The experience of platform livelihoods in the Global South: A literature review

V1.01 October 2020

A companion to the online evidence map, last updated 20 Oct 2020

By Caribou Digital and Qhala with the Support of the Mastercard Foundation

Acknowledgements

This report was written by Jonathan Donner,* Shikoh Gitau, Nasubo Ongoma, and Tessie Waithira. Special thanks to Tricia Williams, Alina Kaiser, Serah Kangethe, George Njuguna, and Aleah Taboclaon.

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Recommended Citation

Caribou Digital and Qhala. *The experience of platform livelihoods in the Global South: A literature review (V1.01)*. Farnham, Surrey, United Kingdom: Caribou Digital Publishing, October 2020 https://www.platformlivelihoods.com/evidence-gap-map/.

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Executive Summary

Introduction: What is the quality of platform livelihoods in the Global South?

There is growing interest in the economic development community about how people can participate in the platform economy to find work and earn a living. Opportunities in roles like online freelancing and ride hailing are beginning to be found throughout low- and middle-income countries, as is social commerce—the selling of goods and services via social media platforms like Facebook and WhatsApp. Perhaps platform work and platform sales offer new paths to employment, agency, and earning, even in contexts where unemployment is rampant and traditional jobs in the formal sector are scarce. Perhaps platform work and platform sales represent a dangerous erosion of hard-fought social contracts between workers and employers, a way of working that traps small enterprises and individuals at the margins without dignity or prospects for advancement. Perhaps platform work and platform sales are both of these things, and more.

We argue that to inform policies, product, and program, there is still insufficient attention paid to how individual work seekers and entrepreneurs pursue livelihoods in the platform economy. To address this gap, this paper draws on a literature review to make five main foundational contributions.

1. We propose and define platform livelihoods as the superset of platform work by individuals and platform sales by micro and small enterprises (MSEs) and farmers. This resulted in an illustrative set of nine diverse platform livelihood types.
2. Using a review methodology of 75 studies, we identified twelve core experience elements of platform livelihoods, discussing each in turn.
3. We discuss studies of each of the nine platform livelihood types, drawing distinctions between them.
4. We combine these two arrays into 9×12 online evidence map[1] of findings per livelihood type and per element.
5. We discuss how these livelihood elements and types interact with four crosscutting themes (gender, rurality, youth, and COVID-19), and four emergent dynamics (hidden hierarchies, amplification, contestation/appropriation, and fractional livelihoods).

We have crafted this review, and the forthcoming Kenya fieldwork that it supports and informs, with the support of the Mastercard Foundation, that is specifically interested in extending work that is dignified and fulfilling to 30 million young Africans, particularly young women, as part of its Young Africa Works initiative (Mastercard Foundation 2018).

1 https://www.platformlivelihoods.com/evidence-gap-map/

1 Defining platform livelihoods

The technical innovation at the core of our inquiry is *the digital platform*. Digital marketplaces for goods and services have proliferated into virtually every segment of the economy, allowing platform firms to sit in the middle, matching buyers and sellers in two-sided or multi-sided marketplaces. Meanwhile, individuals and small firms also use social media platforms for social commerce, promoting their labor, small businesses, or their agricultural crops (Vijay and Raju 2019; Aggarwal 2020)on personal pages, social media groups, and private messages, among others. A few make a living as "influencers." And, of course, Facebook and Google are among the biggest sellers of advertising in the world, much of that to small businesses.

What is common across all these kinds of platforms is the centrality of a digital infrastructure linking buyers and sellers, governed at a large scale by code and algorithms. The platform logic carries different affordances and constraints, as well as different norms and practices. The growth in the literature about platformization and the general awareness of the topic in popular discourse suggests that there is something different about finding one's way and earning one's living in the platform economy. That experience is the focus of this review.

We use livelihoods broadly, allowing simply for a mix of physical or mental labor and the utilization of tools or assets to create products and services. The term encompasses activity by the self-employed, by laborers and workers, and by entrepreneurs and business owners

Indeed, many livelihoods exist outside the constructs of a "job"—a long-term relationship between an employer and an employee, paid by salary or by time-based wages. Livelihoods can be a string of casual, or sometimes informal 'gigs', short-term activities directly interfacing with more than one customer.

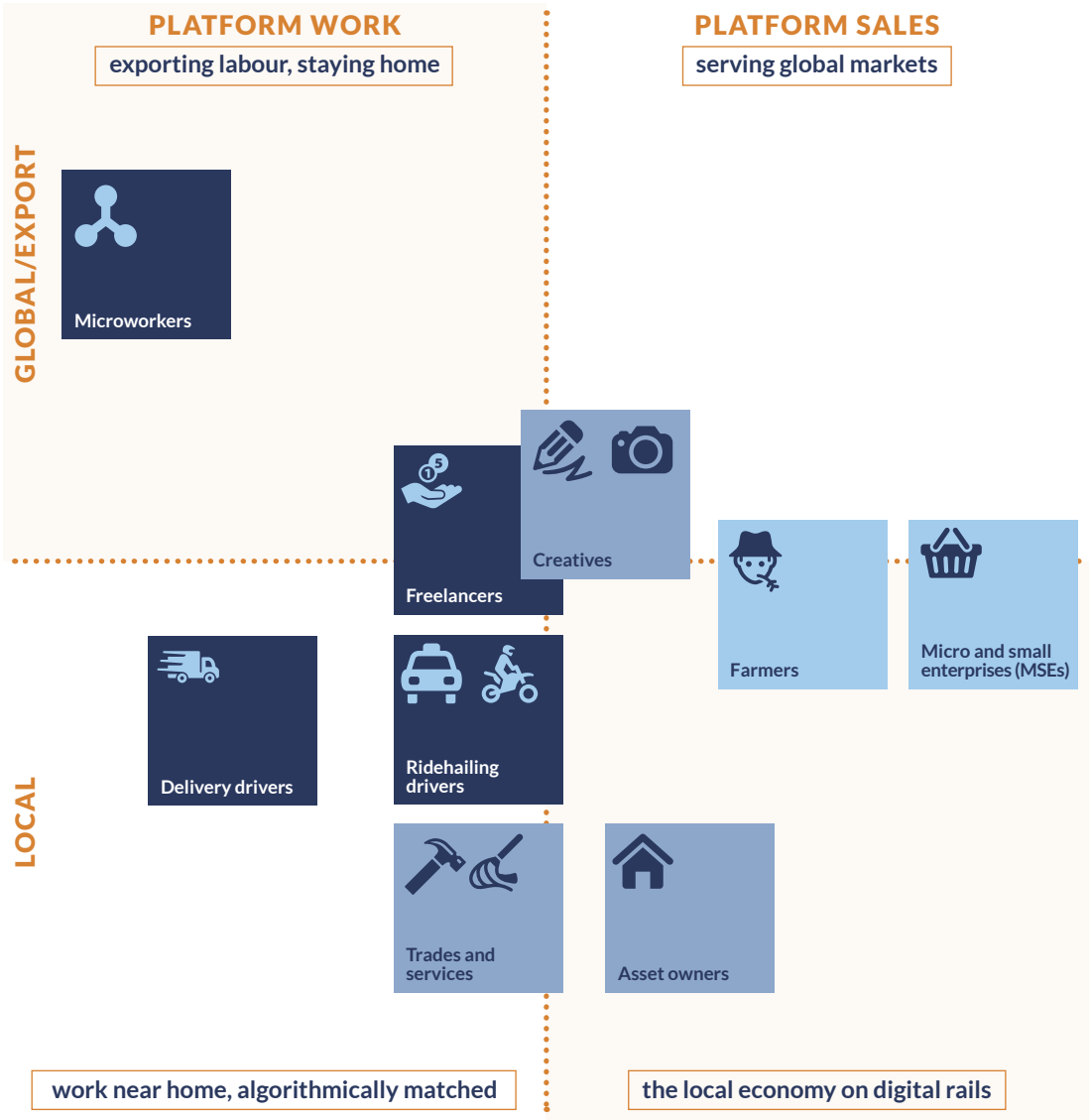
When we put these together, we define platform livelihoods as active human efforts, sometimes combined with tools or assets, deployed to create value outside of the constructs of a stable employer-employee relationship, mediated by the infrastructure and accompanying logic of digital platforms. Thus, our literature scans and own conceptualizations of platform livelihoods are strengthened when they are informed by labor lenses and by entrepreneurial lenses, without being captive to either one.

This approach to platform livelihoods is broad enough to capture a variety of activities, each of which can be found throughout the Global South. Types of platform livelihood will include

- Global and local transactions. These comprise products and services produced and consumed offline in local markets, as well as products and services made for export, particularly microwork and freelancing.
- Labor, and products and services. Some platform livelihoods involve exclusively labor, but other such livelihoods have at least some tools or assets associated with it.
- Solo individuals and small firms. The terms "platform work" and "platform labor" is increasingly common, and appropriately describe when individuals find short-term work via labor marketplace platforms. But small enterprises depend on platform mediation, as well. Micro and small enterprises (MSEs) and farmers are critical participants in the platform economy. Their livelihoods, as well as of their employees, are increasingly platform-mediated.

FIGURE 1

Platform Livelihood Types



Notes: Version 1.0 October 2020. These types come from an analysis of 75+ studies of platform livelihood experiences in the global South http://platformlivelihoods.com. Types not to scale. There are other types of platform livelihoods – this list is illustrative. All types can involve a mix of formal marketplace platforms, social media/social commerce, and advertising. This figure was developed by Caribou Digital and Qhala, with the support of the Mastercard Foundation.

2 Via a review of 75 studies, we identify 12 experience elements of platform livelihoods

Others have offered reviews or typologies of platform livelihood experiences. We drew on anchor studies by Heeks (2017) and Zollmann and Wanjala (2020) to inform our design.

We utilized an adaptive and transdisciplinary approach to identifying studies. Most studies were identified using a combination of Google Scholar and the bibliographies of the studies. We imposed a filter for studies from the Global South. With greater density of attention to ridesharing and crowdwork/freelancing, it was a bit more difficult to identify studies associated with the experience of selling via platform markets in agriculture and E-commerce.

Not all studies addressed the whole issue of experience. But if the study was able to capture first-person reports of some dimensions of the platform experience, we erred on the side of including it. Studies that did not contain new primary research were excluded.

Heeks (2017) and Zollmann and Wanjala (2020) both suggest typologies/frameworks that characterize the quality of gig or platform livelihoods. We coded the 75 studies according to both these frameworks, iterating through the exercise to combine and pair these overlapping lists into 12 elements (experiences) of platform livelihoods.

Please note that for the sake of brevity, this executive summary does not link findings to specific research papers. Please refer to the main research report or the online evidence map for all citations and references, and please follow these references back to the original papers.

FIGURE 2

Elements of Platform Livelihood Experiences

Economic experiences

Access to work and markets	Are there income generating opportunities for those who want them?
Earnings	Is there a fair return for time and assets applied?
Flexibility	Can people work and sell, when and where they want?

Subjective experiences

Social Acceptability	How do others view platform livelihoods?
Purpose & Passion	What mark does the work leave on the world?
Entrepreneurial Drive	Is it important to be one's own boss?

Human development experiences

Inclusion	Can women and other marginalized groups pursue this livelihood?
Objectivity & Professionalism	Do people feel they are treated with dignity and respect?
Upskilling & Growth	Can people learn and advance?
Health & Safety	Are people healthy and safe when pursuing this livelihood?
Betweenness & Protection	How is this space between employment and self-employment experienced? And how are people protected in it?
Association, Organization & Support	Are people in this together?

Notes: Version 1.0 October 2020. These types come from an analysis of 75+ studies of platform livelihood experiences in the global South http://platformlivelihoods.com. This figure was developed by Caribou Digital and Qhala, with the support of the Mastercard Foundation.

Economic Experiences

Three elements are an interconnected set of tradeoffs, collectively reflecting the experience of participating as worker/producer/seller/vendor in a highly efficient marketplace where one's participation is optional and may be fractional. The resulting experience is palpable as individuals are confronted by market forces manifested in code.

- ***Access to Work & Markets:*** *Are there income-generating opportunities for those who want them?* Research suggests that many (but not all) workers and sellers experience broader markets and more ready access to a broader supply of work. Some feel it is the only livelihood available. Questions remain about how big these markets may be (and thus, how many platform workers and sellers there are). Other studies report platform workers and sellers being frustrated by the algorithmic assignment of availability, dynamic pricing, and the ebbs and flows of demand that characterize platform marketplaces.
- ***Earnings:*** *Is there a fair return for time and assets applied?* Many studies tried to estimate earnings, or at least ask individuals how they felt about the earnings they received. Some assessments were positive, compared to alternatives in other sectors, non-platformed versions of the same work, or to the abstraction of being "enough." But negative assessments of earnings were somewhat more frequent, often appearing in the same studies that shared positive assessments. Many reported earnings that were low or unstable. Some were frustrated by high competition, uncompensated time, dropped or missing earnings, and the share of the fee taken by the platform.
- ***Flexibility:*** *Can people work and sell, when and where they want?* Flexibility is at the heart of many of the narratives surrounding gig work and the labor elements of platform livelihoods. This element is reflected in how study participants around the world stressed the importance of choosing times of day to work, the ability to work from home (often to take care of family), to manage one's workflow, or to work part-time. But sometimes this flexibility was not available—other research describes brutal time zone and long hours, lots of unpaid time, pressures to work long enough to make enough money, or the need to always stay focused on getting another gig.

Human Development Experiences

We found six elements that reflect a broader, more heterogenous set of priorities shared (at least in part) by individuals, policymakers, and researchers. Roughly, they correspond to a "human development" agenda.

- ***Inclusion:*** *Can women and other marginalized groups pursue this livelihood?* Did participants report that platform livelihoods are available to everyone, or were there identifiable barriers preventing individuals from pursuing them? Some laud low barriers to entry and opportunities for youth. In freelancing and microwork, the fact that markets were global was seen as a plus. Some suggested platform livelihoods welcomed the marginalized, particularly women. However, this narrative was often offset by a litany of barriers, including having the physical assets to pursue the work, the knowledge and awareness of the work, and structural barriers like driving licenses. Entrenched forms of discrimination by country and by gender were often reported as well.
- ***Objectivity & Professionalism:*** *Do people feel they are treated with dignity and respect?* Workers and sellers interact with human clients and with the code on the platform. This element involves whether such interactions left workers and sellers feeling respected and treated like a human being, like a whole person, or decidedly less so. Platforms can provide cues, standards, and guardrails that collectively serve to professionalize and routinize product and service delivery, and thus some find an improvement in the work environment and a higher likelihood of being treated well. However, other sellers and workers encountered frustrating or opaque processes, complex compensation rules, imposed segmentation into classes, a lack of transparency about how jobs are distributed, and demeaning or repetitive jobs below individuals' educational and capabilities. Others experienced gender and class discrimination, even xenophobia, during the course of the work.
- ***Upskilling & Growth:*** *Can people learn and advance?* The parameters of this element are relatively clear. Career development can be experienced via intangibles like exposure and enrichment, as ladders to new jobs or better pay, and of course, as skills acquisition, either on the job or in formal training provided by platforms. Many forms of platform work (or at least, many individuals' experiences of platform work and sales) offer no promotions, no certificates, no training, and nothing for the CV.
- ***Health & Safety:*** *Are people healthy and safe when pursuing this livelihood?* The threats, and occasionally the benefits, that accrue from a health perspective are largely a function of the specific vocation. It depends where the work happens (at home, at a client's home, or on the road). It also depends on whether there's cash around. That said, the physical safety of driving, the mental and emotional tolls of microwork (especially content moderation) are clear. One way to think about that is whether platforms do more or less than employers to mitigate risks through insurance, caps on hours worked, etc., or do they shift the burden of safety to workers?

- ***Betweenness & Protection:*** *How is this space between employment and self-employment experienced?* How are people protected in it? By design, marketplace platforms sit in the middle between sellers and buyers. When workers aren't employees, and when sellers aren't regular vendors with contractual relationships to buyers, that sets up gray areas both in terms of how workers and sellers experience autonomy, and, more importantly, whether a state's social protections and labor laws, including insurance and pension and health, are configured to include them. The studies suggest this is an essential vulnerability by design. Some workers do prefer an arm's-length arrangement, while others feel the lack of protection. Some are confused and do not know how to describe themselves vis-à-vis the traditional constructs of employee and entrepreneur. We argue this is not merely a matter of semantics, and that instead, betweenness is an essential experiential element of platform livelihoods.
- ***Association, Organization, & Support:*** *Are people in this together?* Several of the studies shared ways in which platform workers and sellers were not alone. This could be as simple as identifying oneself as a platform worker, which could extend to having venues for mutual support and information sharing, especially online. In some cases, this went all the way to forms of collective action. However, the presence of actual unions or worker's associations remains variable, as does individuals' interest in joining them.

Subjective Experiences

Three elements deal with self-image and a worker or seller's place in society and the economy. Instead of rolling them up into a single element, we think it is important to separate at least these three distinct strands.

- ***Social Acceptability:*** *How do others view platform livelihoods?* Several studies did address matters where the platform was operating outside of the license or regulatory regime, or when individual sellers and workers were operating in a gray zone of questionable morality as opposed to clear illegality. More broadly, some suggested that gig work, particularly microtask, does not have a high status and is not held in esteem. However, this negative sentiment was not universal. Some families just remained unaware of what young freelancers and gig workers were doing. Other families were proud. Some workers and sellers even evangelized their livelihoods to friends and family.
- ***Purpose & Passion:*** *What mark does the work leave on the world?* Some mention enjoyment. Others see how important it is to feel accomplished, or to find satisfaction in helping others. It is part of why transparency (in impact, and reason for doing the work) is important.
- ***Entrepreneurial Drive:*** *Is it important to be one's own boss?* It is helpful to place entrepreneurship apart from purpose or acceptability, precisely because the idea that platform livelihoods are a form of entrepreneurship remains contested. It's absolutely clear that some people involved in platform livelihoods view themselves as entrepreneurs, and it is equally clear that others do not. While the narratives provided by the platforms, the actual opportunities available on the platforms, and the desires of some individuals to pursue this type of entrepreneurship may align, it is not the same as suggesting that everyone involved is, wants to be, or considers themselves "an entrepreneur."

3 Comparing nine livelihood types

We discuss nine platform livelihood types. Some, like ridesharing and freelancing, are well-researched. Others, like creatives or logistics, are less so. The research on MSEs and farming (as platform sales) is sparse, because while many studies approach ICT use by famers and MSEs, only a few directly engage with platform sales. We will be adding more platform sales studies to later versions of this review.

- ***Ride-hailing drivers:*** Many studies deduce that platforms offer the promise of high rewards and flexible working hours. However, drivers paint an alternative picture of their experience, marred by inflexible and long working hours, no provision of off days, sick days, or social benefits. Some were frustrated by the surveillance of the algorithm, unclear rating, driver safety concerns, and the restriction on the type of vehicle on the platform. Their key concern as they work on the platform is to make enough earnings. As a result, some mentioned that they engage in underhanded practices to cut out the platform to earn the full amount.
- ***Delivery drivers:*** Workers in this sector seem to face similar challenges as those in ride hailing, for instance, barriers to entry and no labor unions or social protection schemes. Some of the ways they differ from ride hailing is having more options to choose from (e.g., parcels, food, or people) and easier navigation despite existing traffic conditions. According to some studies, riders prefer parcel delivery as it offers a less stressful experience. Riders express a grim picture of a fast-paced working life, driven by the algorithm. The algorithm sets the delivery time, regardless of prevailing conditions outside the rider's control. Many studies outline unfair rating, predominantly left in the hands of clients with little redress mechanisms from the drivers.
- ***Microworkers:*** Studies portray a segment with nameless, faceless workers with no obvious qualifications apart from basic literacy skills. The net result is high worker numbers and low pay, which leads to stiff competition for jobs and varying payment terms based on geography. The only survival mechanism for workers is regularly checking for work on the platform, resulting in long and inflexible working hours. The successful workers often use additional software tools e.g., scripts, to get quick jobs and may grab many jobs and employ others to carry it out. While workers are often anonymous, workers have formed outreach groups for knowledge sharing, support, and collective bargaining.
- ***Freelancers:*** Freelance, according to studies, is a way for people to be self-employed (not having a boss), offering flexibility and choice to determine their own rates. The key concern is maintaining a steady flow of work in such a competitive atmosphere. Some studies outline the struggles newbies face, especially in building credibility on the platform. Experienced freelancers on the other hand, have a higher bargaining power, thus, they get the majority of the jobs that they sometimes subcontract.

- ***Trades & Services:*** Many studies outline structural inequalities between workers, clients, and platforms, which leave the workers vulnerable to exploitative practices. Key challenges are dissatisfaction on earnings, ill treatment, unfair ratings by clients, and algorithm-led allocation with no way to choose locations or clients. This section is marred by inequalities favoring the clients, leaving little room for negotiation by the workers. Workers in these studies expressed vulnerability as they work, for instance, the estimation, assessment, and the ratings of the work is left to the clients, with no redress mechanisms even when they raise their grievances on the platform. Workers have found solace in each other, through community groups to learn from each other, exchange ideas, and occasionally share transportation to the work areas.
- ***Micro and Small Enterprises (MSEs):*** Digital platforms have increased sales and transaction volumes for the MSEs by exposing them to a wider pool of people. For those who rely on social media channels, referral from family and friends helps the business reach more people. Studies show that over time, there has been a rise of homegrown creative infrastructure that merges social media channels, delivery and logistics, and customer service. Some worry about the collapse of online platforms, while others struggle to look professional and credible on these channels. The struggle to look credible while still remaining professional was evident from the studies with many social media sellers creating personal and business accounts to create a balance between work and life. Online platforms have opened market access, encouraged adoption of technology, and even encouraged business owners to offer delivery services to their clients. It was clear from the studies that the most literate ones win and that besides the earnings, there is an increase in self-fulfillment by being a business owner.
- ***Asset Owners:*** Based on a single study in this sector, people join Airbnb for the lure of supplementary income that also supports and builds the local economy. Homeowners appreciated the platform in offering them a choice on who they can and can't accept in their homes. Of note is the differentiation of practices between Global North and South, with clients being wary of the Global South listings.
- ***Creatives:*** There are few papers on the platformization of the creative economy in the Global South. According to one research, it was clear that even if creatives can use social media as channels of distribution, there currently exists no revenue models that allow them to make returns on their work. Another concern with the creative economy was piracy, as there lacks information and documentation of the processes that animate the chain of production and labor dynamics in these economies. Despite the availability of digital technologies, the creative industry has not embraced it well. Research in this sector has been limited.
- ***Farmers:*** Digital platforms have brought disintermediation in the agriculture sector. From the studies, some were happy with the digitization as it solves the trust issue between farmers, brokers, and consumers. These channels have offered direct market linkage to the farmers. Some have concerns with digitization, opting for one-on-one interaction as this would help them judge their pricing better; when making a sale, they said body language helps with negotiation. Brokers are seen as controllers of a cartel, while

digitization might work to eliminate them. Some believe this could lead to creation of silos with brokers colluding behind closed doors. Theoretical analysis argues that ICT has played a great role in the reduction of information costs, but it has come with added costs involved in the transaction within the agricultural value chain.

4 A 9×12 online evidence map

The best way—the best level of analysis—at which to assess and understand the quality of platform livelihood experiences in the Global South is to apply the 12 experience elements to one livelihood type at a time, ideally filtering by country, or by other factors such as gender or reality that one might want to address. Such specificity avoids the overgeneralization that predominates popular discussions of the gig economy or the future of work. Of course, this type of analysis is impossible to represent systematically and comprehensively in a paper document. But, we have made available an accompanying online resource[2] searchable and filterable in these ways. We encourage this document to be read as a companion to the evidence map, and hope that individual researchers can follow the links back to the original studies and engage directly with the researchers around the world.

FIGURE 3

Screen shot (15 October 2020) of online evidence map.

2 https://www.platformlivelihoods.com/evidence-gap-map/

5 Crosscutting themes and emergent dynamics

We elaborate on four themes—gender, rurality, youth, and the shock of COVID-19—to draw further crosscutting insights from the 75 studies for the development community.

- ***Gender:*** Gender interacts with all of the core elements introduced in the platform livelihoods experience framework, particularly access, earnings, flexibility, and professionalism. Some studies report gender differences in engagement rates and earning by different livelihood types. Some go much further, unpacking the multifaceted, culturally, and contextually embedded reasons behind these observed differences. Whether due to extra household responsibilities or societal/familial expectations about what kinds of jobs or roles women might take, several barriers in access to capital, sexism, freedom of movement, access to ICTs, and safety are described. A few studies probe further; exploring much of this is unique to platform work, or to work in general. We suggest it is useful to view evolutions in the gendered experience of work as intertwined with the systems through which that work can be done.
- ***Rurality:*** *Though a central issue in development, it's too early for evidence about rural platform livelihoods.* Systematic mappings and comparisons of urban and rural participation in platform economies remain scarce, and the customer base for local products and services, such as logistics, ride hailing, asset sharing, and MSMEs, to say nothing of creatives, may be growing outwards from urban areas. Direct evidence of participation in formal agricultural marketplaces and in social commerce/social agriculture also lags in the evidence base in these other sectors.
- ***Youth:*** *A new way of working? The studies suggest that platform livelihoods skew toward the youth*, explained in part by digital literacy and ICT use. But the transitory, fragmented nature of many young people's early interactions with the workplace fit well with platform livelihoods. This demands further scrutiny: Are platform livelihoods a "new normal" for the youth, or is it a life stage?
- ***COVID-19:*** *Some thrive. Most suffer. Without labor protections and sensitive to swings in demand and supply,* platform workers and sellers are particularly vulnerable to shocks like COVID-19. As we were compiling the initial version of this review, the overall evidence base was sparse. But early studies illustrate how COVID-19 is a mediating force exacerbating the vulnerabilities experienced by many platform workers and sellers.

We introduced four structural dynamics—fractional work, hidden hierarchies, amplification, and contestation—that are each worthy of further attention. These four dynamics are not experiences, per se, but rather reflect a push–pull between technologies as designed and technologies as appropriated and used by people in pursuit of their own better livelihoods. Each presents a challenge to anyone who seeks to shape the impact of these technologies.

- ***Fractional work:*** For some, it is a choice, while for others, it is a necessity. For all, it is a major distinction between what one needs from the work. Technologies. Several studies identified how only a fraction of participants in platform livelihoods were working full-time. Some divide platform work and sales across multiple platforms. Others work a full-time job and use platforms to augment the income of a full-time job. Others work only part-time on a platform while in school, or helping family. If one is building the optimal platform for individuals, or if one is regulating for optimal outcomes for individuals, which individuals are being designed for it? What are the assumptions about how much individuals rely on that platform as the primary source of income, protection and benefits for them and their families?
- ***Hidden hierarchies:*** *How many workers and sellers are there? How many have bosses we can't see?* We argue it is important not to confuse the entrepreneur with the enterprise, and to look for cases where *enterprises* are growing, even when it seems like a sole proprietor. These are not always rigidly hierarchical in an employer/employee or even lessor/lessee sense—they can be cooperatives, or family activities—but many are, as those with assets or power or prestige pull others in to work for them or rent from them, under the banner of a single account.
- ***Contestation and emerging algorithmic competencies:*** *Platforms set the rules, but workers and sellers push back.* The studies indicate how platform sellers and workers have developed a variety of strategies that individuals use to challenge and push back on the rules of the game as supposedly imposed by the marketplace platforms. They have developed new skills and strategies to take back what power they can, to optimize within or sometimes beyond the rules as established by the platform and other institutions, to optimize the quality of their experience. Strategies include keeping one foot in the offline world, "multi-homing," developing anticipatory knowledge of the algorithm, and skipping jobs that promise low pay. Some use tools, bots, and extra phones or devices to improve their chances of getting quality work. Others learn the unwritten aesthetics of their customers. Some obfuscate via VPNs and false profiles. This theme underscores the lack of predictability in how individuals will respond to the rules as established by the platform. In these algorithmic competencies and patterns of appropriation and contestation lie not just digital literacy, but the broader craft of pursuing a platform livelihood.
- ***Amplification:*** *How some do well while others fall behind.* Quite simply, to the skilled, the prepared, the connected, and the well-resourced, go the spoils. Those with capital and skills are better positioned to prosper, differentially and over time, relative to those who start with less, if they can start at all. In platform livelihoods, reputation ratings serve as powerful signals to each new buyer about whether to choose a more/less experienced freelancer, driver, innkeeper, musician, etc. These ratings quickly amplify differences between the newbies and the superstars—an application effect where good ratings and good work are self-fulfilling and compounding.

