Networks of trust: accessing informal work online in Indonesia during COVID-19

Joanna Octavia*

*Warwick Institute for Employment Research, University of Warwick, email: Joanna.Octavia@warwick.ac.uk. The author gratefully acknowledges the financial support provided by the Chancellor’s International Scholarship for her doctoral study at the University of Warwick. She would like to thank the research participants for sharing their stories, and Dr Tzehaines Teklé and three anonymous reviewers for their feedback and suggestions, which helped to improve this paper.

This article will be published in a forthcoming Special Issue on “COVID-19 and the World of Work”.

Abstract. Although studies on digital labour platforms demonstrated how the internet has opened up access to income opportunities in the developing world, an exploration of how informal workers use the internet to access work without an intermediary is missing. Using data from digital ethnography and interviews with workers in Indonesia, this article examines how platform-based motorcycle taxi drivers and domestic workers accessed work through social media in the time of COVID-19 when the platforms were not allowed to operate. The evidence suggests that while social media can offer increased opportunities for workers, their success was largely dependent on their social networks and bounded by the algorithms designed by platform owners.
1. Introduction

A key challenge for informal workers – people who operate without work-based social protection – is accessing markets. While formal sector work may be found through a combination of formal and informal sources of information, informal work in developing countries is found largely through word of mouth and referrals that depend on the social network of contacts, colleagues, friends and family of the worker (Losby, Else, Kingslow, Edgcomb, Malm and Kao 2002; Arbex and O’Dea 2011; Reza 2017). An analysis of how informal workers use the internet to search for work adds to our understanding of the informal economy by demonstrating how access to work can be facilitated and sustained through online social networks. By studying the experience of two groups of informal workers in Indonesia who used the internet to search for work at the height of the COVID-19
pandemic, the research argues that these online social networks can be both enabling and limiting.

In the informal economy, the emergence of digital labour platforms in the 2000s could theoretically open and scale up market access by connecting workers and employers through the use of smartphone technology. Similar to traditional social networks, platforms act as intermediaries between workers and employers, facilitating economic activities through technology and institutionalise trust between workers and customers through the use of feedback, ranking, and rating systems (Huws, Spencer and Joyce 2016; Gandini 2019). As intermediaries, digital labour platforms typically decide on the renumeration, and take a commission fee before the worker receives the rest (Ford and Honan 2017). From transport services to domestic work, digital labour platforms are transforming the way work is arranged and how both parties access it.

Past studies have shown that digital labour platforms are instrumental in helping informal workers access work, but little is known about whether the workers themselves have been able to bypass these platforms to find work. (AlphaBeta 2017; Primaldhi 2017). Internet communication platforms that emerged in the early 2000s, such as Twitter, Instagram and WhatsApp, could theoretically address this challenge by enabling individuals to easily connect with a vast number of new people. But studies have not considered how informal workers use social media to find employers and access work, perhaps because in many parts of the developing world, informal workers are not connected to the internet (Chen 2016). This study, however, focuses on two groups of informal workers, platform-based motorcycle taxi drivers and platform-based domestic workers, both of whom have accessed work on digital labour platforms with the help of their smartphone.

This study addressed the research question: How did informal workers in developing countries use the internet to access work during the COVID pandemic-cum-lockdowns? The
remainder of this article is divided into four sections. The first section reviews existing literature on the informal economy in Indonesia and sets the scene for the study by situating internet use in individuals’ day-to-day lives and focusing on how people engage with the online environment and interact with others through it. The second section discusses the methodology and data sources used in this research. The third section presents the findings from case studies of platform-based motorcycle taxi drivers and of domestic workers. The fourth section concludes and provides policy recommendations.

2. **Indonesia, Internet, and the Informal Economy**

Indonesia has one of the largest informal economies in the world, comprising of over 70 million people or more than half of the Indonesian workforce according to the Central Bureau of Statistics (Jayani, 2020). Though estimates vary, studies have approximated that up to 70 percent of the workforce is employed in the informal economy (Rothenberg et al. 2015).

To many of the urban population, the informal economy represents a source of livelihoods and an economic buffer when an individual cannot find a formal job (Sethuraman 1975; Brata 2010). The emergence of digital labour platforms in mid-2010 transformed the landscape of the informal economy in Indonesia by opening up new work opportunities for millions of people in urban areas. Specific sectors within the country’s informal economy, including motorcycle taxi and domestic work, presented a business opportunity to technology entrepreneurs who sought to digitise the sectors (Nastiti 2017).

2.1 **Platform-based motorcycle taxi drivers**

For-hire, traditional motorcycle taxi drivers emerged in Indonesia in the 1980s, and grew rapidly in numbers after the 1997 Financial Crisis pushed car prices out of reach for many Indonesians. Rapid urbanisation, along with traffic congestion and inadequate public transit
services, created a demand for small vehicles that could move through narrow streets and alleyways (Cervero 2000). Digital labour platforms in the form of ride-hailing companies emerged in 2015 and over time began to offer a wide range of platform-based motorcycle taxi services, including passenger transport, logistics and food delivery, through a smartphone application. In 2020, it was estimated by the national platform-based motorcycle taxi and taxi association GARDA that there are approximately 4 million people working as platform-based motorcycle taxi drivers across the Indonesian archipelago (kumparanTECH 2020).

Ride-hailing companies have faced criticisms around the world due to their disregard for passenger transport regulations; classification of drivers as independent contractors; and the various forms of algorithmic management they deploy to control drivers, including rating systems, financial incentives, and deactivation from the platform (Rosenblat and Stark 2016; Kessler 2018). Several studies on platform-based motorcycle taxi drivers in Indonesia, such as Nastiti (2017) and Fanggidae, Sagala and Ningrum (2016), argued that informal workers earning their livelihoods as drivers are taking on the risks of self-employment without the autonomy to negotiate prices and benefits of guaranteed income and protection. Nonetheless, the high levels of informality in the Indonesian labour market also meant that digital labour platforms, with their relatively low barriers to entry, have been instrumental in absorbing low-skilled labour in urban areas across Indonesia. Furthermore, earnings for platform transport workers often tend to be higher than their traditional counterparts (ILO 2021).

2.2 Platform-based domestic workers

Domestic work in Indonesia is a heavily informal and female industry, employing approximately 4 million workers, more than 75 percent of them women (ILO 2017). Many domestic workers are low-paid and undertake a variety of tasks, including cleaning the house, washing, cooking, and taking care of children or the elderly. Their employment arrangements
vary: some may live in the household of a single employer, while others live in their own residence and work for one or more employers. Some may also receive work from an agency or a platform (ILO 2017).

Despite the significant contribution of domestic workers to the households that employ them, employment arrangements between domestic workers and their employers are often informal and negotiated verbally without contracts. Domestic workers often receive no social protection contributions, or paid sick or annual leave. The relationship between domestic workers and their employer tends to be unequal and is often exacerbated by differences between the two parties, such as by race and class (Chen 2011; ILO 2016).

