Gig Platforms as Faux Infrastructure: A Case Study of Women Beauty Workers in India

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In order to sustain everyday life in India during pandemic induced lockdowns, home service gig platforms materialized to provide essential services for urban society. As unemployment worsened, these gig platforms also emerged as key sources of paid work for gig workers, with some platforms promising an unusual degree of health and financial support for their gig workforce. Through semi-structured interviews, we examine how women beauty workers engaged with the infrastructural promise extended by home service gig platforms during the pandemic. While gig platforms promoted the potential of stable income and social security in the context of the Global South, we investigate the reality behind this image. We find that various breakdowns, from miscommunication around localized travel restrictions to limited platform helpline access, introduces day-to-day unpredictability for gig workers, hindering access to paid work as well as other platform extended benefits. We suggest that home service gig platforms actually serve as 'faux infrastructure,' in which the privatized logics work to enclose public value, while pushing the burden of access onto gig workers who must perform additional, often unpaid labors, in order to fill last-mile service gaps.

CCS Concepts: • **Human-centered computing** → **Empirical studies in HCI**.

Additional Key Words and Phrases: Gig work; India; Global South; Labor; Gender; Critical Infrastructure

1 INTRODUCTION

With the onset of the COVID-19 pandemic, many informal establishments and traditional businesses have shut down or laid off workers, spurring unemployment and leaving room for gig platforms to take control of the employment landscape [9]. It is in this context that gig platforms present themselves as increasingly essential for gig workers to access critical resources (paid work, health, and financial support). Industry estimates indicate that over the next 3 years, India's gig labor force could triple to 24 million [7]. Yet, there is a paucity of research unpacking the ways this infrastructural promise of private gig platforms affects the day-to-day lives of gig workers. We examine this issue through a case study of women beauty gig workers experiences on home service gig platforms in India during the onset of COVID-19 in 2021. The strains of the pandemic amid

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growing backlash on platform policies has recently led to one of the first women gig worker-led strikes in India [10, 49], emphasizing the timeliness of studying beauty gig workers' experiences more deeply.

We borrow from conceptualizations of infrastructure as a "public utility," meaning "a service regarded as essential" [65], and structurally as "the arrangements of organizations and actors that must be brought into alignment in order for work to be accomplished" [45]. These components and arrangements of infrastructure can be techno-material, as well as socio-economic, interpersonal, political, and cultural, with varying degrees of overlaps. Star and Ruhleder describe how infrastructure primarily becomes visible during times of breakdown [73, 74], while other infrastructure scholars interrogate the ways in which breakdowns precipitate the forging of new infrastructures [4]. Subsequently, we frame the COVID-19 crisis as a breakdown-causing event that serves as an entry point to critically evaluate the position of private gig platforms in the lives of gig workers in India. In examining the particular infrastructural arrangement and promise of these platforms, we draw on the "redistributive" and public value of infrastructures, whose political effects have historically been controlled, regulated, and mediated by state powers [5, 30]. It is against this backdrop that we interrogate how private gig platforms promise access and distribution of essential resources to the gig workforce in times of crisis.

While platform narratives center gig work as a solution in meeting societal needs during breakdowns (e.g., for food, employment [16]), we question the veracity of this presentation and specifically examine *who* takes on the additional labors necessary to maintain this vision. The reorganization of employment relations, the re-codification of entrepreneurship, and the resultant intensification of precarity is particularly challenging for women gig workers who continue to balance the burden of unpaid domestic responsibilities with "professional" labor [61]. By examining how women beauty gig workers in Bangalore engage with home service apps during the pandemic, our research illustrates moments in which gig platforms attempt to take on infrastructural roles for workers by promising access to critical services, such as paid work, financial support, and healthcare. We address the following questions:

- What infrastructural promises do private home service gig platforms present during the COVID-19 pandemic?
- What challenges do women beauty gig workers face in accessing this infrastructural promise, and how do they navigate these challenges?

Through interviews with 21 women beauty gig workers in Bangalore, we find that gig platforms present an infrastructural promise in being able to perform services of public value (e.g., providing health insurance, loans, access to paid work) viz-a-viz their gig workforce. However, upon closer inspection, this image of infrastructure often goes unfulfilled and is mainly sustained by the additional, unpaid labors performed by gig workers. We theorize that instead gig platforms perform "faux infrastructure"—how profit-seeking, privately-owned technology companies work to enclose public value by promising (limited and controlled) access to essential resources in times of crisis. Thus, we seek to illustrate and also make sense of seemingly paradoxical trends: the success of gig platforms and the rising vulnerability of gig workers from their increasing dependency on gig platforms.

2 RELATED WORK

2.1 Emergence of Platforms as Infrastructure

Recent infrastructure scholarship in CSCW and HCI has taken up the study of the Internet as infrastructure [55, 65], examining the monopolistic expansion and essential role played by private digital platforms, like Google and Amazon, as well as social media sites, like Facebook, in contemporary

society [55]. While the definition of infrastructure remains contested, the term has been loosely used across disciplines to refer to large scale, public systems that serve an essential, social function, and are 'durable' and 'reliable'– from roads and electricity systems, to (more recently) telecommunications networks such as the Internet. Thus, the state serves as a critical stakeholder with respect to the development, maintenance, and regulation of infrastructures [30]. To make sense of how private technology platform based services acquire characteristics of infrastructures, Plantain et al. suggest that "infrastructure studies provides a valuable approach to the evolution of shared, widely accessible systems and services of the type often provided or regulated by governments in the public interest." In the first part of our findings, our analysis builds on these two particular imaginations of infrastructures to assess the increasingly *foundational* as well as *public* role that private gig platforms enact in urban labor markets in India, and the ways in which this impacts gig workers.

The infrastructuralization of private digital platforms is shaped by the politics of socio-economic regimes, and hinges on the deficits of state sponsored social welfare, alongside the increasing privatization of critical public services. Moreover, the breakdown of older infrastructures have been theorized as "an initial condition from which new infrastructures emerge" [4]. Scrutinizing the convergence of private interests and public value, Van Dijck et al. argue that it is precisely the infrastructural promise of private digital platforms that they are "better than states and legacy companies at creating not just economic value but public value," which situates them as the democratic alternative to state hegemony, and legitimizes their unchecked, monopolistic growth [82]. Gig economy researchers discuss how this rhetoric of private gig platforms has elevated their status to labor market disruptors and "job creators," while also allowing them to evade state regulation [40]. Instead, as Van Doorn [83] explores, for workers, the infrastructural contributions of the current gig model does precisely the opposite, particularly in relation to gendered and racialized service labor. That is, echoing the role of temporary staffing agencies in low income labor markets, gig platforms preserve the neo-liberal legacy of precarious employment [25]. As ongoing crises like COVID-19 further destabilize existing infrastructures, simultaneously consolidating the digitization of daily life, it is critical to observe how the technological and policy changes driven by private gig platforms can have significant impacts on the lives of workers.

Building on the promise of leapfrogging development challenges through platformization, India has emerged as the test bed for "inclusive technology" experiments, Aadhar being the most recent, and arguably the most aggressive, example. Aadhar is the Indian government's centralized biometric identity platform– essentially serving as the country's citizenship and public service infrastructure. Aadhar has been championed as a success story [51, 75] for efficient and inclusive welfare delivery [1] and has also been exported to other developing country contexts. Such trends ignore the body of growing empirical scholarship which exposes the failures of Aadhar, illustrating the ways in which the digitization and disguised privatization of citizenship and welfare distribution has worked to further exclude vulnerable communities already captured at the margins [44]. Furthermore, as the implementation of Aadhar hinges on internet access, as well as other diverse factors such as readable thumb prints (erased on the hands of manual workers due to the friction of hard labor), case studies examining the obstacles in the application of Aadhar in rural India illustrate Star and Ruhleder' assertion that "one person's infrastructure maybe another's barrier" [41].