How to proceed

This review does not contain specific policy or program recommendations. It is intentionally and more simply a review of the research literature on the experience of pursuing a livelihood in the platform economy in the Global South. Its primary goals are to inform those who might seek to engage in further primary research.

Indeed, one primary user of this document is our own team; this is the result of our Phase 1 review of what others are writing and seeing, before we head into the field in Kenya in Phase 2 of our own research on platform livelihoods in late 2020. Look, soon, for how our own interviews, with delivery drivers, farmers, MSE owners and the creative sector in Kenya describe livelihoods from their own experiences, with links these 12 core experiential elements and eight crosscutting factors.

As is often the case with a qualitative review, the answer to a broad question like "What are the experiences of platform workers and platform sellers in the Global South in 2020?" will be, "It depends." What this review of 75 studies of platform livelihoods in the Global South offers is a useful sketch of how it depends—it varies by country, by livelihood type, by gender, by age, by whether one is full-time or part-time, by whether one uses formal marketplace platforms or simply social media for social commerce, and even by each individual's own subjective experience and expectations about their role. We hope in aggregate that this review might dissuade policymakers and technologists alike from overgeneralizing about platform economy and the individual experiences within it.

In the discussion section of the document, we highlight some gaps—the lack of quantitative assessments of the number of people involved, the relative density of studies within ride hailing, microwork and freelancing as opposed to other sectors, and the concentration of studies within a few English-speaking regions.

It should be clear that our stance is that assessments of whether a livelihood type is experienced as positive or negative, as dignified and fulfilling or not, will continue to be best gleaned via comparative and systematic work, where the same type of questions are placed to workers and sellers in a few different livelihood types.

In all, we hope this review helps illustrate the great strides being made in rectifying what may have been an initial blind spot in the platform literature. If early studies evaluated platformization from the perspectives of consumer welfare (more choice, lower costs!) and firm innovation (how good it is to be a platform business!), these studies each contribute to our collective understanding of the experience of the small-scale supplier, the platform workers, and the platform sellers who pursue livelihoods in ways increasingly governed by digitization, code, and algorithms. Indeed "it depends"—but in ways that researchers, policymakers, and technologists can now more clearly see, and can more easily design interventions to meet.

Foreword

The events of 2020 are disrupting livelihoods around the world. From Nairobi to Accra to San Francisco, the twin health and economic crises ushered in by COVID-19 have made apparent that livelihoods and work will be markedly different after this experience. Never before have digital connections mattered more. Never before has there been a more urgent need to understand and shape the structural arrangements that contour so many people's lives.

The Mastercard Foundation envisions a world where everyone can learn and prosper. With our focus on young people, primarily in Africa and with Indigenous communities in Canada, we recognize that digital economies are central to the futures young people will inhabit. We believe in the power of young people to create solutions where others see obstacles. We also recognize that young people's opportunities are shaped by policies, regulations and structures, and it is vital to understand how these play out in the lives of everyday young women and men.

As part of our learning partnership with Caribou Digital, the Mastercard Foundation is expanding our knowledge of platform livelihoods. We're excited to collaborate as well with Qhala, which brings a grounded presence that is essential for developing insights. Together, we want to understand the quality of youth digital livelihoods. Are these good livelihoods? And what makes them good or not? This first stage of our collaboration highlights the existing knowledge landscape, and we hope that sharing this extensive review is beneficial to others as well. Understanding existing knowledge is critical to uncovering gaps and targeting our knowledge investments. We are particularly intrigued by the relative saturation of studies on microwork and gig work, and the relative inattention to other critical areas, such as the use of platforms in the creative sector and for micro and small enterprises. Many knowledge gaps remain.

Understanding must lead to action. Not on behalf of young people, but alongside them. The next phase of our collaboration with Caribou Digital and Qhala will explore the quality of digital work in Kenya, as described and experienced by young people themselves. Qualitative ethnography – adapted and contextualized to a digital world – will contribute to uncovering the textured nuance of young people's experiences. We will work alongside these young people to co-create insights. You'll hear more directly from them in the next phase of this collaboration.

As a knowledge community, we are challenged to adapt our existing frameworks and mental models for human-centered digital economy research. Yet reinventing our traditional approaches is essential to research on digital lives. Livelihoods and youth development fields tend to focus on training interventions and skills. Digital economy literature often takes a market-centric approach in which individuals are "users" and nations are "markets." In this project, we join a nascent research community in forging a path towards human-centered digital livelihoods study. We want to center young people in this work, while also uncovering and exploring the structural arrangements they navigate and encounter.

This work is about the opportunities for young people to have dignified and fulfilling work. It is about young women. It is about young men. As you read this, never forget that they will be the change agents of the future.

Tricia Williams
Thematic Research Lead, Mastercard Foundation

Introduction

There is growing interest in the economic development community about how people can participate in the "platform economy" to find work and earn a living (Schmidt 2017; Heeks 2017; UNCTAD 2019). Opportunities in roles like online freelancing and ride hailing are beginning to be found throughout low- and middle-income countries, as is "social commerce"—the selling of goods and services via social media platforms like Facebook and WhatsApp. These are relatively new phenomena in such markets, and likely still comprise only a small proportion of overall employment (Dupoux et al. 2019; Insight2Impact 2019). Yet against the broader backdrops of the spread of platform economies in the Global North (Srnicek 2017), and the designation of some forms of platform work around the world as "essential services" in the age of COVID-19 (Hoffstaedter, Robinson, and Riordan 2020; Bohn, Friederici, and Gümüsay 2020), the interest in the topic is palpable and understandable. Perhaps platform livelihoods offer new paths to employment, agency, and earning, even in contexts where unemployment is rampant and jobs in the formal sector are scarce. Perhaps platform livelihoods represent a dangerous erosion of hard-fought social contracts between workers and employers—a way of working that traps small enterprises and individuals at the margins without dignity or prospects for advancement. Perhaps platform livelihoods are both of these things, and more.

As platforms have spread, scholarship and research attention has followed. There are many broad questions to address, e.g., the proportion of platform-mediated work in the population, wages and job mobility relative to alternatives, regulatory issues, and worker protection, among others. There are also several potential lenses to apply (law, micro- and macroeconomics, business strategy, sociology, etc.). As such, there are several excellent book-length treatments (Rosenblat 2018; Ravenelle 2019; Gray and Suri 2019; Woodcock and Graham 2020 and scores of scholarly articles about platforms, labor, and "the future of work."

Our contribution is more focused. We argue that there is still insufficient attention paid to how people experience platform work and platform sales, and that a critical input to addressing these broader questions will be to hear from, understand, and empathize with individuals trying to make a living. This would be instrumental in informing policies, products, and programs.

In preparing for some new fieldwork in this vein planned for Kenya in September 2020 (Donner and Gitau 2020), our team first scoured the internet for primary research conducted with ethnographic and other first-person methodologies. We searched for studies using interviews and other methods that foregrounded the voice, experiences, and perspectives of individual platform workers and micro-entrepreneurs in the Global South. We found a sufficiently broad array of recent studies to merit this systematic review.

We have crafted this review, the accompanying online resource,[3] and the forthcoming Kenya fieldwork, with the support of the Mastercard Foundation, which is focused on addressing youth unemployment in Africa by helping 30 million young people, particularly young women, secure dignified and fulfilling work (Mastercard Foundation 2018). Our research is not a direct input to the Foundation's decision-making process, nor does it represent its views, but it is our hope that this review and the new primary research it will inform will be valuable to these kinds of programmatic ventures around the world.

3 https://www.platformlivelihoods.com/evidence-gap-map/

Our review is differentiated from earlier efforts in two ways.

First, it's a good time to begin to disaggregate the experience of platform work and sales into ***distinct sectors***; the experience of a person driving their own car for a ride-hailing company may not be the same as a person preparing meals for a delivery company. A person offering rooms in their family home to let via Airbnb may have a different experience from a smallholder farmer selling crops direct to consumers via a Facebook group. There are, undoubtedly, commonalities between different types of platform livelihoods, but it is also likely to paint with too broad strokes to consider their development impacts to be the same regardless of the industry, the sector, the country, or the individual. By describing platform livelihoods (instead of exclusively platform work), we can cast an intentionally wider net around a host of activities happening on formal marketplace platforms, via advertising and informal social commerce. By doing so, we can address the experiences of individuals looking for work, and entrepreneurs looking to boost the sales of their small businesses.

Second, it is also a good time to ***amplify perspectives from the Global South***. At the risk of oversimplifying, one could argue that the common framing employed by most analyses of platform-mediated livelihoods in the Global North is to compare platform work to full-time work in the formal sector. The experience of the livelihood is then framed in terms of a trade-off of increased flexibility versus stability and protection. Stories of precarious and low-wage "gigs" are common (e.g., Ravenelle 2019; Rosenblat 2018) , and it is probably not an exaggeration to suggest that the literature conveys more apprehension than enthusiasm. But how does this map into regions where salaried jobs with full benefits may be even scarcer, and where incomes may be consistently lower? Our primary target in our work with the Foundation may be sub-Saharan Africa, but it's our contention that a variety of contexts, all of which share conditions of resource constraint, can inform each other.

In sum, this review synthesizes first person and ethnographic studies of the experiences of workers and entrepreneurs with platform-mediated livelihoods in the Global South. It is a written companion to an online "evidence map" and may be refreshed as new studies are located. As detailed in the methods and definition sections below, for this version (1.0) we identified 75 studies for inclusion in the study, representing an intentionally broad array of platform livelihoods.

Definitional scope

When we focus on platform-mediated livelihoods—or briefly, "platform livelihoods"—what kind of activities are we talking about, and what counts as "experience"? This section briefly examines the key concepts underpinning the inquiry. This helps guide the inclusion/exclusion of studies, and helps bind and contextualize the findings in aggregate.

You might have noticed our frequent repetition of the word "livelihood" instead of "labor" or "work". Below we explain our approaches to platforms and to livelihoods.

Digital transaction platforms

The technical innovation at the core of inquiry is ***the digital platform***. In this review, we are most interested in three forms of digital *transaction* platforms: marketplace platforms, social media platforms, and advertising platforms. We are less concerned with innovation platforms like software operating systems or app stores (Cusumano, Gawer, and Yoffie 2019).

Digital marketplace platforms. Place-based marketplaces are as old as human civilization (Geertz 1978). Starting with pioneers like eBay in 1995 (Cusumano, Gawer, and Yoffie 2019), however, digital marketplaces for goods and services have proliferated into virtually every segment of the economy, allowing platform firms to sit in the middle, matching buyers and sellers in two-sided or multi-sided marketplaces. Amazon, Uber, Mercado Libre, Alibaba, and Jumia are large, notable examples of marketplace platforms, but there are hundreds of smaller ones occupying almost every imaginable category of product and service, including labor, sales, and asset sharing.

Social media platforms (and social commerce). Considered as the town squares of the digital age, social media sites connect individuals around content, private groups, public groups, and via algorithmic news feeds. Facebook, Twitter, Instagram, Pinterest, YouTube, QQ, WeChat, TikTok, LinkedIn, and others allow for the exchange of ideas and opinions on all manner of topics. Most of these interactions are free to individuals and subsidized by advertising. Individuals use these free services for social commerce (Busalim and Hussin 2016)—promoting their labor (Wyche, Forte, and Yardi Schoenebeck 2013), their small businesses (Partnership for Finance in a Digital Africa 2019), or their agricultural crops (Vijay and Raju 2019; Aggarwal 2020) on personal pages, in social media groups, via private messages, etc. Others make a living as "influencers", weaving consumption and depiction of goods in services into paid product placement on platform feeds (Freberg et al. 2011). Unlike marketplace platforms, social commerce generally requires payments to happen off-site. Social media was not (and is not) purposely built for commerce, but it is nevertheless used for it, at times quite successfully.

Advertising platforms… The advertising content that supports all the "free" messaging on Facebook, Twitter, and other sites is itself purchased via platform marketplaces. Facebook and Google are among the biggest sellers of advertising in the world, and tens of millions of small businesses buy impressions via Facebook for Business (Facebook 2019) and Google Ads (O'Reilly 2015). While most microenterprises in the Global South likely stick to the free

consumer products and are not currently digital advertising buyers, we add this category here to account for those who do, and to prompt researchers to keep this kind of digital behavior within a livelihoods lens.

...and their inevitable blurring. Calling large firms "platforms" can also be confusing and imprecise, since companies may have multiple platforms operating within them, or may mix platform and non-platform elements. For example, Facebook is a social media platform for expression, an advertising platform selling impressions and clicks, and even a marketplace platform as it moves toward a more tightly integrated payment functionality to better support social commerce happening on its core sites: Facebook, WhatsApp, and Instagram (PYMTS 2020).

What is common across all these kinds of platforms is the centrality of a digital infrastructure linking buyers and sellers (or publishers and readers), governed at large scale by code and algorithms. The platform logic carries different affordances and constraints, and different norms and practices. Platformization creates and distributes value differently than the firm or the place-based market, and is thus worth examining holistically and critically (Srnicek 2017; van Dijck, Poell, and de Waal 2018; Gurumurthy, Anita et al. 2019). The growth in the literature about platformization and the general awareness of the topic in popular discourse suggests that there is something different about finding one's way and earning one's living in the ***platform economy***—whether identifying as a platform worker, a platform entrepreneur, or somewhere in between. The common experience—connecting to work and to sales via platform logics—is the focus of this review.

Livelihoods

Some specificity is also merited around the idea of ***livelihoods***—of earning a living. The term has received attention in the technology and development literature (Duncombe 2006). However, we use livelihoods broadly, allowing simply for a mix of physical or mental labor and the utilization of tools or assets to create products and services. The term encompasses activity by the self-employed, by laborers and workers, and by entrepreneurs and business owners.

Indeed, many livelihoods exist outside the constructs of a "job"—a long-term relationship between an employer and an employee, paid by salary or by time-based wages. Livelihoods can be a string of casual, sometimes informal gigs, or short-term activities directly interfacing with more than one customer.

Definition: platform livelihoods

When we put these together, we define **platform livelihoods** as active human efforts, sometimes combined with tools or assets, deployed to create value outside of the constructs of a stable employer-employee relationship and mediated by the infrastructure and accompanying logic of digital platforms.

That is a wide net, admittedly wider than when others have conducted reviews of gig work or platform labor (Bajwa et al. 2018; Heeks 2017). However, this is appropriately so, specifically because platforms offer a fuzzy approach to work and employment often *by design*, mixing conceptions of the individual as an employee or a freelancer, as labor, or as an entrepreneur (Pongratz 2018). For this reason, this scan of platform livelihoods is strengthened when it includes studies that are informed by labor lenses and by entrepreneurial lenses without being exclusive to either one.

The resulting approach is broad enough to capture a variety of activities, each of which can be found throughout the Global South.

Global and local transactions. Platform livelihoods include exclusively digital activities, online freelancing, and microwork, which can be and are often fulfilled across national borders. Indian workers on Amazon's M-Turk, for example, can fulfill anonymous microtasks (hits) for clients in North America (Gray and Suri 2019). Kenyan freelancers can edit a term paper for a student in the UK via Upwork (Melia 2020; Partnership for Finance in a Digital Africa 2019). It also covers all manner of place-based local labor, like transport, food delivery and preparation, retail, home care, and professional and blue-collar services.

Labor, and products and services. Some platform livelihoods involve exclusively labor, but others have tools or assets associated with them, for example, owning or accessing a computer to do crowdwork like recognizing handwriting, or bringing one's set of tools to a construction site. Airbnb hosts may start with a physical asset like a guestroom or a flat, but they also change the sheets, water the flowers, and do the marketing to make that asset attractive. Airbnb hosts are not only deploying assets but also pursuing platform livelihoods.

Solo individuals and small firms. The terms "platform labor" and "platform work" appropriately describe when individuals find short-term work via labor marketplace platforms. But *small enterprises* depend on platform mediation, as well. From a new partnership with three employees making meals for Zomato or UberEats in a small delivery-only kitchen, to the cell-phone repair shop that sells refurbished phones via Jumia and a family farm selling via farm-to-table WhatsApp groups, to say nothing of the millions of small businesses that advertise on Facebook, micro and small enterprises (MSEs) are critical participants in the platform economy. The livelihoods of their owners, and of their employees, are increasingly becoming platform-mediated. For this reason, in this review we often use the phrase "platform workers and platform sellers" to refer to a broader range of people interacting with platforms.

Types of platform livelihoods

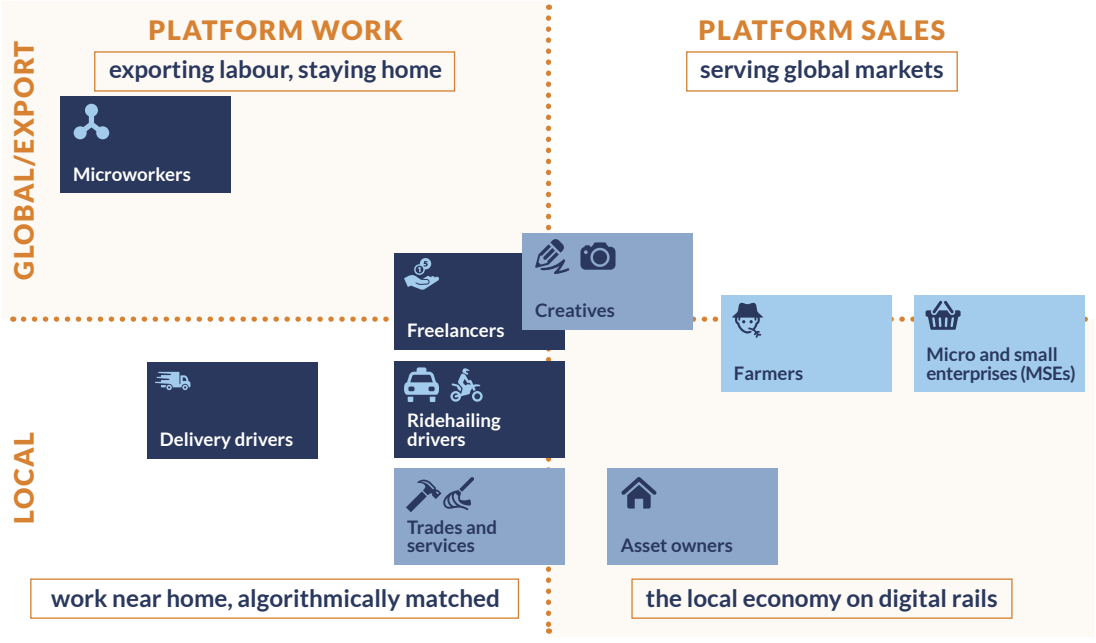
By defining platform livelihoods broadly, we enabled inclusion of a variety of roles, segments, or sectors of the economy. After a couple of iterations, our review arrived at a landscape comprising nine roles—nine platform-mediated livelihoods, which were illustrative of the variety of ways one might pursue a platform livelihood. However, this list is not necessarily comprehensive nor are the lines between the categories completely exhaustive (Lee and Chen 2018). Notably, there are other typologies of platform work available (Howcroft and Bergvall-Kåreborn 2019; Kreis 2019).

In platform work, microworkers and freelancers connect to customers in marketplaces that are 100% digital, such as Amazon Mechanical Turk and Upwork. Delivery and ride-hailing drivers are transforming the transportation landscape in cities around the world. An increasingly wide array of trades and services, from carpentry to home care, child care, and other personal services are accessible via platform marketplaces and social commerce.

In platform sales, MSEs and smallholder farmers can use marketplace platforms, social commerce, or advertising to connect their enterprises to more customers and bigger markets. Asset owners can lease out everything, from spare rooms to tractors. Spanning sales and work, creatives can offer their services and art (in music, photography, video, etc.) via digital marketplaces and social commerce.

FIGURE 1

Platform Livelihood Types



Notes: Version 1.0 October 2020. These types come from an analysis of 75+ studies of platform livelihood experiences in the global South http://platformlivelihoods.com. Types not to scale. There are other types of platform livelihoods – this list is illustrative. All types can involve a mix of formal marketplace platforms, social media/social commerce, and advertising. This figure was developed by Caribou Digital and Qhala, with the support of the Mastercard Foundation.

By contrast, a lot of digital livelihoods are not platform livelihoods. This typology excludes several important and promising vocations such as app design, data science, coding, and salaried call center and BPO work. In addition, traditional jobs found through recruiting platforms but otherwise not inherently digital on an ongoing basis were also excluded.

Nevertheless, as smartphones and other digital tools make their way into more hands, more elements of daily life and daily commerce are platform-mediated. Particularly if we include the appropriation and innovation around social commerce and other forms of casual online selling, the population of those with platform livelihoods, either part-time or full-time, gets larger and is growing.

The key harmonizing commonality is, indeed, digital. It is the idea that the contours of the market for one's goods or services is less human, less place-based, and more algorithmic, more abstract, and likely more efficient (if not more transparent) than anything most people could have imagined even 40 years ago. To thrive in the platforms markets is going to take skills and intuitions that we are all still developing. From eBay super sellers to online freelancers, more people are being asked to take more responsibility for a greater part of their livelihoods and value creation than ever before.

Quality of experience

One goal of this review is to avoid prejudging or making assumptions of what constitutes a good or bad platform livelihood. Many researchers have come before us, asking individuals about their experiences with platform livelihoods (and labor, in particular), and no two of these researchers are likely to have approached the subject in exactly the same way. But across these scores of studies we can start to listen for cues and commonalities, and to identify several dimensions of the experience of platform livelihoods.

Some of the studies identified went right at the issue of *quality*. Others picked up on experiential elements in passing, as part of a study focused on other concepts. While this review covers both approaches, special focus was directed in understanding how individual workers and entrepreneurs evaluate their own experiences.

And, it being 2020, we do all of this against the background of the devastating COVID-19 pandemic. The upheaval provides an opportunity to look at upswings and downswings, and thus resilience. As such, the paper draws both from fast-moving practitioner literature and specialized academic literature.

We are not the first to attempt a review and categorization of worker experiences. Bajwa and her colleagues (2018) reviewed experiences of gig work, with an emphasis on implications for Canada. Their overall categorization focuses on vulnerabilities: those generated by the platform; those generated by the precarious and contingent nature of work; and those related to the occupation in particular. While they were able to identify 49 distinct sources in the literature, only two of those sources directly addressed experiences of workers in the Global South.

Two other efforts focused specifically on platform workers in the Global South, and thus serve more directly as jumping off points for our work. This allowed us to avoid reinventing the conceptual wheel and to speed the analysis task. Details of the ways we drew on these two reviews appear in Appendix A.

Our first anchor study is by Heeks (2017): "Decent Work and the Digital Gig Economy: A Developing Country Perspective on Employment Impacts and Standards in our Online Outsourcing, Crowdwork, etc." In light of our discussion above, this title is remarkably clear. Heeks limits the roughly 30 studies in his review to online-only activities, focusing exclusively on gigs as opposed to a broader notion of platform transactions. Indeed, his literature review of "experiences" isn't even the main contribution of the paper, which is mainly a categorization of interventions and policy recommendations. Nevertheless, the review is categorized around a set of factors of worker experiences, or, more precisely around impacts, both positive and negative, as experienced by workers. Heeks builds on 11 elements of "decent work" offered by the ILO (International Labour Organization 2013), slightly modifying the ILO typology to make it more suitable for gig workers. Perhaps most notably, he follows Anker et. al (2003) to add "dignity and respect at work" which is not in the ILO framework.

The second anchor study is by Zollmann and Wanjala (2020): "What Is Good Work? Perspectives of Young Workers in Nairobi." Supported by the Mastercard Foundation, the report offers a qualitative study of several different kinds of "platform-mediated livelihoods." The analysis carefully disaggregates and examines various elements of the overall phrase from the Foundation's Young Africa works strategy: "dignified and fulfilling work." It makes a valuable contribution as a rare comparative exercise, contrasting "distinctive stories" across four sectors: retail (capital intensive), transport (profitable), digital outsourcing (filled with gray areas like essay writing), and on-demand labor (more accessible for women, but without enough jobs for those who want them).

Notwithstanding the fact that one is a literature review built upon a framework first vetted by a massive multilateral development organization, and the other is an inductive categorization of first-person responses gathered from ethnographic fieldwork, there is nevertheless significant overlap between the typologies. They are animated by similar overarching questions, difficult to disaggregate from experience.

Methods

The last section lays out the case for our project. This section elaborates on the specific methods underpinning the review.

Study identification and selection

Given the interdisciplinary nature of our topic, there was not a single dataset from which to draw the studies. Also, given the pace with which new studies are being introduced, and the fact that a lot of work at the intersection of digitization and economic development is published in gray literature as opposed to indexed scholarly journals, this paper adopted a rather adaptive approach in identifying studies. Most studies were identified by looking backward at items cited by studies in hand, and looking forward in Google Scholar for newer articles citing them.

We had a filter by design for studies from the Global South. Sub-Saharan Africa was our primary focus, followed by studies from elsewhere in the Global South. Studies from 2020 about COVID-19 were almost entirely from the gray literature, representing rapid iteration designs.

With greater density of attention to ridesharing and crowdwork/freelancing, it was a bit more difficult to identify studies associated with the experience of selling via platform markets in agriculture and e-commerce.

Not all studies addressed the entire issue of experience. However, if the study was able to capture the first-person reports of some dimensions of the platform experience, we erred on the side of including it. Studies that did not contain new primary research (ethnographies, surveys, observational designs) were excluded.

Coding

This project begun with a plan to do fully inductive coding, and to include material from the Global North, but it quickly became apparent that the scale of that task and the number of possible themes emerging would overwhelm the resources we had allocated to the project. We elected after a couple of weeks of exploration to draw more directly on the Heeks (2017) and Zollmann and Wanjala (2020) typologies to inform our design. Reilly and Lozano-Paredes (2019) applied the Heeks framework successfully as a lens to assess ride hailing in Cali, Colombia. Upon finding this paper, we decided to pull in Heeks (2017) for our analysis.

We read dozens of studies using Heeks' (2017)and Zollmann and Wanjala's (2020) typologies side-by-side, eventually creating a superset of elements drawing on the two frameworks, compressing and merging where possible. Heeks' (2017) framework has positive and negative experiences as separate items, in ways that often resemble opposite sides of a coin. In our combined coding schema, we selected language that was not inherently positive or negative, and then tagged studies as making "positive," "neutral," or "negative" claims on that theme.

In reviewing the studies, we shared reading responsibilities. There was considerable back-and-forth and refinement as we became comfortable with the coding scheme. However, since we did not assign more than one reader to a study, there is some risk that coder subjectivity would result in different evaluations of a given paper, and some risk that not every mention by every paper of a given element will be captured by the review.

We also added several "watch items" to our coding plan, given the interest of the Mastercard Foundation in several crosscutting factors: gender, youth, COVID-19, and rurality. These codes are not elements of the livelihood experience per se, but rather important moderating and mediating variables that are helpful in filtering and contextualizing the experience findings.

Throughout the process, the team also identified several new themes that are best described as "dynamics to watch" rather than elements of the platform livelihood experience. We will address these in the discussion section at the end of this report.