Digital labour platforms have played a significant role in formalising domestic work by giving workers choice over working times and hours worked, and by introducing minimum age requirements, pay rates, and standards of behaviour by both the workers and the employers (Hunt and Machingura 2016). Such platforms emerged in Indonesia in 2015 with the founding of digital labour platform GoLife, with services that included GoAuto (autoparts fixing), GoMassage (home massage), and GoClean (cleaning). In developing countries, digital labour platforms often provide better renumeration than the traditional live-in domestic work (Hunt and Machigura 2016; Hiriyur 2018). However, it is not clear how many traditional domestic workers have transitioned to platforms, nor how large the platform-based domestic workforce is, as most digital labour platforms do not disclose this data (ILO 2021).

2.3 Informal workers and internet technology

The wave of digitisation in the informal economy has been associated with the widespread use of affordable mobile phones and access to the internet (Bischoff 2014). Data shows that mobile phones are increasingly being used as the only way for people to connect to the internet, especially in the developing and emerging economies (Silver, Smith, Johnson, Jiang,
Anderson and Rainie 2019). In Indonesia alone, as many as 95.4 percent of internet users are accessing the internet through their smartphones (Asosiasi Penyelenggara Jasa Internet Indonesia 2020). Indeed, recent scholarship on technology in the informal economy has largely focused on the use, adoption, and effects of mobile phones in communication, which include how social media platforms are being leveraged by informal workers (Seetharaman, Cunha and Effah 2019).

As the internet permeates people’s lives and their everyday interactions, studies on the internet have expanded from a focus on adoption of the technology to studying the disparities in digital skills and usage. Digital inequalities leave some people more skilled than others at using technology to achieve their goals (Litt 2013). These discrepancies are especially present in developing countries, where there is low overall internet access but high activity among those who are connected. Indonesia, despite its nascent digitisation process, is also home to some of the world’s most active internet users (Das, Gryseels, Sudhir and Tan 2016). Internet adoption is generally better in urban areas: a survey by the Association of Internet Providers in Indonesia reported that the capital city of Indonesia, Jakarta, where this research had taken place, boasts an internet penetration rate of 85 percent, well above the national average of 73.7 percent (Pebrianto 2020).

However, existing research has found that the majority of urban informal workers only have access to simple technologies. A WIEGO research study (Alfers et al 2015 reported in Chen 2016) in Ahmedabad, Durban and Lima found that many informal workers do not possess smartphones, do not have access to the internet and do not know how to use either. Background interviews for this study found that internet was rarely used by informal workers, even in urban areas, due to limited access to the internet, as well as the high cost of internet access and of smartphones (WIEGO 2014).
Nonetheless, recent literature on the emergence and growth of digital labour platforms in the informal economy of the developing world – including Uber and Uber-like platforms in developing countries such as India, South Africa and Indonesia – suggests that the platforms may be playing a role in placing the internet in the hands of informal workers (Hunt and Machingura 2016; Nastiti 2017; Ford and Honan 2019). For one, working on digital labour platforms require workers to possess a smartphone since jobs are coming to them through an application that is installed on the phone. Some platform companies, such as the ride-hailing platform Gojek in Indonesia, allow drivers to pay for their smartphone in monthly installments (Rosyadi 2018).

While a smartphone is one of the main assets used by informal workers to access work on digital labour platforms, it has also been used for other purposes. For example, the use of WhatsApp by platform-based motorcycle taxi drivers in Indonesia for everyday coordination is well-documented (Ford and Honan 2020; Ford and Honan 2017; Nastiti 2017). Moreover, access to the internet through smartphones allows informal workers working on digital labour platforms access to mobile e-wallet, an alternative to cash and face-to-face transactions. Mobile e-wallet is a digital payment mechanism that enables transactions to be made online through a smartphone, including grocery delivery and bill payment (Hunt and Machingura 2016; Wardhani 2019). Interestingly, while traditional domestic workers, including Indonesian and Filipina migrant workers in Hong Kong and Taiwan, have been known to use social media such as Facebook to organise, the same phenomenon has not been reported in research on platform-based domestic workers (Wijaya, Watson and Bruce 2018; Almendral 2020).

Aside from informal workers who are working on digital labour platforms, others have been found to utilise internet communication skills to repurpose technologies, such as social media, for their everyday work. Examples of these include street vendors in South
Africa who are using WhatsApp to update customers on their products, and micro entrepreneurs in many emerging markets who are using WhatsApp, Facebook and Instagram to sell and market their products commission-free (Chen 2016; Gibreel, AlOtaibi, Altmann 2018). In this respect, internet communication skills are different to the basic digital skills required to participate in digital labour markets, for example smartphone operation and information management. Internet communication skills enable people to understand nuances in mediums such as social media where everyone is generating and sharing their own content, when verbal cues and visual cues are not present (Deursen, Courtois and Van Dijk 2014). But although there is a growing body of literature on informal workers who are using these skills to operate social media in novel ways for everyday work, little is known about how informal workers are repurposing them to search for work outside of their experience working on digital labour platforms.

2.4 Finding work on the internet

Technological advances and the increasing presence of the internet in people’s everyday lives have moved many job search and networking opportunities to the internet, and in particular to social media (Suvankulov, Lau and Chau 2012). Social media can be broadly defined as internet-based applications that allows users to interact with each other through the creation and exchange of user-generated content within a virtual community (Kaplan and Haenlein 2010). Social media comes in many forms, from social networking (Facebook), micro-blogging (Twitter) and professional networking (LinkedIn), each possessing their own unique architectures, cultures and norms (Van Dijck 2013). These variations suggest that communication skills may need to be tailored depending on the social media and its audience. Table 1 illustrates the basis of social media classifications and examples of the resulting categories.
Much of the scholarship on how the internet has been used for job search has focused on the formal economy. In recent years, social media such as LinkedIn have been studied as a platform for personal and professional branding, but they are typically only used by those working in the formal economy (Zhu and Chen 2015; McCorkle and Payan 2017). Past studies have also looked at Facebook, another relationship-based social media, as a platform used by people to search for jobs (Bizzi 2018). However, what is currently missing in literature is how other forms of social media, especially those that are not relationship-based,

| Authors       | Underlying Tenets                        | Categories and Examples                                                                 |
|---------------|-----------------------------------------|-----------------------------------------------------------------------------------------|
| Zhu and Chen  | Nature of connection and level of customisation of messages | Relationship: Facebook, LinkedIn                                                        |
| 2015          |                                         | Self-media: Twitter                                                                     |
|               |                                         | Creative outlet: Instagram, YouTube                                                     |
|               |                                         | Collaboration: Quora                                                                   |
| Kaplan and    | Social presentation and self-disclosure  | Collaborative projects: Wikipedia                                                      |
| Haenlein 2010 |                                         | Blogs: Wordpress                                                                       |
|               |                                         | Content communities: Flickr, YouTube                                                   |
|               |                                         | Social networking sites: Facebook                                                      |
|               |                                         | Virtual game worlds: World of Warcraft                                                |
|               |                                         | Virtual social worlds: Second Life                                                    |
have been repurposed by informal workers to connect directly with employers and access work.

2.5 Gatekeepers of the internet?

As individuals are becoming increasingly dependent on social media for their everyday interactions, debates are mounting over the power they hold over critical online activities for a large population of users. Social media play a crucial role in shaping the internet given that the platform algorithms control how information is disseminated through the networks. For instance, Twitter as a platform is a gatekeeper because its algorithms determine how each user’s engagement with a particular content, through their likes, comments and shares, has the power to make the content visible to their contacts (Hermida, Fletcher and Korrell 2012).

