GENDERED DIMENSIONS OF PLATFORMS – BASED WORK IN THESEMI-URBAN GIG ECONOMY OFKARNATAKA: A SOCIOLOGICAL STUDY

Dr. Ramya.S
Assistant Professor and Chairperson
Department of Studies & Research in Sociology,
Karnataka State Open University, Mukthagangotri, Mysuru
E-mail ID: ramyaksou@gmail.com

Abstract

The rapid proliferation of platform-based gig work in India has been widely celebrated as a catalyst for economic inclusion and flexible employment. However, this techno-optimistic narrative obfuscates the gendered dynamics of informalization and precarity that characterize gig work, especially in semi-urban peripheries. This paper critically examines the socio-economic implications of the gig economy for women workers in semi-urban Karnataka, focusing on platforms like Urban Company, Swiggy, and Zomato. Drawing upon a political economy of labor and feminist standpoint theory, the study interrogates how gig platforms reconfigure gendered labor by masking exploitative practices under the rhetoric of entrepreneurial empowerment. The analysis reveals that women workers face compounded vulnerabilities arising from caste, class, and digital literacy barriers, which not only limit their access to high-paying gigs but also expose them to algorithmic surveillance and absence of social protections. Moreover, the paper critiques the sustainability discourse surrounding gig work, highlighting that the informalization of labor under digital capitalism perpetuates structural inequalities rather than fostering inclusive growth. The study calls for a reconceptualization of platform labor policies, rooted in a gendered sociology of work that addresses intersectional exclusions and ensures equitable labor rights in the digital economy.

Keywords: Gig Economy, Gendered Labor, Informalization, Digital Work, Precarity, Semi-Urban Karnataka

Introduction

The rise of the gig economy represents one of the most profound transformations in the global world of work, where traditional employment relationships are supplanted by flexible, on-demand labor mediated through digital platforms. In India, this shift has been accelerated by the proliferation of platform-based companies such as Swiggy, Zomato, and Urban Company, which promise employment opportunities under the rhetoric of entrepreneurial autonomy and income flexibility. However, beneath this narrative of technological empowerment lies a deeper socio-economic restructuring of labor, marked by informalization, algorithmic control, and systemic exclusions that disproportionately affect women workers in semi-urban and rural peripheries.

The International Labour Organization (ILO, 2021) defines platform work as labor mediated through digital applications that match demand and supply for services in real-time. In India, this form of work has been heralded as a solution to persistent unemployment and gendered barriers to workforce participation. Yet, as Kabra (2020) argues, the gig economy is an extension of neoliberal labor market reforms that shift risks onto workers while absolving employers of traditional responsibilities, such as social security, job stability, and labor rights.

The gendered dynamics of labor informalization within the gig economy have been critically examined through the lens of feminist political economy, which posits that neoliberal market structures inherently exploit gendered divisions of labor (Federici, 2012). For women in semi-urban Karnataka, participation in gig work is often less a choice and more a compulsion borne out of socio-economic necessity, intersecting with barriers of caste, class, and digital literacy. Despite policy discourses celebrating women's entrepreneurial empowerment through digital platforms, the lived realities of these workers reveal a spectrum of precarity marked by irregular incomes, absence of social protections, and exposure to algorithmic surveillance mechanisms.

Urban Company, often cited as a model for female-friendly platform work, employs women as beauty service providers and domestic workers under the premise of flexible entrepreneurship. However, as Aneja and Srivastava (2023) demonstrate, the platform's micro-entrepreneurship rhetoric masks exploitative practices, including high commission cuts, unregulated work hours, and performance-based algorithmic ranking systems that penalize workers for factors beyond their control. Similarly, Swiggy and Zomato, dominant players in India's food delivery sector, have expanded into semi-urban markets like Mysore, Hubli-Dharwad, and Tumkur, where women's entry into gig work is hindered by gendered mobility restrictions and caste-based occupational segmentation.

This paper adopts a political economy of labor approach, grounded in Marxist feminist critiques (Bhattacharya, 2017), to interrogate how gig platforms reproduce existing social hierarchies while creating new forms of digital labor exploitation. The platform economy is not a neutral technological innovation but a socio-economic apparatus that intensifies labor precarization under the guise of flexibility. Moreover, the intersection of gender, caste, and digital literacy barriers reveals that platform-based work, far from being inclusive, reinforces patterns of marginalization that are specific to India's semi-urban peripheries. Drawing upon Nancy Fraser's (2016) critique of progressive neoliberalism, this paper argues that inclusion narratives surrounding women's participation in the gig economy commodify gender justice into marketable initiatives without addressing structural inequalities. The rhetoric of flexible work conceals the invisibilization of unpaid care labor, the lack of institutional labor rights, and the encroachment of algorithmic surveillance into the private lives of women workers.

