

Algorithmic Management: Impacts on Labour Autonomy in Gig Platforms with Special Reference to Uber

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Abstract

This research investigates the dynamics of algorithmic management and communication, focusing on their effects on labour autonomy within the gig economy, with Uber drivers in Thiruvananthapuram, Kerala, as the focal point. As the gig economy continues to reshape the nature of work, algorithmic decision-making has emerged as a central force, presenting both challenges and opportunities for workers on app-based platforms. While discussions on algorithmic injustice have gained attention, this research uniquely explores the lesser-explored facet of the impact of algorithms on labour autonomy. The purpose of this research is to investigate how the algorithmic management embedded within Uber's app influences the capacity for drivers to make independent choices. The results show a complex relationship between driver autonomy, information transparency, and the larger labour dynamics in the gig economy. The prevalent issue of information asymmetry, communication difficulties, and isolated incidents of resistance among Uber drivers are among the major themes. In addition to adding to the increasing body of knowledge on algorithmic management, the study emphasises the need for more in-depth research on the relationship between algorithmic platforms and gig work in particular socio-political contexts. This is because understanding and addressing the dynamic changes that occur between algorithmic platforms and gig workers are crucial.

Keywords : *Algorithmic Management, Gig Economy, Labour Autonomy*

Introduction

The gig economy's rise and spread have changed the nature of work and presented new opportunities and problems for employees using app-based platforms. Out of all the changes, algorithmic management has become one of the main factors influencing how work is done in this setting. In order to fully understand the complex consequences of algorithmic decision-making on the structural conditions of their

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job, this study explores the implications of algorithmic management on the lives of Uber drivers operating in Thiruvananthapuram, Kerala.

Algorithmic decision-making has applications in a variety of fields, including criminal justice, credit scoring, and healthcare, and is not limited to the gig economy (Kitchin, 2017). Internet users frequently come across algorithms that customise the selection and presentation of online content, relying on the analysis of user and behaviour-related data (Gran et al., 2021; Sundar, 2020). Search engines, social media, content platforms, and product recommender systems are just a few of the online activities where personalisation and recommendation services are being used extensively (Latzer et al., 2016). Recent research has started examining the potential impacts of algorithmically curated content in domains such as online news (Helberger, 2019; Thorson, 2020), music and video streaming (Hallinan & Striphas, 2016; Prey, 2017), and online information searching (Fletcher & Nielsen, 2018).

Ridesharing platforms, which are a subset of the on-demand economy, widely use algorithms for the allocation and management of their services. These algorithms play an important role in matching riders with drivers, route optimisation, and dynamic price adjustment. In order to improve the effectiveness and timeliness of the service, ridesharing platforms rely on sophisticated algorithms that consider user preferences, real-time data, and a variety of external factors. Ridesharing platforms use algorithms to make decisions in order to give drivers and passengers a smooth and customised experience, which helps to make the on-demand economy in the transportation sector successful and long-lasting. The purpose of this research is to investigate how the algorithmic management embedded within Uber's app influences the capacity for drivers to make independent choices.

The app-based work that drivers do in places like Brazil, the US, England, India, and South Africa is similar as Uber is a worldwide firm that operates similarly throughout the world. Globally, there are uniform algorithm-based management approaches. But the real working circumstances that result from this algorithmic management vary from nation to nation, particularly when contrasting the global North and South. This is because every country has a different labour market structure and set of labour laws (Amorim & Moda, 2020).

While there has been extensive exploration of the political economy of platform labour in Western contexts, research on this subject within the specific Indian context remains comparatively limited, with a few notable exceptions (Thuppilikkat et al., 2023). Given Kerala's reputation for political activism and robust labour organisation, it is interesting to note an apparent lack of scholarly work addressing how algorithmically mediated gig platforms are impacting workers' autonomy in the state.