While Van Dijck et al. alert us to the politics of private platforms appropriating public value, Star and Bowker (re)articulate infrastructuralization as an ongoing social, and subsequently relational

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[1]Given Aadhar's political and economic entanglement with the tech industry, the narrativization of Aadhar's success presents the ability of tech companies to overcome state inefficiencies and generate public value [82].

process. In their examination of information infrastructures, specifically classification and standardization systems, Star and Bowker point towards the varied, background rituals— the "structures, social arrangements and technologies" as well as "conventions" that these systems are embedded in, limited by, and acquire meaning from [14]. Coupled with perspectives in approaching the repair of socio-technical systems as an everyday practice of care as well as community [39, 77], these approaches help in unpacking the invisibilized background (and often collective) labors, that go into sustaining infrastructures [20, 59]. Finally, in identifying reliability, durability and ubiquity as central features of infrastructures, Star and Ruhdler suggest that when working successfully, infrastructures tend to become habitual and thus are "invisible until breakdown." It is through breakdowns that the role of socio-technical systems is made visible [73, 74], allowing for the examination of how perceptions of reliability and durability are constructed. Moreover, breakdowns provide a critical stage to unpack the tensions and social dynamics that make the infrastructure possible. Even as both home service platforms remained technically functional, the women gig workers encountered various pandemic induced breakdowns while engaging with home service gig work. Using these breakdowns as an entry point, we work to uncover the articulation work being performed– the "truly backstage" activities that sustain the perseverance, and seamless delivery of home service gig work during times of crisis [8]. Therefore, in the second section of our findings, we analyze the additional labors and articulation work that women gig workers perform in attempts to access the infrastructural promise offered by home service platforms.

2.2 Impact of COVID-19 on Gig Work in India

The highly contagious nature of COVID-19 has uniquely hurt the service sector, which accounts for the majority of employment in urban areas of India, and includes much of location-based gig work like home service and delivery work [53]. While service work was, in the past, relatively immune to economic fluctuations [53], experts have categorized the current economic slowdown as a 'service recession' [1, 11, 47]. Unlike manufacturing and even agricultural labor, the interpersonal nature of service work is entirely contingent on human interaction, rendering it incredibly vulnerable in the current environment. Yet, on demand gig work seemed relatively unaffected, with gig platforms reporting rapid growth during the pandemic [2]. As physical salons remain closed or were avoided, some home service gig platforms even expressed that demand for certain beauty gig services have increased [69]. However, qualitative research engaging directly with gig workers tells a different story. For instance, delivery workers reported lower pay and overall difficulty in accessing paid work during this time [53]. Given their minimal access to social security and employment benefits, gig workers faced heavy pandemic incurred health and financial burdens, as did India's broader informal workforce [54]. In response, gig workers have collectivized and staged protests at various moments in the past year to highlight their struggles [10, 48, 70].

Consumer expectations around speed, convenience, and now safety has only exacerbated their reliance on the gig economy, even as service workers' enduring struggles with precarity persist. During India's first national lockdown, location-based gig platforms—platforms that require workers to be in a specific location for work (e.g., Uber) [29]—partnered with the local government to provide "essential" services. Ride hailing platforms like Ola and Uber partnered with the local government to provide "essential mobility" to frontline health workers [16, 52]. Home service platforms like Urban Clap and House Joy extended their offerings to include pandemic-specific services such as "virus fumigation" and "disinfection" [23]. This has also allowed gig platforms, and subsequently gig workers, to access markets in ways that traditional brick and mortar businesses were unable to do during the pandemic. Yet, HCI research on 'computing within limits' questions *who* is burdened in these instances of techno-solutionism, especially when public infrastructures begin to fail and demand continues to rise [18, 50].

Little attention has been paid to the way private gig platforms (re)distribute resources, and the ways in which changing platform's terms and conditions, policies and algorithmic mechanics determine access for gig workers in developing contexts [6]. Our study builds on gig economy research in India, critically analysing the fractures between the infrastructural promise on-demand private gig platforms present for their gig workforce, and the lived experiences of women gig workers during the pandemic.

2.2.1 Women's Structural Exclusion. As gig platforms rapidly adapt to the new normal, women gig workers are caught at the intersection of multiple vulnerabilities. Socio-economically marginalized women are predominantly engaged in low-paid service labor (domestic, beauty, care, etc.) and face multiple layers of exclusions [1, 63, 79, 80]. In particular, women in India face significant obstacles in accessing and utilizing critical socio-economic resources. As reflected in the World Economic Forums 2020 Gender Gap report, India ranked 149 out of 153 countries in the Economic Participation and Opportunity subindex, and 150 in the Health and Survival subindex [28]. Those studying women beauty gig workers in India find that patriarchal structures often prohibit women from traveling independently or using motor vehicles, thus limiting transportation to work appointments [6]. Others find that women gig workers are expected by platforms to perform additional labor in maintaining a certain level of professional appearances through clothes, cleanliness, and beauty [6, 60]. Even as the majority of research on gig work has focused primarily on occupations dominated by men [32], such as in ridesharing [67] and delivery work [17, 66], there has been growing interest in understanding women's gig worker experiences in order to reduce the gendered bias in gig economy literature [6, 61, 80].

It is in this context that the promise of digital platforms in correcting women's sociocultural and economic marginalization has been lauded. Yet, emerging CSCW, ICTD, and STS research interrogate this promise and contests that digital solutions only offer cosmetic fixes to deeply structural issues [46, 81]. Gig economy scholarship increasingly suggests that even as gig platforms facilitate new economic opportunities in providing remote and flexible work to balance domestic responsibilities, they reinforce gendered patterns of unpaid care and affective labor. Through a case study of women beauty gig workers, we build on these assertions to critically examine how private gig platforms promise to facilitate gig workers' access, not only to labor markets, but also financial and health institutions.

3 METHODS

3.1 Context

3.1.1 App-based home service platforms. Home service platforms mediate location-based service labor performed in the customer's home. We studied two platforms in Bangalore, India—HomeServers and HouseHelp, that offer a range of home services, from personal care and beauty services (massages, waxing, facials, manicures, pedicures, makeup), to home and maintenance services (plumbing, repairs, etc). Women are primarily engaged in personal care and beauty services. During COVID, these platforms expanded their offerings to include home sanitation services as well. Home service platforms, in keeping with the dominant gig model, mediate the worker and customer relationship without actually employing workers, who are referred to as 'service providers' or 'partners' (referred to here as workers). They provide the technology interface for customers to book appointments, interact with and rate workers, while also controlling working conditions through fixing pricing for services [76], setting timing per task, product quality, and company branding through worker uniforms [61]. Both platform's also engaged in extensive background checks of their gig workforce during the onboarding process [6], as well as varying degrees of training (between 10-30 days) to ensure standardized service delivery [61]. While data on the size of the app-based home service

workforce in India is currently lacking, industry estimates suggest that around 12 million household jobs are 'gigable' over the next 3-4 years [7].

3.1.2   India during COVID-19. With the reopening of socio-economic activity post India's national lockdown (June 1, 2020), COVID-19 cases rapidly increased in Bangalore, placing additional pressures on the city's flailing healthcare sector. For instance, Karnataka had one of the highest rates of infection and fatalities in the country, which researchers link to socio-demographic factors such as gender, occupation, and availability of health services [3]. Yet, barring the one week long lockdown in July 2020, the state government only imposed minimal restrictions on socio-economic activities, often abruptly declared without proper public communication. While many of the women we spoke to had resumed gig work after the national lockdown was lifted, some had decided that they would only return once the pandemic had abated. Given the physicality of beauty services, many felt that the health risks were too high, not only for themselves, but also for their families. Poor pandemic-related health and socio-economic policies, alongside India's crumbling public health infrastructure, have conditioned the fears and vulnerabilities of gig workers and their families. Most of the women beauty gig workers we spoke with had to restart gig work to make up for lost earnings, but they all reported varying degrees of concern around the inadequacy of Karnataka's as well as the country's post lockdown measures, which prioritized socio-economic activity without extending any support to the city's working class populations [3].