Furthermore, the gatekeeper roles of these social media platforms are reinforced by their large user bases. By controlling a sufficiently large category of users, access to its platform becomes critical for people to establish a presence on the platform, where many of their target audience are present (Geradin 2020). Because social media control interactions that are critical for many, users that need to have access to these platforms have no choice but to comply with their rules.

Under these conditions, how do informal workers use the internet to connect with employers and gain employment, at a time when work through digital labour platforms was not available to them? In particular, how do they strategise to market themselves and stimulate demand for their services on the internet? Aside from social media, are workers studied in this research using other types of platforms to find work? The contribution of this research considers the significance of looking at informal workers not as victims of circumstance, but rather as actors with agency who are using internet in various ways when faced with a crisis.
3. Methods

This research focuses on the use of internet by platform-based motorcycle taxi drivers and domestic workers in accessing work in Greater Jakarta, Indonesia, where the greatest numbers of both groups of workers are concentrated. The research is a qualitative study, and draws on evidence from semi-structured interviews with 13 workers, one platform owner and one food microblogger, as well as online observations conducted on Twitter and ServiceDirectory (name is pseudonymised), a digital public directory that puts workers in the informal sector in touch with potential employers. Twitter and ServiceDirectory are similar in nature due to their focus on public content. Twitter is a micro-blogging platform that allows users to post ‘tweets’ of 140 characters or less. It enables virality of content if it is engaged by many people in a short amount of time. On the other hand, ServiceDirectory is a community website and smartphone app that advertises services by informal workers, that was created as a pro-bono project by several platform company employees after GoLife, a digital labour platform with a domestic cleaning arm, announced its closure in June 2020.

In total, I interviewed eight platform-based motorcycle taxi drivers, and five platform-based domestic workers, with relatively equal numbers of men and women aged between 21 to 43. Almost all of the workers interviewed said that working on digital labour platforms was their main source of income prior to the pandemic with an exception of one who had just been laid off. To locate drivers, I followed the hashtag #ButuhDriver (translates to #NeedDriver), which the drivers had used to market their services, and contacted them through the Direct Message (DM) functionality on Twitter. Hashtags are used to index keywords on Twitter, and searching for #ButuhDriver or tapping on the hashtag showed other public tweets that include the hashtag (Twitter 2020). Since domestic workers were less active on social media platforms, I obtained access to platform-based domestic workers
through publicly available information on ServiceDirectory. The participants were recruited using purposive sampling. All of the interviews were conducted in Indonesian, through phone using the WhatsApp call feature, between September and December 2020. Interviews lasted between 30 minutes to 2.5 hours. In the interviews, I asked the workers about their experience during the COVID-19 pandemic; whether they were able to access income opportunities through the internet following the closure of digital labour platform services; how that experience compared to accessing work on the platform before COVID-19, and whether they plan on continuing to do so.

In addition to the platform-based workers, I conducted interviews with one platform owner and one food microblogger to better understand how social media could connect informal workers and employers. The food microblogger specialised in promoting micro-enterprises in Jakarta and maintained a “directory” of drivers who could supply food delivery services to the blog’s followers. The platform owner interviewed was one of the founders of ServiceDirectory, and an employee of a digital labour platform company in Indonesia. ServiceDirectory was founded following the announcement of GoLife’s closure in June 2020, and some of the first people listed were former workers of the GoLife platform.

The second source of data was digital ethnography in the form of online observations conducted on Twitter and ServiceDirectory. Online observations were conducted alongside ongoing media monitoring and literature review starting in June 2020. In the same way that I had located driver interviewees by tracking the #ButuhDriver hashtag on Twitter, I observed the tweets posted by the same participants to understand their norms and patterns of behaviour. Since Twitter is generally used as a personal social media, I also paid attention to other features of the Twitter accounts, such as their bio, profile picture, and non-work related posts. Similar observations were conducted on ServiceDirectory smartphone app, where workers can be filtered according to their expertise, location, or name. Individual worker
profiles further allowed access to their professional details, such as their area of service, work experience, link to other social media platforms, and testimonials by past employers. Observing drivers in their daily life on social media revealed their self-representation as well as their social interactions with others, while online observations of ServiceDirectory further shed a light on parts of themselves that domestic workers choose to reveal.

The research uses a coding procedure, which was largely based on grounded theory, to analyse data. I analysed the digital ethnography and interview notes thematically to identify similarities and differences in the experiences of both worker groups. Analysis by coding early data was conducted simultaneously with later interviews, developing an emergent theory to explain the phenomenon observed in the data. For example, after the first few interviews, I identified a group of codes that captured how drivers used features on Twitter, such as the number of followers, retweets and likes, to reach more customers. Since these strategies seemed central to their practice, I decided that they should become a focused code. ‘Signals of trustworthiness’ emerged as the core analytical category.

4. Findings and discussion

4.1 Motorcycle taxi drivers experience

An important theme that emerged from the study on drivers was their extensive use of social media to advertise their services and to build their personal brand. The drivers interviewed in this research resorted to using Twitter to market their services directly to potential customers, after they were prohibited from carrying passengers and faced declining demand for delivery services as schools and businesses were closed. Further, as summarised by Octavia (2020) and several of the interviewees, massive layoffs in the formal economy pushed people into the over-crowded informal economy, making informal work more competitive.
Consistent with news reports (see Satria 2020) drivers reported that their income had declined on average by 70 to 80 percent at the start of the pandemic outbreak when restrictions were imposed. With passenger transport services disabled by the platforms, drivers were only able to offer a limited number of services, such as food and package deliveries, but even then, orders were few and far between. Several drivers claimed that previously they were able to earn as much as Rp 400,000 (US$28) in one day, but the figure dropped to as little as Rp 100,000 (US$7) when social restrictions took effect.

In April 2020, after the Jakarta local government banned motorcycle taxi drivers from transporting, a group of drivers started to take to Twitter to offer their services to deliver foods, packages and groceries, manually outside the digital labour platforms, by tagging the hashtag #ButuhDriver on their posts (see Lidyana 2020; Sulaiman and Efendi 2020; Sujatmiko 2020). A tweet by a driver that was marked by the hashtag reads: “Friends who are located in Central/South/East Jakarta, I would like to offer a package/catering/food delivery service, or a personal motorcycle taxi driver with myself as the driver.” He followed the tweet with subsequent tweets specifying the size of his vehicle, his location, his hours, and more detailed information about his services.

Searching the hashtag #ButuhDriver produced more tweets similar in nature. Most of these accounts featured photos of individuals wearing the Gojek or Grab motorcycle taxi driver uniform, who clearly stated their identity as a platform-based motorcycle taxi driver in their profiles. Services offered were varied, ranging from package and food deliveries, to groceries shopping and flower deliveries. In the words of one driver: “#ButuhDriver is more specific. Whatever the customer needs, we can do it. It is truly a motorcycle taxi for every need” (Widya, 42, driver).