Results

We report results in three subsections. After this brief introduction, the first section introduces and addresses in turn the literature's findings on twelve elements of platform livelihood experiences. The second rotates the lens, detailing experiences of platform workers and sellers in each of the livelihood types described above and in figure 1. The third discusses four crosscutting issues (gender, youth, rurality, and COVID-19) and four emerging dynamics (fractional employment, hidden hierarchies, amplification, and contestation) likely of interest to a broad range of stakeholders in the digital development community.

These three approaches present different perspectives on what is clearly a heterogeneous literature. It will be quickly apparent that there are few clear-cut assessments that can be made at the level of platform livelihoods, overall. Instead, our suggestion is for individual readers to use the interactive tool to zero in on the studies most germane to whatever particular context they are interested in. The best assertions will reflect a distribution of assessments across these twelve elements, filtered by livelihood sector, country, and perhaps even by mediating variables like gender, youth, rurality, and the prevalence of COVID-19 in a region. There are more permutations of a platform livelihood experience than can be addressed sequentially in this written document, but the filtering capabilities are in place in the accompanying interactive website.

Of the 75 studies we coded, 34 potentially offered some elements of comparison, either by speaking to individuals across more than one platform livelihoods type, e.g., "freelancers and drivers," "farmers and MSEs," and/or by speaking to individuals in different countries. If we could detect an explicit comparison made in the paper, we split those comparisons into separate records. This resulted in 146 distinct sets of assertions. And, since any set of assertions might touch any number of the experience elements, there were more than 146 claims. All told, the 75 studies, writing about 146 distinct instances of platform livelihoods, offered 782 assessments across the twelve elements.

Twelve elements describing the quality of platform livelihoods

Figure 2 presents the twelve elements, created iteratively during the coding process as an assemblage of the approaches of Heeks (2017) and Zollmann and Wanjala (2020).

FIGURE 2

Elements of Platform Livelihood Experiences

Economic experiences

Access to work and markets	Are there income generating opportunities for those who want them?
Earnings	Is there a fair return for time and assets applied?
Flexibility	Can people work and sell, when and where they want?

Subjective experiences

Social Acceptability	How do others view platform livelihoods?
Purpose & Passion	What mark does the work leave on the world?
Entrepreneurial Drive	Is it important to be one's own boss?

Human development experiences

Inclusion	Can women and other marginalized groups pursue this livelihood?
Objectivity & Professionalism	Do people feel they are treated with dignity and respect?
Upskilling & Growth	Can people learn and advance?
Health & Safety	Are people healthy and safe when pursuing this livelihood?
Betweenness & Protection	How is this space between employment and self-employment experienced? And how are people protected in it?
Association, Organization & Support	Are people in this together?

Notes: Version 1.0 October 2020. These types come from an analysis of 75+ studies of platform livelihood experiences in the global South http://platformlivelihoods.com. This figure was developed by Caribou Digital and Qhala, with the support of the Mastercard Foundation.

In Table 1, we calculate a rough indicator of valence (positive claims minus negative claims)/ total claims. In this view, Upskilling & Growth, Purpose & Passion, Entrepreneurial Drive, and Association, Organization & Support were more likely to be reported as favorable factors by researchers. Betweenness & Protection, Objectivity & Professionalism, Health & Safety, and Inclusion were more likely to be reported as negative factors. Importantly, the valence was most mixed for several key issues: Earnings, Flexibility, and Access to Work & Markets. The answer, often, is "It depends." It is important to read this table and the accompanying write-ups in a way that remains cognizant of its limitations. In this view, aggregating across countries and livelihood types, the frequencies are likely more a reflection of what researchers wanted to ask than of what individuals wanted to say, let alone what individuals actually felt or experienced. Read this table as a reflection of the state of the inquiry, not of the essence of the experience.

Only one theme identified by Heeks did not carry over into our typology—environmental benefits. No studies we read directly addressed that theme, which was fairly spare in the original (2017) treatment by Heeks.

TABLE 1

Claims per element in the review of 75 studies

	Claims	Negative	Neutral	Mixed	Positive	Valence
Access to Work & Markets	66	24	0	23	19	-8%
Earnings	123	62	1	26	34	-23%
Flexibility	99	32	0	23	41	9%
Inclusion	94	64	0	14	12	-55%
Objectivity & Professionalism	59	43	1	9	6	-63%
Upskilling & Growth	53	4	0	10	33	55%
Health & Safety	47	40	0	4	3	-79%
Betweenness & Protection	67	57	4	2	4	-79%
Association, Organization, & Support	84	18	2	6	56	45%
Social Acceptability	52	28	3	7	14	-27%
Purpose & Passion	23	5	0	5	13	35%
Entrepreneurial Drive	15	0	3	1	11	73%

Counts of claims across 146 livelihood types across 75 studies of platform livelihoods in the Global South (n=782)

Economic Experiences

The first three elements are essentially an interconnected set of tradeoffs, collectively reflecting the experience of participating as producer/seller/vendor in a highly efficient marketplace where one's participation is optional and may be fractional, as are those of many competitors and many buyers. As supply and demand expand and contract, governed in part by algorithms that likely aren't designed to optimize livelihood outcomes for such independent vendors, the resulting experience is palpable as individuals are confronted by market forces manifested in code.

Access to Work & Markets: Are there income generating opportunities for those who want them?

This is, in a way, the most basic of the questions: Is there work for those who want it? Keep in mind that there is a skew in sampling throughout the literature. The studies draw almost exclusively on active participants in platform livelihoods, so those who cannot find work are not represented to share their perspectives. That said, there is still a mix of positive and negative sentiments reflected when we focus on access to work.

One key frame is that it is the **only work that is available**—people expressed a version of "If not this, what else" or "It's better than nothing" to several researchers (Lehdonvirta 2016; Gray and Suri 2019; Reilly and Lozano-Paredes 2019; D'Cruz and Noronha 2016; Garcia et al. 2020).

Another common framing presents platforms as a **reliable or large source of customers**. This can be offered enthusiastically, particularly when offered by the platforms themselves or research carried out on their behalf (Wisana et al. 2017; Gachoka and Winiecki 2020). But just as often, this framing appears as almost an initial stipulation rather than a standalone finding—that while we might argue that of course, the platform offers access to more customers, there's more to it than that, both for the functioning of markets and the livelihoods of the individuals involved (Zollmann and Wanjala 2020; B. Chen et al. 2020; Aneja and Sridhar 2019)

Other studies seek to determine the number of **individuals and small enterprises involved in these platform livelihoods**, quantifying the amount of work by quantifying the number of workers. Such estimation was not the primary task in this review, and for the most part, when we found studies that looked at numbers, they were doing so within one or two segments at a time, and perhaps for one geography at time, e.g., the number of workers on Mechanical Turk as early as 2016 (500,000) (Martin et al. 2016) or the number of workers in various segments in Kenya (Melia 2020; Genesis Analytics 2019). A fuller inventory of these studies is necessary, as is more investment in cross-national, multisectoral estimation of the number of people involved in platform livelihoods.

There are also several ways to express concern about access to work. Some researchers and workers suggested that from day to day, **work was not always available,** leading people who wanted to work idle (Lehdonvirta 2016; Berg 2016; D'Cruz and Noronha 2016; Berg et al. 2018; Muhindi 2019) and eroding the flexibility that is often part of the promise of platform work (S. Gupta 2020). This availability dynamic is further complicated by the **algorithmic assignment of availability** and (depending on the platform) **dynamic pricing**, such that the platforms are acting not simply as passive connectors between supply and demand, but the shaper of it. From a platform's perspective, this dynamic matching of supply and demand makes sense—the system clears probably better than analog approaches that preceded it. However, as this experiential element makes clear, and particularly when linked to earnings and flexibility, to individual livelihood seekers (the supply), **these ebbs and flows in demand** are palpable (J. Y. Chen, Sun, and Qiu 2020; Geitung 2017; Graham et al. 2017; Hunt et al. 2019) especially in 2020 during the COVID-19 crisis (Krishna 2020; Fairwork Project 2020).

Indeed, if platforms act as doors leading to customers, sellers and workers find those doors are often locked, sometimes arbitrarily. Across all of these livelihood categories, marketplace platforms act as two-sided markets and thus as **gatekeepers and arbiters** of who is qualified, visible, or otherwise able to work. In the system, the first challenge is to get on the platform at all (a dynamic we discussed in Inclusion). Once on it, however, that visibility and eligibility is not assured. Infractions or mistakes, whether justified or not, can have considerable ripple effects on a seller's ability to access future customers on that platform. Through such blocking mechanisms, qualifications, and ratings, each job affects access to the next job, each day's performance affects access to the next, and so on, in a way

that power accrues to the platform and to the customer, not necessarily to the producer (S. Gupta 2020; Graham, Hjorth, and Lehdonvirta 2017; Gray and Suri 2019; Anwar and Graham 2020; Wood et al. 2019a), and especially not to those without "the hunger" to hustle for the next gig (Raval and Pal 2019).

Sometimes the door itself disappears. Few studies directly probed the **viability of the companies themselves**, perhaps because most of them represent the pre-COVID-19 period when digitization and platformization was growing rather quickly. However, it is worth noting that in depending on platforms as a vehicle for accessing customers, vendors have to make an assumption that the platform will deliver. And yet, there is considerable churn in the viability of platforms (Makuvaza, Johnson, and Smit 2018). Zollmann and Wanjala (2020) heard from a few retailers in Kenya who were concerned about the stability of Jumia as a platform. In 2019-2020, Jumia struggled post-IPO and scaled back from a few other African markets. These respondents felt more comfortable building their own versions of social commerce, using Facebook and WhatsApp to interface with customers instead of relying on Jumia.

Earnings: Is there a fair return for time and assets applied?

There were more discussions of earnings amongst the studies than of any other element. Many assessments of earnings were positive, and many of those were comparative.

One approach was to **compare earnings to something else**. Microworkers (Anwar and Graham 2019b; Berg 2016; Soriano and Panaligan 2019) and freelancers (Soriano and Panaligan 2019; Crosby and Cahaya 2017; Graham, Hjorth, and Lehdonvirta 2017) suggested work was better than alternatives they could find locally. Zollmann and Wanjala (2020) note that in Kenya, boda-boda (motorcycle) drivers earn more than might be expected, on par with an office worker. Freelancing pays better than average GDP per capita in the Philippines and India (Beerepoot and Lambregts 2015), better than average entry-level graduate jobs in local African labor markets (Malik et al. 2020a), or at least well above minimum wages (Muhindi 2019). Driving and logistics pay better than call center work in Cambodia (Jack, Chen, and Jackson 2017).

Another approach was to compare earnings to what people could earn (or did earn) **in the same profession, but outside the platform system**. For ride hailing in Bangladesh (Kumar, Jafarinaimi, and Bin Morshed 2018) and in Indonesia, some were happy with the higher wages than they were earning before joining a platform (Budiman 2020; Nastiti 2017; Wisana et al. 2017). In Uganda and Nigeria, drivers reported earning 25% more than they did in the informal sector, and 50% more once they purchased their own car (Gachoka and Winiecki 2020). In the markets for local services in Kenya and South Africa, there were similar dynamics (Hunt et al. 2019), and the chance to earn more money in the same profession was the reason for switching to such work among participants in one study in India (Aneja and Sridhar 2019).

A third approach was to report that earnings were sufficient **in an absolute sense**—"economically important" (Lehdonvirta 2016), or enough for everyday expenses, food, or travel (Martin et al. 2016; Onkokame, Schoentgen, and Gillwald 2018)observations and forum posts—where Turkers describe their work, and their understandings of that work and of the transnational market they work in. We compare and contrast their situations, their reflections on the marketplace and its global reach, and we take a look at their understandings of one another. Our focus is on 'the work to making turking work' (Martin et al. 2014. One study of the labor, logistics, and ridesharing sectors in Kenya noted that participants earned enough to pay for daycare, food, rent, clothes, and other essentials (Kibe 2020) or for saving to invest in other things (Malik, Nicholson, and Heeks 2018).

Beyond comparisons, other positive sub-themes in earnings focused on **how money could be made** (rather than how much). Beauty workers in India, part of the trades and services sector, stressed that they preferred the ways in which they were able to earn on platforms commensurate to their efforts, per job, instead of receiving a fixed wage regardless of the number of clients they might serve in a salon setting ((Raval and Pal 2019) echoed in (Surie 2020)). Drivers in Colombia were happy with the work as a part-time augmentation, allowing them to earn extra money on the side (Reilly and Lozano-Paredes 2019). Some microworkers liked how earnings were predictable (D'Cruz and Noronha 2016). Some in services and ride hailing liked how platforms paid earnings more frequently (Surie and Koduganti 2016). And finally, in a critical intersection with themes of gender and agency, some reported that simply earning money via online freelancing and microwork creates independence from husbands and families (Aneja and Sridhar 2019).

However, negative assessments of earnings were somewhat more frequent, often appearing in the same studies that shared positive assessments.

One approach was to note, in passing or in detail, that earnings were **simply low**. This impression surfaced among local service workers in China (B. Chen et al. 2020), India (Aneja and Sridhar 2019), Kenya and South Africa (Hunt et al. 2019); among microworkers (Martin et al. 2016; Anwar and Graham 2019b; Rani and Furrer 2019), and among freelancers in the Philippines (Tintiangko and Soriano 2020). In microwork, these wages were low enough that microworkers rely on family for shelter and support (Berg 2016). One study suggested that microwork earnings in Nepal were lower than those of house servants (Lehdonvirta 2018). Some platform workers and platform entrepreneurs note that they were not paid commensurate to their skills (Martin et al. 2016; Berg et al. 2018).

Comparisons to off-platform earnings were not always as rosy as those described above. Studies in China of delivery and ride hailing suggest lower average earnings than those off-platform in similar roles (J. Y. Chen, Sun, and Qiu 2020), and in Indonesia, drivers earned less than minimum wage once expenses were accounted for (Nastiti 2017).

In some cases, platform workers and entrepreneurs are acutely aware of a downward pressure on earnings due to **increased competition from other workers** (S. Gupta 2020). This is particularly the case in international markets for microwork (Graham, Hjorth, and Lehdonvirta 2017) and freelancing (Graham, Hjorth, and Lehdonvirta 2017; Malik et al. 2020a; Wood and Lehdonvirta 2019; Wood et al. 2019a), where some are uncomfortable asking for more, always aware of what someone in a lower-income region might charge (Anwar and Graham 2020).

Uncompensated time and investments are frustrating in several ways. First, many expressed stress or frustration resulting from inauthentic clients or technical glitches; this was apparent in local labor (Zollmann and Wanjala 2020; S. Gupta 2020), microwork (N. Gupta, Martin, et al. 2014; Panteli, Rapti, and Scholarios 2020a), freelancing (Melia 2020), and ride hailing (Zade and O'Neill 2016).

Even when things do not go wrong, they are not necessarily right. Some stressed how **searching for work** (or traveling to work) is uncompensated, with expenses falling on the worker/vendor in microwork (Gray and Suri 2019; D'Cruz and Noronha 2016; Wood et al. 2019b), freelancing (Muhindi 2019; D'Cruz and Noronha 2016), ride hailing (Geitung 2017) and services (Hunt et al. 2019; Aneja and Sridhar 2019; Garcia et al. 2020; Krishna 2020; Kiarie, Singh, and Obiko 2020). So is extra time spent to deliver great service and build loyalty (Raval and Pal 2019), and the slow build to get established and get first paying clients (Anwar and Graham 2019b; Genesis Analytics 2019). Obvious but worth stating—car maintenance and fuel are inputs paid by drivers (Mare, Chiumbu, and Mpofu 2020), as are traffic fines (J. Y. Chen 2018).

In the mirror image of the reliability element described above, some reported that earnings were **unstable**, varying per month for online MSEs (B. Chen et al. 2020) and local labor (Hunt et al. 2019).

Some were aware of the **size of the platform cut**: 15% for drivers (Mare, Chiumbu, and Mpofu 2020) and creating conditions like a "sweatshop" for freelancers (Wood and Lehdonvirta 2019).

In all, there is a mix of positive and negative sentiments expressed about earnings, depending on what they are compared to, on expectations, and on industry sector and country. That said, it is worth noting how infrequently these assertions were accompanied by quantification, as many of these studies were qualitative. When they are quantified, it is possible to discern patterns and perhaps an intersectional downward pressure on earnings by region and gender. For example, one ILO study estimated microwork wages at $4.43 an hour, $3.21 when unpaid time searching was included, and $1.33 an hour for the same work among microworkers in Africa (Berg et al. 2018). Another analysis of freelancing finds a pay gap for women (Dubey et al. 2017). For further comparative analyses see Wood et al (2019a) and Muhindi (2019).

Flexibility: Can people work and sell, when and where they want?

Flexibility is at the heart of many of the narratives surrounding gig work and the labor elements of platform livelihoods. This element is reflected in some of the stories that participants have told researchers around the world. Drivers in Bangladesh (Kumar, Jafarinaimi, and Bin Morshed 2018) and South Africa (Geitung 2017) value autonomy. Microworkers and freelancers do, too (Graham et al. 2017). More specifically, the ability to choose the times during the day that one works appeals to microworkers in the Philippines and Nepal (Lehdonvirta 2016), Pakistan (Malik et al. 2020a), Kenya (Muhindi 2019), and more across six countries in sub-Saharan Africa (Anwar and Graham 2020; 2019b). "Nobody will shout at me if I'm late," said one freelancer in Kenya (Zollmann and Wanjala 2020). For some, it's not just when one turns up, but how one looks when one does it. That presentation of self is easier to control working remotely and for oneself (Tintiangko and Soriano 2020).

The ability to work from home so one could **mind children or family** isn't necessarily only valued by women (see Tintiangko and Soriano 2020). Nevertheless, several studies link the appeal of remote and/or flexible work to women and childcare in South Asia (Gray and Suri 2019; Berg et al. 2018; S. Gupta 2020; Bandaranayake et al. 2020; D'Cruz and Noronha 2016), and ride hailing in sub-Saharan Africa (Budiman 2020).

We discuss fractional work as a crosscutting theme elsewhere in this report, but it is worth noting that some participants framed the appeal of flexibility as the ability to **work part-time** outside a main job (Partnership for Finance in a Digital Africa 2019), to be able to work from home while working for "more serious jobs" in India (Martin et al. 2016)observations and forum posts—where Turkers describe their work, and their understandings of that work and of the transnational market they work in. We compare and contrast their situations, their reflections on the marketplace and its global reach, and we take a look at their understandings of one another. Our focus is on 'the work to making turking work' (Martin et al. 2014, or to use microwork as part of a constellation of livelihoods in which it is difficult to determine which is the primary and which is the secondary (Crosby and Cahaya 2017).

There's also an appeal to **managing one's own workflow**, to have the flexibility to drop freelancing tasks and walk away from clients who aren't working out (Berg et al. 2018), or to change the order in which an individual pursues tasks and clients during the day (Wood et al. 2019a), even if that choice is simply to work for a few hours and then take a break (Aneja and Sridhar 2019).

Flexibility has a flip side as well; the inverse of being able to work or not work as one chooses may also manifest as being forced to work just to stay in the game. For example, working across **time zones** can be brutal for microworkers and freelancers (Martin et al. 2016; Muhindi 2019; N. Gupta, Martin, et al. 2014; Anwar and Graham 2020).

The **sheer amount of work, and long, long hours** (Muhindi 2019; Graham et al. 2017) forces what Gray and Suri (2019, 77) call "**hypervigilance**," noting that

> *Flexibility is a myth. Instead of the utopian vision of an endless stream of online work that a person can dip into between other pursuits, on-demand labor more closely resembles the infamous* I Love Lucy *television comedy sketch with Lucy and Ethel working on the assembly line at a chocolate factory. As they scramble to keep pace, the pace of work comes faster and faster.*

These pressures are echoed in studies by Zollman and Wanjala (2020), who, in discussing different livelihoods in various countries, discover a similar dynamic in noting that some respondents called flexibility "a mirage." That is, if one worked 60 hours a week to maintain a car, it was no longer flexible. If one worked in outsourcing overnight and constantly on call, it was no longer flexible. If one had to switch to work a 6 AM cleaning shift to serve corporate clients, it was no longer flexible and even impossible for women with families.

These pressures were found in a third country, in yet another industry. Chen, Sun, and Qiu (2020) spoke to delivery workers who found the pace grueling, and lived in a state of anxiety with no time for breaks or meals, and no off days.

In the section on earnings, we discussed how many felt frustrated by the **amount of unpaid time** they must put into platform livelihoods. This unpaid time has an impact on flexibility as well. The grind of *looking* for work—if not working, *looking* for work creates insecurity that cuts against the ideal of flexibility (Anwar and Graham 2020; Rani and Furrer 2019; Geitung 2017; Aneja and Sridhar 2019). So too, does the time required to travel to work (Hunt et al. 2019). As one respondent puts it, "24-hour availability gives me the flexibility I need but not the money I deserve" (Kiarie, Singh, and Obiko 2020). Similarly, in the section on Access to Work & Markets, we discuss how when tasks/gigs are scarce, it undermines flexibility (S. Gupta 2020).

In sum, flexibility, access, and wages retained are profoundly interconnected. Around the world, those engaged in platform livelihoods are constantly calculating how much time they must spend, and when, in order to take home what they need for the day or the week.

Human Development Experiences

The review suggests there are several more elements of the platform livelihood experience beyond that core triad of flexibility, access, and earnings. These other items are in no way less important to individuals, or in aggregate to the development community, but they are often more disparate in that many studies will raise only some of them, not all. Part of the heterogeneity is driven by the lenses which a diverse set of policymakers and researchers brings to the questions.

Inclusion: Can women and other marginalized groups pursue this livelihood?

As is to be expected in the development literature, the element of inclusion and exclusion receives a great deal of attention. The crux here is a focus on whether these livelihoods are available to *everyone*, or whether there are identifiable barriers preventing individuals from pursuing them.

Several studies offered some optimism, for example lauding the **opportunities for youth** in ride hailing, logistics, and labor (Kibe 2020), the **low barriers to entry** to being a *boda-boda* (motorcycle taxi) driver in Kenya (Zollmann and Wanjala 2020), a driver in India (Surie and Koduganti 2016), the relative ease of finding work on a freelancing site vs. without a platform (Wood and Lehdonvirta 2019), or the idea that anyone, regardless of age or gender, could pursue microwork and freelancing (Graham, Hjorth, and Lehdonvirta 2017; Malik et al. 2020a). Indeed, there was a clear international element. This undercurrent of accessibility was often framed as a form of **globalization and export markets open to all** (Crosby and Cahaya 2017; Panteli, Rapti, and Scholarios 2020a), even when the service was domestic, but offered to international travelers and clientele (Garcia et al. 2020).

Some went further, focusing specifically on how some platform livelihoods **welcomed the marginalized**; for example, microtasking was accessible to people with disabilities (Rani and Furrer 2019) or to rural residents (Gray and Suri 2019) and migrants (Anwar and Graham 2019b). As Grey and Suri (2019, xxx) put it, "The anonymity and remote access of on-demand platforms also made it easier for those marginalized informal employment—because of where they lived, at perceived disability, or their belonging to a stigmatized minority—to earn an income."

Opportunities for women were often mentioned in this affirmative lens to inclusion, including on women driving for Gojek in Indonesia (Budiman 2020) and freelancing and microwork opportunities for women in sub-Saharan Africa (Anwar and Graham 2019b). For example, McAdam, Crowley, and Harrison (2020) describe digital entrepreneurship (social commerce) in Saudi Arabia, suggesting that "The general sentiment among the respondents was that digital working was considered as a place where women felt comfortable and could flourish. This provision of a safe space appeared particularly relevant for the Saudi Arabian context which forbids the direct interaction with men."

But this narrative was offset, often in the same studies, by observations of a litany of barriers erected that prevented many from pursuing these platform livelihoods.

The most clear-cut of these barriers is the **physical assets to pursue the work**. In ride hailing, it's the bike (Budiman 2020), the car (Kibe 2020), or the kind of car allowed by the service that could leave people renting instead of owning (Geitung 2017). In local services, it can be the cost of the device on which to join and browse the platforms (Hunt et al. 2019); in microwork and freelancing, it can be the cost of the device on which to do the work (N. Gupta, Martin, et al. 2014; Anwar and Graham 2020; 2019b; Wood et al. 2019b; Onkokame, Schoentgen, and Gillwald 2018), which, in some cases, better a costly PC than a simple phone (Newlands and Lutz 2020). The software (Gray and Suri 2019), the Wi-Fi (Anwar and Graham 2019b; Wood et al. 2019b; Onkokame, Schoentgen, and Gillwald 2018), and

even the electricity come with costs (Malik, Nicholson, and Heeks 2018). In some contexts, would-be platform workers need a hefty balance in their electronic wallet before they are authorized to begin work (Budiman 2020; Malik, Nicholson, and Heeks 2018). In others, they must find a way to acquire the inventory they wish to sell, a significant barrier to youth entrepreneurship (Zollmann and Wanjala 2020).

Another set of barriers involves **knowledge and awareness**. Some frame this as digital literacy (Anwar and Graham 2020; Genesis Analytics 2019), for example, in acquiring skills to navigate ride-hailing apps in Bangladesh especially for women (Kumar, Jafarinaimi, and Bin Morshed 2018), or the basic digital literacy to engage in microwork (Khanna et al. 2010). Others move beyond basic literacy into knowhow, experience, or skills (Margaryan 2016; Malik, Nicholson, and Heeks 2018). Perhaps this is why there is an observed (and surprising) concentration of higher-educated people engaged in freelancing and microwork (Berg 2016; Melia 2020; Gray and Suri 2019). In some cases, the knowhow can be quite tacit and hard to acquire, like English skills in Indian microwork (Khanna et al. 2010), the international exposure that gives some a leg up in Cambodian social commerce (Jack, Chen, and Jackson 2017), and in the Chinese E-commerce cross-border personal shopping *daigou* (Zhao 2020).

Structural barriers like driving licenses for ride hailing in India (Kumar, Jafarinaimi, and Bin Morshed 2018), China (J. Y. Chen 2018)manipulate and fight against the rise of ride-hailing platforms like Didi Chuxing in China (which purchased Uber China, and Indonesia (Budiman 2020) keep some would-be drivers away, as do a scarcity of referrals among those without good connections to established drivers in Bangladesh (Kumar, Jafarinaimi, and Bin Morshed 2018).

A more pernicious structural barrier is akin to **algorithmic redlining**. For example, on Amazon Mechanical Turk, payments to workers only flowed to bank accounts in the US and India (Lehdonvirta 2016; Gray and Suri 2019), although it had expanded to 25 countries in 2019. More broadly, in microtasking (Martin et al. 2016)observations and forum posts—where Turkers describe their work, and their understandings of that work and of the transnational market they work in. We compare and contrast their situations, their reflections on the marketplace and its global reach, and we take a look at their understandings of one another. Our focus is on 'the work to making turking work' (Martin et al. 2014 and freelancing (Graham et al. 2017; D'Cruz and Noronha 2016; Muhindi 2019; D'Cruz 2017), buyers can still select by country, which enables individual level discrimination as easy as a drop-down menu (Anwar and Graham 2020). Thus, it remains the case that workers in the Global South earn less than their peers in the Global North. For example, Rani and Furrer (2019) found that Indian workers earned $2.48 per hour, while American workers earned $6.90, and that some premium tasks, such as content creation and editing, were only given to American workers. In response, some freelancers hide their locations through VPNs, or use pictures and aliases of people from the Global North to route around the challenge (Partnership for Finance in a Digital Africa 2019; Genesis Analytics 2019).

Unfortunately, many people have told many researchers about instances of **gender discrimination** in accessing platform livelihoods. Berg (2016) notes that most microworkers are men. Female respondents told Zollmann and Wanjala (2020) about a lack of access to dorms where freelancers could stay. Gupta (2020) described difficulties faced by Indian

women in microwork for lack of social capital and restricted agency in patriarchal social structures, discouraging interaction with those beyond immediate family (see also Malik, Nicholson, and Heeks 2018; Aneja and Sridhar 2019; Onkokame, Schoentgen, and Gillwald 2018; Kiarie, Singh, and Obiko 2020). Lack of awareness was a significant barrier to women working online, with 21% vs. 31% awareness of freelancing opportunities among women and men in India and Sri Lanka (Bandaranayake et al. 2020).