3.2   Participants

We performed interviews with 21 women beauty workers affiliated with two of the primary home service platforms in Bangalore, India, as well as one small salon owner working independently. For safeguarding the anonymity of respondents, these platforms are referred to as HomeServers (17 participants)—the larger of the two platforms, and HouseHelp (4 participants). Participants were between 21 and 45 years-old (15 were between 20 and 30 years old, 5 were between 30 and 40 years old, and 1 was over 40). They had spent 1 to 3 years in platform work, while their overall beauty work experience ranged from 5 to 24 years. All, except two who had also worked in retail, had only worked in the beauty industry. Two participants had experience running their own salons prior to joining the platform, and the independent salon owner had been running hers for 8 years. The majority of participants had not made it to high school, three participants had completed their undergraduate degree, and six others had finished high school. Eight respondents had children, and fourteen were married. Participants predominantly identified themselves along regional and religious lines. Nine participants were originally from Bangalore, while the remaining were migrant workers, three of whom had specifically moved to Bangalore for platform based work. Thirteen respondents identified as Hindu, five as Muslim, one as Christian, and two preferred not to say. One participant self disclosed her caste background as 'high caste' while others did not discuss their caste identity.

3.3   Data Collection and Analysis

The first author approached participants during the pandemic by following up with connections from a previous study [6], approximately 4-6 months later, and used snowball sampling to recruit additional respondents. Participants were contacted via phone call and text, in which the first author explained that we were collecting information about beauty gig workers' current experiences during COVID-19. Participants were compensated 1000 INR for a 40 minute phone interview (more than what they would have earned for performing a service for the same amount of time). Of the participants we interviewed for the previous study, 9 agreed to a follow up conversation, and 13 additional participants were recruited from their networks. Our interview protocol included

questions on workers' experiences with beauty work on and off the platform during COVID, how platforms were supporting workers during the pandemic, how their overall policies and design had changed, and whether their overall sentiment towards the platform changed during COVID. For example, questions included, "When you started working on the app again, were there any new or additional measures you had to perform in order to access tasks?", "What measures did the platform take to support you during and after the lockdown?," and "How has your relationship with your customers changed during the pandemic, if at all?" Interviews were transcribed by the first author from Hindi to English before data analysis. We initially focused on workers heightened socio-economic and health vulnerability during the pandemic, the limitations of platform support, and policy changes. As we continued open coding, the gig workers acute dependencies on the platform continually emerged as a central theme. Therefore, after conferring with all authors, the first author decided to focus on the infrastructural role that the platforms were playing in the lives of women gig workers.

Our findings, prioritizing the lived experiences and perceptions of gig workers, examine how home service gig platforms are "in the process of becoming foundational" for the workers because they serve as a "gateway" to essential resources [22]. To address our first research question (What infrastructural promises do beauty gig work platforms present during the COVID-19 pandemic?), the first and fourth authors performed iterative thematic coding [15] around how gig work platforms regulated access to critical resources necessary for everyday life. Through iterative reviews of transcripts and regularly referring to types of critical infrastructure represented in public policy [43] and previous literature [55, 77, 78], we uncovered how home service gig platforms served as gateways to employment, financial support, and healthcare. Participants emphasized that access to these resources were critical in being able to survive day-to-day in terms of affording food, rent, transportation and medical attention. In order to address our second research question (What are the challenges that women beauty gig workers face in accessing this infrastructural promise, and how do they navigate these challenges?), we drew from Star and Ruhleder's work on how infrastructure becomes visible in breakdown [73, 74]. We examined gig worker's efforts to bridge infrastructural gaps in order to perform their work. For each round of coding, two researchers worked closely together to resolve any disagreements in order to reach consensus. Each of these themes and sub-themes are summarized in Table 1.

3.4 Positionality

Our lens on worker conditions has been deeply shaped by our continued research in this area. While we agree that gig platforms offer new and unique work opportunities, we are still left highly critical of the precarious nature of these positions in terms of pay, algorithmic control, and hyper-temporality [6, 31]. Aligning ourselves with feminist practices in HCI, we believe sharing our ethnographic background is useful for the reader as our values shape all steps of the research process [13, 36, 37]. In this case, we acknowledge that our prior work and cultural experiences may lean the analysis towards a more pro-worker interpretation.

4 FINDINGS

4.1 The Infrastructural Promise of Home Service Gig Platforms

Prior to the pandemic, women gig workers' engagement with home service platforms were shaped by domestic expectations, public perception and the platform's algorithmic control mechanisms. The pandemic has exacerbated worker's dependencies on gig platforms. We unpack how home service platforms have started to present themselves as "essential" for gig workers to access critical

resources like employment, healthcare, and financial support. We begin by illustrating how women beauty gig workers perceive the infrastructural promise of gig platforms during the pandemic.

4.1.1   Gig Work as Limited Option for Work. Even as demand for beauty services dwindled with the onset of the pandemic, we note how beauty workers perceive home service platforms to be one of their only viable option to access work, thus creating an impression of platforms as 'reliable' and 'durable' against the collapse of traditional beauty establishments. This comes as an effect of the marked decline of the service economy and the traditional beauty industry during COVID-19.

For instance, P1, who has over 25 years of experience in the beauty industry, including running a small salon and working on HomeServers for over three years, discusses how salon services have been hit far more severely than home service platforms by the pandemic. She believes gig work on home service platforms are now a more reliable source of income than running her own salon.

> [Salons are] in a really bad state right now. That's why [HomeServers] is hiring everyone right now. Everything is shut, big salons also. Who will go into loss? They (beauticians in salons) are not getting paid. The salons are closed. Their situation is worse than ours. -P1

P1 is engaged with various informal networks and Whatsapp groups made up of small salon owners and employees. These networks inform her assessment of Bangalore's deteriorating non-gig beauty industry. Through them she has come across many beauticians who have lost or left their salon jobs and are looking to join gig work platforms, like HomeServers. She has come to the conclusion that home service platforms are likely to be the dominant players in the industry and the only businesses that can afford to on-board more beauty workers in this economy.

However, in the early months of the pandemic, gig workers in the beauty industry also experienced a significant decrease in customers and earnings. P13, a married beauty gig worker and a mother in her early thirties discusses the difficulties she faced in finding customers on the HomeServers app, and how she had to travel much further for even one daily customer. Prior to the pandemic, workers could easily get three to four customers a day within their neighborhood [6]. Given P13's family's dire economic conditions and their reliance on her earnings, she cannot afford to not work. Yet, even in the face of these challenging circumstances, P13 explains why she still prefers gig work.

> Now I am getting only one customer per day. Bookings are less. Our commission is getting cut...but working in a salon, I don't get this much happiness or money. [HomeServers] is good... more earnings. In lockdown it has become less but before I used to earn well. After Corona [HomeServers] will become good again. -P13

Much of P13's preference for gig work derives from her optimistic vision for "after Corona." This perception is echoed by many of the other women beauty gig workers we spoke to, who hope that the perseverance of gig work means that they will have uninterrupted access to customers and decent earnings in the future. From these stories, it is unclear whether gig work is serving as employment infrastructure or simply replacing one type of precarious work (salon work) with another.