Kerala's historical engagement with labour movements often situates it at the forefront of workers' rights discussions. However, the rise of algorithmic management on gig platforms, which significantly influences labour dynamics, seems to have received minimal focus within local academic circles in Kerala. The shortage of research on how algorithmic systems affect worker autonomy in Kerala's gig economy raises important questions about applying traditional labour frameworks to evolving employment. This gap highlights the need for targeted research on how Kerala's sociopolitical landscape intersects with emerging technologies within gig work and the potential implications for worker agency.

Literature Review

Many academics have explained and defined algorithmic management, but Mateescu and Nguien's (2019) work stands out for its thorough understanding. In their study, algorithmic management is identified as a diverse set of technological tools and methods specifically crafted for remotely overseeing workforces. The core mechanism involves the collection of data and the surveillance of workers, enabling the facilitation of automated or semi-automated decision-making processes. This phenomenon predominantly originated from companies within the "sharing" or "gig" economy, characterised by features such as consumer-sourced rating systems and the deployment of automated "nudges." The adoption of these algorithmic management practices has sparked significant debates around the employment classification of workers, especially within the "gig" economy, where individuals are often labelled as independent contractors despite the evident use of technology to exert control over their work activities.

Scholz (2013), in his article to the volume "Digital labour: The Internet as Playground and Factory," presents a spectrum of questions concerning digitally mediated labour and novel models of production and consumption. Scholz emphasises the emergence of web-based work environments that lack the worker protections found in even the most precarious working-class jobs.

Prior research on ridesharing has investigated the phenomenon in various contexts, including ad hoc arrangements, not-for-profit models, and cooperative setups (Anderson, 2014; Cohen & Kietzmann, 2014; Furuhata et al., 2013). Lee, Metsky, and Dabbish (2015) present the most detailed independent examination to date regarding the driving habits and preferences of Uber drivers, introducing the term "algorithmic management" to delineate the mechanisms guiding Uber and Lyft drivers. This concept of algorithmic management has been expanded to shed light on

the automated enforcement of company policies impacting the behaviours and practices of Uber drivers.

Choudary (2015) proposes that the unique logic of platform intermediation is based on three distinct operational aspects: a network community comprising platform participants fostering relationships, an infrastructure composed of software, tools, rules, and services, and data facilitating the matching of supply with demand through the platform. Smartphone mobile connectivity plays a pivotal role in bringing users together and accomplishing tasks that were previously time-consuming and required involvement with numerous institutions (Morozov, 2015).

The gig economy platforms such as Uber and Airbnb represent the current state of platform capitalism (Srnicek, 2016), in which users are connected by digital intermediaries for services and transactions. Network effects that reshape work dynamics, algorithm-driven optimisation, and data-centric matchmaking characterise this change. While offering flexibility, it also raises critical concerns about labour rights, fair compensation, and concentrated market power, necessitating regulatory scrutiny for equitable and ethical practices in this evolving economic model.

Amorim and Moda (2020) conducted research on algorithmic management and the working conditions of Uber drivers in Brazil. They investigated the complex relationship between technology-driven management practices and drivers' labour experiences. Their argument states that using apps to manage labour processes enables algorithmic control, establishing a new way to direct and monitor labour power. This trend increases the real subordination of workers to capital and intensifies forms of work exploitation and domination.

Greenhouse (2016) explores the difficulties and rights associated with on-demand labour. The piece examines the experiences of on-demand workers, highlighting their challenges and broader implications for labour relations. Greenhouse's comprehensive analysis provides valuable perspectives on current employer-worker dynamics within the realm of on-demand work.

There is a remarkable lack of research in the Indian context about algorithmic management and how it affects worker autonomy, especially in the gig economy. Seeing this gap, the current study is an attempt to further our knowledge of how algorithmic systems influence labour autonomy and working conditions in India. Examining how algorithms manage and influence workers is crucial for having educated conversations about labour dynamics and the wider consequences for worker autonomy in this particular socioeconomic context, especially as the gig economy gains momentum in the country. The purpose of this study is to fill the void

in the existing literature by providing insights that are especially relevant to the Indian labour landscape.