In sum, these barriers to participation may be compounding and intersectional in ways that literature is only beginning to document, and it is important to note how they present bigger risks and more prospects for discrimination, manipulation, and withholding among those from poor disadvantaged backgrounds (Anwar and Graham 2020). Also, its important to stress that the challenges women face in platform livelihoods expand beyond this one element of inclusion; hey come up in nearly every element of the experience. For this reason, we also address gender as a holistic, cross-cutting issue later in the review.

Objectivity & Professionalism: Do people feel like they are treated with dignity and respect?

This element straddles two interactions that are core to platform livelihoods: the interactions, either in person or electronically, that sellers have with buyers; and the interactions, either in person or electronically, that sellers have with the system itself. In some cases, the system is a customer support representative, a trainer, or some other human being. But as is essential to the platform logic, this interaction is often between a seller and an algorithm or some code. Across both types of interactions and across all channels, researchers around the world have heard a variety of impressions and experiences from their study participants. In some cases, these interactions left sellers feeling respected and treated like a human being, while in other cases, these interactions left sellers feeling decidedly less so.

One positive sentiment represented the way the structure of the platform provided **cues, standards, and guardrails** that collectively serve to professionalize and routinize product and service delivery. In freelancing, for example, designers in the Philippines liked how these sites provided standards for design work by price, quality of briefs, type of work, completion time, and so forth (Crosby and Cahaya 2017). By providing rate cards, it professionalized what is often informal work among home services providers in India (Surie 2020). Clients were less likely to argue with rates or with the app companies. These rates, in turn, translated to better revenues for some of the service professionals on the platform. Just being in the middle of these informal transactions, holding payments in escrow, allowing easier payment transfers, and providing ratings can increase professionalization and put small-scale sellers at ease (Malik et al. 2020a).

Against this background of routinization, some find an **improvement in the work environment and a higher likelihood of being treated well**. For example, in analyzing the experience of ride-hailing drivers in Colombia, Reilly and Lozano-Paredes (2019, 6) explain that

> *Dignity and respect at work are difficult to evaluate. There are not currently any regulations in Colombia addressing this issue. For the most part, drivers indicated that their expectations were fulfilled by working with ride-hailing platforms (64.7% indicated they were substantially, and 35.3% indicated they were entirely fulfilled). Workers did not express complaints regarding poor treatment by clients … [and] the* perception *is that platforms offer a good work environment. [It may be] that workers do not expect more than a well-performing platform so that they can do their job and earn a profit.*

In *Making a 'Pro': 'Professionalism' after Platforms in Beauty-work*, Raval and Pal (2019, 13) explain how for women in the beauty industry in India, professionalism is a two-way street, with suggestions to work in certain ways and to dress in certain ways, and also how

> *Asserting that "I am a professional" also became their diplomatic way of dealing with unsanctioned and unsolicited requests, both within the confines of a paid job but also outside in the world…. Reflecting on these enactments of professionalism and how the platform symbolically and materially gets configured in them, we want to call attention to a situated discussion of the dignity of labor where donning a uniform or claiming affiliations to app-work can, in fact, further the 'professional project' of workers where informality and unorganized employment are rampant. This does not necessarily have to do with the absolute economic well-being of a worker but is an instance of incidental design of work that supports and safeguards the ability to keep working in socio-cultural contexts (such as India) where working-class women encounter risk on a daily basis.*

This interplay of two-way humanity and professionalism also turns up in ride hailing in South Africa. Selabe (2017, 53) describes how drivers know that there are specific things they need to do to get high ratings, both in terms of physical appearance and behaviors that make individuals feel comfortable. Even little things like bottles of water and sweets—"When you talk to them, keep it light, and most importantly, professional."

In all, these structures are not always dehumanizing. In some cases, workers reported feeling more valued by these anonymous online clients than by the clients they found in their locality (Crosby and Cahaya 2017). In others, even the mechanisms for feedback provided by the platforms were judged to be adequate (D'Cruz 2017).

That said, **frustrating or opaque processes** are one of the ways in which many workers, in many contexts, have confronted the reality of working with (or for) codes and algorithms. For example, drivers in Bangladesh find it difficult to understand **how fares are calculated**, **untangling a mix of** complex pay scales and surge pricing (Kumar, Jafarinaimi, and Bin Morshed 2018; see also Selabe 2017). Drivers and delivery staff in China found **imposed segmentation into classes** frustrating and unfair (J. Y. Chen, Sun, and Qiu 2020), while similar issues in Indonesia on Gojek—opaque processes and policy changes—stirred up unrest (Nastiti 2017). Even the basic day-to-day of **being routed around a city by an algorithm** can make one feel like one has little control. Ola is not

always as helpful as they want. When they are on the app, all the same problems apply—drivers complained that they don't know how far away a fare is when accepted; cancellations impact driver ratings. If a driver gets caught in traffic on his way to his fare, his rating can suffer; ratings are not tied to specific drives, so drivers have trouble acting on the feedback (Ahmed et al. 2016). It's similar to the perception that Uber "is always on the side of the riders" (Geitung 2017).

In freelancing, respondents around the globe report **opaque procedures** (Malik, Nicholson, and Heeks 2018), confusing taxation (Graham et al. 2017), and sudden rule changes (Wood and Lehdonvirta 2019). It's the same in local labor, too (Aneja and Sridhar 2019).

But perhaps in no sector are these frustrations better documented than in microtasking. Workers report a lack of transparency about how jobs are distributed, how qualifications are determined, and what constitutes grounds for being blocked from the system (Martin et al. 2016; Gray and Suri 2019)observations and forum posts—where Turkers describe their work, and their understandings of that work and of the transnational market they work in. We compare and contrast their situations, their reflections on the marketplace and its global reach, and we take a look at their understandings of one another. Our focus is on 'the work to making turking work' (Martin et al. 2014. Others are nervous about how checks are cut, and how they can guarantee that they will be paid (Martin et al. 2016)observations and forum posts—where Turkers describe their work, and their understandings of that work and of the transnational market they work in. We compare and contrast their situations, their reflections on the marketplace and its global reach, and we take a look at their understandings of one another. Our focus is on 'the work to making turking work' (Martin et al. 2014. Genuine workers are sometimes penalized as scammers without an explanation (N. Gupta, Martin, et al. 2014), just part of what some call a "black box" of rejected work (Rani and Furrer 2019).

While there is a palpable possibility of being penalized at the "whim" of the client (Anwar and Graham 2020), the avenues for feedback/redress often seemed inadequate, with "no mechanisms in place to address worker concerns on unfair ratings and deactivation… structural inequalities between workers and organization policies prevent workers from demanding rectifications or explanations" (S. Gupta 2020, 7) see also Graham et al. 2017).

Indeed, in microwork, "most microtasks are **simple and repetitive** and do not coincide with high level of education of crowdworkers" (Berg et al. 2018, 4). Human beings are marketed as inexpensive, anonymous (Gray and Suri 2019) replacements for things robots can't yet do. But is it surprising that people don't want to be treated as robots (Panteli, Rapti, and Scholarios 2020a)?

Even outside of anonymous microwork, where there is a name and a face to be attached to the platform task, there are several ways in which the experience might leave the worker feeling disrespected lesser. When work is mostly determined by clients, and workers have to meet client deadlines, and when communication with clients takes place only in ways that suit them, there is a power imbalance and workers suffer as a result (Wood et al. 2019a). Platform systems around the world thrive on rating systems, which come from feedback provided by buyers to sellers for other buyers to consume. Studies suggest that perceived gender and race bias are reflected in the ratings (S. Gupta 2020).

Class, too matters. Some workers reflected on experiences where lower and middle class people were serving higher status individuals who treated them with a "servant" mentality (S. Gupta 2020; see also Hunt et al. 2019; Aneja and Sridhar 2019). Abuses abound, from condescension and disrespect of time zones (Zhao 2020), to xenophobia in the South African ride-hailing sector (Geitung 2017; Mare, Chiumbu, and Mpofu 2020). There's probably an interaction between the aloofness of the algorithm and the willingness of some customers to look down on service providers. For example, drivers can struggle with imposed daily targets (Krishna 2020), or with customers who keep moving or cannot give the exact location. "Or, when we get there, they don't pick up. Also, sometimes they don't have much respect for us delivery men or just people lower than them. You know what I'm saying. They think: I'm buying, I'm king, you follow me" (Jack, Chen, and Jackson 2017).

There is perhaps no better or comprehensive writing on this element of the platform livelihoods experience than Gray and Suri's account of microworkers, although in this case, we will apply the frames more broadly. They describe "weaponized ignorance" on the part of the platforms, "on-demand ghost work platforms see themselves as neutral parties, arguing that they are the software serving as the middlemen managing what economists call two-sided market" (Gray and Suri 2019, 35), and later "algorithmic cruelty" "when the design of an algorithm, platform, or API lacks thought and is unleashed on unsuspecting consumers, people … suffer the unintended consequences. When 'thoughtless processes' are introduced into the workplace, especially one with low-income earners who have little bargaining power and with a lot to lose, the unintended economic and social consequences are severe" (Gray and Suri 2019, 68). The touch on many of the themes enumerated above and elsewhere, from risks of nonpayment to the need for hypervigilance, and return to assert that "the worst expression of algorithmic cruelty is disenfranchisement. Under the guise of safety, systems designers make it easy to block or remove an account in case a bad actor tries to cheat the system. This adversarial stance means that good workers are sometimes misinterpreted as shady players" (Gray and Suri 2019, 86).

That is a lot to process. There is a litany of harms that often accompanies the apparent positive structural "professionalizing" benefits of the transaction platform. To close this section, it's worth noting an interesting skew or interaction identified by Zollmann and Wanjala (2020). They discern a strong interaction between dignity and professionalism. For low-status individuals, the professionalism of the uniform and a role might be a step up, and platforms provide transparency and protection from nonpayment. And yet, for high-status individuals, the platform role can be demeaning and perceived as a step down. As in other parts of this experience, professionalism, and whether one experiences this work as a whole person or something less, may be determined partly by one's experiences and self-image prior to beginning the work.

Upskilling & Growth: Can people learn and advance?

The parameters of this element are relatively clear. Career development can be experienced via intangibles like exposure and enrichment, as ladders to new jobs or better pay, and of course, as skills acquisition, either on the job or in formal training provided by platforms. What is more striking here is how much the experience varied across studies and contexts. Participants in these studies offered evidence for and against the experience of career development on each of these parameters.

The least tangible part of career development was **exposure (or not) to new geographies, new cultures, and people outside networks**. Freelancers performing transcription told Zollmann and Wanjala that they preferred work that allowed for personal growth (2020). Other microtaskers valued exposure to foreign clients (D'Cruz and Noronha 2016), or provided opportunities to carry out work they were unfamiliar with and experiences that they would not otherwise have been able to realize (Wood et al. 2019a). Others though, were not so sure. For example, there were drivers saying, "I don't like this job. This is like a 24-hour service. There are health issues. There is no future here. I don't like it. There is no personal growth." Such drivers are aware of their inability to achieve growth in work or a change in occupation (Surie and Koduganti 2016, 28).

More tangible is career advancement or what some call "functional upgrading" (Graham, Hjorth, and Lehdonvirta 2017). Melia (2020) shared the story of one freelance writer in Kenya, who started as a night guard but became an online writer focused on bitcoin. He moved on to run an online business farming out tasks to other freelancers (a dynamic observed elsewhere; more on this on a crosscutting theme [Wood et al. 2019; Soriano and Panaligan 2019]). With more advancement, Melia explains how some online freelancers in Kenya do the work while in school, and then move on to white-collar professional work when the opportunity arises. Others who become subject matter experts stop working via platforms through word of mouth referrals (Melia 2020).

Not everyone sees those paths, however. Freelancing offers no promotions, no certificates; nothing for the CV (Zollmann and Wanjala 2020). Work wasn't even related to their area training (Muhindi 2019). Gray and Suri (2019, xxv) describe microwork this way: "a revolving door of temporary tasks defines this job market. No obvious professional title. No ladder. No bonuses. No guarantees. Tasks are finite, built to disappear once a firm has reached its specific target and the people hired to hit it have moved on to other projects" (see also N. Gupta et al. 2014). The lack of portable ratings limits how well experience gleaned on one site can be translated to another (Melia 2020; Wood and Lehdonvirta 2019).

Running a small shop with an online presence similarly may offer little upward mobility (Zollmann and Wanjala 2020) and in ride hailing, to exit a job is to exit the industry (Zollmann and Wanjala 2020). Perhaps that's why almost 60% of respondents in a survey of microworkers and freelancers expressed desire for non-crowd work, and 40% were actively looking (Berg 2016). It is also why "the relative novelty of online outsourcing makes it difficult to assess longer-term impacts such as those on career trajectories" (Malik et al. 2020a, 15).

Equally important is **skill acquisition**. Informally, freelancers can learn from family and friends (Wood et al. 2019b), trial and error (Margaryan 2016; Anwar and Graham 2019b), or give opportunities to try new skills and interact directly with clients (Crosby and Cahaya 2017). Gray and Suri (2019, 110–111), note that microwork "can become a stepping stone or easy-to-access on-the-job training. On-demand work becomes a 'sandbox' where people can practice things like graphic design, typing, transcription, computer literacy, and language translation. These experiences are more difficult to acquire in a more traditional workplace, where there are greater expectations and pressure to perform." They note that younger workers, and those with other revenue sources, may do microwork for skills acquisition instead of simply for revenue (Gray and Suri 2019).

The other route to skills acquisition is via formal training provided by platforms. In previous work, we have described this as "platform-led upskilling" (Partnership for Finance in a Digital Africa 2019; Caribou Digital 2019). There are similar points raised in the various studies covered in this review. Raval and Pal (2019, 9) interview a manager of a local services place in India about the training the platform provides: "These pros eventually want to become entrepreneurs and we help them in getting there." Uber and Cabify offer training in Cali (Reilly and Lozano-Paredes 2019). NGOs can partner with telcos to offer training to workers on platforms (Fairwork Project 2020). Even the World Bank funds training for platform workers in Pakistan (Malik et al. 2020a). Through online training, workers gain interpersonal and business skills (Malik et al. 2020a). Indeed, in many segments, it appears that guidance is a key determinant in whether growth is achieved (Genesis Analytics 2019).

Not all livelihood platforms provide training. Gray and Suri (2019, 80–81) note that "isolation and lack of guidance are spun as autonomy…. Workers do not know if they are technically or culturally competent for a task until they try to complete it. But tackling a job without knowing if they can succeed often presents a new risk…. If their reputation gets dinged, future job opportunities dry up." In Kenya, Zollmann and Wanjala (2020) estimate that neither the transport sector nor the retail sector allows for formal learning. (For microwork and freelancing, see also N. Gupta et al. 2014; Uma and Marianne 2019.)

Health & Safety: Are people healthy and safe when pursuing this livelihood?

This is an element where very little translates across different platform livelihoods. The threats, and occasionally the benefits, that accrue from a health perspective are largely a function of the vocation. Here are three illustrative contrasts about risks, where context and vocation are everything.

It depends where the work happens. For example, in freelancing and microwork, working from home, often anonymously, can be perceived as relatively safe, perhaps particularly for women (McAdam, Crowley, and Harrison 2020). Other types of platform work, such as domestic help, are place-based, and may expose people, particularly women, to risks on early-morning commutes (Hunt et al. 2019), in uncomfortable and unprotected domestic situations (Aneja and Sridhar 2019), and to sexual harassment (Garcia et al. 2020; Kiarie, Singh, and Obiko 2020).

It depends on whether there's cash around. One study argues that digital payments reduce the need for drivers in Indonesia to carry cash, and therefore reduce risk (Gachoka and Winiecki 2020), whereas drivers in South Africa became unsafe when cash option was introduced (Geitung 2017). Small retail merchants engaged in social commerce in Kenya (Partnership for Finance in a Digital Africa 2019) still operate in situations where the platform transaction is carried out in cash, a mode that feels risky.

It depends on how much risk the platform assumes. Contrasting platform driving with informal taxis, one study suggests that South African ride-hailing platforms provide accident and emergency medical insurance, making for a safer driving environment (Gachoka and Winiecki 2020). Another study of drivers in China notes that drivers don't have these things (J. Y. Chen 2018)manipulate and fight against the rise of ride-hailing platforms like Didi Chuxing in China (which purchased Uber China.

That said, there are two ways in which clear health risks have been identified. The first is around the **physical safety of driving**, which impacts both delivery and ride-hailing platform livelihoods. Motorcycle taxis in Kenya are not very safe (Zollmann and Wanjala 2020). Drivers in China report cutting corners, speeding, and ignoring traffic laws, in order to meet the deadlines imposed by the algorithm (J. Y. Chen, Sun, and Qiu 2020; B. Chen et al. 2020). Drivers in Indonesia report stress and exhaustion from riding long hours in traffic (Nastiti 2017). Drivers in South Africa don't know where their ride will take them until they accept the fare, often exposing them to neighborhoods they perceive as risky (Geitung 2017). Indeed, in South Africa the risks don't just come from carrying cash or speeding through red lights; it can come from the threat of physical violence from traditional taxi drivers, too. The considerable strife between platform drivers and taxi drivers in the country have been documented (Selabe 2017; Mare, Chiumbu, and Mpofu 2020; Geitung 2017).

The second clear risk is around the **mental and emotional tolls** of platform work. In microwork, this can include the harmful effects of watching pornography and violent content, if one is a content moderator (Gray and Suri 2019), and/or the grind of long hours and stress taking a physical toll on sleep (Anwar and Graham 2020; Wood et al. 2019a). That said, other studies suggest that health risks don't appear prominently in the minds of platform workers (Muhindi 2019).

In general, it is difficult to disaggregate the risks associated with this type of work in general from the specific risks of doing this kind of work *as facilitated and managed via a platform*. What policymakers and the development community may have to look for is ways in which the particular affordances and constraints of platform work either reduce or accentuate the baseline levels of risk evident in each sector. One way to think about that is whether platforms do more or less than employers to mitigate risks, either through insurance, caps on hours worked, etc. or, as Gupta (2020) puts it, **do they shift the burden of safety to workers**? As an illustration, during the COVID-19 pandemic in 2020, some ride-hailing platforms provided personal protective equipment to their drivers, while others did not (Krishna 2020; Fairwork Project 2020). One could look at the relationships between the platform, the individuals, and the vendors plying livelihoods upon it through moments like this, and there's no hard and fast assessment that would suggest that platform work is

more or less safe than other types of work. It really depends on the context, the regulatory environment, and the choices platforms make. The opportunities for risks to be amplified or shifted to workers is discernible. It's why groups like Fairwork are pressuring platforms to take more responsibility for the health and safety of their workers.

Betweenness & Protection: How is this space between employment and self-employment experienced? And how are people protected in it?

This element is a reflection of one of the essential tensions in the platform livelihoods space. From an economic or structural perspective, multisided marketplaces for goods and services put platforms in the middle of transactions that they don't entirely control. Platforms get to be lean, not having to hold inventory, physical spaces, or formal employees. These promise remarkable and flexible allocations of labor and investment, but challenge established ways in which societies understand livelihoods, and how those societies protect the dignity of work and the well-being of those doing work when so many benefits are tied to formal employment.

Among the studies in this review, all of which involved first-person/primary research in the Global South, this essential challenge was often revisited as a matter of fact stipulation or framing statement. Projects like Fairwork (2020) can describe the "numerous risks" of platform work, risks others have enumerated like the lack of a country-mandated minimum wage (Martin et al. 2016), lack of social protection from the state (Rani and Furrer 2019; Wood et al. 2019b), the lack of employment contracts to sign and thus the instability of work (B. Chen et al. 2020; Wood et al. 2019a), low participation in insurance programs (J. Y. Chen 2018), and the lack of company-supplied benefits (Genesis Analytics 2019; Hunt et al. 2019). It's why people who work part-time as microtaskers are more likely to have benefits and protections from the state or elsewhere than those who work full-time as microtaskers (Berg et al. 2018, 20). In the light of the "digital Taylorism" evident in daily practices and regulations governing microwork and freelancing (Anwar and Graham 2019b), it is easy to punch holes in the idea that all platform livelihood seekers are entrepreneurs. It's also the reason why platform workers turn to families for protection and support when formal state and company structures fail them (J. Y. Chen 2018), and why platform workers are hurt so dramatically by the downturns associated with COVID-19. When demand plummets, they are on their own (Krishna 2020).

Yet despite the clear misalignment between how individuals, platform companies, their customers, and the state frame the nature of the work, these studies also nevertheless indicate that the solutions are not clear-cut. The experience of betweenness is embedded in contexts that reinforce—nay, demand—this misalignment.

Speaking about microwork, Grey and Suri (2019, 75) explain:

> *The harsh irony is that ghost work platforms and individual requesters wash their hands of the pain they inflict on workers. Companies … view workers as mere customers who are selling their labor, as they might sell their used record collection or rent a spare bedroom. In the eyes of ghost work companies, customers come to their sites strictly of their own volition. And, as customers, they can leave at any time.*

This is a **vulnerability by design**, something Raval and Pal (2019, 10) echo in their study of workers in India. They said that platforms can

> *"govern at a distance" by having instilled the disciplinary logics of accountability and the individualization of risk without having to employ these gig-workers. Further, in the case of HouseHelp, this professional discourse is extended in a very culturally specific way where upwardly mobile urban Indians are offered convenience, comfort (of at-home service), and hygiene as hallmarks of professional service, mirroring what they also often receive from support staff at-work. At the same time, the pros are encouraged to demonstrate professionalism through the individual absorption of risk and the demonstration of vulnerability. The platform comes to hold this asymmetry of power in balance.*

This vulnerability is **embedded in the complexity and absence of protections**. When operating in segments or national contexts with a lot of informality in the existing workforce, this intentional betweenness is difficult to regulate (Anwar and Graham 2019a). It can be more difficult to decry a lack of protections when so many in the nondigital informal sector lack them, too (Surie and Koduganti 2016).

Nor does every worker occupy the same position vis-à-vis the platform. As we discuss in the crosscutting theme on **hidden hierarchies**, some individuals have employers, landlords, or asset lessors sitting between them and the platform. There are talent aggregators (Soriano and Panaligan 2019) and "virtual MSEs" in freelancing (Melia 2020), and lots of different ways to get a taxi or motorcycle on the road. For example, in China,

> *Apart from the division between full-time and part-time, we found a proliferation of informal employment types. The online ride-hailing market consists of, at least, taxi drivers, independent (moonlighting) private drivers (namely the independent contractors), drive-to-own drivers, and subcontracted drivers. Subcontracted drivers include those directly hired by the platform companies and those who are hired by fleet companies that affiliate with platform companies. Each group of drivers face different levels of income deductions by the platform or the employer company. Similarly for the online food-delivery market, there are at least four different types of riders: 1) platform-hired riders, 2) crowdsourced riders, 3) subcontracted riders who are hired and 4) in-house riders. The discrepancy between each employment type illustrates varied levels of informality and collective bargaining power (J. Y. Chen, Sun, and Qiu 2020, 19).*

What does it mean to be "self-employed" or "an employee" in such a context? Bosses abound even if the platform can't see them. Indeed, the platform may not want to see them.

Some workers do prefer an arm's-length arrangement (Nastiti 2017). "Workers often view themselves as entrepreneurs and buy into the individuality of owning risks and responsibility" (Aneja and Sridhar 2019), even if they miss out on state benefit schemes. According to Reilly and Lozano-Paredes (2019, 6),

> *Contributions to social security are voluntary in Cali, and only 8% of surveyed ride-hailing workers made contributions to insurance, sick, and/or maternity leave, or pension plan.... Indeed, they saw future formalization of the sector as a threat, and saw the ability to avoid taxes as a benefit of informal work.*

Others feel the lack of protection. For example, the "misclassification" of South African drivers as independent leaves them at risk of dismissal (Selabe 2017). Thus, in a survey of such drivers, 58% said they would quit online work if they were employed with better terms, i.e., permanent contacts and social benefits. To these respondents, stability of income and social protection were important (Muhindi 2019).

Perhaps most notably for this review section, many others are literally confused or unclear as to where they sit and how to describe their status (Gray and Suri 2019; Hunt et al. 2019; Garcia et al. 2020). Our contention is this is by design. For example, Tintiangko and Soriano (2020) note that online freelancers in the Philippines feel outside the target market for coworking spaces, since they do not consider themselves as entrepreneurs. This is reflected in their constant use of phrases such as "If I were a startupper or an entrepreneur...."

This ambiguity isn't always evident; it's pretty clear to those involved in social commerce, for example, that they are their own bosses, even reflected in the way they set up separate social media identities for their business distinct from their personal activities (Zhao 2020). But the experience of betweenness is widespread, and the ambiguities are intentional. If individuals do not know how they are classified, and platforms are taking liberties with how they are classified, then we as researchers and development practitioners must be attuned to these ambiguities as well. It's part of the reason we propose "platform livelihoods" as a coherent superset of platform labor and platform sales; it allows us to see the ways in which the stand-off, arm's-length approach to engagement on a task-by-task or sale-by-sale basis can be both an enabler and a constraint for those trying to make a living. The policy implications of this vary widely per sector and by country, and are thus outside the scope of this review. However, it should be clear from the section that this is not merely a matter of semantics. Betweenness is an essential experiential element of platform livelihoods.

Association, Organization, & Support: Are people in this together?

In some sense, platform livelihoods are inherently atomizing and individualistic. Each vendor worker supposedly represents one's own account. But is that actually the case? Several participants across various studies shared ways in which individuals seeking platform livelihoods were not alone. This could be as simple as identifying oneself as a platform worker, extending to having venues for mutual support and information sharing, especially online, and in some cases, going all the way to forms of collective action.

Some researchers were interested in whether individuals described themselves as platform workers or plying a livelihood via platforms—was it **an identity**? After all, electronic freelancing affords few avenues for socialization or shared passion (Zollmann and Wanjala 2020). As one freelancer in the Philippines put it, "Even in one of those more expensive coworking spaces in Makati, my friend told me that it's just really quiet. You're all seated beside each other, you work, but it's just quiet" (Tintiangko and Soriano 2020).

Lehdonvirta (2016, 65–66) tackles this directly by interviewing microworkers and finding that

> *A particularly consistent finding was that microworkers did not experience identification with their detached and transitory employers, the firms that provided them work over the platform. Many MTurk workers had "favorite" employers, favored thanks to paying well, providing stimulating tasks, or generally dealing in a fair way. But this favor did not seem to amount to experiences of belonging or membership, perhaps because workers were well aware that the distant working relationship that they enjoyed could end without notice, and often did. Another potential focal point for identification is the platform that mediates between the worker and the employer … relative to what might be expected of standard employees in a firm, microworkers' identification with the formal organizations closest to them seemed weak.*

Lehdonvirta (2016) found some distinctions between the degree of association with different microwork platforms (Mechanical Turk being the least associative) but the general point is notable; it can be lonely out there. However, identification as a platform worker may vary between sectors and countries, and is worthy of further testing.

That said, it is understandable and yet remarkable how much digital social media has allowed for the spontaneous organization of **support forums and interest groups** to break through the in-built atomization of platform work (Lehdonvirta 2018). Researchers speaking with microworkers in India (N. Gupta, Martin, et al. 2014; Newlands and Lutz 2020; Gray and Suri 2019) and around the world (Anwar and Graham 2019b; 2019b; Berg et al. 2018), from freelancers in Kenya (Melia 2020; Partnership for Finance in a Digital Africa 2019) and the Philippines (Soriano and Panaligan 2019), to drivers in Indonesia (Budiman 2020; Nastiti 2017), Africa (Gachoka and Winiecki 2020) and Colombia (Reilly and Lozano-Paredes 2019); home care workers in India (Aneja and Sridhar 2019), Kenya and South Africa (Hunt et al. 2019), use such forums for guidance, coordination, sharing of alerts about bad clients, and so on. Some have used words like "friends" and "family" (Gachoka and Winiecki 2020) to describe their importance. Sometimes these forums may be hosted by the platform (Garcia et al. 2020), but more often, there were references to Facebook, WeChat, or WhatsApp depending on the market. At times, these mediated connections began to supplant face-to-face advice and support among place-bound communities (Crosby and Cahaya 2017).