4.1.2   New Opportunities to Access to Health Insurance. As service work in India is largely informal, beauty workers often lack the official documents to apply for health insurance because access to insurance is typically determined by official employment status [44]. Of all the women beauty workers we spoke to, only one reported having had health insurance outside what was provided by the home service platforms. Because women are also less likely to finish formal schooling, many found the healthcare application process daunting—they were unable to fill and submit forms on their own. Others reported that since financial and health matters were managed by the men in

the family (fathers, husbands, elder brothers, etc.), they had never considered getting their own insurance, nor was it up to them. The one beauty gig worker who did have health coverage prior to joining HomeServers stated that her father had gotten it for her, without consulting or informing her, and she had only recently found out.

For instance, P1 pointed out how the platform has been the only source of health insurance she has ever had access to, despite her extensive experience in the beauty industry. Echoing the experiences of many other women engaged in informal work, P1 described how, when running her own salon, she was unable to make sense of the terms and conditions and ultimately did not end up applying for individual health coverage.

> I don't have any (other source) of insurance. As long as I am alive, that's (HomeServer's insurance) all I have. I haven't taken any (insurance) personally. I tried when I had a salon but it was too much stress with the cost, terms and conditions, and everything. So I didn't. Whatever HomeServer's gives, that's all I have. -P1

P1's position illustrates her complete reliance on HomeServers for health support. Due to weak public health infrastructure (with only 1% GDP allocated to health), India has one of the highest levels of Out of Pocket (OOP) health expenditures [71].

Drawing from their COVID-19 relief fund, HomeServers introduced covid health insurance and income protection plans for their service providers. Yet, the varying impressions workers had of this coverage highlighted how they were unsure of the details or how to even access the insurance support. Some stated that they would receive insurance coverage up to 300,000 INR alongside 250 INR daily for the loss of income, while others thought they would get 1,000 INR per day to cover medical costs with a 30,000 INR limit. Some pointed out that the plan only covered those women who were actively working on the platform, while some migrant gig workers believed that HomeServers extended this insurance coverage for everyone, even if they had not rejoined the platform after the national lockdown. A few of the women also mentioned that, aside from the platform's insurance coverage, HomeServers management had indicated that they would facilitate online doctor consultations for their beauty gig workers. Despite this lack of clarity, we observed that HomeServer's COVID-19 insurance policy further shaped the beauty gig worker's perception of the gig platform's infrastructural promise.

P12, a migrant worker from North East India in her late 20's, illustrates how HomeServer's COVID-19 insurance plan for service providers, alongside their health and safety training sessions, instilled confidence in her to be able to return to gig work in Bangalore.

> They said if we contract the virus or get any symptoms then we should call the company. They said something like 14,000 rupees they would give me for health insurance. Daily 1000 rupees. Something like that. And then all the health safety training that they were giving people in Bangalore they gave me in my village as well. So I thought you know the company is doing so much for me so I can also go back and work. -P12

While most of HomeServer's women beauty gig workers expressed gratitude towards the platforms's COVID-19 health cover policies, P5, a mother of two, highlighted its limitations. Given the inadequacy of government hospitals and the privatization of care, P5 pointed out that 1,000 INR per day would not cover covid related hospitalization costs in big cities, with patients reportedly spending anywhere between 30,000 INR to 1 lakh (100,00 INR) daily in Bangalore. Yet, because the gig platform-provided insurance was perceived as the only health access for workers, the limited extension of health support by HomeServers contributed to the perception of the platform as 'reliable' and 'durable' compared to their prior work experiences.

4.1.3 Overcoming Patriarchal Barriers to Financial Aid. None of the gig workers we spoke to approached formal financial institutions, such as banks for support despite facing extreme financial hardships during COVID. Participants reported that lack of collateral (for instance the ownership of land) alongside low bargaining and decision making powers have kept women outside the scope of formal credit systems in India. Others managed to access informal loans through their personal social networks (e.g., family, friends), while the majority reported having to forgo basic necessities including food on some days.

For instance, P3, the owner of a small salon, discussed how she has to rely on her husband for financial support. Wanting to be independent, P3 approached a bank for a loan, but was denied. She points out how, because their family's property is in her husband's name, no bank will accept her loan request.

> What to do. I'm not getting any loan from bank and all no? That is the big problem for us...I don't want to take anything from [my husband]. I want to be independent. So the government has to help women like us, no? We have property, rented the house, everything. But it belongs to my husband. Not mine. If I have to do something, someone has to give me (money). Nobody is ready to give me a loan. What to do. That's the problem. I have everything. License I have. PAN card. Everything. -P3

In response to covid induced worsening financial conditions, HomeServers announced a small loan of 5,000 INR (~$66) for their service providers at the beginning of COVID. It is in the absence of other sources of monetary support that P12 discusses how the loan provided by HomeServers was essential for her. A migrant worker, P12, had to pay rent in Bangalore, while also having to support her family in Darjeeling. The basic 5,000 INR loan provided by HomeServers was the only source of financial relief for her and her family.

> Company was giving us loan money too, even the ones in their villages. I took the loan. We really needed it right? I even asked them worriedly that I am in my village now, will I still get the loan? And they explained to me that I would get it and I shouldn't worry...I don't have any savings. I was back home. I have to pay rent now that I am in Bangalore. When I was back home we had to still pay rent for Bangalore. But my husband's tailoring job was also not happening. So how do we pay? -P12

P12 emphasizes how she felt supported by the platform, particularly since she could access the loan from her hometown. While some of the beauty gig workers attributed the loan to HomeServer's generosity, others focused on the strategic necessity of the move. P1 explained what she perceives to be the gig platform's logic, stating that since they too depend on workers to push through the pandemic, they needed to support them financially.

> Only if we stay, they (platform) will earn. They earn because of us and we earn because of them. So when lockdown started, they asked us if we had money. They said, 'lockdown could last a few months. Do you have enough money?' If you don't then we can loan you 5000 rupees loan if you like. That loan, probably 95% of the beauticians took. -P1

Pointing out that most of the beauty gig workers would have needed and taken the loan, P1's observation indicates that the platform's infrastructural role is self serving. In facilitating access to essential resources, from paid work to health and financial resources, home service platforms also address breakdowns in state-provided infrastructure. Yet, without supporting their service providers, the platform will not be able to succeed. As P1 highlights, the platforms' success hinges on the endurance of the gig workforce.

Table 1. How home service gig platforms serve and breakdown as emerging infrastructure for women workers

Infrastructural Promises of Gig Platforms	Infrastructural Gaps	Gig Workers' Additional Labor
Access to Work	- Localized travel restrictions - Mismanagement of public health protocols - Dependencies on digital comm channels - Pay reductions - Platform hygiene protocol and rating	- Overall loss of time and earnings - Negotiating with state to physically access customers (policemen, watchmen, etc.) - Stress of unpredictability - Burden of health safety on workers - Learning to use digital tools
Access to Health Insurance	- Dependency on digital communication channels - Limited helpline access	- Overcoming low digital literacy and resources to access healthcare - Burden of maintaining health protocols and safety, with no reciprocity from customer
Access to Financial Support	- Dependency on digital communication channels - Limited helpline access - Automatic loan repayment	- Overcoming low digital literacy and resources to access loan applications - Recognizing and/or paying off exploitive loans - Having no say in loan repayment program

4.2 Interrogating the Infrastructural Promise of Home Service Platforms During COVID-19

While the prior section outlined how gig work platforms have started to present themselves as critical infrastructure, in this section, we interrogate the effectiveness of this presentation. Infrastructure study scholars have long examined the efficacy of infrastructures through moments of breakdown [73]. However, unlike common conceptualizations of breakdown via techno-material elements, like electricity outages or broken bridges, home service apps did not stop 'working' per se. The apps still ran, and with the relaxation of the national lockdown, workers could still sign up for jobs. Rather, our findings identify multiple instances of indirect COVID-induced breakdowns in the gig ecosystem that disrupt gig workers' ability to perform their jobs effectively and safely. In order to fulfill the "last mile" of service delivery, and access the platform's infrastructural promise (often unsuccessfully), women gig workers had to work around and overcome breakdowns in transportation systems, hygiene, digital tech, helpline communication, pay, and loan repayment.