Another initiative started by the group of drivers was a collaboration with a food blogger that promotes small food businesses across Jakarta. Through this collaboration,
individual drivers promoted food delivery services for people intending to order from the businesses. Due to the growing popularity of the initiative, a number of drivers organised themselves using a dispatch system, in which orders collected by individual drivers were placed as a bulk orders that was paid in advance by the customers. These would then be picked up by a driver who lives near the food business, and delivered by a driver who lives near the customers. Drivers emphasised the flat delivery fee for multiple food orders as the collaboration’s unique selling point. The system was a change from ordering food via platforms, as platforms normally impose a charge per order, resulting in higher delivery costs borne by customers.

These initiatives were very successful and compensated the drivers’ income loss. On average, drivers reported that they could earn as much as Rp 300,000 (US$21) during the pandemic by promoting their services on Twitter, a figure closer to the Rp 400,000 (US$28) they typically earned pre-pandemic. Food deliveries were especially popular during Ramadan, the holy month celebrated by Muslims, who constitute 87 percent of all Indonesians (Nugraheny 2021). Yoel, 42, driver, said: “In rupiah (Indonesian currency) terms, alhamdulillah, my friends and I were able to fulfill our daily needs with our earnings from the food deliveries. Friends whose motorcycles are on credit were also able to pay off their loans, they were also able to pay their rent.” Nonetheless, despite the drivers’ successes in accessing work online outside of the platforms, most of the drivers interviewed for this research have gone back to driving for the platforms once social restrictions have been lifted and the popularity of these initiatives gradually waned.

**Likes and retweets as trust signals**

Despite the perceived success, this research found that how well a driver was able to receive work from Twitter varied depending on their number of followers, as well as the likes and
retweets that their tweets have received. The number of followers for the drivers interviewed in this research ranged from 900 to over 16,000. Drivers with the number of followers at the higher end of the range received so many orders that they had to distribute excess orders to drivers in their networks. On the other hand, drivers on the lower end of the range found it challenging to reach potential customers through Twitter. As one female driver put it:

“On any given day, I won’t be able to sell anything if [the food blog] doesn’t help to ‘like’ or retweet my post. I am dependent on [the account]’s ‘likes’… if he doesn’t retweet [my post], I would ask him why and check his [Twitter] timeline to see where he was” (Nina, 40, driver).

For a driver without a large following, whether or not a tweet could go viral and receive attention from potential customers is dependent on its interaction with users with a large follower base. Twitter’s algorithm is designed in such a way that interacting with these users can boost a tweet’s visibility to their followers. Past research by Morris, Counts, Hoff and Roseway (2012) and Park and Kaye (2019) found that users are more influenced by the “signals” that the tweet gives out instead of the content of a tweet itself. Examples of such signals include whether the tweet was retweeted by a verified subject expert, or whether the author of the tweet is someone that the user had followed. The food blog previously mentioned, for instance, has over 70,000 followers. Twitter’s algorithm and user behaviour meant that drivers with a large following found Twitter enabling, but for those who are without a large following, social media was found to be limiting.

**Developing personal branding through service differentiation and storytelling**

This research found that many drivers used Twitter as a space where they could build their personal branding, whether by sharing personal stories, differentiating themselves from...
others offering the same service, or including testimonials by past customers to build trust with new ones. Although there was camaraderie between the drivers given their sharing of an occupational community, they also saw each other as competitors and sought to differentiate their services from each other. One driver said:

“I chose to advertise differently, by selling only a specific product, and using creative phrases to market this service. Selling a specific product is actually just a way for me to advertise so that I come across as different to the others… I looked for a way so that when customers need a driver, they will instantly think of me.” (Widya, 42, driver)

Sharing personal stories was one way that drivers harness their public social media profiles to boost engagement. A number of drivers, especially female drivers, shared photos and stories of their children on Twitter, often in the same tweet that they are using to promote their services. One post reads: “Please let me meet kind customers who will use my service. I am a platform-based motorcycle taxi driver and a single mother of two boys” (Erika, 30, driver).

The food blogger, whose initiative had played a crucial role in bringing income for drivers interviewed in this research, further emphasised that sharing personal stories can keep their social media content fresh: “Like it or not, [the drivers] are selling [their services]. They have to be smart at marketing themselves, to make it attractive for people” (Donny, 40, food blogger).

**Evaluating workers through retweets of reviews and past service**

Another way that drivers sought to establish trust with potential customers was by publishing photos of their past deliveries or retweeting reviews by past customers on their Twitter
timeline. Several platform companies offer a similar feature whereby new customers could view ratings and reviews from past customers. Nonetheless, the difference between the information offered by platforms and what is included in the drivers’ social media timeline was that the latter provided workers with a choice to select what kind of spotlight is cast upon them. This gave drivers a greater control over the information they reveal.

Further, as indicated before, all of the drivers interviewed for this research had self-identified as platform-based motorcycle taxi drivers on Twitter in various ways, for example through their Twitter bio, username, profile photo, and the content of their tweets. The interviews revealed that one of the drivers involved in the research had been terminated by two platforms prior to the pandemic, which suggests that online identity is not always reliable.

**Disintermediation and increased trust outside of platforms**

In the early days of the pandemic, much of the initial contact between drivers and new customers might have been established through Twitter, but this does not tell the whole story. Most of the drivers reported that orders coming through Twitter had fallen after the social restrictions and closure of passenger services were lifted, but several customers whom they had established initial contact with through Twitter continued to disintermediate by transacting with the drivers outside of the platforms. Most of these transactions are scheduled services that are not available on the platforms, and are contrary to the real-time delivery service that characterises location-based platform work. One example of this was Kevin, 33, driver, who transported several customers on a daily basis at the start of the pandemic, when passenger transport services were made unavailable by the platforms.
“The people who are still using my service normally use it to deliver high value items, for example laptops, mobile phones, or PlayStation 5 games. I often receive these kinds of orders. Or important documents. I am often asked to deliver them to get them signed, and then deliver them back again… I met them on Twitter during the pandemic, and we maintain a good relationship until now.” (Kevin, 33, driver)

This finding highlights that frequent, scheduled interactions were able to generate trust between drivers and customers outside of the platforms. What is unique about this disintermediation is that the customer did not take all future transactions off the platform, but rather allocated tasks to different drivers depending on their level of importance. For instance, everyday tasks such as passenger transport service were given to drivers matched by the platforms, whereas other tasks that require a higher degree of trust, such as delivering high value items or important documents, were allocated to a driver of the customer’s own choice. This does not diminish the value of platform work, but rather indicates that the internet has opened up other opportunities for both drivers and their customers that were previously unaddressed by platforms.

4.2 Domestic workers’ experience

Prior to this research, the impact of the COVID-19 crisis on domestic workers, in particular within Indonesia, is mostly anecdotal due to the invisible and solitary nature of their work. A key finding of this research in the domestic workers’ experience was their limited use of social media to access work during the pandemic, and greater dependence on WhatsApp to manage and maintain past employers. However, when an opportunity to market their services on the internet was made available, domestic workers associated themselves with a brand name and utilised referrals by past employers to boost their work prospects. Further, female
domestic workers raised safety concerns with regards to accessing new employers outside of the purview of digital labour platforms.