As Gray and Suri (2019, 131) put it,

> *Over and over again, workers told us that they were on the brink of giving up on ghost work platforms before they found the forums. They say it would be impossible for labor platforms to operate if workers weren't collaborating behind the scenes and that they wouldn't survive the grueling aspects of the work without the connections they forged.*

One of the most interesting uses of online forums bridges the line between coordination and support, as described above, and more adversarial **resistance, protests, and strikes**. These forms of organizations, mostly by platform workers as opposed to platform sellers, is intriguing and important, and as such is reflected in several studies from around the world, from groups monitoring social networks used for transmitting information about strikes and collective activism in China (J. Y. Chen 2018; J. Y. Chen, Sun, and Qiu 2020)manipulate and fight against the rise of ride-hailing platforms like Didi Chuxing in China (which purchased Uber China, to organizing protests in Amazon's microtasking platform that have led to rule changes in India (Panteli, Rapti, and Scholarios 2020a)we explore microworkers' views of their employment relationship. Microwork comprises short-term, task-focused exchanges with large numbers of end-users (requesters.

The presence of actual unions or worker's associations remains variable, as does individual user's interests in joining them (Wood, Lehdonvirta, and Graham 2018; Geitung 2017), partly for the issues of betweenness and entrepreneurial identity described elsewhere. We did not enumerate them for this paper, but among the studies, there were mentions of motorcycle taxi cooperative (Gachoka and Winiecki 2020), and a "Turkopticon" for organizing microtaskers (Irani and Silberman 2016). This is underexplored, and the overall efficacy and scope of worker organizations in the Global South is a topic that deservers further scrutiny (Graham, Hjorth, and Lehdonvirta 2017; S. Gupta 2020; Anwar and Graham 2020; 2019a), particularly in ways that extend beyond microwork, driving, and freelancing. Perhaps one alternate way forward begins with collaboration as Malik et al. (2020) argue. Freelancers in Pakistan have started taking work as a group rather than just individual jobs:

> *Networks built on kinship, friendship, and social connections have a smaller reach than formal unionization, and clearly do not yield the bargaining power of a workers' union. Nevertheless, the emerging forms of solidarity—rather than competition—among workers in Pakistan suggest the opportunity for alternative forms of cooperation to develop in contexts where legal and cultural factors make unionization difficult or impossible (Malik et al. 2020a).*

Subjective Experiences

Three elements deal with different aspects of self-image and the platform workers' place in society and economy. Instead of rolling them up into a single element called self-image, we think it is important to separate at least these three distinct strands of subjective experience.

Social Acceptability: How do others view one's platform livelihood?

People exist in social systems, large and small. Families, friend groups, peers, the broader society, and state all find ways of making known the work people are doing. It is an element of the experience see how it is received in the eyes of others.

This is by no means a universal finding, but several studies did address matters of illegality. The starkest examples of this were in situations where the platform was **operating outside of the license or regulatory regime** in a country. Uber, in particular, often jumped into countries before the regulatory landscape for it had been fully articulated. This places drivers in an awkward situation in Bangladesh (Kumar, Jafarinaimi, and Bin Morshed 2018) and in Colombia (Reilly and Lozano-Paredes 2019), since they could not turn to the state for protection nor seek benefits from the state. Conversely, drivers in China mentioned how working in a sensitive environment place them in a state of collective vulnerability, where poor behaviors like lawbreaking on the part of some drivers reflected poorly on all in the system (J. Y. Chen, Sun, and Qiu 2020). Meanwhile, female care workers in India had to be careful about reporting issues about sexual safety, lest it reflect poorly on them as individuals (S. Gupta 2020).

More common instead was operating in a **gray zone of questionable morality** as opposed to clear illegality. For example, academic writing (ghostwriting) for students in the Global North is one of the backbones of the Kenyan freelancing ecosystem (Zollmann and Wanjala 2020; Melia 2020). Other respondents described self-rating (Partnership for Finance in a Digital Africa 2019), using inauthentic or deceptive profiles (Partnership for Finance in a Digital Africa 2019), and **buying/selling high-performing profiles** (Zollmann and Wanjala 2020; Anwar and Graham 2019b; Partnership for Finance in a Digital Africa 2019; Melia 2020). We will revisit this question in the area of algorithmic sensibilities, but such behaviors are all under a broader umbrella of activities that challenge the "intended" ways of using the platform (Limpin and Sison 2018)coupled with the lack of adequate public transportation has led to the popularity of ridesharing services in the Philippines, which in 2015 became the first country to implement a regulatory framework for ridesharing through transportation network company (TNC.

Leaving aside the abstractions of state and society, people's more immediate judges are their friends and family. As elsewhere, there is conflicting evidence and sentiment from the field.

Some suggested that gig work, particularly microtasking, does not have high status and is not held in esteem. Thus, many of the Indian Turkers were just doing it until they got a 'proper job' (Martin et al. 2016)observations and forum posts—where Turkers describe their work, and their understandings of that work and of the transnational market they

work in. We compare and contrast their situations, their reflections on the marketplace and its global reach, and we take a look at their understandings of one another. Our focus is on 'the work to making turking work' (Martin et al. 2014. Some suggest freelancers are more respected more than microtaskers, and that microtaskers in particular fear stigmatization (Wood, Lehdonvirta, and Graham 2018) so much so that they retain pseudonyms on forums (Wood, Lehdonvirta, and Graham 2018). However, freelancers do face some cultural stigma (Malik, Nicholson, and Heeks 2018), with respondents facing assessments that their choices were "useless," "not respectable," or "irresponsible" versus a traditional job (Bandaranayake et al. 2020). These dynamics are best documented in freelancing and microwork, but may extend into other platform livelihood segments. For example, researchers found some reluctance among Indian home care workers to tell friends and family about their career (Rani and Furrer 2019).

This negative sentiment, however, was not universal. Some families just remained unaware of what young freelancers and gig workers were doing (Anwar and Graham 2020). Some were "fully supportive" of microtasking (N. Gupta, Martin, et al. 2014) and of E-commerce (McAdam, Crowley, and Harrison 2020). Other freelancers brag to friends about the work (Graham, Hjorth, and Lehdonvirta 2017); other microtaskers even actively push their friends to join the platform (Panteli, Rapti, and Scholarios 2020a), as do some Airbnb hosts (Ruiz-Correa et al. 2019).

All in all, the project of constructing and maintaining an image of respectability is ongoing and involves many players. Individuals have a role in their conversations with friends and family. They do get a branding push from platforms, where in some cases, the uniforms, branding, and professionalization discussed in the "whole person" element translate into a break with informality and more pride in the work (Gachoka and Winiecki 2020; Raval and Pal 2019). As one driver said, "Now we can call ourselves a uniform man" (Nastiti 2017).

Purpose and Passion: What mark does the work leave on the world?

Only a few studies explore this issue with participants—what does the work mean, beyond the paycheck? Some early studies note how some microtaskers see it as a "make-do job" (Martin et al. 2016), or something done just for enjoyment (N. Gupta, Martin, et al. 2014; Berg 2016). Enjoyment—the chance to do something one wants to do—also came up in one study of freelancers (Graham, Hjorth, and Lehdonvirta 2017).

Regardless of whether the work is fun, some mention how important it is to feel accomplished. This can be framed as "acknowledgement of a job well done" (Zollmann and Wanjala 2020), self-efficacy (Margaryan 2016), or intrinsic motivation (Brawley and Pury 2016).

Some social commerce entrepreneurs also mention finding satisfaction in helping others (McAdam, Crowley, and Harrison 2020). This may seem like entrepreneurialism, but if the focus is on the need fulfilled rather than the dream realized, it may have a slightly different, albeit related significance.

Perhaps the purpose and passion come from a calculation and realization of all of the other elements discussed in this review—everything from the flexibility and the agency to the learning and the service provided. As Gray and Suri (2019, 118) put it, "We found that workers doing on-demand ghost work, like workers everywhere, have more in mind than getting paid when they take on a job. Caring about something other than a payday is a way to feel some measure of power, control, and autonomy in a world where economic pressures curtail fully chasing our dreams with reckless abandon." This likely applies well beyond the microtasker at the heart of their study.

That said, it is helpful to be reminded how the feedback workers who were required to make these calculations is not always present. Anwar and Graham (2019a) note that many online workers don't know the effect of their work, can't see the networks into which that work feeds, or even what products they help create. Without transparency, and laboring in anonymity, workers can remain disconnected from any feelings of accomplishment associated with their contribution.

Entrepreneurial Drive: Is it important to be one's own boss?

We think it is important to place entrepreneurship and entrepreneurial drive as a distinct element, separate from other emotional returns (like flexibility or agency), sense of meaning (like helping others), or feeling proud of one's work, precisely because the idea that platform livelihoods are a form of entrepreneurship remains contested. It's absolutely clear that some people involved in platform livelihoods view themselves as entrepreneurs, and it's equally clear that others do not. When a Gojek driver in Indonesia is happy for the opportunity for a single mother to be independent (Nastiti 2017), that is still not necessarily an expression of enthusiasm for being an entrepreneur.

For some workers, the platform livelihood is, or at least is a step towards, entrepreneurship:

> *For example, Jayson (Philippines; lead generation) explained: "The jobs that we are being asked to do … are most probably the same as what we're doing in the office. But when we do it on a freelancer perspective, it puts more pressure to it...failure is not an option. When you fail, it reflects on your reputation." ... Remote gig work was perceived to be the first step towards reaching more substantive entrepreneurial aims, usually owning their own business. To this end, remote gig work was seen as providing a potential means of saving enough initial capital to setup a business in the future. [This type of work is] seen as enhancing the dispositional attitudes necessary to succeed as an "entrepreneur."... It was clear that a collective identity did exist for these workers, and that it was one that was related to the theme of autonomy and often articulated in reference to entrepreneurial values and freelancer status. (Wood, Lehdonvirta, and Graham 2018).*

Or consider these Saudi women, pursuing E-commerce at home:

> *Despite the significance of financial success, the real benefit of entrepreneurship appeared to be the self-fulfillment as a result of creating a business. "I am not driven because I want to make money. That's not why I wake up in the morning. That's not what drives me. I have the satisfaction when you build up something from nothing, when you achieve your own goal. That is my driver." (McAdam, Crowley, and Harrison 2020)*

Raval and Pal (2019, 8–9) spoke with platform managers at a beauty care platform in India,

> *The difficulty with quantifying "good work," "quality of service" as well as the lack of a standard career progression trajectory—all these factors contributed to the anxiety of "What next?" for all the beauty workers we spoke to. Against these normative conditions of the industry in India, they view better pay and entrepreneurship as progress. … the manager told us, "these pros eventually want to become entrepreneurs and we help them in getting there."*

These are not universals, but they move across segments and may reflect how entrepreneurship is a kind of motivation that is shared by some individuals, across several segments, rather than being concentrated in one or two types of platform livelihood. As the research literature advances, and as policy adjust to an increased role for platform livelihoods in economies, it may be important to note how the narratives provided by the platforms, the actual opportunities available there, and the desires of some individuals to pursue this type of livelihood, may align. However, that is not the same as suggesting that everyone involved is, wants to be, or considers themselves "an entrepreneur."

Nine illustrative platform livelihood types

The literature revolves around two large centers of focus—online work (freelancing and microtasking), and ride hailing, notably Uber. Other kinds of platforms are not nearly as well represented. It is best not to consider the number of studies on a segment as representing the importance of that area to local economies, let alone to anybody's particular livelihood. Instead, it is better to simply rate the quality of the literature insofar as it informs policy and practice, by that metric, our assessment is that the policy community has begun to approach conceptual saturation on the experience of remote work and of ride-hailing. Much needs to be done to achieve the same level of familiarity with the experiences of the other segments.

For the remainder of this report, we will intentionally disaggregate findings by segment. We intend to balance any prior broad statements about the nature of platform-mediated livelihoods and signal how each sector, in each context, demands its own analysis and corresponding policy and programmatic stance.

Microworkers

Studies on microwork portray nameless, faceless workers with no professional title, career progression, or guarantee for work (Anwar and Graham 2019a; Berg et al. 2018; Martin et al. 2016; Onkokame, Schoentgen, and Gillwald 2018; Wood et al. 2019b; 2019a). One respondent in a study by Berg et al. posits, "I feel in control of the work but have no control over when work will be available" (2018, 65). Although anyone can join and start earning, one Amazon Mechanical Turk worker says,

> *It's an extremely unstable existence…. I cannot say to myself I'm going to log in from 9 to 5 today and do enough work to make X amount of dollars. Sometimes there is work you can do, sometimes there isn't…. So it becomes the right time, right place, and fighting other workers for the better-paying tasks/work if/ when they are available. If you want to be successful, you can't stop. You can't log out…. (Berg 2016, 15)*

These are the two sides of a coin; microwork is good if you know where, when, and how to look. "The toughest part of turking for a living is actually finding the jobs, for every hour I spend working I most likely spend 2 hours monitoring the various scripts I have running to see what jobs show up" (Berg 2016, 14). On the flipside, work is characterized by **low pay** of around "$2-6 an hour" (Berg 2016, 12), **long and inflexible working hours**, including having to work "in the middle of the night" (N. Gupta, Crabtree, et al. 2014, 20; Wood et al. 2019a, 68), and **unpaid hours**, where workers spend most of the time searching or getting screened out for surveys. Workers also complain about **lack of respect** (Panteli, Rapti, and Scholarios 2020b, 191), **fluctuating payment terms**, whereby contractors fail to "discuss all the terms from the very start" (D'Cruz and Noronha 2016, 50), and **work being closed** before uploading. "I have done this many times and 'submitted' HITs successfully but sometimes it doesn't work because by the time I complete the survey the HIT disappears" (Gupta, Martin, et al. 2014, 8).

Workers also state the lack of **redress** mechanisms when **penalized** and request for leniency. "When you work at a real job, you are given time to learn and make mistakes and are given feedback, but in crowd work, the first time you make a mistake [...] you are rejected, maybe even blocked" (Berg et al. 2018, 79). One crowdworker complained,

> *I think one of the past few times, something I did went wrong as I got some warning emails from Amazon and finally got blocked. I was pretty sure I had done the task correctly and had seen the instructions before but perhaps I misunderstood something and now I might get suspended. (Gupta, Martin, et al. 2014, 9)*

Interestingly, more experienced workers spend **less time** on tasks (Berg et al. 2018; Margaryan 2016). "In my own laptop I use Chrome and have installed many scripts [...] I am usually much faster and better on it," stated one (Gupta, Martin, et al. 2014, 4). They also use social channels for **outreach, collective bargaining** (Wood, Lehdonvirta, and Graham 2018), and **knowledge sharing**, i.e., "training new MTurk workers, educating them on best practices, and helping them when issues arise" (Panteli, Rapti, and Scholarios 2020b, 192)we explore microworkers' views of their employment relationship. Microwork comprises short-term, task-focused exchanges with large numbers of end-users (requesters. One worker stated, "I get what social support I need for turking from chatting with other turkers online" **bargaining** (Lehdonvirta 2016, 70).

Freelancers

Two key benefits articulated by freelancers is **not having a boss** and the allure of **entrepreneurship**.

> *I don't have a boss and stuff, so it's too good to be true. The jobs that we are being asked to do on GigOnline are most probably the same as what we're doing in the office, but when we do it from a freelancer perspective, it puts more pressure on it, failure is not an option. When you fail, it reflects on your reputation. That contract could be ended right there and then if the client isn't happy. It's lovely being a freelancer because I can take our work where I need to, and not being confined to an office. (Wood, Lehdonvirta, and Graham 2018, 114)*

However, some mentioned that this is a "**mirage**" due to work **instability** and **long hours** put into getting work, "One of the biggest freelancer concerns is maintaining a continuous flow of work. When you go freelance, it's completely up to you to find projects and book clients" (Elan 2019, para. 4).

Workers experience discrimination based on geography, wages, task-based location, and tasks for native speakers.

> *We had some problems creating a profile there. I cannot do work in English correctly. Sometimes, they cancel the jobs. We do not understand what they are talking about. Sometimes, they give us poor ratings. That is also a dead block (Malik et al. 2020b, 8).*

There's also a limitation on the type of work they can do (Malik et al. 2020b, 9). Workers resort to changing their geographical location and online profiles as a hack to fit the requirements (Muhindi 2019).

Reputation is key in global freelance work compared to those in anonymous-microtask; they want to build a brand and be sought after. Experienced freelancers have higher bargaining power on platforms (Anwar and Graham 2019b), with most of them transitioning and subcontracting work. New freelancers, however, have to prove their value. Sometimes, they fall "prey" to clients who make them do work for little or no pay in exchange for good ratings (Malik, Nicholson, and Heeks 2018). Experienced workers have built informal networks for support, building consciousness on the work and solidarity (Malik, Nicholson, and Heeks 2018, 12)

One of the biggest challenges is understanding rating systems, especially when workers are aggrieved.

> *Upwork hits on the profiles sometimes. One of my friends worked on Upwork, fifty hours a week for $10 per hour. Upwork suspended his account that your name has come on a terrorist list. Even, his money was left in his account (Malik et al. 2020b, 8).*

Freelancing is perceived to be the first step towards reaching more substantive entrepreneurial aims, usually owning a business. One freelance worker reported working "…online with 99designs [as] simply a way to raise capital to establish local businesses for more secure sources of income" (Crosby and Cahaya 2017).

Ride Hailing Drivers

Ride-hailing platforms are welcome for people with few job opportunities in their countries, but **not everyone can join**.

> *You need to have a car that is not older than four years. Now, who can afford that car? No one of the previously marginalized people. No one can afford that car. It can only be afforded by the rich people. Of which undoubtedly they are white. (Geitung 2017, 33)*

Without an asset, drivers have to rent with the hope of acquiring their own later on. However, this makes drivers feel as if they are "only working for that person [car owner]," so, at the end of the week, they have "just a few hundred left" (Geitung 2017, 34), considering that they have to factor in fueling and servicing the car. This leads to a strain on the drivers who complain that their conditions are **restrictive and without considering the local context**.

> *We are just working for fuel right now. […] The fuel is going up but the fare is not. And with the 20/25% they take, it's not enough. We also need to clean the car, and insurance, which is very expensive. And they don't even know (Geitung 2017, 36).*

Drivers, if given a chance, would opt out. "If I was offered another job with a decent salary, I would park this car tomorrow, or even tonight" (Geitung 2017, 37).

These platforms promise rewards and work, but the picture is different. Drivers say to get the gains, they have to work long hours without relief even when sick (Geitung 2017, 32), under constant surveillance (Kute 2017, 51) with an unclear rating (Ahmed et al. 2016), inflexible hours, lack of trust, insecurity, unfair work terms (Geitung 2017, 33; 42) and no social protection (J. Y. Chen 2018, 8).

To survive, drivers try to **beat the system** and form unions to have a collective voice.

> *Sometimes, I get requests and the drop-off is outside Metro Manila…. I ask the rider if he/she is willing to cancel the booking and I will give a discount. If the rider agrees, I save the commission the TNC is supposed to deduct. It's a win-win (Limpin and Sison 2018, 7)*

Logistics/Delivery Drivers

Logistic platforms have similar challenges as ride hailing; for instance, the **algorithm control** issues resulting from "too many orders at the same time" (Anwar and Graham 2020), **timing issues**, and **issues with customers**:

> *I was notified that I got permanently suspended [putus mitra]. I was not aware of what I did wrong. Long story short, I found out that a customer who ordered Go-send [courier service] complained that she didn't get her stuff delivered. But, I delivered it to her office, but when I arrived, I was not allowed to go upstairs to her office. I called her like 20 times, but she didn't pick up. I texted her and I waited for 30 minutes, until my phone's battery was running out. So I gave it to the receptionist in the lobby. I texted the customer. I apologize if I did wrong by leaving it at the receptionist's. I told her that I did not steal it and I was not a thief. She responded, "No worries, I already found it, it was in the security room." Then I told her that I was laid off because of her complaint. She said, "Well, it's not my fault. I could not contact you. So, I reported to Gojek." …I asked her to call the Gojek office to revoke her complaint, so I can be allowed to work. Then she said, "I am a busy person, I have no time to deal with your business! You're their employee, you should tell Gojek yourself!" (Nastiti 2017, 25).*

Logistics platforms are also characterized by lack of **unions and barriers to entry** since one requires "a motorcycle, valid ID, and driver's license, and Rp. 100 thousand balance in your Ovo wallet" (Budiman, Hernandez, and Roest 2020). Furthermore, the more the riders, the less the pay.

> *I earned a hefty wage in 2017…in April or May, I made about ¥10,000 ($1,455) a month. There were few riders then and many subsidies. After people heard the stories about how good food-delivery was paid, they all came. The more workers are available, the less subsidies are offered. The pay is just average now (J. Y. Chen, Sun, and Qiu 2020, 24)*

Logistics differ from ride-hailing platforms in various ways. First, they have several options to choose from; they prefer parcel delivery. Second, they have a uniform they pay for. Lastly, they have more flexibility due to easier mobility. For instance, one can roam around a 25km radius without minding going further to deliver packages (Budiman, Hernandez, and Roest 2020).

Trades and Servicepeople

Local labor platforms give **validity** to workers. This is an advantage to workers because "Clients will treat you right because they know that you have someone behind you. It's different than when you go to a client's house alone looking for work, they don't trust you" (Hunt et al. 2019, 66). Such platforms also have an entry point for new workers, unlike other traditional jobs where they "…don't like new people, they have lots of politics…They don't want to share their work with new people. They even said that they liked my work but nothing happened…So, I decided to join ServiceHelp" (S. Gupta 2020, 5). Workers expressed dissatisfaction with earnings in some jobs, claiming there is fair remuneration in short-term gigs. "I used to bring a business of about 1–1.5 lakhs a month, but I only used to get paid 25,000 no matter what. But now […] [i]f I do more work, I can earn more" (Raval and Pal 2019, 7). Furthermore, job allocation and earnings are usually determined by forces outside the workers' domain.

> *With the platform it's very uncertain, everything is uncertain. From the money you are going to earn to getting the booking itself and once you get the booking you don't even know what to expect because you might find a house that has not been cleaned for two months (Hunt et al. 2019, 35).*

Others reported lack of **control** over their earnings, stating, "Some clients really trouble... For example, one client said my work was good but gave me a bad rating…The client said that if you refund my money, I will improve your rating" (S. Gupta 2020, 6).

Workers are frustrated by unfair payment or allocation practices (**underestimation**).

> *Let's say I have been booked for five hours [. . .]. It will be a big house that does not even tally with those five hours [. . .] but the client expects me to finish that job, so I am forced to add hours [. . .]. The client will be putting pressure on me to work fast, but if I work fast, I will get a bad rating attributed to not cleaning properly as the job was rushed. There is a serious problem there work. (Hunt et al. 2019, 41)*

Hard-to-track-or-rate work leads to an over-reliance on the client's review, which often results in **unfair ratings**, "Clients know they can reduce ratings so they misbehave" (S. Gupta 2020, 6). Some clients also **lack respect** for workers.

> *Those of us who work as housekeepers, we are disrespected a lot. They disrespect us a lot. They see us as if we are not learned. Someone talks to you rudely. The woman can give you clothes to wash and she has even left a pad on the panty for you to remove. Because she is seeing you are useless! (Hunt et al. 2019, 47)*

In some instances, workers lack ways to **negotiate** and even **redress mechanisms**.

> *I have been deactivated. It was only six months after joining ServiceHelp, my son fell very sick…I had to leave him and go to work because for three days, the hospital bill was amounting to INR 18,000. I did not have so much money… I went to the client in tension so I forgot the disposable sheet. The client got very angry. She told me not to do the job and just leave. The commission of INR 1,200–1,300 got deducted from my account so I ended up losing money. I didn't earn anything and lost more (S. Gupta 2020, 6).*

Further to this are reports on **unstable work**, which make it difficult to plan time difficult. "A lot of people complain but they say the client wants to go work so they cannot change the time" (Hunt et al. 2019, 40). Also, **unpaid travel costs** are not always factored in the earnings, which may "eat" into workers' earnings. Other workers experience insecurity as they travel.

> *Like now it's winter and I stay in [area] . . . people are getting robbed every day. So 6 am it will be very dark, and for instance you will be having a booking for 7 a.m. which means I will have to wake up by 5 a.m. then I will take my child to crèche by 6 a.m. because at the crèche they open at 6 a.m. I will then go to take whatever that I will take but it's not safe to move from my house to the school because it will be very dark so I do not want a 7 am booking because it's a risk. I can't risk my life for ZAR 150; it won't work (Hunt et al. 2019, 40).*

These structural inequalities between workers, clients, and organization policies exacerbate workers' **low confidence** and prohibit them from demanding explanations for penalties or low ratings (Raval and Pal 2019).

Another issue that is confusing is this word of "independent contractor"—we do not know what it means or which company we are working under because when we go to clients we are under the platform but when we go to the platform with our issues they say they are not responsible for us. This is bothering us, we don't know where we stand (Hunt et al. 2019, 46).

Some workers have sought solace in online communities, to learn from each other, find support, feel a sense of belonging, and occasionally arrange to share transport (Hunt et al. 2019; Raval and Pal 2019).

MSEs—Export and local

Platforms are key to opening up MSEs to a larger pool of people, thereby increasing their transaction volumes. This encourages an increase in tech adoption both on digital platforms and social media networks. Online commerce on the Facebook platform, shop experience, delivery and logistic experience and shoppers experience shows how they are assembling an online infrastructure—"creative infrastructure action which is homegrown" (Jack, Chen, and Jackson 2017).

Although there is a big pool of people, merchants complain of unstable income.

> *In opening an online store, sometimes we need to rely on luck. Although I earned approximately 10,000 yuan (€1,324) last month, our income is not stable at all. The profit I received in several months was just enough for pocket money (Chen et al. 2020, 8).*

Some worry about the effect of the collapse of the platforms, such as "about Jumia collapsing" (Chen et al. 2020, 8).

Selling on social media pages, listing on e-commerce platforms, or opening up individual websites are ways SMEs are using to grow their businesses. From the research, it is clear that each of these approaches requires a different work process. Some struggle to look professional; for example a small Mozambique local provider struggles in competing with international firms (Kabanda and Matsinhe 2019).

When selling on social media platforms, **referrals from family and friends** help the business to reach more people.

> *No matter how close you are with someone on WeChat, it would still be better if you had physically met this person. I'm not saying that my parents are very good friends with these potential customers, but they have met each other. They know where you are, what you are doing. That's enough. It's better than any other promotions on WeChat (Zhao 2020).*

Businesses would diversify their outreach for marketing—84% of SME partners joined Gojek to amplify their business **marketing**. Through the platform partnership, they can increase their transaction volumes and get more revenue. Moreover, 82% of SME partners experienced an increase in transaction volume after partnering with Gojek, 85% of

which experienced more than 5% increase in transaction volume, and 43% SME partners experienced an increase in revenue classification (Wisana et al. 2017). In conversations with Kenyan MSEs (Partnership for Finance in a Digital Africa 2019) social media channels were found to be used widely, often instead of formal E-commerce platforms.

