

The Digital Handshake: Unveiling The Nexus Between Technology and Gig Economy Through Sociological Lens

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Abstract

This article explains the sociological ramifications of the gig economy with digital technology. The relationship is critically examined by redefining gig work, with particular attention to the rise of gig work and algorithmic labour. The study shows how digital platforms have changed social structures, labour relations, and work practices. It investigates precariousness, gender dimension and technology mediation, which restructure workers' identity. It looks at how labour relations, autonomy, and precarity are altered by platform-based work to reinforce alienation and social isolation under the applications and algorithms. It examines technology-controlled labour market by drawing on important sociological theories from classical by Marx, Weber to modern by Standing, Schor, and van Doorn. The article interrogates the promises of flexibility and entrepreneurship and contrasts them with the realities of surveillance, exploitation, and social inequality. By analysing ride-hailing and food delivery sectors, the study highlighted regulatory challenges and future sociological directions and policy interventions. The study also analysed the development of a policy framework and the socio-economic implications of platformisation in India.

Keywords: Gig economy, digital technology, algorithmic labour, precarity, alienation, platformisation

Introduction

The term "gig economy" refers to the labour market identified by short-term contracts or freelance work as against permanent jobs (De Stefano, 2016). The symbiotic arrangement between technology and gig work has reshaped the situation of employment. This digital handshake challenges traditional notions of labour, particularly transforming the structure of society. This article is about understanding how platform-based technology is shaping labour dynamics in the gig economy. With the rising nexus between gig work and technology, coinciding with and largely enabled by rapid technological advancements like AI, big data analysis, machine learning etc. In India, as per NITI Aayog (2022), India had approx 7.7 million gig workers in the year 2020–21, which is expected to reach 23.5 million by 2030. As we are witnessing the rise of temporary, freelance, and on-demand work facilitated by digital platforms and situationally, the gig economy offers flexibility and autonomy to workers. Conceptually, this gig market is based on elasticity of wages and degree of worker control to distinguish between good jobs and bad jobs patterns (Kalleberg and Dunn 2016). It has also brought to light the precarious nature of employment in the gig economy.

The term "gig" originated with jazz musicians in 1915, referring to short-term jobs. The gig economy began to take shape in the late 1990s with the rise of digital platforms like Craigslist and Upwork. The Great Recession in 2008 further accelerated the gig economy as people

sought more flexible work arrangements. This nexus rises with the digital handshake and represents an unbreakable bond of the gig economy with technology. The evolution of the labor market has one wing on technology driven by algorithm-based big data analytics and the other one on short-term contract-based precarious employment, having profound implications for individuals, particularly educated unemployed youths. Digital platforms such as Ola, Uber, Swiggy, Zomato etc., typify this method of work, mediated by apps and algorithms that define tasks for workers. While these platforms are seen to be flexible and independent work cultures, sociologists are raising concerns about control, surveillance, social security, and the reconstruction of labor rights (Srnicek, 2017; van Doorn, 2017).

Theoretical Frameworks

Understanding the nexus between gig work and technology through a sociological lens requires a multifaceted approach. Classic theories, such as those of Karl Marx, emphasise labour exploitation and alienation in capitalist society, now echoed in digital labor critiques (Fuchs, 2014). Max Weber's idea of rationalisation also has relevance in algorithmic governance carried out in bureaucracy, where efficiency and predictability dominate worker experiences. More recently, the Foucauldian notion of governmentality is generally used to analyse how platforms shape workers' behaviour through subtle forms of control (Gandini, 2019).

Standing (2011) introduces the word "precariat," meaning a rising class characterised by insecure labor, describing many gig workers. This substructure provides tools to critique, apart from economic, the social and psychological facets of platform-mediated work. Ursula Huws (2014) also highlights how commodification of tasks reshaping the blurring of boundaries for personal and professional life in platform-laden capitalism. In India, these dynamics are in high growth because of the country's vast informal economy, youth unemployment, and rising migration toward cities.