The domestic workers interviewed in this research generally earned a decent sum prior to COVID-19, with an average of two to four work orders per day and a daily income of Rp 250,000 (US$18) to 400,000 (US$28). They mostly work full-time on the platforms, with monthly earnings that were typically well above Jakarta’s monthly minimum wage of Rp 4,276,349 (US$303). Workers were generally satisfied with the working conditions on the GoClean platform, where they used to work before it was closed, citing the flexibility of working time and improved income levels as their main reasons for staying.

The impact of COVID-19 and the social restrictions on the domestic workers’ access to work was significant. When the coronavirus started to spread and social restrictions were introduced across the Greater Jakarta region, workers received significantly less work through digital labour platform as people avoided close contact with others. Workers reported that it was challenging to even receive a single work order every day. This was a stark contrast to pre-COVID-19, when “orders were uncontrollable” (Sidin, 35, domestic worker). On average, income levels for these domestic workers had declined by at least 90 percent in the early days of the pandemic.

**Personal branding through employment history**

Interviews revealed that domestic workers did not look for work on social media as actively as motorcycle taxi drivers had. During COVID-19, domestic workers interviewed in this research tried various ways to earn income, mostly by joining other digital labour platforms, and eventually by listing themselves on ServiceDirectory. Although it was initially set up as a publicly shared online spreadsheet, ServiceDirectory gradually turned into a website and a smartphone app. With the workers’ consent, ServiceDirectory collects and shares information
of workers who provide a range of services, such as massage, gardening and cleaning. A key difference between ServiceDirectory and other digital labour platforms was that transactions for services found through ServiceDirectory are conducted outside of the directory. Potential employers negotiate the pay and work details directly with the workers by contacting them on the phone number listed on the directory.

Workers were able to join ServiceDirectory either by registering themselves, or through a referral from past employers. In addition to creating a personal profile page, where they can input their name and personal contact information, workers were encouraged by the directory to include links to their personal social media in order to attract more employers. As the ServiceDirectory platform owner expressed: “Social media is actually their personal branding… For cleaning services, especially about their current protocols and what they have done [to ensure cleanliness]” (Linda, 33, platform owner).

However, the majority of domestic workers listed on the directory only included their phone number and did not include links to their social media. When asked, most of them revealed that they were either not active on social media or did not have a social media account. One worker cited his limited knowledge as the reason why he is disinclined to use social media: “I don’t have the desire to offer [my services] through social media, because I think I don’t understand the method [and] I don’t know how to do it yet.” (Sidin, 35, domestic worker).

Despite the disinclination of most domestic workers to use social media, an analysis of the directory suggests that associating themselves with a brand name was seen as a strategy that they could use to attract new employers. The online directory provided a bio space for workers to include more detailed information about themselves, where many of the domestic workers chose to identify themselves as a former GoClean partner. The strength of the platform brand was confirmed by Sandy, 36, domestic worker: “My past customers asked
whether they could still hire me, because I was a former GoClean partner. They remember me as ‘former GoClean’, not me as a person. I am only a partner. But what the customer values is the GoClean brand.” This finding indicates that, similar to formal sector jobs, one piece of observable information in a worker’s work experience is employment history (Cohn et al. 2019).

**Referrals as a trust signal**

In addition to association with a brand, another way that the directory and the workers themselves signalled to new customers that they are to be trusted was by providing a referral from past employers in the form of testimonials. Having at least one testimonial could earn the worker a “Recommended” badge that is visible on their profile. Moreover, the algorithm of the directory ranked workers with more testimonials higher on the search results page, thus allowing potential customers to view them first. Workers were generally appreciative of these features and found having publicly visible profiles helpful.

“The directory is public so the scope is wide, everybody can see, not just customers who use a particular platform… I am happy [that the directory is public]. The customers can find us based on the number of customers what had reviewed this cleaner. The more [testimonials there are], the more trusted this person is” (Firman, 43, domestic worker).

Given its low-touch model, ServiceDirectory resembled a marketplace platform that sorts and ranks workers, and renders them visible (Ticona, Mateescu, Rosenblat 2018). A weakness of this, however, is in its assumption that all domestic workers maintain access to their past employers after transacting through the platform. This research found that this was
not the case for several domestic workers, most of whom were women, who did not keep the contact information of their past employers and insisted on transacting exclusively through platforms. This finding will be discussed in greater detail below.

**Managing and sustaining platform disintermediation**

Another key finding of this case study was the interactions and transactions between domestic workers and employers outside of the digital labour platforms. When it was announced in June 2020 that the GoClean platform was closing its services in the following July, several workers reached out to former employers through WhatsApp to inform them of the closure and to offer their services. These frequent, long-time employers provided considerable financial relief to domestic workers during the pandemic. As one domestic worker explained:

“I have regular, long-time customers. It helped during the pandemic. I follow the health protocol, sprayed [with disinfectant], and had to be clean, until now it is like that. I wear a mask at all times at their house. This really helped, the frequent, long-time customers I have outside of the platform… whom I met through the platform” (Firman, 43, domestic worker).

The finding indicate evidence and add to the small literature of disintermediation within platform work. Disintermediation occurred when a customer had made initial contact with a worker through a platform, but then formed an ongoing transactional relationship outside of the platform. This finding coincides with past studies, which found that these relationships tend to be more prevalent in repeated tasks, such as house cleaning, which typically need to be done frequently and on a scheduled basis (Zhu and Iansiti, 2019).
Disintermediation is generally prohibited by platforms and is grounds for disciplinary action, as it prevents platforms from receiving their share of intermediary commissions. Disintermediation has resulted in the demise of some platforms, most notably the US-based on-demand domestic cleaning company Homejoy (Gu and Zhu, 2018). However, the experiences of domestic workers in Indonesia suggested that there are tangible benefits to staying on the platform. For one, this research found that most domestic workers had not reached the maximum number of jobs they could handle that they stopped seeing a need for the platform. Further, taking interactions and transactions off the platform exposes workers to risks such as fraud and assault.

Trade-offs between safety and opportunity

Female domestic workers interviewed in this research expressed concerns over their safety if they were to work outside of the reach of platforms. After GoClean announced its closure in June 2020, female domestic workers had either chosen to join other digital labour platforms, return to their previous profession, or take on other informal jobs, rather than actively marketing domestic work services on social media. The location where domestic work takes place – behind closed doors in private homes – means that domestic workers are vulnerable to inappropriate interactions and maltreatment by employers (Hunt and Machingura 2016). Since the home is not subject to regulation by the government, the quality of working conditions is left to individual employers (Masterson and Hoobler, 2019).

One of the main advantages that domestic work platforms have is the ability to provide occupational safety for workers by holding the information of their customers and utilising technologies such as ID verifications and background checks (Gu and Zhu, 2018). Some platforms have also installed additional features to keep their workers safe. For instance, during its existence, GoClean provided domestic workers with access to an alarm button that
enabled them to send a direct SOS message to a dedicated task force in the case of an emergency.

“There was always the possibility of encountering something dangerous in the workplace. There was an incident before, and the task force came. [This work] is actually prone to danger, because [we work] in apartments. [During that incident], there was a harassment that occurred. Hence, it is important to provide partners with extra safety” (Anita, 21, domestic worker).

Platforms are appealing because of their ability to provide occupational safety for people who are working independently with very few protections (Ticona and Mateescu 2018). The lack of regulation and worker protection within domestic work means that pursuing self-employment outside of platforms would effectively shift the risks onto the workers themselves.