When selling on social channels, one has to tactically curate their profiles, consistently share and sell a lifestyle that acts as a way to maintain credibility with their clients,

> *Most customers, when they first add you on WeChat, they won't talk to you. They will first go to your Moments page and read what you have posted. Then they will set up the relationship of trust by themselves. If they already see you posting photos of your life in Australia, 80 percent will trust you already before talking to you [...] My idea is that you don't sell a product; you sell the lifestyle of Australia. They will think, if you post something every day . . . okay, I'm having brunch. I'm having an afternoon tea with my friends, which Chinese people normally don't do. They [Australians] will just eat barbecue on the street, something like that. . . . And then your posting is like, every Aussie is wearing this Pandora. So Chinese people might think, I don't need this product, but this kind of lifestyle makes myself feel really cool (Wisana et al. 2017).*

This details a form of **unpaid work** that MSEs have to engage in with the hope that this will lead to more business in the future. There is a thin line between their business and their private lives, which has to be balanced keenly to achieve a win-win situation. They share personal information to enhance their influence upon their customers while being keen to not expose too much of themselves. Having separate accounts for business and private life has been a great balance as it ensures distinct online personas catered to different audience groups.

This makes the daigou-ers contractors who are technically subject to the requests and orders of clients. That said, they have demonstrated abilities to maneuver around, or even invert such a relationship by exerting influence on their clients. Chinese student daigou-ers' relationships with buyers in China are not purely commercial and contractual. They have endeavored to persuade customers to treat them as personal connections who are trustworthy, and whose opinions are reliable.

Over time, SMEs have assembled an online infrastructure that fits the local setting.

Though online platforms expose businesses to a wider clientele, the income is unstable.

> *In opening an online store, sometimes we need to rely on luck. Although I earned approximately 10,000 yuan (€1,324) last month, our income is not stable at all. The profit I received in several months was just enough for pocket money (B. Chen et al. 2020, 8).*

Some have worries about the platforms collapsing and view social platforms and E-commerce platforms in different light. They find social commerce safer than E-commerce sites. One business person admitted worrying "about Jumia collapsing" (B. Chen et al. 2020, 8).

One study from Cambodia (Jack, Chen, and Jackson 2017), illustrated how shoppers who speak global languages like English and Chinese, and have access to international markets have an advantage in online selling over other shoppers. Those who speak, write, and read English at a higher level navigate the Facebook platform with more ease and less difficulty communicating in the English-Khmer mix that often populates the Facebook selling pages. Educational background and vast business experience of SMEs are factors that influenced transition to interactive maturity of the tools. The findings show that SME owners/ managers who moved beyond interactive to transactive stage were in the process of or had embarked on higher levels of education, or were international interns.

MSEs have come up with strategies to cope with competition and socio-cultural practices by coming together. In other words, they engaged in a cultural practice of sharing business information and advice (SME_A,C,D) among themselves and with their foreign networks who provide technical assistance. Secondly, SMMEs that did not have a physical store, like SME_A and SME_B, developed partnerships with local SMMEs that had physical stores to address the socializing effect expected from consumers.

Engagement in entrepreneurship led to a fundamental change in familial relationships. “Now they are supportive, and they allow me to travel alone and sometimes ironically when my sister wants to travel they say, ‘Okay, you are going with her!’ so I’m the guardian now!” (McAdam, Crowley, and Harrison 2020). Despite the significance of financial success, the real benefit of entrepreneurship appeared to be the self-fulfillment as a result of creating a business. One businessperson posited:

> *I am not driven because I want to make money. That’s not why I wake up in the morning. That’s not what drives me. I have the satisfaction when you build up something from nothing, when you achieve your own goal. That is my driver. (McAdam, Crowley, and Harrison 2020)*

Asset-sharers

Based on one study on Airbnb in Mexico, it was evident that money is the main motivation behind people sharing assets.

> *I am a piano concert player and in the summer of 2008, I did not have that many concerts to play perhaps due to the economic crisis. At that time, I read an article in the New York Times about Airbnb and decided to try sharing economy platforms. At first, I consider VRBO, which offers high-end accommodation rentals, perhaps more money, but later I decided, for several reasons, that Airbnb was a better option. (Ruiz-Correa et al. 2019, 11)*

This leads to the creation of informal jobs that support and uplift the local community.

> *Our experience as a host is very nice because we can create few jobs for local people, who also benefit from the [Airbnb] platform. From the person that does the cleaning, the garden, and cooking and for those guests that are provided with breakfast; in this way we all grow as a community (Ruiz-Correa et al. 2019, 11)*

Three critical things emerge in this segment: the effect of a platform on the cost of rentals, security of the asset, and choosing who should use the asset.

> *Airbnb is not good because prices tend to go up wherever it arrives. I live in a small town of 500 people that is 30 minutes north of San Francisco. Two years ago, you could rent a room in a house for 750 dollars a month. Today, people are asking for 100 dollars per night, so it is almost impossible to find an affordable room these days. This could also happen here [...] I also have a tiny apartment in Paris and there is a law that allows owners to rent their accommodations through any sharing economy platform only when they are on vacation. However, this law is very difficult to enforce. Also, apartments in Paris use electronic codes for accessing the space. These codes are shared with visitors all the time, which raises security concerns (Ruiz-Correa et al. 2019, 13)*
>
> *The Airbnb platform is safe [...] if you want to rent your house you choose a person that has experience with the [Airbnb] platform as a traveler or tourist. You can read the profiles and the evaluations, and opinions that other hosts have about them. And you as a guest can also evaluate your host to make sure he or she provided what was promised. In this way, we can evaluate ourselves. (Ruiz-Correa et al. 2019, 14)*

Differentiation of practices between the global north and south also emerged.

> *The Airbnb [concept] has some disadvantages that we have identified through our experience with the platform. I can think of three or four main issues. First, one cannot be sure about the actual conditions of the space advertised in the platform. Second, one cannot be sure that the space actually has the facilities offered through the platform. One has to pay and then you find out whether what is advertised is true or not. We had an experience in which a host offered a room in her house, but when we arrived we realized that the host was renting a trailer that was in extremely poor condition. In another occasion, we found out that WiFi signal was not available in a place that was advertised as having Internet services. The third problem is that hosts are not obliged to show pictures of their neighborhood, the streets, the surroundings. This is very important in places that are not safe. If you are in downtown Paris, maybe there is nothing to be worried about. But this is not the case in Mexico. I would not rent a space to go with my wife if the neighborhood is dangerous. I think this third issue is the most important in the case of Airbnb use in Mexico. (Ruiz-Correa et al. 2019, 15)*

Farmers

In the initial review corpus of 75 studies, assessments of farmers' experiences of platformed agriculture were rare. According to Foster, Graham, and Waema (2019, 65), the adoption of ICT and Internet connectivity has caused digital disintermediation in the agricultural sector. These channels of disintermediation range from having e-auctions, creating online market linkages, and adoption of digital processes to support the supply chain activities. Some are happy with the digitization as this solves the mistrust in the value chain, especially with the brokers, who are seen as controllers of a cartel.

> *For me, they [brokers] are a complication… What is happening is we cannot buy directly from the producer at the auction, we have to buy from a broker. The brokers are the only people who sell tea at the auction, so they actually control the auction. That is why there is the perception of a cartel (Foster, Graham, and Waema 2019, 64–65).*

They believe that the brokers are always acting to their advantage. "It's nice to know what's happening in the market (…) the last two years have been bad. Last year's been very poor and it's going further down this year. So, I wonder why. We do keep getting information from people, but sometimes I think it's rubbish that comes. What everybody does is justifies his position" (Foster, Graham, and Waema 2019, 65). It was clear that with digitization, there is exposure to a broader market, and online channels act as market linkages.

> *"[W]hat will change is that with the online auction breaks the boundaries so people in the US will be able to access the information (...) so they don't have to come all the way to Mombasa to buy tea, they can access our tea from our systems, trading can be done online and [we] will ship the tea and they will wait for the tea on the other side (Foster, Graham, and Waema 2019, 66).*
>
> *We've been debating the idea of selling all our products online. We would have an [internal] auction as well (…) We would have it on a portal where you know, this is the type of tea we have. And we send samples to so many buyers worldwide anyway (Foster, Graham, and Waema 2019, 69–70).*

In the Mombasa tea auction case, those who are against e-auction hold on to needing face-to-face communication as a way to judge their pricing.

> *[M]y business is much better when I can see physically, I can know whether you are giving two or three dollars but if I can sit [in the office] here I can't know your body language—to know if by looking at you I can get that one more dollar. I think that this is something we're going to lose if we go that way (Foster, Graham, and Waema 2019, 69–70).*

They also state that lack of physical presence is likely to create silos with brokers colluding behind closed doors as opposed to the auction that happens openly.

> *[T]he resistance [to the e-auction] was based on the fear that the buyers may collude, you know they are seated behind a machine like this (...) in an office somewhere. Being traders they may want to buy teas at the lowest prices possible and it is easy for five of them to come together and say, 'Hey, you buy for us we are not going to push you,' and then tomorrow somebody else does the same and the next week somebody else does the same (Foster, Graham, and Waema 2019, 69–70).*

Theoretical analysis argues that ICT has played a great role in reducing information costs, but this has added costs involved in the transaction within the agricultural value chain.

Creatives

The pursuit of platform livelihoods in the creative clusters Global south is not well documented in this initial corpus of 75 studies. But the general shift in how art of all kinds is created, distributed, purchased and consumed in the digital era will likely the livelihood prospects for many in the creative industries in sub-Saharan Africa and beyond. Consider, for example, how musicians use Spotify and YouTube to disintermediate concert agents and cultivate relationships with fans (Baym 2018). Hints of what this may look like are in South Africa (Schoon 2016) and Kenya (Wyche, Forte, and Yardi Schoenebeck 2013), but a broader scan in the media studies literature is merited, and will be undertaken future revisions of this review.

In the meantime it is worth noting how issues around digital piracy challenge calls for actively confronting and redressing the persisting lack of information and poor documentation of the processes that animate the chain of production and labor dynamics in these economies (Sow 2016, para. 7).

Although social media offers no revenue, it is an effective channel to get an audience. In other words, it lacks “revenue models that allow artists to make returns on their work” (Hivos East Africa 2018, 11).

Further Analysis and Discussion

Crosscutting themes

Here we elaborate on four themes—gender, rurality, youth, and the shock of COVID-19, which can be applied to draw additional, crosscutting insights from the 75 studies. Each topic is of significant concern to the development community, interacting with many of the other elements in the experience quality framework.

Gender

As platform livelihoods become more widespread in the Global South, research attention has begun to disaggregate and explore dynamics by gender. Gender interacts with all of the core elements introduced in the platform livelihoods experience framework, particularly Access to Work & Markets, Earnings, Flexibility, Inclusion, Health & Safety, and Objectivity and Professionalism.

One approach has been just to try to assess the **relative proportion of men and women** engaged in platform livelihoods. An early and consistent finding in microtasking is that there are far more men than women involved in it (Berg 2016; Rani and Furrer 2019; Berg et al. 2018); an exception might be on some explicitly prosocial or progressive microtasking websites like Crowdflower (Lehdonvirta 2016). The skew toward males is also quite evident in ridesharing/driving (Zollmann and Wanjala 2020; Limpin and Sison 2018; Mare, Chiumbu, and Mpofu 2020; Geitung 2017). One study of motorcycle taxis in Kenya claims to have found literally only one female driver active at that time on the platform. "The reaction from most of my male customers is at first they fear that I might get them into an accident, worrying that a woman can't drive a *boda*," she shares (Gachoka and Winiecki 2020). Similarly, Chen's (2018) study of more than 8,500 drivers in China include only 4% women (J. Y. Chen 2018). The skew isn't universal; it seems less difficult to find female Airbnb owners, at least in one study in Mexico (Ruiz-Correa et al. 2019), and of course, some labor platforms in home care services and beauty work actually skew toward women workers. In Kenya, however, with one of the main platforms in that area rotating out of consumer-focused household cleaning, Zollman and Wanjala (2020) found "few platforms offering flexible work opportunities for women without high levels of education."

Another approach probes observable differences in the **type of work, work patterns, or even the amount of pay available to men and women**. This work is easiest to do on microtask freelancing platforms where surveys are easy to administer and large datasets are available. For example, one study observed women communicating 9% less frequently than men online during tasks (Wood, Lehdonvirta, and Graham 2018). Another suggest that while 64% of men reported solving complex problems, only 41% of women said the same thing; similarly, men were twice as likely to take on high-skill tasks than women in the sample. Male respondents were more likely to undertake tasks that were highly skilled, with 50% undertaking medium- or high-skilled tasks, against just 25% of women (Wood et al. 2019a). One study suggests men advance more quickly than women in freelancing (Dubey

et al. 2017). Harkening back to our discussion about the interconnectedness of flexibility, availability, and earnings, another study explained and observed difference in wages between men and women to a difference in working hours—8.4 hours for men vs. 7.8 for women (Muhindi 2019).

These service-level observations, though useful, only tell part of the story. One of the advantages of the type of qualitative and analytic work surveyed in this review is its ability to get behind the numbers and ask why. As is often the case with discussions of gender, these differences are multifaceted, culturally and contextually embedded, and crosscutting.

One of several unique and valuable contributions in Gray and Suri's "ghost work" are the links they make to the history of piecework: work done at home, bit by bit in the predigital age. They draw a line from 19th century women and girls, "assembling matchboxes boxes for pennies a pop" (2019, xix) through 1990s medical transcription and BPO work. It is with that long view that the intersection of gender, flexibility, availability, and earnings becomes both more visible and more complex. They offer extended anecdotes of two women in India, each wanting to work and contribute to the family, each happy for the income, but neither interested in working outside the home.

> *While women and men do ghost work roughly the same number of days and hours per week, they differ in how they spend their time. Overall, men are more likely to do ghost work during the nights and weekends, and women are more likely to do it during the day and less on the weekends…. Women are more likely to do ghost work when their familial and household responsibilities permit. Men, on the other hand, are more likely to do ghost work in the evenings and on weekends, after they have fulfilled their outside-the-home work responsibilities…. There are two ways to interpret the gendered labor of on-demand work platforms and the value that women derive from this kind of work. The first view might celebrate on-demand jobs as opportunities to free women up to have it all, imagining that on-demand work is the answer to the working woman's dilemma of needing to leave the home to earn an income. The second view sees this work as perpetuating traditional expectations of women to handle both full-time family obligations and the workload of more formal employment. (Gray and Suri 2019, 109–10)*

Indeed, this duality is reflected in other studies gathering perspectives from women around the world, across several of the distinct categories of platform livelihoods. Some attention focus on variants of the *second shift* of extra household responsibilities so many women face (Hochschild and Machung 1989), making it difficult to take early morning gigs outside the home for a home services platform in Kenya (Zollmann and Wanjala 2020), or to do freelancing in the evening (Melia 2020; Wood et al. 2019a). Malik et. al (2020a, 10) quote a participant in Pakistan:

> *Cultural constraints are particularly strong for women workers, some of whom have openly reported culture as a problematic factor for them even joining the freelancing industry…. "It is not like this that women are not capable. They have the responsibilities of many domestic chores. They have to cook after attending a freelancing class; she has to wash the clothes of the whole family as it is in our culture etc."*

Others examine barriers erected independently of children and families, instead of around society's expectations about what kinds of jobs or roles women might take. This linked to the inclusion element we described elsewhere. These include access to capital (Malik, Nicholson, and Heeks 2018), services (S. Gupta 2020) and MSE creation (Kabanda and Matsinhe 2019), where they might stay or move (Zollmann and Wanjala 2020), sexism (Genesis Analytics 2019) or even what kinds of devices they might be able to access. This is why in some sub-Saharan countries, the gap participation in gig work mirrors the gap in device ownership and access (Onkokame, Schoentgen, and Gillwald 2018). It's an admittedly difficult line to tread, between acknowledging how prohibitions on movement and safety (as discussed in the health and safety element), may be reflective of real differences in risk and vulnerability confronted by women in some settings, be it time of day, transportation on off-hours, domestic workspaces, etc. (Kiarie, Singh, and Obiko 2020), with the overhang of paternalism and concurrent misplacement of the responsibility of staying safe on women as opposed to making places safe for everyone.

Most importantly for this conversation, it's important to tease out how much of this is unique to platform work, or to work in general. On this last dimension, a few studies (McAdam, Crowley, and Harrison 2020; Raval and Pal 2019) look at how the affordances and constraints offered by platform livelihoods change the terrain of gender and work. Notably, Raval and Pal (2019) listened to women working in a particularly challenging situation, platformed beauty work in India, to offer reflections that again illustrate elements of the duality, and "temporal architectures of power and value production."

> *We flip [the] formulation to look at working class female gig-workers in India, the others whose movement and work is primarily anchored to the domestic sphere and for whom, the opportunity of platform-based gig-work appears as a socio-cultural opening more than an economic one. In highlighting these contextual priorities and harking back to our findings where the mention of "apps," "company" and digital helped working-class women protect their dignity and bodies, we want to call for future work to seriously take up the non-economic considerations for gig-work. The politics of workplace respectability, as it relates to technology, is a critical part of what we see here. The ability of the technological artefact to transform the perceived acceptability of work that is unchanged in its actual function speaks to the agency the technology has in this setting. The service delivery enabled by the technological artefact helps the creation of a new "professional" subject who blends seamlessly into the meta narrative of a modern entrepreneurial society. We propose that the "better than (other work)" articulation of gig-work by workers is not false consciousness but rather, a recognition of the non-economic. (Raval and Pal 2019, 14)*

Perhaps it is reasons like this why other studies found that women value flexibility and the chance to work from home, (D'Cruz and Noronha 2016; Berg et al. 2018, 20), or that freelancing is well-supported by family members (Bandaranayake et al. 2020). In lieu of anything clear-cut or deterministic, it is important to make distinctions between the gendering of work and the gendering of platform livelihoods; in other words how "gendered labor relations shape and limit emerging forms of digital labor" (Jack, Chen, and Jackson 2017), and how [platform] "labor processes are intertwined with economic and social capital

and gender relations, gender norms and patriarchal expectations" (S. Gupta 2020). In this sense, the studies here from throughout the Global South will be important contributions to a growing worldwide discussion on gender and platform work (Howcroft and Rubery 2019; Schoenbaum 2016; Dubey et al. 2017; Morell, Megías, and Espelt 2020).

Rurality

One of the central challenges confronting digital development, and development in general, is the distribution of opportunity, inclusion, and growth in rural areas. There are a few mentions in the literature of opportunities in platform livelihoods for rural communities, particularly around microwork in India where there is some evidence of access/inclusion (N. Gupta, Martin, et al. 2014; Gray and Suri 2019), and China, where the matter comes up only in passing, referencing (reminiscent of the element on betweenness) that some rural workers have access to insurance schemes that their urban compatriots do not (B. Chen et al. 2020). Yet Melia (2020) notes how even the online freelancer in Kenya can be found in a geographically co-located cluster in Nairobi, perhaps challenging the idea that freelance work knows no boundaries.

It's probably fair to say that on this crosscutting issue, it is too early to tell. Systematic mappings and comparisons of urban and rural participation in platform economies remain scarce. Further, it is reasonable to expect that some of these business models for local products and services, such as logistics, ride hailing, asset sharing, and MSMEs, to say nothing of creatives, may be growing outward from urban areas with a higher density of higher-income customers, and greater access to ICT and financial services infrastructures. As we mention in the section on platform agriculture, direct evidence of participation in formal agricultural marketplaces and in social commerce/social agriculture also lags in terms of the evidence base.

That said, our literature review is in the initial stages—this is only the first iteration—so if you find studies specific to platform livelihoods and rural areas, please reach out to us so we might include it in the next version of the review.

Youth

Like rurality, employment opportunities for the youth is a matter of widespread concern in the development community. And, while it is probably not a surprise to most readers that platform livelihoods skew toward the youth, it's worth examining the issue in slightly more detail.

Some portray the youth skew in terms of average age; for example, in microwork (Anwar and Graham 2020), the average age was 33.2 years across a 75-country sample of microworkers (Berg et al. 2018) and in delivery and logistics in China (J. Y. Chen, Sun, and Qiu 2020), likely tracking the inclusion elements of smartphone/internet use and digital literacy.

Indeed, digital literacy and savviness can be a useful frame, e.g., in understanding why SMMEs with younger managers who have international exposure and experience with E-commerce were found to be more engaged and enthusiastic about E-commerce (Kabanda

and Matsinhe 2019), or why the youth are "drivers of ICT adoption" (Onkokame, Schoentgen, and Gillwald 2018). There might even be an influence of demand as, for example, in the case of personal shopping in China, where predominantly young shoppers are acting as agents on behalf of predominantly young buyers (J. Y. Chen, Sun, and Qiu 2020).

Another approach centers on the transitory, fragmented nature of many young people's early interactions with the workplace. Some are "making do" part-time while in school, or full-time before they find a more permanent job (Muhindi 2019; Onkokame, Schoentgen, and Gillwald 2018). However, this leads to additional questions that are still not well-explored. Are platform livelihoods the "new normal" for youth—an emerging steady-state that will stay with them as they age, or is it a life stage that people will endeavor to move out of? The "future of work" will be partly determined by how this is answered, by sector and by region.

COVID-19

The 2020 COVID-19 pandemic killed over a million people and shut down economies around the world. There was considerable concern that those pursuing platform livelihoods, many at the intersection of informality, would be particularly vulnerable to swings in demand for their services, mostly—although not exclusively—negative. A few livelihood segments like delivery, and perhaps E-commerce, seemed to do well, but many other segments, particularly ride hailing and travel and hospitality, greatly suffered.

Some platforms have offered micro-credit and foodstuffs, or appealed to customers for donation or charity to offer financial assistance to platform workers. Some governments offered grants to support the unemployed; however, workers did not qualify either because they lack employment rights or because of their illegal status in the country of residence. Thus, the COVID-19 pandemic exacerbated the precariousness of this work and how the workers are regarded or treated; their rights are left at the mercy of platforms. Platforms are adding untested new services, sometimes with new implications for how long jobs can take to complete or what they will pay, which leads to a further deterioration of the quality of the work experience.

As we were compiling this initial version of the review, studies were still coming in and the overall evidence base was likely sparse. There are surely others, and the next iteration of this review will bring more into the synthesis; please alert us if you are aware of a study that should be included here.

That said, early studies illustrate how COVID-19 is a mediating force, intersecting with how workers in various platform livelihoods experience many of the 12 elements. For example, responses include a rare first-person account of the experience of being a delivery driver in South India during the pandemic, with findings that intersect with the Health & Safety and Objectivity & Professionalism elements of this review:

> *Drawing on self-ethnographic research as a food delivery worker in south India, Shyam Krishna (Royal Holloway University of London) explores the consequences of the COVID-19 crisis on gig workers in a Global South context. His insights highlight the **heightened risk** borne by food delivery workers, the continuation of **algorithmic control** in spite of the emergency, and the **protection gap** resulting from a problematic nexus between the state and platforms. (Krishna 2020)*

The team at Fairwork Foundation quickly fielded a survey to assess the damage to livelihoods, with findings that intersect with **access** and **earnings**:

> *Our survey suggests a majority of gig workers have lost their jobs entirely, while those able to work during lockdown have, on average, lost four-fifths of their income. As a result, many reported that just getting food to eat was their top priority. While platforms have long marketed themselves as facilitators of supplementary income streams, all of this exposes the complete dependency of most workers on their platforms as the basis for their livelihood. Given the control they exercise over the welfare and conditions of their workers, South Africa's platforms could and must do more to help, and we outline a series of measures they could be undertaking on issues including reduced commissions, loan deferrals, physical protection, healthcare assistance, sick pay, improved communication, and engagement with workers and their representatives. (Fairwork Project 2020)*

A team at CGAP also looked at the drop in earnings, in this case, with Gojek drivers in Indonesia. What's particularly notable here is the way in which individuals pivot out of one kind of service and into another, with the shifts from ride hailing to logistics, all within the Gojek super-app ecosystem.

> *During this COVID pandemic, his earning drops to about 50%, but people start using GoMart now, so he goes to convenient stores to buy groceries and bring them back to customer's home…. When he cannot take passengers because of COVID, he switched to package delivery and Grabfood…. In this COVID pandemic, there is government policy to allow drivers to postpone their motorcycle payment until a year later. (Budiman 2020)*

Ride hailing in India also suffered, with one researcher arguing that government responses are not sufficient to respond to the health risks, nor to the financial hardships faced by individual drivers (Korreck 2020). However, further discussion of the immediate policy responses to the crisis, vis-à-vis platform livelihoods, are outside the scope of this particular review, which focuses on the experience of the individuals involved.

Dynamics to watch

Here, we introduce four structural dynamics—fractional work, hidden hierarchies, amplification, and contestation—that are worthy of further attention. We set these off as structural rather than experiential because our approach here is more sociological than anthropological. The dynamics we identify are echoes of well-trodden themes in the broader literature on the sociology of technology. In this way, however, each is important in terms of anticipating and designing interventions, be they technological or policy, in favor of any desired outcomes. These four dynamics reflect a push–pull between technologies as designed and technologies as appropriated, used and 'practiced' (Partnership for Finance in a Digital Africa 2019). used by people in pursuit of their own better livelihoods. Each presents a challenge to anyone who seeks to shape the impact of these technologies for the better. As is the case with the crosscutting themes, these forces interact with many of the twelve elements in the quality framework of the platform livelihoods experience.

Fractional Work

Across the corpus of 75 studies, many researchers have made distinctions between full-time and part-time work. This split, whether by choice or by necessity, interacts with several of the 12 core elements, including Flexibility, Earnings, and Betweenness & Protection, as well as with the crosscutting element of youth.

Early studies on microwork and freelancing were among the first to **discern and describe** the split between full- and part-time engagement in platform livelihoods. Lehdonvirta (2016) describes microworkers in the Philippines as "precariots" pursuing several ways of earning a living. Across various country samples and microtasking platforms, others found 25% (N. Gupta, Martin, et al. 2014), 32% (Rani and Furrer 2019), 32% (Berg et al. 2018) or 40% full-timers (Brawley and Pury 2016)where Requesters post Human Intelligence Tasks (HITs. This dynamic is not limited to microwork and freelancing. Budiman (2020) is a full-time personal driver who hopped on to Indonesia's Gojek ride-hailing platform when available. In Zollmann and Wanjala's (2020) study across several platform livelihood types, "almost no one in the study [was] doing only one thing." In Kenya, as elsewhere, side hustles are everywhere, and have become increasingly digital (Partnership for Finance in a Digital Africa 2019). In China,

> *Part-time workers constitute a good part of the online labor force for both types of platforms—43% on the ride-hailing apps and 60% on the food-delivery apps, respectively.... Close to 70% of part-time drivers for ride services and 40% of part-time riders for food delivery worked less than 8 hours a day. (J. Y. Chen, Sun, and Qiu 2020, 17–18)*

These fractions, regardless whether it's 25% or 75% full-timers, create a distinction between a "core group" and a "rotating periphery" (Berg 2016). Grey and Suri (2019, 103–104) call it a "Pareto distribution" in which

> *work currently organizes around a small percentage of people who turn project-driven tasks into full-time work. A slightly larger proportion of people consistently contribute a few hours here and there as their schedules allow. And the majority people come to the platforms to experiment and may find their way to intermittent or regular work, but they are just as likely to do one or two jobs and leave. All three approaches to ghost work contribute to the platform's bottom line. Even opening an account and having it added to the platform's "head count"—whether worker is active or not—generates value for the platform, as it gives the appearance the platform has a lot of labor on standby.... For our purposes, we labeled these three groups* experimentalists, regulars, *and* always-on.

The overall distribution of part-time versus full-time pursuit of platform livelihoods likely differs across livelihood type and by country. For example, other studies have found that most Gojek drivers in Indonesia are full time (Nastiti 2017), while another study in China suggested that the majority of platform workers report a primary source of income from platform work (B. Chen et al. 2020). This depends also on how the questions are asked; there's a difference between driving all of one's income and most of one's income from a given livelihood, and how individuals might describe one livelihood among many as their "primary" one (J. Y. Chen, Sun, and Qiu 2020). It's for these reasons that Grey and Suri's distinction between experimentalists, regulars, and always-on is a durable, cross-sectoral dynamic in platform livelihoods, and why it drives differences in individuals' experiences.