Redefining Gig Work

The expansion of digital platforms is facilitating the rise of gig work, providing individuals with unprecedented opportunities to engage in flexible, on-demand employment. Since the 1970s, the rise of precarious work has become a significant issue in politics, the media, and academic research. This type of work, characterised by uncertainty and lack of security, sharply contrasts with the stable employment conditions of the post-World War II era (Kalleberg, 2009). The rise of gig work has emerged as a significant trend in the global economy, driven by platform-mediated systems (Dedema and Rosenbaum, 2024). A new class grouping, the "precariat" (Standing, 2011), is emerging, including older individuals, unskilled workers, young people with few qualifications, and those who frequently move in and out of work. Gig employment typically involves short-term engagements (Kalleberg and Dunn, 2016).

From ride-sharing and food delivery to freelance writing and graphic design, technology has opened up access to work, allowing people to monetise their skills and assets in new ways. Juliet Schor (2020) examines both empowerment and exploitation in tech-enabled gig work. With acknowledgment of flexibility in the gig economy, she explained the asymmetry in power division between platforms and workers, normally enforced via opaque algorithmic systems. Moreover, gig work represents a "formalisation of informality," where labor practices are

codified by technology (Srivastava, 2021), and caste, class, and gender intersect to shape access to gig work. Ayesha Sood (2021) highlights how workers coming from marginalised backgrounds generally enter the gig economy because of necessity, have no choice, and, opposite to their expectations, face greater vulnerabilities. Van Doorn (2017) carried out a critical opinion on “algorithmic labor,” shows by controlling technology like ratings, geolocation, even its performance tracking—overturning the autonomy of gig workers. This form of digital Taylorism reproduces hierarchies and erodes work culture. This shift has blurred the lines between traditional employment and independent contracting, questioning conventional understandings of labor relations and employment contracts.

Flexibility, Precarity and Gender Dimensions

While gig work offers flexibility and autonomy, it also exposes workers to economic precarity and insecurity. Without the protections and benefits afforded by traditional employment, gig workers often face uncertain income streams, lack of access to healthcare and retirement benefits, and social security. Apart from common issues, many gig workers work long hours to complete a given task, so they generally accept undesirable work because of algorithmic pressure or fear of deactivation (Schor et al., 2020). The gig economy inflames existing inequalities, disproportionately impacting marginalised communities and exacerbating socioeconomic disparities. This lies in the concept of precarious employment, wherein workers face a lack of job security, income assurance, and protection through government law and regulation. Kellogg, Valentine, and Christin (2020) describe this flexibility enabling precarity as “algorithmic control with autonomy,” where freedom is limited by digital infrastructures and platforms show incentives. This system defines workers not as independent entrepreneurs but “dependent contractors” (De Stefano, 2016), trapped in the paradox of subjugation and autonomy.

The appeal of gig work lies in its discerned flexibility, especially for young people who are migrating, and people excluded from formal employment. However, gig work often involves long working hours, an unsafe environment, and precarious job status (Sood & Pattath, 2022; John & Gopinath, 2021). These platforms often fail to care about gendered needs and reinforce exclusion (Srinivasan and Shah, 2022). Moreover, women gig workers also face harassment from both clients and supervisors, with a lack of grievance redressal mechanisms.

In India, this precariousness is compounded by several factors, like the absence of labour regulations specifically tailored to the gig economy, which leaves workers vulnerable to exploitation and arbitrary practices by platform companies. Without statutory minimum wages and other benefits in job, gig workers often find themselves at the mercy of market forces. The proliferation of gig work in sectors such as ride-hailing from Rapido, Ola, Uber etc. ; food delivery from swiggy, Zomato etc.; and freelance services has led to intense competition amongst workers, driving down wages and exacerbating job insecurity. This hyper-competitive environment not only undermines the economic well-being of gig workers but also perpetuates a sense of precarity that permeates their everyday lives. It is essential to recognise the intersectional dimensions of precarious employment in the gig economy. Women, migrants, and marginalised communities are disproportionately affected by the insecurities inherent in gig work. They are diverted towards unstable schedules which reinforce traditional types of