**Negotiations and the power dynamics**

Further, while some domestic workers have benefited from maintaining contact with employers who have engaged them in the past, they have also found that there are drawbacks to bypassing platforms and connecting directly with potential employers through the internet. Digital labour platforms maintain rigid standards of procedure that workers and employers must abide to, such as the type of tasks that a worker can and cannot complete, and the remuneration that the workers will receive. Platforms generally take a cut out of the earnings – GoClean, for instance, took 30 percent – and negotiating directly means that workers and employers can work around these restrictions.
However, domestic workers found that potential employers who contacted them through the online directory tended to negotiate a lower rate compared to the platforms. This demonstrates that although the internet can offer increased opportunity for domestic workers, misaligned expectations with regards to pay and unequal power dynamics embedded within traditional domestic work discourage workers from taking transactions off-platform.

4.3 Comparing the experiences of the two worker groups

Informal workers in Indonesia have been disproportionately affected by the social and mobility restrictions caused by the COVID-19 pandemic, as their survival is largely dependent on their daily earnings. Although both the motorcycle taxi drivers and domestic workers investigated in this research differed in their everyday working conditions, there are some similarities in the nature of their work, namely that they are both working in the informal service industry, where they provide transport and routine domestic services. Because both groups are required to come in close contact with customers – drivers by transporting passengers, and domestic workers by cleaning people’s homes – they were both impacted by social distancing measures and changes in consumer sentiment and behaviour.

The research found that while drivers leveraged social media to actively market their services to potential customers, most domestic workers depended on their regular, long-time employers to make up for lost income from platforms during the COVID-19 crisis. Despite the difference, the research found that both drivers and domestic workers demonstrated a need for referrals and associated themselves with platform brands to attract potential customers. Both motorcycle taxi drivers and domestic workers also expressed a strong preference for working with digital labour platforms, which suggests that the value of conducting business on these platforms is well understood by the two groups of workers involved in this research.
Nonetheless, one reason that could explain the differing attitudes that the two groups of workers have towards using the internet is the piecework nature of their work and the length of time they spend on each job. Drivers typically need to complete 20 to 30 work orders in one day to reach their target daily earnings, while domestic workers need two to four work orders, or one full-time job, to earn what they need. Therefore, the drivers were found to be more dependent on the internet to maximise their earnings by having as many jobs possible when the digital labour platforms closed. Domestic workers, on the other hand, erred on having steady jobs and were reliant on work orders placed by their regular employers.

However, despite utilising different platforms on the internet – motorcycle taxi drivers on Twitter, and domestic workers on ServiceDirectory – both groups of workers demonstrated the need for referrals in the forms of likes, retweets and information from past customers and employers to signal their skills and trustworthiness to potential customers and employers. In both cases, workers pursued referrals in an attempt to game the algorithm in order to gain online visibility. These strategies varied from approaching accounts with large following to ‘like’ or retweet their post on Twitter, to asking past employers to submit testimonials to the online directory. Although there are virtually no barriers for workers to sell their services on these platforms, the success of the workers in doing so is dependent on their online social networks and is ultimately predetermined and bound by algorithms designed by the owners of these platforms.

The findings also suggested that informal workers associated themselves with platform brands when attempting to access work outside of digital labour platforms. Past employment information is commonly associated with job searches in the formal sector, as workers use this information to signal their experience and expertise to prospective employers. There are shortcomings in the use of employment information in platform work, mainly due to the fact that the information is typically unverifiable by other parties aside from the platform owners.
themselves. However, this practice suggests that workers were aware of the value presented by their association to digital labour platforms, and used this association to actively seek work opportunities through other means outside of these platforms.

Perhaps most importantly, the research found that there was strong preference by both platform-based motorcycle taxi drivers and domestic workers to return to working on digital labour platforms. Reasons for this vary from the decline in orders from Twitter, to the sheer number of work orders platforms were able to facilitate, and the layers of protection embedded in the platforms that could offer some degree of accountability and safety. Such preference suggests that despite opportunities to take transactions off-platforms, digital labour platforms remain an attractive way for workers in the informal service sector to earn their livelihoods. It also suggests that access to internet alone cannot address the systematic and entrenched nature of gender-based constraints in certain informal service industries, such as domestic work.

5. Conclusion

A key contribution that emerges from this research is the ability of workers to actively exert their agency in a time of crisis. Informal workers are typically portrayed as helpless and powerless, but the experiences of the two groups of workers discussed in this research demonstrated their ability to tap into their online networks, market themselves directly to employers, and generate income amid COVID-19 restrictions. Drivers developed theories on how algorithms operate based on their experiences and adjusted their online behaviour accordingly, and both groups of workers signalled their trustworthiness by turning to referrals from people who knew and have engaged with them. For workers with access to many followers, influential connections or referrals, the affordances of algorithms were enabling and beneficial.
However, worker agency is limited since the algorithms designed by both Twitter and ServiceDirectory controlled the flow of information and the extent to which they were able to easily connect with potential employers. Further, most workers had returned to digital labour platforms once COVID-19 restrictions were lifted. Although workers were able to find alternative work arrangements on the internet at the height of the pandemic, digital labour platforms offered the convenience of having work automatically arranged for them through a smartphone application. This negates the need for them to continuously search for multiple sources of income.

Another limitation discussed in this research is that the circumstances under which workers can exercise their agency were limited by their sector and gender. The experience of drivers with the #NeedADriver movement suggested that occupational community played a role in starting and amplifying their self-advertising efforts amid COVID-19 restrictions. However, the atomised and isolated nature of domestic work makes it challenging for individual domestic workers to form and maintain connections with each other. Different to platform-based motorcycle taxi drivers, whose mobility and work in the public space enabled them to organise more easily, domestic work takes place in the private homes of employers, which made it difficult for domestic workers to meet each other. Further, the gendered responses of domestic workers to the pandemic crisis suggests that concerns for women’s safety have also affected their willingness to transact outside of digital labour platforms, therefore impeding their access to potential income opportunities.

In conclusion, informal workers in Indonesia have used the internet in a myriad of ways to find work during the pandemic, at a time when they were unable to generate income through digital labour platforms. But by going on social media, they continued to be subjected to algorithms that controlled what information can be shown and amplified through the online social networks. Furthermore, workers faced a challenge in transforming these
efforts into sustainable practices. As one domestic worker put it, informal workers like working with digital labour platforms because they are “the most popular apps in Indonesia”, with massive user base that could translate into income opportunities. The challenge, then, is in ensuring that the same workers are able to benefit from these platforms and the labour market connected to them.

References

Alfers, Laura, Namrata Bali, Mike Bird, Themis Castellanos, Marty Chen, Richard Dobson, Kendra Hughes, Sally Roever and Mike Rogan. 2015. “Technology at the bottom of the Pyramid; Insights from Ahmedabad (Incid), Durban (South Africa and Lima (Peru)” WIEGO Report for Technology and Future of Work project supported by the Rockefeller Foundation.

Almendral, Aurora. 2020. “For domestic workers, apps provide solace – but not justice.” Rest of World, 4 August 2020. https://restofworld.org/2020/migrant-workers-virtual-solidarity/

AlphaBeta. 2017. “Rethinking Urban Mobility in Indonesia: The role of shared mobility services.” Singapore: AlphaBeta.