Methodology

The complex dynamics of algorithmic management and communication is examined in this study using a qualitative methodology to explore how they affect the labour autonomy of Uber drivers in Thiruvananthapuram, Kerala. A detailed examination of the experiences, viewpoints, and individualised interpretations of participants in the context of gig platform work is made possible by the qualitative methodology.

Sampling

Twenty-one drivers were chosen through the use of purposeful sampling, guaranteeing a cross-section of Thiruvananthapuram Uber drivers. In order to capture a wide variety of experiences within the local environment, criteria like age, years of experience, and working circumstances were taken into consideration. The sample's are between the ages of 23 and 37, and they have one to four years of experience driving for Uber. This sampling approach was to give the study's conclusions more depth and scope.

Data collection

Primarily, semi-structured, in-depth interviews were used to gather data. The interviews took place in two sessions, from May 20 to June 3, 2023, lasting from 45 to 90 minutes each. The interviews were conducted using a series of open-ended questions that were carefully crafted to extract detailed accounts about algorithmic management, communication dynamics, and the perceived influence on labour autonomy. The interviews were carried out face-to-face, with a focus on privacy and secrecy as well as ethical considerations. With the participants' cooperation, audio recordings were made, guaranteeing that the subtleties of their comments were accurately captured.

This methodological approach, which is based on qualitative research, offers a strong basis for investigating the complex interactions that Uber drivers in Thiruvananthapuram have between algorithmic management, communication practices, and labour autonomy. Purposive sampling, which places a strong emphasis on participant diversity, improves the findings' validity and richness and enables a thorough knowledge of the varied experiences found in the gig platform economy.

Discussion

When examining the results, three main themes stood out, and we'll examine each of them in the following sections. These themes offer detailed insights into the experiences of Uber drivers in Thiruvananthapuram, Kerala. Exploring these themes helps us understand the complex interactions between algorithmic management, communication practices, and labour autonomy in the gig economy.

Information asymmetry

Driving for Uber is risky. We don't know where the passenger is going until they get in the car. For example, the ride might be short, like 5 kilometres. But getting to the passenger first could mean driving 6 or 7 kilometres through busy traffic. Not knowing the final destination ahead of time can make these rides less profitable for us taxi drivers (P 17).

The theme of information asymmetry emerged as a pervasive concern among the respondents. Participants P3, P8, and P17 expressing a shared perspective on a specific issue. These respondents unanimously pointed out that Uber conceals critical details concerning the dropping point of a trip from the drivers. Despite Uber having comprehensive knowledge of the entire trip, encompassing both the pickup and drop-off locations, drivers are left uninformed about the destination until they physically reach the pickup point and acquire the passenger's details. This operational opacity significantly impacts the autonomy of drivers, hindering their ability to negotiate more favourable terms for the trip. Blind passenger acceptance leads drivers to undertake trips where the distance travelled to pick up the passenger exceeds the distance of the actual route. Since the mileage covered to reach the user is not compensated, these journeys are not financially beneficial. Furthermore, not disclosing the final destination to drivers when they receive the ride request hinders their ability to use their judgement in deciding whether to accept the trip.

By withholding information about the trip's endpoint until the driver is already en route, Uber creates a situation where drivers are essentially operating at a disadvantage. Because of this lack of transparency, drivers are unable to decide for themselves whether a given trip fits their schedule, preferences, or financial goals. It lessens their ability to bargain for better terms from other users or the platform, which adds to the power asymmetry between the driver and the platform.

The effects of not knowing the passenger's destination go beyond just inconvenience. It shapes the driver's autonomy within the gig economy. As key players in providing the service, drivers should have full trip details upfront. The drivers' common concern

highlights a bigger problem with how algorithmic management systems work on these platforms. It emphasises the need to share information more fairly to empower drivers. This would help create a balanced and mutually beneficial relationship between the platform and its workforce. It underscores the complex interactions between transparent information, driver autonomy, and the overall labour dynamics in the gig economy. The unequal access to information in these algorithm-driven apps is inherent in their architecture, purposefully creating an unequal power dynamic. This information asymmetry is embedded in the intentional way the apps are constructed to maintain disparities favouring the platforms over the workers.

