detailed, publicly accessible data limits the potential for transparent evaluation, echoing the theoretical critique of gig work’s opaque operational practices (Rani & Furrer, 2021; Shapiro, 2018). Similarly, while indicative of a structured approach to safety, Grab’s Comprehensive Safety Management Framework remains vague on the specifics of implementation, underscoring the theoretical perspective on the need for explicit corporate commitments to health and safety standards (Wood et al., 2019).

Despite its potential for localized responsiveness, the decentralized safety management of Delivery Hero may inadvertently reflect the precarious nature of gig employment, leading to inconsistencies in health and safety standards. Grab’s and

GoTo's safety training initiatives, while commendable, lack detailed outcome reporting, mirroring the theoretical insights into the physical and psychological stresses imposed by algorithmic management without sufficient transparency and accountability (Ahmad et al., 2023; Wu et al., 2022).

The current state of worker support systems across these platforms underscores a critical theoretical concern: the precarious nature of gig work exacerbates health and safety risks, with minimal baseline support placing additional burdens on couriers (Chan, 2021). Delivery Hero's insurance programs require courier-paid premium top-ups. At the same time, GoTo's and Grab's limited coverage, necessitating additional purchases by couriers, reflects this precariousness and the associated challenges in ensuring comprehensive support for couriers' well-being (Mbare, 2023).

While there are complexities, disparities between corporate commitments to courier health and safety and the realities of operational practices and worker support systems cannot be ignored. A more integrated approach that aligns courier-centered policies and procedures with theoretical insights into gig work's health and safety challenges is required, which necessitates greater transparency, consistency in safety standards, and more robust support systems to mitigate the risks faced by food delivery couriers. Such an approach addresses both the physical dangers and the psychosocial stressors characteristic of this mode of employment.

CONCLUDING REFLECTIONS AND FUTURE DIRECTIONS

This Research Workshop has examined the health and safety challenges confronting food delivery couriers in Southeast Asia within the context of the digital economy's rapid expansion and the gig economy's evolving dynamics. By focusing on the intersection of algorithmic management, precarious employment, and the tangible health and safety experiences of couriers, this study contributes to the existing body of literature on gig economy labor conditions (Binghay et al., 2022; Christie & Ward, 2019; He et al., 2023; Ibrahim et al., 2018; Zong et al., 2024), particularly highlighting areas previously underexplored or inadequately addressed; namely, the health and safety challenges posed by algorithmic management and the significant gap between stated corporate safety commitments and the practical implementation of safety measures. The corporate safety reporting practices and the operationalization of health and safety measures by major food delivery platforms - GrabFood, Foodpanda, and GoFood - reveal a complex landscape of stated commitments versus actual practices. These findings not only validate concerns raised within the gig economy discourse about the potential misalignments between platform efficiencies and worker welfare (Jarrahi et al., 2020; Shapiro, 2018; Wood et al., 2019), but also provide specific insights into how these discrepancies manifest in the context of Southeast Asia's food delivery sector. This study fills a gap in the literature by empirically grounding theoretical discussions on algorithmic management and precarious work in the real-world operational practices of food delivery platforms.

Moreover, by highlighting the inadequacies in current safety and accountability mechanisms, this work underscores the need for platforms to adopt more comprehensive and genuinely worker-centric approaches to health and safety. This is particularly relevant given the growing recognition of the gig economy's role in the future of work

and the need for sustainable models that prioritize worker welfare alongside operational efficiency.⁵ Future research directions should incorporate qualitative studies that explore couriers' lived experiences and perspectives, providing a deeper understanding of the nuances of gig work and its impact on individual well-being.

This Research Workshop provided insights into the health and safety challenges facing food delivery couriers in Southeast Asia, underpinned by the gig economy's operational dynamics. As digital platforms continue to grow and evolve, the well-being of gig workers must remain at the forefront of corporate, policy, and academic agendas. Achieving a sustainable and equitable gig economy requires concerted efforts to ensure that technological progress does not come at the expense of worker health and safety.



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5 While there are yet to be universally successful, sustainable models to reference in the gig economy, this sector is characterised by swift changes and a variety of regulatory landscapes. There are NGOs (Graham, 2020) and labor groups, as well as regulatory measures such as Spain's Rider's Law (Waeyaert et al., 2022) and the European Union's proposed new Platform Work Directive (European Trade Union Confederation, 2024) that are advancing a more worker-centric health and safety agenda within the food delivery gig economy.

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