4.2.1 Localized travel restrictions. Following the lifting of the nationwide lockdown, city governments and local communities (e.g., municipalities, apartment buildings, police stations) established their own rules and norms to contain the impact of the pandemic. However, even as the state

government made public announcements, information about local restrictions like which roads were blocked, which housing complexes were temporarily banning outsiders, was not publicly available. Instead of working synchronously, we observed that these rules were erected in an isolated and ad-hoc manner, with different institutions often putting forth contradictory directives. The burden of making sense of these conflicting regulations fell on gig workers. For women, this was particularly daunting given widespread expectations that they not travel alone or without a male companion [6].

Police units were stationed around areas to control the movement of people, and prevent social gatherings. While some beauty gig workers mentioned having a government authorized letter to travel within the city, they still had to navigate police checkpoints which often led to friction between them and local police authorities. For instance, P5 recounts her experience of trying to get to her customer's location during a week-long lockdown. The lockdown was mostly limited to brick and mortar commercial establishments (shutting down of restaurants, bars, salons, etc.), and public social gatherings, while home service platforms, along with various other tech businesses remained functional.

> Once during the 2nd lockdown the cops got us (husband and her). We just told them we're going to my mummys place, I lied. Then they asked, what is this [gig platform]? They saw the name on my uniform and asked. I lied again and we said like, oh I had work in the morning before the lockdown (announcement), now just going to my mother's. -P5

P5's experience points to the risk of traversing the pandemic city with contradictory structural and social arrangements, alongside the risk of visibility [61, 79] that comes with her association to gig work. While the state government had permitted home service platforms to fully function during certain periods of lockdowns, local law enforcement were often unaware of these allowances. These communication gaps between the government and police put women gig workers in a precarious position of having to choose between lying to local law enforcement in order to travel to their jobs or having to turn back and loose their much needed earnings. Due to these encounters, participants noted that the pandemic had accentuated gendered anxieties around mobility, both for the women and their family members. P5 went onto discuss how she felt safer to travel during the pandemic when her husband accompanied her.

Commercial establishments, public spaces and localized community setups also erected their own norms. For instance, P7 described how, even after the national lockdown, 'outsiders' were prohibited in some apartment complexes, while in others they had to go through health inspections like temperature checks, sanitization, and so forth.

> One customer was staying in a (gated) apartment, so they were not allowing me in...Then the customer got some permission with a signed letter and they let me in. It took about 30 minutes to just get inside her apartment. You can't finish two to three customers quickly like that. It takes time now. -P7

Some apartments reserved these restrictions specifically for service workers, such as cleaners, plumbers, electricians, and beauty gig workers, conspicuous in their company uniforms and bags. Almost all of the women reported being denied entry by apartment security a few times, while some also emphasized the harsh and suspicious treatment they were subject to by the watchmen and managers, recalling how the other social visitors were treated with more respect.

These conditions created an incongruous experience for the women gig workers, who, like other location-based gig workers, were struggling to navigate the city during the ongoing pandemic. Some of the women workers discussed how the only way they were able to get any information about police checkpoints, which localities and roads were blocked, and which apartments were

prohibiting service workers, was through talking with each other in informal chat groups. Despite the platform's attempts to streamline the gig work process with state permission, these informal networks and collective sense making was the only process that helped sustain home service beauty gig work.

4.2.2   Platform hygiene protocol and hygiene rating. In preparation for reopening services post the nationwide lockdown, both home service platforms conducted varying levels of health and safety training for the women beauty gig workers. However, most of the women expressed that the platform mandated COVID-19 social distancing and sanitation measures were disproportionate, placing gig workers under scrutiny, while customers faced no such checks. This imbalance in *who* had the power to determine 'cleanliness' and subsequently safety was further exacerbated by traditional perceptions of class, caste and gender.

Both the home service platforms imposed strict hygiene protocols for workers (as instructed during the online training sessions), including a daily temperature update (on the Homerservers app, and on HouseHelp's Whatsapp group, alongside the government mandated Aarogyasethu app), as well as rigorous sanitization measures during the task performance. Beauty gig workers were mandated to use one full body PPE kit (masks, gloves, full body covering) for travel, which was to be disposed upon their arrival. Before entering the customers home, they had to change into another full-body PPE kit, and also change their mask midway through the service. While setting up their beauty equipment and products for the service, and while clearing it up at the end, they had to sanitize everything. Moreover, the platforms had also introduced "hygiene ratings" for gig workers, awarded by customers through their assessment of how well the women had followed the hygiene protocol. Customers on the other hand, did not have to undergo any sort of health checks or protocols, aside from a self attested declaration that they did not have any COVID-19 symptoms.

Beauty gig workers have pointed out that time estimates for completing tasks (as stated on the app) fail to take into account the time needed for setup, cleanup, and travel. As platforms add on COVID-19 protocols, they fail to make the appropriate adjustments in time estimations for beauty services. This extra work of following health safety protocol adds significant additional labor without compensation, while also putting the beauty worker at risk of falling behind on schedule. Prior to COVID, beauty workers were expected to share their location and upload a selfie when they arrived at each of their appointments. During COVID, this routine has become much more intricate. Moreover, P5, a beauty gig worker engaged with HomeServers for over 3 years, describes how she has to be very careful to narrate and perform the hygiene protocol for the customer to ensure a good hugiene rating.

> Last week someone wrote (in my hygiene rating), 'she didn't change and use a new mask after starting.' But i had used a new one after reaching her home, and then again during service. I don't know what happened, I think that madam didn't see me change it. Maybe she went to change her clothes or something at that time. But this one thing, normally I'm very careful...She gave one complaint saying I didn't use a new mask so that's why my hygiene rating fell. After that complaint I've done two orders. Both times I wait for the client to sit, tell them I'm changing the mask and only then change it. Because it wasn't my fault, but madam must have not seen. Who knows. -P5

Although performing the hygiene protocol may seem like a minor change, it further burdens the worker to enact the process when the customer is paying full attention, while also trying not to disturb them. In effect, a bad hygiene rating can function as a breakdown for the women beauty gig workers. Lower ratings restrict matches to future jobs and limit their number of helpline phone calls. Moreover, pointing towards the intimate nature of beauty services, P21 stated that the balance between maintaining safety and a good customer experience is a delicate one. Her insight further

highlights the difficulty of performing hygiene in a job that relies on the conveyance of affect through touch.

Further, platform mandated health safety measures have proved to be unfair, placing gig workers under scrutiny and risk to safeguard customer's health and safety. Home service gig work, contained within the boundaries of the customers home, must toe structures of social hierarchies—women beauty gig workers are often expected to leave their footwear outside the customers' home, sit on the floor and not touch the furniture, and drink water from dirty cups and so forth [6]. Not only has the pandemic exacerbated such discriminatory practices, the introduction of the "hygiene rating" for beauty gig workers further builds on gendered and caste based ideals of purity. Thus, this performance of hygiene is heavily inscribed within India's patriarchal and casted expectations [84], codified and perpetuated through the platform's algorithmic control mechanisms [6].

4.2.3 Dependence on digital communication channels. With the onset of the pandemic, all communication and interaction between the women beauty gig workers and the platform has shifted onto Whatsapp and Zoom. Prior to this, online communication channels had only been used for basic information sharing, mostly for managers to share updates on products and offers. Prior to the pandemic, the women beauty gig workers used to go to the platform's company offices for in-person background vetting, onboarding, training, and retraining. Given that most of the workers we spoke to had left formal education early due to gendered familial expectations, they had limited experiences with technology. This shift to primarily online communication platforms prevented workers from keeping up with job information, as well as the platform's new expectations. These expectations doubly impacted women gig workers who had to organize their daily domestic and care responsibilities (exacerbated by the pandemic) around these unpaid online training sessions.