employment (McCrate 2016). Gendered divisions of labour often relegate women to low-paying gigs with little room for upward mobility, while migrant workers face additional challenges such as language barriers and lack of social support networks. Furthermore, the digital divide exacerbates inequalities within the gig economy, as access to smartphones, internet connectivity, and digital literacy skills determine one's ability to participate on online platforms. This digital exclusion further marginalises an already vulnerable population, perpetuating a cycle of economic disenfranchisement.

Platform for Technological Mediation with Precariousness

The role of technology as an intermediary in the gig economy, connecting service providers with consumers through digital platforms. Technological mediation in gig work is employed through apps, algorithms, and data surveillance. It assigns tasks, monitors performance through customer ratings and reviews, enabling masked managerial control and forming independent contracts by using algorithms (Rosenblat and Stark, 2016). In contrast to traditional managerial control, this algorithmic management is blurred and impersonal, leaving workers with little alternative. This form of digital Taylorism generally echoes Braverman's (1974) assessment of labour deskilling within scientific management, now about to be automated by rising AI systems.

This technological mediation not only facilitates transactions but also shapes the dynamics of work, influencing factors such as pricing, reputation management, and algorithmic decision-making. The reliance on algorithms and data-driven algorithms can introduce biases and reinforce existing power structures. The structural changes in labour markets, driven by digital platforms, impact workers' economic, psychological, and social well-being (Haque & Dard, 2023). The platform's technology-based logic provides constraint in gig workers' manual decision-making based on qualitative experiences. For example, Ola drivers experience dynamic pricing, prices rise when they choose a simple route or avoid traffic and waste time. This led to challenges google map or platform technology —a form of “platform paternalism” (Cutolo & Kenney, 2021). Such systems shape labour conditions in the gig economy by denying accountability, paying minimal wages while extracting high-value data (Gray & Suri, 2019). This contributes to digital labour exploitation (Fuchs 2014).

Further marginalising certain groups within the gig economy. Platformisation of precarious employment showcases a new form of gig workforce within the sharing economy where these services can be seen widely in the Information Technology and Information Technology-enabled services (IT and ITeS) sectors (Surie 2020). Technology also plays a significant role in the precarity of employment, not technology itself rather than data from technology, creating the problem of digital divide (Moore 2019), especially in India, where it has been seen that the advent of many digital platforms with respect to technological advancements (Woodcock & Graham, 2020) creating space for precarious employment. As per the latest report by NASSCOM, 77% of Gen Z students are likely to join the technology industry as their choice for employment. Software development, business-political analytics, IT services and data science will be major areas for gig work in the upcoming time. This talented and specialised workforce will change the notion of government jobs where the population of India is about to become the largest one.

Social Isolation and Alienation

The digitisation of work has also contributed to social isolation and alienation amongst gig workers. The case of Shehzaad, studied by Kain (2024), a delivery worker in Delhi, shows how traditional social hierarchies are reproducing and reinforcing labour structure in contemporary times (Kain,2024). Unlike traditional workplaces, where employees interact face-to-face and form social bonds, gig workers often operate in silos, including income instability, lack of legal protection, poor working conditions, and social isolation. That shows the impact of "10-minute delivery deadlines" (Singh, 2024). Gig workers in developing countries like India report usually being tracked, nudged, and penalised by these platform systems (Rathi, 2021).