In the context of Karnataka's developmental trajectory, where semi-urban regions are positioned as emerging hubs of digital labor, this study becomes particularly pertinent. The convergence of digital India initiatives with platform capitalism necessitates a critical examination of whose labor is being valorized and whose is rendered invisible within these new economic formations.

Thus, this paper seeks to critically examine the lived experiences of women gig workers in semi-urban Karnataka, focusing on how platform-based informalization restructures gendered labor dynamics, exacerbates precarity, and undermines the sustainability narratives of digital work. By foregrounding women's narratives within a sociological framework, the paper contributes to an emergent discourse that challenges techno-optimistic assumptions of the gig economy and calls for a rethinking of labor rights in the digital era.

Research Objectives

1.   To analyze how digital gig platforms (e.g., Urban Company, Swiggy, Zomato) restructure gendered labor dynamics in Karnataka's semi-urban areas, contributing to new forms of informal employment.

2.   To examine the intersectional barriers (caste, class, digital literacy) that shape women's access, participation, and exploitation within the gig economy's flexible labor regime.

3.   To critically interrogate the sustainability narratives of platform-based digital work, foregrounding the lived experiences of precarity, algorithmic control, and absence of labor rights.

Materialities of Digital Exclusion in Algorithmic Welfare

The gig economy in India has been consistently projected as a transformative force for economic inclusion, particularly for marginalized women in semi-urban regions. Yet, beneath the façade of empowerment

narratives, the material realities of platform-mediated labor reveal deeply entrenched structures of digital exclusion.

India's Digital India initiative has often been positioned as an inclusive policy framework aimed at bridging the digital divide. However, as Gurumurthy and Chami (2020) argue, digital inclusion strategies that overlook structural determinants of access, such as gender, caste, and literacy, end up exacerbating existing inequalities. Women in semi-urban Karnataka face multiple layers of exclusion: limited access to smartphones, gendered restrictions on digital literacy, and socio-cultural norms that constrain mobility and participation in male-dominated workspaces. While companies like Swiggy, Zomato, and Urban Company present app-based interfaces as tools of democratization, the assumption of universal digital competence is a key barrier. The "digital by default" logic of these platforms assumes that workers possess the infrastructural and cognitive resources to navigate complex app ecosystems, manage digital payments, and optimize their algorithmic visibility. For women from marginalized caste and class backgrounds, the absence of institutional support for digital literacy transforms platform engagement into a precarious survival strategy rather than a sustainable livelihood.

The introduction of algorithmic management systems within gig platforms has fundamentally altered the dynamics of labor control. As Woodcock and Graham (2019) note, algorithmic management substitutes human supervisors with opaque, automated processes that govern task allocation, performance evaluation, and disciplinary actions. For women gig workers, these algorithmic regimes function as technologies of gendered surveillance and control.

Platforms like Urban Company utilize rating systems and performance metrics that penalize workers for customer complaints, delayed service, or cancellation rates, factors often influenced by external socio-cultural constraints rather than worker efficiency. For instance, women workers report being penalized for refusing service requests from male clients who behave inappropriately, as the platform's algorithmic system lacks the contextual sensitivity to accommodate such gendered vulnerabilities. Furthermore, Swiggy and Zomato's delivery algorithms prioritize "availability" and "proximity" in task allocation, disadvantaging women who face spatial mobility restrictions due to safety concerns or familial responsibilities. The absence of gender-responsive design in these algorithmic infrastructures reinforces patterns of exclusion, rendering women workers perpetually precarious within the platform economy.

Mainstream discourses around digital exclusion often frame it as an individual deficit to be corrected through skilling and entrepreneurship initiatives. However, this perspective ignores the structural embeddedness of digital exclusion within socio-economic hierarchies. As Eubanks (2018) asserts in her critique of the digital welfare state, technological solutions that fail to address structural inequalities end up deepening the very exclusions they aim to mitigate.

In Karnataka's semi-urban contexts, women's access to gig work is mediated by patriarchal household negotiations, caste-based occupational norms, and infrastructural inadequacies such as unreliable internet connectivity. Platforms externalize these structural constraints onto workers, promoting the myth of entrepreneurial agency while offering no systemic interventions to address these material barriers.

The gig economy's portrayal of women workers as "micro-entrepreneurs" is a critical site of ideological mystification. Drawing upon David Harvey's (2007) concept of "accumulation by dispossession," it becomes evident that platforms extract surplus value from women's labor under the pretense of fostering entrepreneurial autonomy. This is particularly visible in Urban Company's service models, where women are required to invest in their own service kits, bear transportation costs, and navigate fluctuating demand patterns without any wage guarantees.