Arbex, Marcelo, and Dennis O’Dea. 2011. “Informal work networks.” Canadian Journal of Economics 44(1): 247-272.

Asosiasi Penyelenggara Jasa Internet Indonesia. 2020. Bulletin APJII Edisi Nov 2020. Jakarta: Asosiasi Penyelenggara Jasa Internet Indonesia, 2020. https://apjii.or.id/downfile/file/BULETINAPJIIEDISI74November2020.pdf
Bayu, Dimas Jarot. 2018. “Ini Lima Layanan Go-Jek yang Paling Banyak Digunakan Konsumen.” Katadata, 22 March 2018. https://katadata.co.id/yuliawati/digital/5e9a55fe41916/ini-lima-layanan-go-jek-yang-paling-banyak-digunakan-konsumen

Bischoff, Paul. 2014. “Why Chinese smartphone makers aren’t eager to sell their phones in the West.” Techinasia, 4 November 2014. https://www.techinasia.com/chinese-smartphone-makers-eager-sell-phones-west

Bizzi, Lorenzo. 2018. “The hidden problem of Facebook and social media at work: What if employees start searching for other jobs?” Business Horizons 61(1): 23-33.

Brata, Aloysius Gunadi. 2010. “Vulnerability of Urban Informal Sector: Street Vendor in Yogyakarta, Indonesia.” Theoretical and Empirical Researches in Urban Management 5(5): 47-58.

Cervero, Robert. 2000. Informal Transport in the Developing World. Nairobi, Kenya: UN-HABITAT.

Chen, Martha. 2011. “Recognising Domestic Workers, Regulating Domestic Work: Conceptual, Measurement, and Regulatory Challenges.” Canadian Journal of Women and the Law 23(1): 167-184.

--. 2016. “Technology, informal workers and cities: insights from Ahmedabad (India), Durban (South Africa) and Lima (Peru).” Environment and Urbanisation 28(2): 405-422.
Cohn, Alain, Michel Andre Maréchal, Frédéric Schneider, Roberto A. Weber. “Frequent job changes can signal poor work attitude and reduce employability.” Department of Economics Working Paper No. 210. Zurich: University of Zurich.

Das, Kaushik, Michael Gryseels, Priyanka Sudhir, and Khoon Tee Tan. Unlocking Indonesia’s Digital Opportunity. Jakarta: McKinsey, 2016. Accessed June 4, 2021. https://www.mckinsey.com/~/media/McKinsey/Locations/Asia/Indonesia/Our%20Insights/Unlocking%20Indonesias%20digital%20opportunity/Unlocking_Indonesias_digital_opportunity.ashx

Van Deursen, Alexander J. A. M., Cédric Courtois, and Jan A. G. M. van Dijk. 2014. “Internet Skills, Sources of Support, and Benefiting From Internet Use.” International Journal of Human-Computer Interaction 30(4): 278-290.

Fanggidae, Victoria, Muto P. Sagala, and Dwi Rahayu Ningrum. On-Demand Transport Workers in Indonesia. Jakarta, Indonesia: Perkumpulan Prakarsa, 2016.

Ford, Michele, and Vivian Honan. “The Go-jek effect,” in Digital Indonesia: Connectivity and Divergence, ed. E. Jurriëns and R. Tapsell (Singapore: ISEAS, 2017), 275-288.

–. 2020. “The limits of mutual aid: Emerging forms of collectivity among app-based transport workers in Indonesia.” Journal of Industrial Relations 61(4), 528-548.

Gandini, Alessandro. 2019. “Labour process theory and the gig economy.” Human Relations 72(6): 1039-1056.
Geradin, Damien. “What is a digital gatekeeper?” The Platform Law Blog, 5 October, 2020. https://theplatformlaw.blog/2020/10/05/what-is-a-digital-gatekeeper/

Gibreel, Omer, Dhari A. AlOtaibi, and Jörn Altmann. 2018. “Social commerce development in emerging markets.” Electronic Commerce Research and Applications 27: 152-162.

Green, A. E., Yuxin Li, David Owen, and Maria de Hoyos. 2012. “Inequalities in Use of the Internet for Job Search: Similarities and Contrasts by Economic Status in Great Britain.” Environment and Planning A: Economy and Space 44(10): 2344-2358.

Gu, Grace, and Feng Zhu. 2018. “Trust and Disintermediation: Evidence from an Online Freelance Marketplace.” Harvard Business School Technology & Operations Mgt. Unit Working Paper No. 18-103. Boston, MA: Harvard University.

Hermida, Alfred, Fred Fletcher, Darryl Korell, and Donna Logan. 2012. “SHARE, LIKE, RECOMMEND: Decoding the social media news consumer.” Journalism Studies 13(5-6): 815-824.

Hiriyur, Salonie. 2018. “Are Service Apps For Domestic Workers Reproducing Old Systems of Power?” Feminism in India. https://feminisminindia.com/2018/08/06/service-apps-domestic-workers/

Hunt, Abigail, and Fortunate Machingura. “A good gig? The rise of on-demand domestic work.” ODI Working Paper 07. London, UK: Overseas Development Institute.
Huws, Ursula, Neil Spencer, and Simon Joyce. 2016. *Crowd Work in Europe*. Belgium: Foundation for Europe Progressive Studies.

International Labour Organisation. 2016. “A slow road to end abuse of Indonesia’s domestic workers.” Accessed 31 December 2020. [https://www.ilo.org/jakarta/info/public/pr/WCMS_513770/lang--en/index.htm](https://www.ilo.org/jakarta/info/public/pr/WCMS_513770/lang--en/index.htm)

---

Jayani, Dwi Hadya. “Jumlah Pekerja Informal Lebih Banyak dari Pekerja Formal,” [Katadata](https://databoks.katadata.co.id/datapublish/2020/04/08/jumlah-pekerja-informal-lebih-banyak-dari-pekerja-formal), accessed 20 December 2020.

Kaplan, Andreas M., and Michael Haenlein. 2010. “Users of the world, unite! The challenges and opportunities of social media.” *Business Horizons* 53(1): 59-68.

Kessler, Sarah. 2018. *Gigged*. London: Random House Business Books.

kumparanTECH. 2020. “Organisasi Ojol: Ada 4 Juta Driver Ojol di Indonesia.” *kumparanTECH*, 9 April, 2020.
Lidyana, Vadhia. 2020. “Sepi Orderan, Driver Ojol Mulai Tawarkan Jasa Lewat Medsos.” detikFinance, 16 April 2020. https://finance.detik.com/berita-ekonomi-bisnis/d-4979019/sepi-orderan-driver-ojol-mulai-tawarkan-jasa-lewat-medsos

Litt, Eden. 2013. “Measuring users’ internet skills: a review of past assessments and a look toward the future.” New Media and Society 15(4): 612-630.

Losby, Jan L., John F. Else, Marcia E. Kingslow, Elaine L. Edgcomb, Erika T. Malm, and Vivian Kao. Informal Economy Literature Review. Washington, DC: The Aspen Institute, 2002.

Masterson, Courtney R., and Jenny M. Hoobler. “Domestic Employment: Making Visible an Invisible Relationship.” Journal of Management Inquiry 28(3): 354-358.