In anticipation of restarting home services while tackling the persistent threat of COVID-19, both platforms initiated remote health and safety training for their service providers during the two month nationwide lockdown. For the women beauty gig workers, these measures ranged from new ways to perform services that would limit touch and proximity between workers and clients, along with sanitation and hygiene protocols like the usage and disposal of PPE kits.

Yet, being able to engage with training sessions and access critical information from the platform varied based on multiple factors such as Internet access and speed, as well as the users' English and digital skills. Some of the women on HomeServers were unable to figure out how to make or upload videos on the app. P1, a 45 year old married beauty worker, discussed how she, as well as many other women beauty gig workers faced various difficulties in using new digital tools and apps like Zoom, and had to seek help from within their informal networks.

> We were supposed to be available on our phones at all times. Sometimes we had network issues. I was thinking to myself, if I had to know a lot about all this technology earlier, I might not even be working on [HomeServers]. All I knew was turn off, turn on my phone. And now suddenly I have to upload a video, go on Zoom and I had no clue. So my son taught me how. If he wasn't there maybe my training would not even have happened. Who would I ask? Some people came to me with the same problems, so whatever my son taught me I taught them as well. A lot of people that work on HomeServers are not very educated. They don't understand all this. So I had to tell them, show them pictures. They would also help others. But how many people can we help? -P1

As P1 highlights, the digital adaptability of individual women gig workers often hinges on interconnected, informal networks. Aside from training, HomeServer's platform management also relied heavily on digital channels to determine whether workers qualified for the 5,000 INR loan extended to all their service providers. However, to actually access the loan, women beauty gig

workers had to complete a written form in English (shared by managers on Whatsapp) and upload it on the Homerserver app. Many of the women we spoke to discussed how they enlisted help from family or friends since the whole process of downloading the loan form, being able to fill it out, and then upload it on the app was very difficult. Despite expressing a dire need for a financial safety net during the pandemic, a few mentioned that they still did not apply for the loan because they could not understand the process itself.

This shift to purely digital communication channels for training, information sharing, and loan application purposes has enabled the continued functionality of the home service gig platforms during the ongoing pandemic. Yet, this move underscores the additional labor of women beauty gig workers who needed to quickly coordinate opportunities to adapt to a predominantly digital environment.

4.2.4 Limited helpline access. We observed that both platform's changed their internal helpline policies and practices in response to the pandemic, impeding gig worker's access to platform support. Prior to the pandemic, both platforms provided digital means of support through the app, both through official helpline call services as well as direct messaging with trainer and managers. With the onset of the pandemic, HouseHelp workers reported having difficulty in getting in touch with their trainers and managers to ask for support or address work related queries. HomeServers, on the other hand, limited access to their worker helpline by removing the phone icon from their homepage altogether when workers were not performing live tasks.

P13, a married beauty gig worker and a mother of two in her late twenties discussed the difficulties of the changed helpline support created for her after she had a scooter accident on the job. Her husband was dropping her off at a customer's house when their two wheeler was hit by another bike, injuring her face badly. He messaged her manager with photos of the accident and her injuries, but even as the manager promptly cancelled the task, her husband was told that they could only access the platform's accident insurance if they uploaded the relevant documents on the app. P13 described how, given her and their limited English and digital skills, they were unable to access the platform's accident insurance.

> I had fallen from my scooty in an accident on my way to customer's home. My one front tooth broke. I had a lot of pain and there was a lot of blood. They [The platform] didn't help me at all. They have (accident insurance) but didn't give me ma'am. On the day of the accident my husband took photos and we sent it to my manager. He (manager) just cancelled the upcoming appointment which I had. That's all he did. I sat at home for 10 days and then after that it got a little better and I wore a mask and got back to work. So far they didn't say anything (about insurance) and I don't really know how to ask them, there is no number... They haven't given us the option to call the helpline in the app (for accidents) anymore, only for jobs we can call. Since the lockdown they have stopped the helpline feature. Before we had it. -P13

Unable to get any support from the platform, P13 returned to work with her injury as she and her husband could not afford the surgery she needed to fix her mouth, nor could they afford to lose the meagre platform earnings. She links the platform's failure in providing her accident insurance to the pandemic precipitated helpline limitations.

HomeServer's helpline access has served as a critical grievance mechanism for women beauty gig workers. Limitations to the helpline then hampers women workers' experience of the gig infrastructure, arresting information flows, and essentially operating as a breakdown for gig workers during individual crisis.

4.2.5   Pay reductions. Prior to COVID, beauty gig workers were relatively satisfied with their earnings from gig work [6, 61]. However, with the COVID-19 induced fall in demand for beauty services, both home service platforms took advantage of their price controlling power, reducing service costs for customers, while increasing costs of beauty products and maintaining high commissions of 20-30% for gig workers.

P21, a beauty gig worker from HouseHelp, expressed her dismay at the changes in her earnings during the pandemic when she was in most need of income. P21 and her family were entirely dependent on her platform earnings.

> I had such good earnings before. This lockdown has been a huge issue. Because the company is not getting customers, they have made all their rates very low. Even a Rps 550 service, they make it 399 or 350 or 250. That is a problem for us though. When we go to buy our products [from the platform] the prices are high. When I went to get more wax all the way to HSR layout, I saw that the rate for it has doubled. They said because of lockdown everything is more expensive. So we are at a loss from both ends. -P21

P21's experience highlights how the platform's price control mechanisms are overarching. Aside from setting task prices, platforms also determine prices of beauty supplies as they require the workers to only purchase products from the company to maintain homogeneous standards according to their brand image. While the pandemic is the main pretext for the increase in product costs, workers are coming to realize the downsides of working for a platform that is taking complete control of the beauty industry across the production chain, from materials to service delivery.

Other women beauty gig workers also remarked how the platform's pricing logic is obscured, and the platform does not discuss revisions in pricing with gig workers. Prior work examining the platformization of beauty work in India highlights how home service platforms have become one of the most stable and well paying options for women beauty workers who were previously engaged as informal employees in salons [6, 61, 76]. Most of the women also noted that with beauty gig work, they had become the main breadwinners in their families, supporting household expenditures to a large extent. Hence, confronting the sheer precarity of gig work, the women gig workers experienced this rapid and sudden decline in platform earnings as a breakdown, disrupting their monthly finances and sense of income security.

4.2.6   Automatic loan repayment mechanism. Given the severity and unpredictability of the socio-economic crisis engendered by the pandemic, many of the beauty gig workers discussed how Homerserver's 5,000 INR loan was insufficient for a single person's monthly expenses. Moreover, while the loan itself was interest free, the women pointed out that as soon as gig work resumed in June 2020, the platform started to automatically deduct a certain amount towards loan repayment from each task earnings. The gig workers were not consulted in determining the repayment process, and were not clearly informed as to what percentage would be cut per task.

P5, a married beauty gig worker in her late 20's who is currently the sole earner in a household of four, states that initially Homerservers had offered a larger loan for those who needed it—up to 15,000 INR over the span of three months. Yet, after the initial loan of 5,000 INR was disbursed in April 2020, some participants reported that HomeServers did not follow through with any additional loan options. Moreover, P5 also points out that the women were not allowed to return the loan when it was convenient for them. Rather, as soon as home service platforms resumed business in June, Homerservers would take a cut every time beauty workers successfully completed a task and were paid online. P5 further points out that while the platform had told them that only 10% per task would go towards their loan repayment, she observed how the repayment rate varied based on the pricing of the task, and subsequently her earnings were unpredictable.