Whether one is fully or fractionally engaged can determine how much participation and identity one brings to the work (Wood, Lehdonvirta, and Graham 2018). Whether one is fractionally or fully engaged can determine how likely it is that one has benefits from outside work or full-time contracts (J. Y. Chen, Sun, and Qiu 2020), and can determine how selective one wants to be in taking that next gig. After all, part-timers can afford to say no (Anwar and Graham 2019b). As Ma and Hanrahan (2019, 247) note about drivers in in the Global North: "Drivers' level of dependency on ride-sharing plays an important role in their experience of working on the platform."

And of course, the distribution of who is a part-timer is not random. This fractionality of livelihoods may intersect with gender (women are more likely part-timers, as observed in local services [Garcia et al. 2020]) and with youth (it's not surprising that many freelancers and microtask workers are young people, perhaps still in university, still working towards full-time employment [Melia 2020; Onkokame, Schoentgen, and Gillwald 2018]).

Finally, in some cases, part-time work is split between several distinct livelihoods. Someone can be a shopkeeper by day and a freelancer at night (Partnership for Finance in a Digital Africa 2019). In other cases, it's the same activity, done where the platform supports a fraction of the livelihood. This kind of work, driving outside the app, working on one's own on a project for former clients in freelancing, etc., has its own set of dynamics about the relative power shared between individuals and the platforms, and the trajectory of individual careers. We will cover this in a little bit more detail in the section on Contestation.

The overall implication of this section can be summed up as this: If one is building the optimal platform for individuals, or if one is regulating for optimal outcomes for individuals, which individuals are being designed for it? What are the assumptions about how much one uses the platform, and how much individuals rely on that platform as the primary source of income for them and their families?

Hidden hierarchies

In understanding platform livelihoods as a heterogenous category, it is important not to confuse the entrepreneur with the enterprise, and to look for cases where enterprises are growing beyond the visible footprint of a single account. Melia (2020, 43) finds "successful writers have expanded their operations into informal writing shops, most of them casually employ between three and ten writers (mostly university students and mostly on a seasonal basis)." Building on others in this review (Gray and Suri 2019; Wood et al. 2019b; Anwar and Graham 2019b), he terms this phenomenon "virtual SMEs."

> *In Kenya, re-outsourcing cannot be understood as a small sideshow of online labour. It is the core of the sector's ecosystem and the reason for physical agglomeration of online workers. That most successful online platform accounts in Kenya are not run by individuals but by virtual SMEs has certainly not yet been reflected in any quantitative estimates of the sector's size. That is, existing estimates are built on the assumption that each successfully earning account amounts to one single online worker. (Melia 2020, 44)*

These hierarchies are not limited to purely online activities like freelancing (see also Partnership for Finance in a Digital Africa 2019) and microwork. For example, Uber, in Bangladesh, "listed three distinct roles through which individuals could serve as a part of its ecosystem…. (1) non-driving partners, (2) drivers under partners, and (3) driver cum partners" (Kumar, Jafarinaimi, and Bin Morshed 2018, 4). This dynamic is observed in Kenya (Kibe 2020; Zollmann and Wanjala 2020), the Philippines (Limpin and Sison 2018) coupled with the lack of adequate public transportation has led to the popularity of ridesharing services in the Philippines, which in 2015 became the first country to implement a regulatory framework for ridesharing through transportation network company (TNC, India (Surie and Koduganti 2016), and in China, where there is a proliferation of informal employment types. The online ride-hailing market consists of, at least, taxi drivers, independent (moonlighting) private drivers (namely the independent contractors), drive-to-own drivers, and subcontracted drivers. Subcontracted drivers include those directly hired by the platform companies and those who are hired by fleet companies that affiliate with platform companies. Each group of drivers face different levels of income deductions by the platform or the employer company. Similarly for the online food-delivery market, there are at least four different types of riders: 1) platform-hired riders, 2) crowdsourced riders, 3) subcontracted riders who are hired and 4) in-house riders. The discrepancy between each employment type illustrates varied levels of informality and collective bargaining power (J. Y. Chen, Sun, and Qiu 2020, 19)

These groups are not always rigidly hierarchical in an employer/employee or even lessor/lessee sense. Others have noted more collaborative arrangements, rooted in peer networks or among family members (Gray and Suri 2019; Wood et al. 2019b; 2019a). "People are working in groups here. Some of the freelancers are getting local small projects and they are working on it for $300 to $400 together" (Malik et al. 2020a). Zollman and Wanjala (2020) even note forms of shared housing where freelancers work and live together (but for someone else) under one roof. Muhindi (2019) describes commission fees that individual freelancers can pay to those who operate successful profiles.

All told, research in several sectors and several countries has uncovered an array of arrangements that collectively challenge the idea of one account, one worker. It's part of the rationale for this review's use of the overarching phrase "platform livelihoods," and signals how difficult (though important) it will be to unpack the actual footprint of platform labor and platform sales around the Global South. The good news is there may be more platform-mediated livelihood activity than a mere count of active accounts would indicate. The bad news is not all of those roles may be equally fulfilling or high-quality—those leasing cars don't do as well as the owners (Kute 2017), those working for a freelancer don't do as well as the account holder, and those cleaning the bedrooms in an Airbnb may not do as well as the person advertising the property. As is often the case of technology, even a simple set of rules and code that underpins an online marketplace can support the emergence of complex structures. It's what humans do with technology.

Contestation and emerging algorithmic competencies

In this section, we build on the conclusion of the last, which suggested that virtual SMEs and other hidden hierarchies were likely to emerge as individual behaviors on marketplace platforms. Here we talk about a variety of strategies that individuals used to challenge and push back on the rules of the game supposedly imposed by the marketplace platforms. The reason these are important to the policy and design communities is that it is not accurate to view individuals as passive cogs in new digital market machines—they are instead innovators, appropriators, and adapters (Bar, Weber, and Pisani 2016; DeSanctis and Poole 1994). Another thing these 75 studies show us is how individual platform livelihoods are acquiring a know-how of the new terrain of the platform market. They have developed new skills and strategies to take back the power that they can and to optimize within, or sometimes beyond, the rules as established by the platform and other institutions, to optimize the quality of their experience. They are far from holding a monopoly on such power; as is often the case, their best efforts will still leave them vulnerable. We are not discounting so many of the other barriers, challenges, and injustices identified across the other 12 platform livelihood quality indicators, but in this "emergent structure" theme, we emphasize those places where contestation and algorithmic competencies, almost a playbook, or what Limpen and Sisson call "tactics" (Limpin and Sison 2018), are most evident.

Jarrahi and Sutherland (2019) coined the phrase "algorithmic competencies" to these processes of navigation and appropriation among gig workers. Their work did not focus on the Global South, so it did not make our primary corpus of 75 studies. However, this quote is nevertheless completely germane:

> *Workers are not passive recipients of algorithmic management and control. They develop what we call algorithmic competencies to deal with and appropriate algorithmic management exercised by the platform. Sensemaking activities allow users to create a working understanding about algorithms and how they may affect their work. (Jarrahi and Sutherland 2019, 8)*

Variants of these sensibilities, sensemaking, and strategies are myriad. For example, some **keep one foot in the offline world** and the online/platforms world within the same livelihood. Workers (Surie 2020) and drivers (Zade and O'Neill 2016) can decide to switch on the app, or leverage social networks or other existing analog relationships to acquire or keep customers, or avoid paying the commission to the platform. Others represent themselves on multiple platforms, engaging in with the platform economics literature calls "**multi-homing**" (e.g., Landsman and Stremersch 2011) to get better prices for their labor and goods, be that in driving (Kibe 2020; Limpin and Sison 2018; J. Y. Chen, Sun, and Qiu 2020), microtasking (Berg et al. 2018), or freelancing (Muhindi 2019). Some acquire detailed **anticipatory knowledge** of the ins and outs of the algorithm, electing to skip jobs that promise low pay (J. Y. Chen 2018); they know when surge pricing is likely to kick in (Limpin and Sison 2018), or when not to take the bait and flock to the same part of the city where all the other drivers are being told to go (Ahmed et al. 2016). Some retailers communicate with customers off-app, or face-to-face, in ways that can yield better ratings (Partnership for Finance in a Digital Africa 2019).

Some users must figure out not only the basic rules of the platform, but the unwritten social cues, conventions, and aesthetics as well that separate successful from unsuccessful platform sellers. This is, of course, most apparent in social commerce (Partnership for Finance in a Digital Africa 2019), like this example from overseas buyers: "My idea is that you don't sell a product; you sell the lifestyle of Australia… [Australians] will just eat barbecue on the street, something like that…. And then your posting is like, every Aussie is wearing this pandora. So Chinese people might think, I don't need this product, but this kind of lifestyle makes myself feeling really cool" (Zhao 2020).

Others use technology and "tech hacks" (Lehdonvirta 2018) to get a leg up on the competition and/or gather more information for success on the platform. This can be multiple screens to support simultaneous multi-homing in microwork and freelancing (Wood et al. 2019a; Newlands and Lutz 2020; Anwar and Graham 2019b). Others look at the payment history of clients to inform negotiation and ask for higher salaries (Anwar and Graham 2019b). Some drivers in China have installed bots to circumvent platform rules (J. Y. Chen 2018).

These latter examples begin to blur the line between technological optimization and what others would call cheating. More like cheating are examples of IP spoofing and VPNs (Partnership for Finance in a Digital Africa 2019; Melia 2020). We discussed inclusion and the legality sections, leaving self-ratings by logging in as clients (Partnership for Finance in a Digital Africa 2019), and using fake pictures or names to appear to be someone else online (Partnership for Finance in a Digital Africa 2019). Reports (from the US) suggest delivery drivers hang extra phones in trees near package depots, in order to appear close by and able to receive a job (Sooper 2020).

It's behaviors like this that stress contestation, not simply appropriation or adaptation. Overall, this structural theme underscores the lack of predictability in how individuals will respond to the rules as established by platform. In these algorithmic competencies and patterns of appropriation and contestation lie not just digital literacy, but the broader craft of pursuing a platform livelihood.

Amplification

Finally, it's worth comparing livelihood experiences, but not simply between individuals, or between livelihoods, or even between countries, but instead between pathways of progression and advancement. If patterns of adoption, impact, and use of these technologies (marketplace platforms and social commerce) follow those of other technologies, we should be attuned to ways in which the benefits and harms of such technologies do not accrue to all individuals equally. Several studies in this corpus of 75 show patterns of diversions and amplification, as outlined elsewhere in the technology literature (Toyama 2011; Tichenor, Donohue, and Olien 1970). Quite simply, to the skilled, the prepared, the connected, and the well-resourced, go the spoils.

Skills and capital are well-understood from observations of earlier technologies. Those educated and skilled do better in retail (Zollmann and Wanjala 2020; Kabanda and Matsinhe 2019); and perhaps do better in microtasking and freelancing as well (Anwar and Graham 2020). Those with resources to buy more cars, or open more properties for home sharing, may do better than those who are struggling to amass the capital to get involved (Ruiz-Correa et al. 2019). To be clear, this is not simply a case of barriers to access, but in changes to the velocity with which one can advance via platform labor or platform sales. Those with capital and skills are better positioned to prosper, differentially and over time, relative to those who start with less, if they can start at all.

But the new effect here is ratings. Reputation ratings, and even the counts on amount of work acquired in the past (D'Cruz and Noronha 2016), serve as powerful signals (Partnership for Finance in a Digital Africa 2019; Rani and Furrer 2019; Nastiti 2017; Selabe 2017; Garcia et al. 2020; Wood et al. 2019a; 2019b; Jack, Chen, and Jackson 2017; Anwar and Graham 2019b) to each individual new buyer about whether to choose a more or less experienced freelancer, driver, innkeeper, musician, etc. These ratings quickly amplify differences between the newbies and the superstars, between those designated as trusted brands, and

those that are portrayed as a greater risk. This is an application effect where good ratings and good work are self-fulfilling and compounding. Granted, professional reputations and track records have been a part of doing business for as long as there's been business. Platform models foreground these reputations, requiring hypervigilance of all (Gray and Suri 2019), and codifying precarity for more users than not. To those with the scores go the new work, and new entrants must struggle and scratch to even get in the game (Malik, Nicholson, and Heeks 2018).

Conclusion: How to use this review

As we get to the end of this lengthy document, it's worth restating and recalibrating: this review contains neither specific policy recommendations for those who might seek to regulate or shape the platform economy, nor specific design recommendations for those who might seek to improve its outcomes by working directly with platforms.

Instead, it is intentionally, more narrowly, and simply a review of the research literature on the experience of pursuing a livelihood in the platform economy in the Global South, through mid-2020. Its primary goals rather are to inform those who might seek to engage in further primary research of this kind, to encourage cross-pollination and alignment of ideas, to highlight what is beginning to be known and what remains unknown. Indeed, one primary user of this document is our own team; this is the result of our Phase 1 review of what others are writing and seeing, before we head into the field in Kenya in Phase 2 of our own research on platform livelihoods in late 2020. Look, soon, for how our own interviews, with people engaged in platform livelihoods in delivering logistics, farming, small enterprise, and the creative sector in Kenya described livelihoods from their own experiences, as links to these 12 core experiential elements and eight crosscutting factors.

That said, for readers who are looking beyond study design, there are some messages that can be taken from this work. As is often the case with a qualitative review, the answer to a broad question like "What are the experiences of platform workers and platform sellers in the Global South in 2020" will be, "It depends." What this review of 75 studies of platform livelihoods in the Global South offers is a useful sketch of how it depends. In this way, we offer five distinctions that hopefully will dissuade policymakers and technologists alike from overgeneralizing about the platform economy and individuals' experiences within it.

First, we synthesized 75 studies of platform livelihoods in the Global South into 12 elements, drawing on Zollman and Wanjala (2020) and Heeks (2017). These 12 elements include three core dynamics of supply and demand, six broader conceptions of human development, and three elements of subjective meaning. Together, these form an array of questions worth asking and pursuing. We make no effort to build an index, or to suggest that some of these elements are more important than others, although future work might certainly pursue that approach.

Second, we offered a landscape of at least nine distinct types of platform livelihoods. These are roughly roles or jobs, as opposed to sectors or company types. This list combines platform labor with platform sales, and combines place-bound, local businesses with placeless, 100% digital businesses, which often engage in export markets.

Third, we discuss the distinction between livelihoods pursued via formal top-down marketplace platforms, and livelihoods pursued via informal, bottom-up appropriation of social media platforms to engage in a variety of forms of "social commerce." Our term, "platform livelihoods," is intentionally the superset of platform labor or platform sales, and we assert that the two broad categories can inform each other, given the way the algorithm and the dynamics of digital marketplaces govern both types of activity.

Fourth, we aggregate and contrast across different countries. Our filter was intentional; we endeavored in this study to focus on economies and contexts where formal employment was particularly scarce, and where overall incomes were relatively low—in other words, the Global South. This is not to say that experiences of platform livelihoods in the Global South don't share some commonalities with experiences in the Global North. It is, rather, simply an effort to more directly and systematically connect evidence from the countries in question to the narratives and perspectives of the digital development community.

Fifth and finally, we stress that all of these experiences vary between individuals. From the distinction between part-time and full-time, to employee versus employer, to the high-skill versus the low-skill, the vulnerable versus the fully empowered, the 75 studies underscore how there is not one size that fits all, nor one experience that typifies everybody's approach to platform livelihoods.

The gaps in such a review are significant, but they also illustrate avenues for future work.

We would note that there are far more studies from the labor side than the platform sales side; this is something we will try to rectify in later versions of the review, although part of the challenge is that experiences of selling though platforms may be present but not as well signposted in the literature as the obvious categories of, say "Uber driver" or "mechanical Turker."

We also note that the studies are captured entirely from research published in English, for English readers, and mostly, although not entirely, from English-speaking respondents. The corpus of studies is probably slightly more reflective of a more rapid rollout of platform businesses into English-speaking parts of the Global South than it is of the population of the Global South as a whole. Nevertheless, this is something that should be rectified both in the sense of having more individual primary studies from the Global South, and also a review that is more intentionally multilingual.

A related issue—the study is reflective of the sort of questions that researchers may ask, instead of a person's completely unprompted sharing of experiences. The study, the researcher, and the journal or the publication, are all strong mediators sitting between you as a reader and the voice of the individual you are hoping to hear. We would encourage any reader of this study, or any of the individual studies as a whole, to try to speak to platform workers in as many personal contacts as possible, to get as close to their own perceptions as possible.

And finally, having done the first iteration of the review, it is our sense that there are not enough reliable estimates of the proportion of platform livelihoods in various populations around the world. Even across the nine types of platform livelihoods that we represent in our map, it remains an open question as to how many people are actually involved, and what proportion of the overall working population those platforms may represent.

Given these contributions and caveats, what are the takeaways?

It should be clear that our stance is that assessments of whether a livelihood type is experienced as positive or negative, as dignified and fulfilling or not, will continue to be best gleaned via comparative and systematic work, where the same type of questions are placed to workers and sellers in a few different livelihood types.

We would also suggest paying attention not just to the highly salient roles like microwork or ride hailing, but also to the segments that may promise to impact more people in the long run. There may be many more people who experience platform livelihoods as a change in sales channels for their small enterprise or their family farm than as entry into new job titles—that the "platform sales" side of the livelihood framework may be as or even more important than the "platform labor" side.

Finally, we'd suggest researchers look at pathways in and out of platform livelihoods, to get a better understanding of how platformization will impact employment and well-being, overall. There are studies in this corpus that suggest that platform roles are a step down from full-time employment. Others hint at upward mobility, as improvements vs. informal sector temporary work. Still others look at lateral or cross-sectoral moves as people move in and out of existing roles in the labor market. Understanding the overall impact of platformization on labor, and on the experience of work, will require attunement to all three of these pathways, simultaneously.

In all, we hope this review helps illustrate the great strides being made in rectifying what may have been an initial blind spot in platform literature. If early studies evaluated platformization from the perspectives of consumer welfare (more choice, lower costs!) and firm innovation (how good it is to be a platform business!), these studies each contribute to our collective understanding of the experience of the small-scale supplier, the platform workers and platform sellers, who pursue livelihoods in ways increasingly governed by digitization, code, and algorithms. Indeed, "it depends"—but in ways that researchers, policymakers, and technologists can now more clearly see, and can more easily design interventions to meet.

Appendix A

Mapping elements from Heeks (2017) and Zollmann and Wanjala (2020)

Superset of Elements	Heeks (Positive)	Heeks (Negative)	Zollmann & Wanjala (Positives)
Access to Work & Markets	Availability of income where otherwise absent	Instability of work	
Earnings	Reasonable Earnings	Inadequate earnings / unpaid time	a) Pay sufficient to cover needs [good, dignified] b) Pay commensurate with efforts [good] c) Perks [good] d) Pays enough for projects [fulfilling]
Flexibility	Flexibility	Long or constraining work hours	Flexibility "makes space for life" [good]
Inclusion	Inclusion regardless of who/where	a) Employment barriers (knowledge, network, device) b) Discrimination	
Objectivity & Professionalism	Objectivity, professionalism, and respect	Opaque/frustrating work process	a) Trust [good] b) Fair [dignified] c) Professionalism and integrity [dignified]
Upskilling & Growth	Career development	Lack of career development	a) Exposure to new [good] cultures, networks b) Learning [good] c) Upward mobility [good] d) Personal growth [good] e) Advances capabilities [fulfilling]
Health & Safety		Health and safety dangers	Not physically demanding [good] Easy on the body, not dirty or taxing [dignified]
Betweenness and Protection		• Tension about being an entrepreneur or an employee • Social protections	
Association, Organization & Support		Isolation Inability to organize	
Social Acceptability			Social respect, and not illegal [dignified]
Purpose & Passion			a) Sense of purpose b) Solves a real problem [dignified] c) Satisfy others [fulfilling] d) Allows for accomplishment [fulfilling]
Entrepreneurial Drive			Passion

Bibliography

Aggarwal, Mayank. 2020. "An Online Network Emerges during the Lockdown Connecting Farmers Directly with Customers." *Mongabay* (blog). May 12, 2020. https://india.mongabay.com/2020/05/an-online-network-emerges-during-the-lockdown-connecting-farmers-directly-with-customers/.

Ahmed, Syed Ishtiaque, Nicola J. Bidwell, Himanshu Zade, Srihari H. Muralidhar, Anupama Dhareshwar, Baneen Karachiwala, Cedrick N. Tandong, and Jacki O'Neill. 2016. "Peer-to-Peer in the Workplace: A View from the Road." In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, 5063–75. San Jose California USA: ACM. https://doi.org/10.1145/2858036.2858393.

Aneja, Urvashi, and Aishwarya Sridhar. 2019. "Show Me the Money! Worker WellBeing on Labor Platforms in India." Delhi: IT for Change. https://itforchange.net/platformpolitics/wp-content/uploads/2019/05/Platform_Politick_ShowMeTheMoney.pdf.

Anker, Richard, Igor Chernyshev, Philippe Egger, and Farhad Mehran. 2003. "Measuring Decent Work with Statistical Indicators." *International Labour Review* 142: 147. https://heinonline.org/HOL/Page?handle=hein.journals/intlr142&id=157&div=&collection=.

Anwar, Mohammad Amir, and Mark Graham. 2019a. "Digital Labour at Economic Margins: African Workers and the Global Information Economy." SSRN Scholarly Paper ID 3499706. Rochester, NY: Social Science Research Network. https://papers.ssrn.com/abstract=3499706.

——. 2019b. "Hidden Transcripts of the Gig Economy: Labour Agency and the New Art of Resistance among African Gig Workers:" *Environment and Planning A: Economy and Space*, December. https://journals.sagepub.com/doi/10.1177/0308518X19894584.

——. 2020. "Between a Rock and a Hard Place: Freedom, Flexibility, Precarity and Vulnerability in the Gig Economy in Africa." *Competition & Change*, April, 102452942091447. https://doi.org/10.1177/1024529420914473.

Bajwa, Uttam, Lilian Knorr, Erica Di Ruggiero, Denise Gastaldo, and Adam Zendel. 2018. "Towards an Understanding of Workers' Experiences in the Global Gig Economy." Toronto, Canada: University of Toronto. https://www.glomhi.org/uploads/7/4/4/8/74483301/workers_in_the_global_gig_economy.pdf.

Bandaranayake, Ramathi, Tahini Iqbal, Helani Galpaya, Laleema Senanayake, and Suthaharan Perampalam. 2020. "'Now We Are Independent': Female Online Freelancers in India and Sri Lanka - ProQuest." Colombo: LIRNEasia. https://search.proquest.com/openview/54a94effc2c41243b8004c5812ecdec7/1?pq-origsite=gscholar&cbl=4451209.

Bar, François, Matthew S. Weber, and Francis Pisani. 2016. "Mobile Technology Appropriation in a Distant Mirror: Baroquization, Creolization, and Cannibalism." New Media & Society 18 (4): 617–36. https://doi.org/10.1177/1461444816629474.

Baym, Nancy K. 2018. *Playing to the Crowd: Musicians, Audiences, and the Intimate Work of Connection*. NYU Press.

Beerepoot, Niels, and Bart Lambregts. 2015. "Competition in Online Job Marketplaces: Towards a Global Labour Market for Outsourcing Services?" *Global Networks* 15 (2): 236–55. https://doi.org/10.1111/glob.12051.

Berg, Janine. 2016. "Income Security in the On-Demand Economy: Findings and Policy Lessons from a Survey of Crowdworkers." ILO Working Paper 74. Conditions of Work and Employment Series. Geneva, Switzerland: International Labour Organization. https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_479693.pdf.

Berg, Janine, Marianne Furrer, Ellie Harmon, Uma Rani, and M Six Silberman. 2018. "Digital Labour Platforms and the Future of Work: Towards Decent Work in the Online World." Geneva: International Labour Office (ILO). https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_645337.pdf.

Bohn, Stephen, Nicolas Friederici, and Ali Aslan Gümüsay. 2020. "Too Big to Fail Us? Platforms as Systemically Relevant." *Internet Policy Review* (blog). August 11, 2020. https://policyreview.info/articles/news/too-big-fail-us-platforms-systemically-relevant/1489.

Brawley, Alice M., and Cynthia L. S. Pury. 2016. "Work Experiences on MTurk: Job Satisfaction, Turnover, and Information Sharing." *Computers in Human Behavior* 54 (January): 531–46. https://doi.org/10.1016/j.chb.2015.08.031.

Budiman, Bido. 2020. "Ride-Hailing: Stories from Gojek and Grab Drivers in Indonesia." CGAP Background Documents. https://www.findevgateway.org/sites/default/files/users/user331/Financial-Inclusion-Story-of-Ride-Hailing-Stories-from-Gojek-and-Grab-Drivers-in-Indonesia.pdf.

Budiman, Bido, Emilio Hernandez, and Joep Roest. 2020. "Ride-Hailing Drivers in Indonesia Discuss Livelihoods, COVID-19." *CGAP (Consultative Group to Assist the Poor)* (blog). July 21, 2020. https://www.cgap.org/blog/ride-hailing-drivers-indonesia-discuss-livelihoods-covid-19.

Busalim, Abdelsalam H., and Ab Razak Che Hussin. 2016. "Understanding Social Commerce: A Systematic Literature Review and Directions for Further Research." *International Journal of Information Management* 36 (6, Part A): 1075–88. https://doi.org/10.1016/j.ijinfomgt.2016.06.005.

Caribou Digital. 2019. "Platform-Led Upskilling: How Marketplace Platforms Can Transform Emerging Markets by Investing in Skills Development." Farnham, Surrey, UK. https://www.cariboudigital.net/wp-content/uploads/2020/01/Platform-Led-Transformational-Upskilling-Whitepaper.pdf.

Chen, Bin, Tao Liu, Lin Guo, and Zhenglin Xie. 2020. "The Disembedded Digital Economy: Social Protection for New Economy Employment in China." *Social Policy & Administration* n/a (n/a). https://doi.org/10.1111/spol.12603.

Chen, Julie Yujie. 2018. "Thrown under the Bus and Outrunning It! The Logic of Didi and Taxi Drivers' Labour and Activism in the on-Demand Economy." *New Media & Society* 20 (8): 1–21. https://doi.org/10.1177/1461444817729149.

Chen, Julie Yujie, Sophie Ping Sun, and Jack Linchuan Qiu. 2020. "Deliver on the Promise of the Platform Economy." Bengaluru, India: IT for Change. https://itforchange.net/platformpolitics/wp-content/uploads/2020/04/China-Research-Report.pdf.

Crosby, A. L., and R. Cahaya. 2017. "The Lure of the City, the Possibilities of the Village: Crowdsourcing Graphic Designers in Indonesia." In , 255–59. Hong Kong: Hong Kong Design Institute and Cumulus International Association of Universities and Colleges of Art, Design and Media. https://opus.lib.uts.edu.au/handle/10453/94623.

Cusumano, Michael A., Annabelle Gawer, and David B. Yoffie. 2019. *The Business of Platforms: Strategy in the Age of Digital Competition, Innovation, and Power*. HarperBusiness. https://www.harpercollins.co.uk/9780062896322/the-business-of-platforms-strategy-in-the-age-of-digital-competition-innovation-and-power/.

D'Cruz, Premilla. 2017. "Partially Empowering but Not Decent? The Contradictions of Online Labour Markets." In *Critical Perspectives on Work and Employment in Globalizing India*, edited by Ernesto Noronha and Premilla D'Cruz, 173–95. Singapore: Springer. https://doi.org/10.1007/978-981-10-3491-6_10.

D'Cruz, Premilla, and Ernesto Noronha. 2016. "Positives Outweighing Negatives: The Experiences of Indian Crowdsourced Workers." *Work Organisation, Labour & Globalisation* 10 (1): 44–63. https://doi.org/10.13169/workorgalaboglob.10.1.0044.

DeSanctis, Gerardine, and Marshall Scott Poole. 1994. "Capturing the Complexity in Advanced Technology Use: Adaptive Structuration Theory." *Organization Science* 5 (2): 121–47. https://doi.org/10.1287/orsc.5.2.121.