The fetishization of digital entrepreneurship obscures the fact that platform work lacks the key tenets of entrepreneurship, control over work processes, autonomy in decision-making, and security of income. Instead, it subjects workers to algorithmic control mechanisms that dictate every aspect of their labor while shielding the platform from any employer responsibilities.

An intersectional analysis reveals that the vulnerabilities of women gig workers in semi-urban Karnataka are compounded by caste and class dynamics. Dalit and lower-caste women are often confined to lower-tier service categories, such as domestic cleaning or low-end beauty services, which are algorithmically

deprioritized in task allocation. These services are also more susceptible to volatile demand patterns, leading to income instability. Moreover, the absence of platform transparency regarding how algorithms rank, allocate, or suspend workers exacerbates the precarity of marginalized women. Without access to digital grievance redressal mechanisms, workers remain entrapped within opaque systems of control that replicate the "informal labor logics" of the traditional unorganized sector, now rebranded through the veneer of technological modernity.

The materialities of digital exclusion in Karnataka's gig economy reveal that platform-based informalization is not a neutral process of technological progress but a socio-political phenomenon embedded within historical structures of gendered and caste-based marginalization. The rhetoric of algorithmic welfare masks the reproduction of structural inequalities through digital infrastructures that externalize risks, intensify precarity, and obscure accountability. By foregrounding the lived experiences of women gig workers in semi-urban Karnataka, this section has illuminated the disjuncture between techno-optimistic inclusion narratives and the realities of digital labor exploitation. Any meaningful discourse on sustainable and inclusive economic growth must therefore interrogate the political economy of platform labor, moving beyond surface-level skilling interventions to address the structural materialities that shape digital exclusion.

Algorithmic Surveillance, Gendered Labor Control, and the Crisis of Work Autonomy

The structural logic of platform capitalism is deeply intertwined with forms of algorithmic surveillance that erode labor autonomy, particularly for women workers in India's semi-urban gig economy.

At the core of platform-mediated labor is the deployment of algorithmic management systems, which automate task allocation, performance evaluation, and disciplinary procedures. This digital infrastructure extends what Braverman (1974) termed as "scientific management" into the algorithmic realm, a phenomenon often referred to as "Digital Taylorism" (Moore & Joyce, 2020). For women gig workers, these algorithmic controls standardize labor processes to maximize efficiency while stripping workers of any meaningful autonomy over their work schedules, task choices, or service conditions.

In platforms like Urban Company, algorithmic systems determine service assignments based on real-time proximity, ratings, and availability matrices, effectively nullifying any self-directed decision-making capacity for workers. Women who refuse tasks due to safety concerns or personal constraints often face algorithmic penalties in the form of reduced task visibility or temporary suspensions, thereby coercing compliance through technological design.

The supposed neutrality of algorithms masks their embeddedness within gendered social logics. As Noble (2018) elucidates in *Algorithms of Oppression*, digital systems often reproduce societal biases under the guise of objectivity. In the Indian gig economy, algorithmic architectures are designed without consideration for gendered labor realities, such as safety concerns, unpaid care responsibilities, and mobility restrictions faced by women.

For example, food delivery platforms like Swiggy and Zomato allocate deliveries based on efficiency metrics that disregard the differentiated risks faced by women riders, particularly in navigating unsafe or socially stigmatized localities. The platform's failure to integrate gender-sensitive parameters into its allocation algorithms results in a structural reinforcement of gendered spatial exclusions. Moreover, algorithmic visibility on these platforms is often contingent on customer feedback mechanisms, which are susceptible to gendered biases. Women service providers report being unfairly downgraded due to appearance-based judgments or resistance to inappropriate client behavior. The platform's reliance on customer-generated metrics as objective performance indicators transforms gendered prejudices into quantifiable determinants of labor viability.

The pervasive use of geo-tracking, live status updates, and automated performance audits converts the smartphone into an instrument of continuous surveillance, erasing the temporal and spatial boundaries between work and non-work life. This aligns with Foucault's (1977) theorization of "panopticism", where surveillance becomes internalized as a self-disciplinary mechanism.

For women gig workers in Karnataka's semi-urban belts, this constant digital visibility has profound implications. The pressure to maintain an active status, respond promptly to task notifications, and adhere to

rigid platform metrics forces women into a state of perpetual work readiness, even in the absence of guaranteed tasks. The illusion of flexibility thus collapses into a regime of algorithmic discipline that extracts labor compliance through the threat of invisibility or deactivation. Additionally, the surveillance apparatus of gig platforms extends into intimate domains, with app interfaces demanding real-time updates, live location sharing, and biometric logins, creating a condition of digital servitude where the worker's autonomy is subsumed under the algorithm's gaze.