> Yesterday I performed a job for 1600 INR...First [HomeServers] told us they'll only cut 10% from our earnings for loan recovery, but that would've been less than 2-300 rupees no? But they've been cutting like 6-700 rupees if [the job earns] more than 1,000 rupees. If the job earns less [than 1000 INR] then they cut 2-300. Now even if I can get 100 rupees in my bank that'll be a lot. We're facing a lot of money trouble. From that 1600, I only got 70 rupees (after loan repayment, commission fees etc). -P5

P5's experience highlights how the women beauty gig workers reliance on home service platforms to access essential services like financial support during the ongoing crisis is obfuscated and marred by invisible terms and conditions as set by the platform and enforced through algorithmic control practices like dynamic, automated loan repayment.

While gig platforms have reduced gaps in infrastructure in some ways, as outlined by the first findings section, we see that COVID-induced breakdowns have made the last mile of accessing and performing this work much more difficult. We demonstrate how workers collaborate to bridge these breakdowns in order to access opportunities for employment under particularly trying conditions.

5 DISCUSSION

Crisis and infrastructure studies have emphasized the perseverance of the digital economy, noting the critical role social media platforms play in helping people seek information and connectivity during times of crisis [57–59]. With the COVID-19 pandemic, we witnessed similar patterns. As brick and mortar services halted, on-demand home services were presented as "safe" alternatives. Governments and tech companies positioned digital platforms, particularly e-commerce and on-demand apps as "essential services," giving their businesses priority in the market, and subsequently rendering gig work as the main employment option for large parts of the urban service workforce. Yet, while digital technologies provide new forms of efficiencies, such technosolutionism overlooks the socio-political, economic, and very physical nature of these structural and developmental issues [81]. Crisis scholars emphasize that as a historical concept, crises is a "means of signifying change" [62]. But COVID-19 has not changed the status quo. For India's burgeoning yet vulnerable gig workforce, it has further intensified their socio-economic dependencies on private digital labor platforms. While the pandemic has further elevated the status of gig work in Indian labor markets, we interrogate whether gig platforms actually serve as real infrastructure for gig workers in extending meaningful access to critical resources. In keeping with the characterization of breakdown in infrastructure studies, the COVID- 19 induced crisis has exposed the failed infrastructural promise of gig platforms for their precarious workforce. Unpacking the lived experiences of women beauty gig workers in trying to access public resources through private gig platforms, we find that platforms actually function as 'faux infrastructure' and not 'real infrastructure.' Our analysis emphasizes the ways in which this schism between private interests and public value belies the platform's infrastructural promise.

5.1 Gig Platforms as 'Faux Infrastructure'

The absence of state support in facilitating women gig beauty worker's access to critical resources has left them particularly vulnerable during times of crisis, exacerbating their platform dependencies. Yet, even as home service gig platforms extended an infrastructural promise to provide critical resources for gig workers, our findings highlight the various complications workers faced in trying to access this promise. Moreover, as participants' experiences suggest and as we unpack in the next section, these complications are not accidental, but embedded in the design and policies of private gig platforms. This begs the question, if platforms fail to deliver on their infrastructural promise, do they actually even serve as real infrastructure? We argue that they do not. To capture this failure of

Table 2. Attributes of faux infrastructure in comparison to real infrastructure

	Real Infrastructure	**Faux Infrastructure**
Similarities	• Becomes visible upon breakdown • Has widespread reach or scope	• Becomes visible upon breakdown • Built on existing socio-technical structures • Has widespread reach or scope
Differences	• Serves a public purpose • Is responsive to stakeholder feedback • Is often strictly regulated, so as to ensure the public purpose	• Appears to serve a public purpose, but primarily serves a private goal • Is responsive to select stakeholder feedback • Is lightly regulated

gig platforms viz-a-viz gig workers, we propose the concept of 'faux infrastructure'—widespread, privatized socio-technical systems that promise access to critical resources but instead push the burden of access onto marginalized communities of users, in our case, the women beauty gig workers. Both 'real' infrastructure and 'faux' infrastructure share some characteristics—they are widespread, exist within other socio-technical structures, and become visible upon breakdown (Table 2). But unlike 'real' infrastructure, which are organized first and foremost to addressing public needs such as enabling access to critical resources[2], 'faux' infrastructure only appears to serve a public purpose, while in reality they are mainly organized to serve a private or corporate goal. Furthermore, 'faux' infrastructure is more often responsive to select stakeholder feedback (e.g., customers) and is lightly regulated.

This definition of faux infrastructure builds on Star and Ruhleder's conceptualization of infrastructures as relational, which allows us to ask —when and for whom— (rather than what) serves as infrastructure. Critically, this framing also leads us to ask the terms on which inclusion is facilitated, and whether those conditions are meaningful and fair. By meaningful, we refer to the intentional mobilization of resources and reconfiguration of the platform design to facilitate access for targeted populations. Since faux infrastructure reflects the private determination of public value, these terms of inclusion are often channeled through platform policies, moulded by internal decision making structures and rooted in the corporation's business priorities.

Faux infrastructure also functions as an analytical lens to assess how profit motives dictate engagement differentially for different stakeholders. Thus, we argue that beauty gig workers' dependencies on gig platforms for critical resources are not produced by the reliability and durability of platforms themselves. Rather, they are necessitated by the infrastructural deficiencies women service workers in India constantly tackle [28, 42]. Since gig platforms remain largely unregulated in India, in the absence of labor protection, there are no formal accountability mechanisms to ensure that the platform's infrastructural promises are kept [27, 54]. Hence, we go onto demonstrate how meaningful access to critical resources for workers via private gig platforms, from work to financial and health support, remains unguaranteed.

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[2]'Real' infrastructure, including state led infrastructure projects, can be exclusive and oppressive, deliberately or accidentally. However, they are still broadly oriented towards prioritizing public interests (whatever the dominant constitution of 'public' may be at the time) over profit maximization.

The persistence of informal employment in India has shaped the day-to-day lives of beauty workers, most of whom reported never having formal health insurance, financial savings or any employment benefits prior to working on gig platforms. P1 points out how beauty salons, a popular employment option for women, were badly hit by COVID-19, rendering gig work her only remaining option. P3's unsuccessful encounters with commercial banking illustrates how patriarchal norms continue to dictate money management practices, placing all family property (land, savings, etc.) solely under male ownership and subsequently precluding women from accessing formal financial services. It is in this context that P3 speaks of her frustrations around the lack of successful government programs in providing credit sources for women entrepreneurs.

The agility of gig platforms hinges on their positioning as technology companies claiming to only provide a matching service [56, 64, 82]. Gig platforms do, of course, ease connections between clients and workers. But as past work has examined [6, 29, 85], and our findings corroborate, gig platforms exert extensive control over working conditions, including setting prices and service protocols, therefore effectively functioning as service companies. Yet, this positioning of gig platforms only as "technology companies," and the subsequent confusion around platform taxonomy [82], is what has enabled gig platforms to (mis)classify platform workers as independent service providers and entrepreneurs. In turn, this misclassification allows platforms to (dis)invest in the workforce by not paying regular salaries and employment benefits, while also (dis)investing in physical assets—like not subsidizing cars for ride sharing or beauty equipment needed for the job[3] [54]. As gig platforms continue to mediate access to formal credit and health insurance, women workers are brought further into the folds of digital living, potentially datafying all aspects of their work and life. This privatization and platformization of labor markets pushes the workforce to be more dependent on big tech, leaving them vulnerable to unregulated gig platform policies that can be extractive and discriminatory [26, 33].