McCorkle, Denny, and Janice Payan. 2017. “Using Twitter in the Marketing and Advertising Classroom to Develop Skills for Social Media Marketing and Personal Branding.” Journal of Advertising Education 21(1): 33-43.

Morris, Meredith Ringel, Scott Counts, Aaron Hoff and Asta Roseway. 2012. “Tweeting is Believing? Understanding MicroBlog Credibility Perceptions.” Paper presented at CSCW 2012, Seattle, February 2012.

Nastiti, Aulia. 2017. “Worker Unrest and Contentious Labour Practice of Ride-Hailing Services in Indonesia.” Paper presented at Arryman Symposium, Jakarta, June 2017.
Nugraheny, Dian Erika. “Menag Sebut Mayoritas Muslim di Indonesia Setuju dengan Pancasila.” KOMPAS.com, 13 March 2021. https://nasional.kompas.com/read/2021/03/13/11584391/menag-sebut-mayoritas-muslim-indonesia-setuju-dengan-pancasila

Octavia, Joanna. 2020. “Building Back Better: COVID-19 and Informal Workers in Indonesia.” LSE Southeast Asia Blog (blog), 15 December 2020. https://blogs.lse.ac.uk/seac/2020/12/15/building-back-better-covid-19-and-informal-workers-in-indonesia/

Park, Chang Sup, and Barbara K. Kaye. 2019. “Expanding Visibility on Twitter: Author and Message Characteristics and Retweeting.” Social Media + Society 5(2).

Silver, Laura, Aaron Smith, Courtney Johnson, Jingjing Jiang, Monica Anderson and Lee Rainie. 2019. “Use of smartphones and social media is common across most emerging economies”. Pew Research Centre, 7 March 2019. https://www.pewresearch.org/internet/2019/03/07/use-of-smartphones-and-social-media-is-common-across-most-emerging-economies/

Pebrianto, Fajar. 2020. “APJII: Pengguna Internet RI 196,7 Juta Orang atau 73,7 Persen Penduduk.” Tempo.co, 10 November, 2020. https://bisnis.tempo.co/read/1403969/apjii-pengguna-internet-ri-1967-juta-orang-atau-737-persen-penduduk/full&view=ok

Primaldhi, Alfandra. 2017. “Hasil Riset Manfaat Sosial Aplikasi On-Demand: Studi Kasus Go-Jek Indonesia.” Jakarta, Indonesia: Pusat Kajian Komunikasi Universitas Indonesia.
Reza, Hasan. 2017. “Networks, social ties, and informal employment.” *Childhood* 24(4): 485-501. Jakarta, Indonesia: Pusat Kajian Komunikasi Universitas Indonesia, 2017.

Rosenblat, Alex, and Luke Stark. 2016. “Algorithmic Labor and Information Asymmetries: A Case Study of Uber’s Drivers.” *International Journal of Communication* 10: 3758-3784.

Rosyadi, Muhamad Imron. 2017. “Go-Jek Umbar Program Cicilan Buat Driver, Apa Saja?” *detikInet*, 19 October, 2017. [https://inet.detik.com/cyberlife/d-3691749/go-jek-umbar-program-cicilan-buat-driver-apa-saja](https://inet.detik.com/cyberlife/d-3691749/go-jek-umbar-program-cicilan-buat-driver-apa-saja)

Rothenberg, Alexander D., Arya Gaduh, Nicholas E. Burger, Charina Chazali, Indrasari Tjandraningsih, Rini Radikun, Cole Sutera, and Sarah Weilant. “Rethinking Indonesia’ Informal Sector.” *World Development* 80: 96-113.

Satria, Gilang. 2020. “PSBB Jakarta Diterapkan, Penghasilan Ojol Anjlok Hingga 80 Persen.” *KOMPAS.com*, 11 April, 2020. [https://otomotif.kompas.com/read/2020/04/11/114200515/psbb-jakarta-diterapkan-penghasilan-ojol-anjlok-hingga-80-persen](https://otomotif.kompas.com/read/2020/04/11/114200515/psbb-jakarta-diterapkan-penghasilan-ojol-anjlok-hingga-80-persen)

Seetharaman, Priya, Maria Alexandra Cunha, and John Effah. 2019. “IT for the informal sector in developing countries: A broader perspective.” *The Electronic Journal of Information Systems in Developing Countries*, 85(3): 1-5.
Sethuraman, S. V. 1975. “A Case Study of Jakarta.” *International Labour Review*, 112(2-3): 191-205.

Sulaiman, M. Reza, and Dina Afrianti Efendi. 2020. “Viral Tagar #ButuhDriver di Twitter, Saat Ojol Terima Layanan Offline.” *Suara.com*, 10 April, 2020. https://www.suara.com/lifestyle/2020/04/10/152730/viral-tagar-butuhdriver-di-twitter-saat-ojol-terima-layanan-offline

Sujatmiko, Edy. 2020. “Menanti Keajaiban PSBB.” *AntaraNews.com*, 10 April, 2020. https://www.antaranews.com/berita/1415491/menanti-keajaiban-psbb

Suvankulov, Farrukh, Chi Keung Marco Lau, and Frankie Chau. 2012. “Job search on the internet and its outcome.” *Internet Research* 22(3): 298-317.

Tenggara Strategies. 2020. “Grab and the Gig Economy: Strengthening Economic Resilience.” Jakarta, Indonesia: Tenggara Strategies, Centre for Strategic and International Studies.

Ticona, Julia, and Alexandra Mateescu. 2018. “Trusted strangers: Carework platforms’ cultural entrepreneurship in the on-demand economy.” *New Media & Society* 20(1): 4384-4404.

Twitter. 2020. “How to use hashtags”. https://help.twitter.com/en/using-twitter/how-to-use-hashtags
Uber. 2021. “Uber’s Driver app, your resource on the road”. https://www.uber.com/za/en/drive/driver-app/

Van Dijck, José. “Social media and the culture of connectivity.” OUPblog, February 25, 2013. https://blog.oup.com/2013/02/social-media-culture-connectivity/

Wardhani, Dewanti A. “Shaping the Future of Payment with GO-PAY.” Medium, 21 May, 2019. https://medium.com/life-at-go-jek/shaping-the-future-of-payment-with-gojek-f6552a3c828

WIEGO. Informal workers and the use of mobile technology and communications: Findings from key informant interviews. Manchester, UK: WIEGO, 2014. Accessed 8 June 2021. https://www.wiego.org/sites/default/files/publications/files/WIEGO_VW_mHA_Mobile_Informal_Workers_2014.pdf

Wijaya, Stevanus W., Jason Watson and Christine Bruce. 2018. “Understanding Empowerment in Social Media Context: Lessons from Indonesian Migrant Domestic Workers.” Int. J. Web Based Communities 14: 172-195.

Zhu, Feng, and Marco Iansiti. “Why Some Platforms Thrive and Others Don’t.” Harvard Business Review, January, 2019. https://hbr.org/2019/01/why-some-platforms-thrive-and-others-dont

Zhu, Yu-Qian, and Houn-Gee Chen. 2015. “Social Media and Human Need Satisfaction: Implications for Social Media Marketing.” Business Horizons 58(3): 335-345.