Covid-19 played a crucial role in creating isolation and lack of in-person interaction amongst gig workers (Ai, et al.,2023), and their reliance on virtual communication and digital interfaces. This lack of social interaction leads to feelings of loneliness, detachment, exacerbating mental health issues and eroding social capital developed as a form of alienation amongst gig workers. The purest form of alienation one can find in precarious work (Moore 2019). This framework aligns well with theories on labour precarity and social stratification, revealing how gig work perpetuates economic insecurity, psychological stress, and social isolation (Haque & Dard, 2023). To overcome the menace of social isolation leading to alienation, the solution lies in classical theories of sociology. The precariousness of gig workers is consistent with Durkheim's theory of social integration, which highlights the protective role of close social ties. Married individuals may benefit from emotional and economic support from their partners, reducing the psychological toll of gig work (Mukherjee & Datta, 2024).

Regulatory Challenges: Resistance and Solidarity

The rapid growth of the gig economy has outpaced regulatory frameworks, and how digital tools facilitate resistance, through worker forums, data leaks, and union organising (Woodcock and Graham, 2020), posing challenges for policymakers seeking to address labour rights, worker protection, and social welfare. These digital platforms flourish by minimising labour costs and externalising risks, creating a dual class structure between platform owners and workers (Srnicek, 2017). With the structural disadvantages, gig workers are seen as passive. In developed countries of Europe, workers have organised protests, strikes, and legal battles to get access to basic security rights. The Uber drivers of the UK, in 2021, won a landmark case that opines them as "workers" entitled to get minimum wage and paid holidays. Similar efforts are also taking place in the US, India, and South Africa. In the Indian Constitution, Concurrent List (List III) of the Seventh Schedule, entry 23 provides unions and states to form laws on social security, social insurance and employment.

Digital tools have also enabled new forms of solidarity. Platforms such as Turkopticon (for Amazon Mechanical Turk workers) and WhatsApp groups allow gig workers to share information, report abuses, and coordinate actions (Gray & Suri, 2019). However, organising remains difficult due to worker isolation, algorithmic surveillance, and geographic dispersion. Vallas and Schor (2020) argue that platform-based labour movements must navigate both traditional and digital terrains to succeed. Balancing the need for innovation and economic growth with the imperative to safeguard worker rights and ensure equitable outcomes remains

a complex and contentious issue. Efforts to regulate the gig economy must navigate competing interests and stakeholder perspectives, including those of platform companies, workers, consumers, and regulators. Technological innovations and social media together could become a cause of social upheaval and resistance in precarious employment (Gerbaudo, 2019).

Future Directions: Regulation and Policy

The regulatory framework in the gig economy is expanding and people face a struggle to keep pace to get access to their rights. Policymakers generally face challenges categorising gig work with balanced worker protection. Some scholars propagate for a “third category” of employment that provides basic rights without full employee status (Katz & Krueger, 2016), though others call for uniform legislation and reclassification of workers.

Platform cooperativism is growing as a new field of resistance and support to look upon regulations and policies, where workers manage platforms democratically (Scholz, 2016). This alternative, though marginal, has pathways for a golden equitable digital labour future.

In India, the Rajasthan Platform-Based Gig Workers Act, 2023 and Karnataka Platform-Based Gig Workers Bill 2024 are examples from in to showcase concern over gig workers. Union Budget 2025–26 recognises gig workers' contribution to the nation's economy, and has introduced measures to support them, including online registration, identity cards, and healthcare coverage under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).

Conclusion

The nexus between technology and gig work is a dynamic and multifaceted phenomenon with broad and far-reaching implications for society. New job and economic opportunities have been made possible by technology, but it has also brought out issues of labour rights, social cohesion, regulatory cholesterol and platform monitoring. The gig economy, generally offers freedom negotiating power but often delivers insecurity. It demonstrates a significant shift in the way of work, mediated by technology.

Digital platforms have reshaped the nature of employment through algorithmic control, surveillance, and informalization, and are deepening inequalities with the mask of exploitation in the name of autonomy. Analysing the sociological aspects of this relationship is essential for understanding the opportunities and challenges associated with the gig economy and ensuring technological advancements which benefit workers, not to exploit them.

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