The neoliberal valorization of "self-employment" in the gig economy collapses under the weight of algorithmic controls that render the worker a mere node in an automated value-extraction chain. The ideological narrative of gig work as a site of entrepreneurial autonomy becomes untenable when workers are subjected to algorithmic decision-making processes that they neither understand nor influence.

As Srnicek (2017) argues, platform capitalism commodifies access rather than ownership, positioning the worker as a disposable asset within a fluctuating demand economy. For women gig workers, this translates into an acute crisis of work autonomy, where the capacity to negotiate labor conditions is systematically eroded by platform architectures designed to prioritize efficiency over worker agency. The gig platform's refusal to recognize its labor force as employees further exacerbates this crisis. By classifying workers as independent contractors, platforms evade legal obligations regarding fair wages, grievance redressal, and workplace protections, effectively institutionalizing a regime of algorithmic hyper-exploitation.

The impact of algorithmic surveillance is magnified for women from lower-caste and economically marginalized backgrounds. The intersection of caste-based spatial segregation and algorithmic task allocation often results in disproportionate burdens on Dalit and Adivasi women gig workers, who are confined to less desirable service categories or high-risk localities. Furthermore, the absence of caste-disaggregated data within platform analytics erases the specific vulnerabilities faced by marginalized groups, perpetuating a data invisibility that shields platforms from accountability. The informal and opaque grievance mechanisms further disempower women workers, who lack the digital literacy and institutional support to contest algorithmic penalties or discriminatory practices.

Despite the overwhelming structures of control, women gig workers have begun to develop micro-strategies of resistance to reclaim fragments of labor autonomy. These include collective task refusals, informal support networks to share information on exploitative clients, and coordinated rating strategies to neutralize algorithmic penalties. Emergent gig worker unions and advocacy groups, such as the Indian Federation of App-Based Transport Workers (IFAT), have also begun mobilizing for policy interventions that address algorithmic transparency and labor rights. However, women's participation in these movements remains limited, given the gendered barriers to unionization and public protest in semi-urban spaces. The contestation over algorithmic control thus opens up a critical site of inquiry into how digital labor struggles are gendered, necessitating a feminist labor sociology that interrogates the material and discursive architectures of platform capitalism.

The gig economy's promise of flexible, autonomous work is systematically undermined by algorithmic management systems that subject workers to intensified surveillance, discipline, and precarity. For women in semi-urban Karnataka, these dynamics are further compounded by structural gendered inequalities, rendering the notion of "digital empowerment" a hollow rhetorical device. To reclaim labor autonomy within the platform economy, it is imperative to develop regulatory frameworks that mandate algorithmic transparency, enforce labor protections, and recognize the gendered complexities of digital work. Moreover, sociological analyses must move beyond abstract critiques of algorithmic bias to engage with the lived experiences of women workers, foregrounding their narratives as central to any discourse on sustainable and inclusive economic development.

Toward a Gendered Framework of Sustainable Digital Work

The discursive construction of platform-based gig work as an enabler of women's economic empowerment and flexible livelihood opportunities is emblematic of what Fraser (2017) critiques as the "progressive neoliberal" paradigm, where emancipatory language is co-opted to perpetuate market-centric governance. In the Indian context, particularly within Karnataka's semi-urban peripheries, this co-optation manifests through policy initiatives and platform narratives that commodify gender justice into metrics of

entrepreneurial inclusion, while systematically obscuring the structural realities of labor exploitation, precarity, and digital marginalization.

Contemporary policy approaches to digital work, exemplified by schemes such as Digital India and Skill India, are predominantly technocratic, focusing on individual capacity building through digital skilling and entrepreneurship development. However, as Gurumurthy and Chami (2021) argue, such approaches are reductionist, failing to address the systemic socio-economic barriers that impede women's meaningful participation in the digital economy.

In Karnataka's semi-urban regions, the assumption that digital skill acquisition translates into economic agency neglects the gendered distribution of unpaid care labor, caste-based spatial exclusions, and infrastructural deficits. Furthermore, the fetishization of entrepreneurial agency ignores the structural asymmetries in bargaining power between platform corporations and informal women workers, thereby legitimizing exploitative labor arrangements under the veneer of self-employment. The United Nations High-Level Panel on Women's Economic Empowerment (2017) acknowledges that without addressing structural constraints, such as lack of social protection, discriminatory labor practices, and infrastructural inequalities, digital work initiatives risk reinforcing existing gender gaps rather than bridging them.