Dijck, Jose van, Thomas Poell, and Martijn de Waal. 2018. *The Platform Society*. Oxford, UK: Oxford University Press. https://doi.org/10.1093/oso/9780190889760.001.0001.

Donner, Jonathan, and Shikoh Gitau. 2020. "Exploring the Quality of Digital Livelihoods among Youths in Kenya." *Medium* (blog). May 18, 2020. https://medium.com/caribou-digital/exploring-the-quality-of-digital-livelihoods-among-youths-in-kenya-df9733bae9e3.

Dubey, Alpana, Kumar Abhinav, Mary Hamilton, and Alex Kass. 2017. "Analyzing Gender Pay Gap in Freelancing Marketplace." In *Proceedings of the 2017 ACM SIGMIS Conference on Computers and People Research*, 13–19. SIGMIS-CPR '17. Bangalore, India: Association for Computing Machinery. https://doi.org/10.1145/3084381.3084402.

Duncombe, Richard. 2006. "Using the Livelihoods Framework to Analyze ICT Applications for Poverty Reduction through Microenterprise." *Information Technologies & International Development* 3 (3): 81–100. https://itidjournal.org/index.php/itid/article/view/231/101.

Dupoux, Patrick, Lisa Ivers, Armane Dannouni, Zineb Sqali, and Guy Ngambeket. 2019. *How Online Marketplaces Can Power Employment in Africa*. Boston Consulting Group. https://on.bcg.com/2k8d1fa.

Elan, Jessica. 2019. "7 Common Problems Freelancers Face — and How to Conquer Them Like a Boss." *Remote Bliss* (blog). March 20, 2019. https://remotebliss.com/problems-freelancers-face-how-to-conquer-them/.

Facebook. 2019. "Giving Small Businesses the Tools to Succeed on Facebook." *Facebook for Business* (blog). May 7, 2019. https://www.facebook.com/business/news/giving-small-businesses-the-tools-to-succeed-on-facebook.

Fairwork Project. 2020. "Gig Workers, Platforms,and Government During Covid-19 in South Africa." https://fair.work/wp-content/uploads/sites/97/2020/05/Covid19-SA-Report-Final.pdf.

Foster, Christopher, Mark Graham, and Timothy Mwolo Waema. 2019. "Making Sense of Digital Disintermediation and It Development: The Case of the Mombasa Tea Auction." In *Digital Economies at Global Margins*, edited by Mark Graham, 55–78. Cambridge, MA: MIT Press.

Freberg, Karen, Kristin Graham, Karen McGaughey, and Laura A. Freberg. 2011. "Who Are the Social Media Influencers? A Study of Public Perceptions of Personality." *Public Relations Review* 37 (1): 90–92. https://doi.org/10.1016/j.pubrev.2010.11.001.

Gachoka, Anne, and Jacob Winiecki. 2020. "Assessing the Impact of Tech-Enabled Urban Mobility." Boston, MA: Shell Foundation and BFA Global. https://bfaglobal.com/wp-content/uploads/2020/06/Shell-Foundation_BFA_SafeBoda_MAX_Impact.pdf.

Garcia, Liza, Teresita Barrameda, Jessamine Pacis, and Arlen Sandino Barrameda. 2020. "Digitization and Domestic Work: The Policy Environment in the Philippines." Bengaluru, India: IT for Change. https://itforchange.net/platformpolitics/wp-content/uploads/2020/04/Philippines-Research-Report.pdf.

Geertz, Clifford. 1978. "The Bazaar Economy: Information and Search in Peasant Marketing." *The American Economic Review* 68 (2): 28–32. https://www.jstor.org/stable/1816656.

Geitung, Ine. 2017. "Uber Drivers in Cape Town: Working Conditions and Worker Agency in the Sharing Economy." MA Thesis, University of Oslo. https://www.duo.uio.no/bitstream/handle/10852/60423/MA-Geitung.pdf?sequence=1.

Genesis Analytics. 2019. "Towards a Digital Workforce: Understanding the Building Blocks of Kenya's Gig Economy." Mercy Corps Youth Impact Labs. https://www.mercycorps.org/sites/default/files/2020-01/Youth_Impact_Labs_Kenya_Gig_Economy_Report_2019_1.pdf.

Graham, Mark, Isis Hjorth, and Vili Lehdonvirta. 2017. "Digital Labour and Development: Impacts of Global Digital Labour Platforms and the Gig Economy on Worker Livelihoods." *Transfer: European Review of Labour and Research* 23 (2): 135–62. https://doi.org/10.1177/1024258916687250.

Graham, Mark, Vili Lehdonvirta, Alex Wood, Helena Barnard, Isis Hjorth, and David Peter Simon. 2017. "The Risks and Rewards of Online Gig Work At the Global Margins." Oxford, UK: Oxford Internet Institute. https://www.oii.ox.ac.uk/publications/gigwork.pdf.

Gray, Mary L, and Siddharth Suri. 2019. *Ghost Work: How to Stop Silicon Valley from Building a New Global Underclass*. Houghton Mifflin Harcourt.

Gupta, Neha, Andy Crabtree, Tom Rodden, David Martin, and Jacki O'Neill. 2014. "Understanding Indian Crowdworkers." In *Back to the Future of Organizational Work: Crowdsourcing and Digital Work Marketplaces Workshop. Baltimore*, MD. http://www.cs.nott.ac.uk/~pszaxc/work/CSCW_2014b.pdf.

Gupta, Neha, David Martin, Benjamin V. Hanrahan, and Jacki O'Neill. 2014. "Turk-Life in India." In *Proceedings of the 18th International Conference on Supporting Group Work - GROUP '14*, 1–11. Sanibel Island, Florida, USA: ACM Press. https://doi.org/10.1145/2660398.2660403.

Gupta, Shruti. 2020. "Gendered Gigs: Understanding the Gig Economy in New Delhi from a Gendered Perspective." In *Proceedings of the 2020 International Conference on Information and Communication Technologies and Development*, 1–10. ICTD2020. New York, NY: ACM. https://doi.org/10.1145/3392561.3394635.

Gurumurthy, Anita, Bharthur, Deepti, Chami, Nandini, Vipra, Jai, and Anwar, Ira Anjali. 2019. "Platform Planet: Development in the Intelligence Economy." IT for Change. https://itforchange.net/sites/default/files/add/Report-Platform%20Planet_Development_in_the_intelligence_economy.pdf.

Heeks, Richard. 2017. "Decent Work and the Digital Gig Economy: A Developing Country Perspective on Employment Impacts and Standards in Online Outsourcing, Crowdwork, Etc." 71. Development Informatics Working Paper Series. University of Manchester. http://hummedia.manchester.ac.uk/institutes/gdi/publications/workingpapers/di/di_wp71.pdf.

Hivos East Africa. 2018. "Ubunifu Report 2016: The Status of Creative Economy in East Africa." Nairobi, Kenya: Hivos East Africa. hivos.org/assets/2018/09/ubunifu_report_1.pdf.

Hochschild, Arlie, and Anne Machung. 1989. *The Second Shift: Working Families and the Revolution at Home*. New York: Penguin.

Hoffstaedter, Gerhard, Richard Robinson, and Tyler Riordan. 2020. "Delivery Workers Are Now Essential. They Deserve the Rights of Other Employees." The Conversation. March 29, 2020. http://theconversation.com/delivery-workers-are-now-essential-they-deserve-the-rights-of-other-employees-134406.

Howcroft, Debra, and Birgitta Bergvall-Kåreborn. 2019. "A Typology of Crowdwork Platforms." Work, Employment and Society 33 (1): 21–38. https://doi.org/10.1177/0950017018760136.

Howcroft, Debra, and Jill Rubery. 2019. "'Bias in, Bias out': Gender Equality and the Future of Work Debate*." *Labour & Industry: A Journal of the Social and Economic Relations of Work* 29 (2): 213–27. https://doi.org/10.1080/10301763.2019.1619986.

Hunt, Abigail, Emma Samman, Sherry Tapfuma, Grace Mwaura, Rhoda Omenya, Kay Kim, Sara Stevano, and Aida Roumer. 2019. "Women in the Gig Economy: Paid Work, Care and Flexibility in Kenya and South Africa." London, UK: Overseas Development Institute. https://data2x.org/wp-content/uploads/2019/11/WomenintheGigEconomy_ODI.pdf.

Insight2Impact. 2019. "Africa's Digital Platforms and Financial Services: An Eight-Country Overview." Cape Town, South Africa. https://indd.adobe.com/view/1e02103c-a03b-4aa7-9dae-658152c04400.

International Labour Organization. 2013. "Decent Work Indicators: Guidelines for Producers and Users of Statistical and Legal Framework Indicators." Geneva. http://decentwork.bilsbd.org/wp-content/uploads/2018/09/Decent-Work-Indicators.pdf.

Irani, Lilly C., and M. Six Silberman. 2016. "Stories We Tell About Labor: Turkopticon and the Trouble with 'Design.'" In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, 4573–4586. CHI '16. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/2858036.2858592.

Jack, Margaret, Jay Chen, and Steven J. Jackson. 2017. "Infrastructure as Creative Action: Online Buying, Selling, and Delivery in Phnom Penh." In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, 6511–6522. CHI '17. Denver, Colorado, USA: Association for Computing Machinery. https://doi.org/10.1145/3025453.3025889.

Jarrahi, Mohammad Hossein, and Will Sutherland. 2019. "Algorithmic Management and Algorithmic Competencies: Understanding and Appropriating Algorithms in Gig Work." In *Information in Contemporary Society*, edited by Natalie Greene Taylor, Caitlin Christian-Lamb, Michelle H. Martin, and Bonnie Nardi, 578–89. Lecture Notes in Computer Science. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-15742-5_55.

Kabanda, Salah, and Fernanda Matsinhe. 2019. "CONTEXTUALIST INQUIRY INTO E-COMMERCE INSTITUTIONALIZATION IN DEVELOPING COUNTRIES: THE CASE OF MOZAMBICAN WOMEN-LED SMMES." *Interdisciplinary Journal of Information, Knowledge and Management* 14 (January): 325–42. https://go.gale.com/ps/i.do?p=AONE&sw=w&issn=15551229&v=2.1&it=r&id=GALE%7CA616904581&sid=googleScholar&linkaccess=abs.

Khanna, Shashank, Aishwarya Ratan, James Davis, and William Thies. 2010. "Evaluating and Improving the Usability of Mechanical Turk for Low-Income Workers in India." In *Proceedings of the First ACM Symposium on Computing for Development*, 1–10. ACM DEV '10. London, United Kingdom: Association for Computing Machinery. https://doi.org/10.1145/1926180.1926195.

Kiarie, Nancy, Anup Singh, and Edward Obiko. 2020. "Same Problems, Same Inequalities: Women in the Digital Gig Economy." Microsave Blog (blog). March 11, 2020. https://www.microsave.net/2020/03/11/same-problems-same-inequalities-women-in-the-digital-gig-economy/.

Kibe, Josephine. 2020. "How Are Kenya's Youth Experiencing the Gig Economy?" May 28, 2020. https://www.cgap.org/blog/how-are-kenyas-youth-experiencing-gig-economy.

Korreck, Sabrina. 2020. "COVID-19 and India's Gig Economy: The Case of Ride-Hailing Companies." India: Observer Research Foundation. https://www.orfonline.org/wp-content/uploads/2020/07/ORF-Issue-Brief-377-Pandemic-Gig.pdf.

Kreis, Dylan Andrew. 2019. "A Typology of Online Labor Platforms." Thesis. http://dx.doi.org/10.26153/tsw/5444.

Krishna, Shyam. 2020. "The Role of a Gig-Worker during Crisis: Consequences of COVID19 on Food Delivery Workers in South India." *IFIP 9.4 Blog* (blog). April 13, 2020. https://ifip94.wordpress.com/2020/04/13/the-role-of-a-gig-worker-during-crisis-consequences-of-covid19-on-food-deliver-workers-in-south-india/.

Kumar, Neha, Nassim Jafarinaimi, and Mehrab Bin Morshed. 2018. "Uber in Bangladesh: The Tangled Web of Mobility and Justice." *Proceedings of the ACM on Human-Computer Interaction* 2 (CSCW): 1–21. https://doi.org/10.1145/3274367.

Kute, Sebabe William. 2017. "The Sharing Economy in the Global South: Uber's Precarious Labour Force in Johannesburg." Johannesburg: University of the Witwatersrand. http://wiredspace.wits.ac.za/bitstream/handle/10539/24466/540932%20MA%20submission.pdf?sequence=2&isAllowed=y.

Landsman, Vardit, and Stefan Stremersch. 2011. "Multihoming in Two-Sided Markets: An Empirical Inquiry in the Video Game Console Industry." *Journal of Marketing* 75 (6): 39–54. https://doi.org/10.1509/jm.09.0199.

Lee, Chia-Yen, and Bo-Syun Chen. 2018. "Mutually-Exclusive-and-Collectively-Exhaustive Feature Selection Scheme." *Applied Soft Computing* 68 (July): 961–71. https://doi.org/10.1016/j.asoc.2017.04.055.

Lehdonvirta, Vili. 2016. "Algorithms That Divide and Unite: Delocalization, Identity, and Collective Action in 'Microwork.'" In *Space, Place and Global Digital Work*, edited by J. Flecker, 53–81. London: Palgrave-Macmillan.

——. 2018. "Flexibility in the Gig Economy: Managing Time on Three Online Piecework Platforms." New Technology, Work and Employment 33 (1): 13–29. https://doi.org/10.1111/ntwe.12102.

Limpin, Laiza L., and Raymond C. Sison. 2018. "Drivers' Tactics in Ridesharing Economy in the Philippines." In . Sydney, Australia: University of Technology, Sydney. https://doi.org/10.5130/acis2018.at.

Ma, Ning F., and Benjamin V. Hanrahan. 2019. "Part-Time Ride-Sharing: Recognizing the Context in Which Drivers Ride-Share and Its Impact on Platform Use." *Proceedings of the ACM on Human-Computer Interaction* 3 (GROUP): 247:1–247:17. https://doi.org/10.1145/3361128.

Makuvaza, Leonard, Chernay Johnson, and Herman Smit. 2018. "The Rise of African Digital Platforms." *Insight2Impact* (blog). October 2018. https://i2ifacility.org/insights/blog/the-rise-of-african-digital-platforms?entity=blog.

Malik, Fareesa, Richard Heeks, Silvia Masiero, and Brian Nicholson. 2020a. "Digital Platform Labour in Pakistan: Institutional Voids and Solidarity Networks," June. https://repository.lboro.ac.uk/articles/conference_contribution/Digital_platform_labour_in_Pakistan_Institutional_voids_and_solidarity_networks/12520100.

——. 2020b. "Digital Platform Labour in Pakistan: Institutional Voids and Solidarity Networks." In *Proceedings of the 28th European Conference on Information Systems (ECIS)*. Marrakesh, Morocco: Association for Information Systems. https://aisel.aisnet.org/ecis2020_rp/147.

Malik, Fareesa, Brian Nicholson, and Richard Heeks. 2018. "Understanding the Development Implications of Online Outsourcing: A Study of Digital Labour Platforms in Pakistan." Development Informatics Working Paper 73. Manchester, UK: Global Development Institute, SEED. http://hummedia.manchester.ac.uk/institutes/gdi/publications/workingpapers/di/di_wp73.pdf.

Mare, Admire, Sarah Chiumbu, and Shepherd Mpofu. 2020. "Investigating Labor Policy Frameworks for Ride-Hailing Platforms." IT for Change. https://itforchange.net/platformpolitics/wp-content/uploads/2020/04/South-Africa-PDF.pdf.

Margaryan, Anoush. 2016. "Understanding Crowdworkers' Learning Practices." In . Oxford. http://ipp.oii.ox.ac.uk/sites/ipp/files/documents/FullPaper-CrowdworkerLearning-MargaryanForIPP-100816%281%29.pdf.

Martin, David, Jacki O'Neill, Neha Gupta, and Benjamin V. Hanrahan. 2016. "Turking in a Global Labour Market." *Computer Supported Cooperative Work (CSCW)* 25 (1): 39–77. https://doi.org/10.1007/s10606-015-9241-6.

Mastercard Foundation. 2018. "Young Africa Works Strategy 2018-2030." 2018. https://mastercardfdn.org/strategy/.

McAdam, Maura, Caren Crowley, and Richard T. Harrison. 2020. "Digital Girl: Cyberfeminism and the Emancipatory Potential of Digital Entrepreneurship in Emerging Economies." *Small Business Economics* 55 (2): 349–62. https://doi.org/10.1007/s11187-019-00301-2.

Melia, Elvis. 2020. "African Jobs in the Digital Era: Export Options with a Focus on Online Labour." *Discussion Paper*. https://doi.org/10.23661/DP3.2020.

Morell, Mayo Fuster, David Megías, and Ricard Espelt. 2020. "Special Issue on 'the Gender of the Platform Economy.'" Internet Policy Review. September 15, 2020. https://policyreview.info/node/1473.

Muhindi, Abas Ben. 2019. "Towards Decent Work On Online Labour Platforms: Implications Of Working Conditions In Online Freelance Work On The Well Being Of Youths In Nairobi County." MA thesis, University of Nairobi. http://erepository.uonbi.ac.ke/handle/11295/109681.

Nastiti, Aulia D. 2017. "Worker Unrest and Contentious Labor Practice of Ride-Hailing Services in Indonesia 1." In *Arryman Symposium*. Jakarta: Buffett Institute, Northwestern University. https://www.edgs.northwestern.edu/documents/2017-nastiti---arryman-paper,-evanston-symposium,-may-13.pdf.

Newlands, Gemma, and Christoph Lutz. 2020. "Crowdwork and the Mobile Underclass: Barriers to Participation in India and the United States." *New Media & Society*, January, 146144482090184. https://doi.org/10.1177/1461444820901847.

Onkokame, Mothobi, Aude Schoentgen, and Alison Gillwald. 2018. "What Is the State of Microwork in Africa? A View from Seven Countries." Cape Town, South Africa: Research ICT Africa. https://researchictafrica.net/wp/wp-content/uploads/2018/09/After-Access_The-state-of-microwork-in-Africa.pdf.

O'Reilly, Lara. 2015. "These Charts Show How Far Google and Facebook Are Ahead of Twitter." *Business Insider* (blog). February 25, 2015. https://www.businessinsider.com/macquarie-research-facebook-google-and-twitter-number-of-advertisers-2015-2.

Panteli, Niki, Andriana Rapti, and Dora Scholarios. 2020a. "'If He Just Knew Who We Were': Microworkers' Emerging Bonds of Attachment in a Fragmented Employment Relationship." *Work, Employment and Society* 34 (3). https://doi.org/10.1177/0950017019897872.

——. 2020b. "'If He Just Knew Who We Were' : Microworkers' Emerging Bonds of Attachment in a Fragmented Employment Relationship." *Work, Employment and Society* 34 (3): 476–94. https://doi.org/10.1177/0950017019897872.

Partnership for Finance in a Digital Africa. 2019. "Micro-Entrepeneurs in a Platform Era." Farnham, Surrey, UK. https://www.financedigitalafrica.org/wp-content/uploads/2019/04/FiDA-Micro-entrepreneurs-in-a-platform-era.pdf.

Pongratz, Hans J. 2018. "Of Crowds and Talents: Discursive Constructions of Global Online Labour." *New Technology, Work and Employment* 33 (1): 58–73. https://doi.org/10.1111/ntwe.12104.

PYMTS. 2020. "Facebook Steps Up Social Commerce For SMBs." PYMNTS.Com (blog). May 20, 2020. https://www.pymnts.com/news/retail/2020/facebook-steps-up-social-commerce-for-smbs/.

Rani, Uma, and Marianne Furrer. 2019. "On-Demand Digital Economy: Can Experience Ensure Work and Income Security for Microtask Workers?" *Journal of Economics and Statistics (Jahrbuecher Fuer Nationaloekonomie Und Statistik)* 239 (3): 565–97. https://ideas.repec.org/a/jns/jbstat/v239y2019i3p565-597n6.html.

Raval, Noopur, and Joyojeet Pal. 2019. "Making a 'Pro': 'Professionalism' after Platforms in Beauty-Work." *Proceedings of the ACM on Human-Computer Interaction* 3 (CSCW): 1–17. https://doi.org/10.1145/3359277.

Ravenelle, Alexandra J. 2019. *Hustle and Gig*. Oakland, CA: University of California Press. https://www.ucpress.edu/book/9780520300569/hustle-and-gig.

Reilly, Katherine M. A., and Luis H. Lozano-Paredes. 2019. "Ride Hailing Regulations in Cali, Colombia: Towards Autonomous and Decent Work." In I*nformation and Communication Technologies for Development. Strengthening Southern-Driven Cooperation as a Catalyst for ICT4D*, edited by Petter Nielsen and Honest Christopher Kimaro, 425–35. IFIP Advances in Information and Communication Technology. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-18400-1_35.

Rosenblat, Alex. 2018. Uberland. Oakland, CA: University of California Press. https://www.ucpress.edu/book/9780520298576/.

Ruiz-Correa, Salvador, Itzia Ruiz-Correa, Carlo Olmos-Carrillo, Fatima Alba Rendón-Huerta, Beatriz Ramirez-Salazar, Laurent Son Nguyen, and Daniel Gatica-Perez. 2019. "Mi Casa Es Su Casa? Examining Airbnb Hospitality Exchange Practices in a Developing Economy." *ACM Transactions on Social Computing* 2 (1): 2:1–2:24. https://doi.org/10.1145/3299817.

Schmidt, Florian A. 2017. "Digital Labour Markets in the Platform Economy: Mapping the Political Challenges of Crowd Work and Gig Work." Bonn, Germany: Friedrich-Ebert-Stiftung. https://www.voced.edu.au/content/ngv:76462.

Schoenbaum, Naomi. 2016. "Gender and the Sharing Economy." *Fordham Urban Law Journal* 43: 1023. https://heinonline.org/HOL/Page?handle=hein.journals/frdurb43&id=1047&div=&collection=.

Schoon, Alette. 2016. "Distributing Hip-Hop in a South African Town: From the Digital Backyard Studio to the Translocal Ghetto Internet." In *Proceedings of the First African Conference on Human Computer Interaction*, 104–113. AfriCHI'16. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/2998581.2998592.

Selabe, William Kute. 2017. "The Sharing Economy in the Global South: Uber's Precarious Labour Force in Johannesburg." Johannesburg: University of the Witwatersrand. http://wiredspace.wits.ac.za/handle/10539/24466.

Sooper, Spencer. 2020. "Amazon Drivers Are Hanging Smartphones in Trees to Get More Work." *Bloomberg.Com*, September 1, 2020. https://www.bloomberg.com/news/articles/2020-09-01/amazon-drivers-are-hanging-smartphones-in-trees-to-get-more-work.

Soriano, Cheryll Ruth, and C. Joy Hanna Panaligan. 2019. "Skill-Makers' in the Platform Economy." In *Digital Transactions in Asia: Economic, Informational, and Social Exchanges*. Routledge.

Sow, Mariama. 2016. "Figures of the Week: Africa's Entertainment and Media Industry." *Brookings* (blog). October 27, 2016. https://www.brookings.edu/blog/africa-in-focus/2016/10/27/figures-of-the-week-africas-entertainment-and-media-industry/.

Srnicek, Nick. 2017. *Platform Capitalism*. New York, NY: John Wiley & Sons.

Surie, Aditi. 2020. "On-Demand Platforms and Pricing: How Platforms Can Impact the Informal Urban Economy, Evidence from Bengaluru, India." *Work Organisation, Labour & Globalisation* 14 (1): 83–100. https://doi.org/10.13169/workorgalaboglob.14.1.0083.

Surie, Aditi, and Jyothi Koduganti. 2016. "The Emerging Nature of Work in Platform Economy Companies in Bengaluru, India: The Case of Uber and Ola Cab Drivers." *E-Journal of International and Comparative Labour Studies* 5 (3). http://ejcls.adapt.it/index.php/ejcls_adapt/article/view/224.

Tichenor, P. J., G. A. Donohue, and C. N. Olien. 1970. "MASS MEDIA FLOW AND DIFFERENTIAL GROWTH IN KNOWLEDGE." *Public Opinion Quarterly* 34 (2): 159–70. https://doi.org/10.1086/267786.

Tintiangko, Jeremy, and Cheryll Ruth Soriano. 2020. "Coworking Spaces in the Global South: Local Articulations and Imaginaries." *Journal of Urban Technology* 27 (1): 67–85. https://doi.org/10.1080/10630732.2019.1696144.

Toyama, Kentaro. 2011. "Technology as Amplifier in International Development." In *Proceedings of the 2011 IConference*, 75–82. IConference '11. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/1940761.1940772.

UNCTAD. 2019. "Digital Economy Report 2019: Value Creation and Capture: Implications for Developing Countries." Geneva: United Nations Conference on Trade and Development. https://unctad.org/en/PublicationsLibrary/der2019_en.pdf.

Vijay, T. Asha, and M. S. Raju. 2019. "Marketing and Exchange of Farm Products in Facebook Groups: A Case Study." *Indian Journal of Marketing* 49 (10): 58-68–68. https://doi.org/10.17010/ijom/2019/v49/i10/147565.

Wisana, Dewa, Inaya Rakhmani, Alfindra Primaldhi, Primaldhi Walandouw, Aditya Nugroho, and Turro Wongkaren. 2017. "GO-JEK Impact towards Indonesian Economy." Jakarta. https://ldfebui.org/wp-content/uploads/2018/05/GO-JEK-Impact-towards-Indonesian-Economy.pdf.

Wood, Alex J, Mark Graham, Vili Lehdonvirta, and Isis Hjorth. 2019a. "Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy." Work, Employment and Society 33 (1): 56–75. https://doi.org/10.1177/0950017018785616.

——. 2019b. "Networked but Commodified: The (Dis)Embeddedness of Digital Labour in the Gig Economy." Sociology 53 (5): 931–50. https://doi.org/10.1177/0038038519828906.

Wood, Alex J., and Vili Lehdonvirta. 2019. "Platform Labour and Structured Antagonism: Understanding the Origins of Protest in the Gig Economy." SSRN Scholarly Paper ID 3357804. Rochester, NY: Social Science Research Network. https://doi.org/10.2139/ssrn.3357804.

Wood, Alex J., Vili Lehdonvirta, and Mark Graham. 2018. "Workers of the Internet Unite? Online Freelancer Organisation among Remote Gig Economy Workers in Six Asian and African Countries." *New Technology, Work and Employment* 33 (2): 95–112. https://doi.org/10.1111/ntwe.12112.

Woodcock, Jamie, and Mark Graham. 2020. *The Gig Economy: A Critical Introduction*. Cambridge, UK: Polity.

Wyche, Susan P., Andrea Forte, and Sarita Yardi Schoenebeck. 2013. "Hustling Online: Understanding Consolidated Facebook Use in an Informal Settlement in Nairobi." In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 2823–2832. CHI '13. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/2470654.2481391.

Zade, Himanshu, and Jacki E. O'Neill. 2016. "Design Illustrations to Make Adoption of Ola Technology More Beneficial for Indian Auto-Rickshaw Drivers." In *Proceedings of the 19th ACM Conference on Computer Supported Cooperative Work and Social Computing Companion - CSCW '16 Companion*, 453–56. San Francisco, California, USA: ACM Press. https://doi.org/10.1145/2818052.2869131.

Zhao, Xinyu. 2020. "Digital Labour in Transnational Mobility: Chinese International Students' Online Boundary Work in Daigou." *New Media & Society*, June. https://doi.org/10.1177/1461444820934096.

Zollmann, Julie, and Catherine Wanjala. 2020. "What Is Good Work? Perspectives of Young Workers in Nairobi." Text report and accompanying slides. Nairobi, Kenya: The Mastercard Foundation. https://www.juliezollmann.com/are-new-jobs-good.

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