This trend is reflective of the privatization of public resources [55, 82]. As we unpack in the second section of our findings, gig platforms' efficacy in delivering on their infrastructural promise remains suspect. Challenges with performing home service gig work were further aggravated by platform policies that placed costs around delays and cancellations squarely on gig workers. For instance, *customers* cancelling at the last moment due to apartment rules or Covid-induced change of mind didn't incur any penalties, while the beauty gig worker lost the task and their time[4]. Yet, if the gig worker were unable to make it to the job because of COVID-mandated roadblocks and police checkpoints, they could be penalized by the platform algorithm, even as they lost money and time. Moreover, during COVID-19, platforms decreased service prices and added additional hygiene protocols to attract more customers. The adverse effect on earnings (workers earn less while spending more time per task) proved to be particularly stressful given the financial distress afflicting the majority of participants.

Like with many other service-oriented establishments, these hygiene practices are geared solely towards addressing customer wellbeing. Neither of the two platforms have any system in place (aside from customer self-declarations for being asymptomatic) to intentionally reduce risk to workers. Prior studies unpacking the platformization of beauty work have emphasized how relocating from a commercial space, like a salon, to the customer's home further decreases the worker's control over their working conditions and environment [6]. In the context of the pandemic, this means that gig workers must constantly place themselves at risk of contagion [48]. Moreover, design and policy alterations induced by the pandemic, like HomeServer's restrictions around helpline

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[3]Even though some homeservice platforms provide exclusive sales of beauty equipment and products for their gig workers, the cost is born entirely by the worker.
[4]Some of these policies have changed since this study was carried out, but gig workers continue to be penalized for cancellations in different ways.

access intersect with historical, gendered, literacy and technical skill disparities to prevent women workers from accessing platform support. For instance, P13's unsuccessful attempt in trying to access the platform's accident insurance without helpline support further belies the platform's infrastructural promise.

The emergence of faux infrastructure is deeply entangled with the country's disinvestment in public welfare and weakening labor protections [58, 72]. Even as the Indian central government deliberates labor laws for the gig economy, platforms continue to function in a largely unregulated terrain [27]. As a result, the profit-centric motives of private platforms, inscribed in platform policies and enacted in their algorithmic architecture [6], allows them to govern working conditions and increasingly control gig workers' access to public resources, such as financial and health support. Faux infrastructure as an analytical tool then pushes us to examine tensions between private ownership and public value, and contextualize user experiences through this lens.

5.2 Additional Labor and Articulation Work

As we have demonstrated above, the privatized logic of home service platforms places the burden of infrastructural access, especially during times of crisis, on gig workers. On multiple occasions this meant that they had to perform additional unpaid labors to mobilize the platform's infrastructural promise of accessing work, insurance, and financial support. Our examination suggests that these background activities also formed an integral part of the 'articulation work,' meaning the background labor to resolve breakdowns and keep the platform running. [68].

Given the limitations placed on mobility and in-person interactions due to Covid-19, the uber-ization of various services in the modern city has greatly benefited the urban consumer, allowing them to book goods and services virtually. The framing of gig work as a remote service that can survive crisis contributes to the experience of gig platforms as durable and reliable, which in turn shapes the infrastructural promise of these platforms for their gig workforce. Yet, this framing also obscures the very physicality of the on-demand service economy [21]. Even as customers can now opt for "contactless delivery," the actual task of delivery demands physical mobility by gig workers. As our findings show, the pandemic has further complicated movement around the city. With localized restrictions, gig workers must now perform the additional labors of navigating unknown police blockades and road closures, as well as housing community prohibitions, to successfully access and complete tasks. P5's experience points to how these obstacles exacerbate gendered fears around mobility, which on-demand women gig workers in India work hard to overcome [6].

The uniquely tactile nature of beauty work has further complicated the delivery of such services during the pandemic. The adoption of hygiene ratings demands additional affective labors of performativity which are rooted in castiest ideals of purity. To get a high rating, workers have to visibly enact hygiene practices and ensure customers don't miss this performance. Embedded in the rhetoric of technosolutionism, gig platforms thus work as faux infrastructures because though they promise workers efficient and easy access to a paid task, they obfuscate the very material conditions of completing it.

Feminist and labor [35, 83] scholarship has emphasized the crucial role of people and communities in the development and maintenance of socio-technical infrastructures [12, 19, 45]. For instance, Thomas examines the collaborative maintenance, care, repair, and alternative imaginaries performed to keep Cuba's crowdsourced internet running [78]. Qadri, Irani and Erickson have examined the infrastructural role of gig workers themselves as "hyper optimized bodies" [57] and "bricoleurs" [24] that enable the sustainability of gig platforms. As P1 astutely remarked, "only if we stay, they (platforms) will earn." Yet, algorithmic mechanisms determining pricing and task timings (i.e., time it takes to complete a task) do not take into account the additional labors required to maintain the gig ecosystem. Irani's research emphasizes the impetus of platforms for hiding these labors

of gig workers, as an "infrastructural concealment" which enables the appreciation of the private platform, against the devaluation of gig labor [34, 82]. In keeping with this scholarship, we find that the varied additional labors performed by the women beauty gig workers were necessary to maintain the functionality of gig platforms during the pandemic. What appears and is presented as seamless service delivery for the public during a time of crisis is in fact delicately stitched together by unpaid labors—acts of *jugaad* [35], creativity [38], and negotiation—performed by gig workers.

6 LIMITATIONS

We performed data collection during a very unique time—the early months of the COVID-19 pandemic. We acknowledge that the policies put in place during this time are not entirely representative of how these platforms might function under more 'normal' circumstances. However, by using the framing of infrastructural breakdown, we use the pandemic as an opportunity to critically analyze the limitations of private gig platforms, particularly against the narrative of their technological agility in responding to changing societal needs during COVID. We also acknowledge that performing interviews with home service workers recruited in Bangalore introduces limitations to generalizability. However, as Bangalore is one of the technology and economic hubs of India, we found that it provided a unique setting to explore the interaction of technology, class, caste, and gender dynamics. The larger themes we discuss around women workers and gig platforms have implications for comparing and contrasting findings to other geographies.

Furthermore, our sample is focused on gig workers, as our research questions are focused on their experience. However, this means we have limited data about challenges faced by the gig company with the advent of COVID-19. Throughout, we have tried to limit our conclusions about platform motivations and behavior to what was directly observable or has been published elsewhere. While we chose to focus specifically on worker experiences in this study, we understand that it is also critical to bring in the perspectives of platform representatives and customers and plan to do so in future work for comparison.

Finally, even though many of these challenges may not be exclusive to women, we hope to convey how women gig workers are historically and structurally vulnerable to labor market exclusions (from education, employment, health and financial services). These exclusions in turn shape their access to and experience of gig work. Following motivations of other gig work scholars [80], by focusing on the experiences of a particularly minoritized gig worker population, we aimed to unearth inequalities experienced more broadly.

7 CONCLUSION

This study examines the infrastructural promise made by home service gig work platforms in facilitating access to paid work as well as other critical financial and health resources for women beauty gig workers during the onset of the pandemic in Bangalore, India. As a result of the COVID-19 crisis, we outline various breakdowns within the gig ecosystem that challenge workers' access to this infrastructural promise, examining how the women cope in order to continue performing gig work. Through 21 semi-structured interviews with women beauty gig workers on home service platforms, we find that 1) In prioritizing their profit motives, private gig platforms function as 'faux infrastructure,' failing to fulfill their infrastructural promise viz-a-viz gig workers, and 2) Worker's perform varied, unpaid additional labors in attempting to access gig work, which in turn also contributes to the articulation work that goes into sustaining the gig ecosystem during the crisis. In doing so, our findings highlight the multiplicity of challenges workers encounter—from negotiating physical mobility in the pandemic city, to the difficulties of navigating the changing digital landscape of the gig ecosystem, which can otherwise be overlooked. This work brings out the

questionable ramifications of unregulated private gig platforms becoming the dominant provider of critical resources (work, financial, health) to a vulnerable workforce.

ACKNOWLEDGMENTS

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