Reframing digital work through the lens of feminist political economy demands an interrogation of how gendered labor is embedded within the circuits of capital accumulation and value extraction in platform capitalism. Drawing upon Bhattacharya's (2017) theorization of social reproduction labor, it becomes evident that gig platforms exploit women's unpaid care work and socio-cultural laboring capacities, while externalizing risks and operational costs onto the workers themselves. For instance, the invisibilization of reproductive labor, childcare, eldercare, domestic responsibilities, in platform work designs creates a paradox where women's labor is both essential and structurally devalued. The platform's refusal to account for these gendered labor dynamics is a deliberate strategy of dispossession, wherein the supposed flexibility of gig work is predicated upon the commodification of women's time without corresponding labor protections. Therefore, a feminist political economy framework necessitates a shift from individualistic narratives of entrepreneurial empowerment to collective discourses of labor rights, economic justice, and structural redistribution of resources and responsibilities.

Policy Imperatives for Equitable Digital Labor Futures

A gendered framework of sustainable digital work must foreground institutional labor protections as foundational, rather than ancillary, to economic inclusion strategies. This involves recognizing gig workers as formal labor participants with entitlements to minimum wages, social security benefits, occupational safety, and collective bargaining rights.

Policy interventions must include:

1. **Mandatory Algorithmic Transparency and Accountability:** Regulatory mechanisms that mandate platforms to disclose algorithmic decision-making criteria, with provisions for independent audits and worker redressal mechanisms.
2. **Universal Social Protection Schemes for Gig Workers:** Expanding existing labor welfare schemes to encompass gig workers, ensuring access to health insurance, maternity benefits, and pension entitlements.
3. **Gender-Responsive Platform Designs:** Mandating platforms to integrate gender-sensitivity into task allocation, safety protocols, and grievance redressal systems, accounting for the differentiated risks faced by women workers.
4. **Digital Infrastructure Development in Semi-Urban Areas:** State-led investments in improving internet connectivity, digital literacy programs, and infrastructural support to enable equitable access to digital work opportunities.

Moreover, policy frameworks must adopt an **intersectional lens**, recognizing that caste, class, and geographical marginalities compound gendered exclusions, necessitating targeted interventions for historically disadvantaged groups.

Emerging Practices of Collective Resistance and Alternatives

While policy reforms are crucial, grassroots movements and worker-led initiatives are equally pivotal in contesting platform labor regimes. The emergence of informal women worker collectives, community-based support networks, and alliances with broader labor unions like the Indian Federation of App-Based Transport Workers (IFAT) represent nascent yet significant practices of resistance against algorithmic exploitation. Alternative platform models, such as platform cooperatives, where workers collectively own and govern digital platforms, offer transformative possibilities for democratizing digital labor. Though nascent in India, international examples like Up & Go (New York) and CoopCycle (Europe) illustrate the potential of worker-owned platforms in ensuring equitable labor relations and redistributive economic structures. In Karnataka, localized cooperative models, drawing upon the Self-Help Group (SHG) networks and leveraging community-based solidarity economies, can serve as critical sites for experimenting with alternative digital labor architectures that prioritize worker agency and socio-economic justice over profit maximization.

The pursuit of sustainable and inclusive digital work demands a pluriversal epistemology, one that moves beyond Western techno-centric frameworks to embrace diverse, community-rooted knowledge systems and labor practices. This involves valorizing indigenous economies of care, informal solidarity networks, and collective labor traditions as legitimate models of economic participation, rather than subordinating them to the imperatives of global platform capitalism. Drawing inspiration from Escobar's (2018) pluriverse concept, the paper argues for a reconceptualization of digital labor imaginaries that foreground ecological sustainability, social equity, and cultural pluralism. In this vision, digital platforms become enablers of community well-being and shared prosperity, rather than instruments of extractive capitalism.

Conclusion

The integration of women workers into India's platform economy must not be reduced to a question of digital access or skilling but must be situated within a broader discourse of labor justice, socio-economic rights, and structural redistribution. Moving beyond the technocratic narratives of entrepreneurial empowerment, this paper advocates for a feminist political economy approach that confronts the inherent exploitations of platform capitalism, while envisioning alternative futures of sustainable and equitable digital work. By centering the lived experiences of women gig workers in semi-urban Karnataka, this study underscores the urgent need to rethink digital labor policies and practices, ensuring that the promises of technological innovation translate into tangible gains for marginalized communities rather than perpetuating cycles of precarity and exclusion.

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