Uber frequently offers financial incentives to drivers, known as "partners," by providing extra payments for achieving a specific number of rides within a set timeframe or offering bonuses during periods of high demand. The timing and specifics of these promotions can be unpredictable, and the parameters for each promotion may vary. Drivers interpret these incentives as a way for Uber to influence and enhance their work engagement. Although the additional compensation renders these trips financially advantageous, drivers recognize that such incentives involve a degree of direction from the company, as illustrated by one participant:

On certain occasions, especially during holidays or festival days like IFFK days, there's an incentive for working after midnight, and they guide me to work at that time, probably because they anticipate a higher demand for drivers. Is it a profit for me? Yes, but it's guided... (P 21).

Communication challenges:

A primary obstacle highlighted by participants centred on the absence of direct and substantive communication channels with the platform.

It's tough to communicate with the platform. It is difficult to voice my concerns because everything seems automated. I can't ask questions or obtain clarification easily (P 5).

Most interactions seemed standardised and automated, which made it difficult for drivers to talk about specific issues or get clear responses. The lack of personalised communication prevented them from raising questions, or providing feedback. This absence of direct communication made it tough for drivers to voice their concerns, underscoring the need for more straightforward and human-centred ways to engage with the platform.

Furthermore, participants felt the algorithmic communication system limited their capacity to negotiate terms or conditions. The automated nature of the system offered little opportunity for individual discussion or dialogue with the platform, resulting in a lack of agency and control over their work conditions. The rigid rules and guidelines predefined by the algorithmic communication framework allowed minimal flexibility or customization

P 5 also emphasises a particular problem with payments, emphasising how hard it is to get in contact with an Uber representative in person. Initially, when they tried to contact support over a payment issue, they received only automated responses. *"It's irritating to communicate with these computer's when we need clarity, especially in money related issues"*. P5 says, expressing annoyance.

This frustration is common among gig workers, automated solutions frequently lack the complexity and understanding needed to handle individual problems, especially those involving salary disparities. When automated technologies are used for first communication, workers' ability to fully understand and resolve their concerns is hindered. When faced with difficulties, particularly those pertaining to their pay, employees may become even more annoyed and irritated due to the impersonal character of automated responses. Instead, they may seek out a more responsive human engagement...

Subtle resistance

Despite the absence of significant collective resistance among Uber drivers in Kerala, there are hints of subtle resistance. P 1, P 2, P 10, P 11, P 12, P 18, P 19, and P 20, who were guaranteed confidentiality, disclosed examples of their efforts to resist algorithmically managed platforms. In an effort to challenge the control exerted by algorithmic management, these drivers are involved in a subtle form of resistance. To be precise, they encourage passengers to cancel trips, subsequently proposing to complete the same trip at the original Uber cost.

Initially, our strategy was contacting the passenger from our registered mobile number, requesting them to cancel the Uber trip, promising the ride at the same cost as offered by Uber. But, unknown to us, Uber was monitoring these calls, which led to some drivers being deactivated. We then tried contacting them from our personal numbers with the same request, but passengers were reluctant to cancel since they didn't know if we would arrive as promised. Now our approach is to arrive at the pickup

location, ask the passenger about their trip, and request they cancel while assuring we will take them for Uber's quoted fare (P 11).

This strategy reflects a subtle way drivers resist the constraints of algorithmic decision-making. By influencing them to get trips cancelled, drivers aim to work around and interfere with the predetermined algorithms, seeking to regain some control over their work. This demonstrates how drivers creatively challenge the algorithmic systems that often dictate their operations. It highlights the adaptive techniques drivers use to assert agency within the limits of gig platforms.

While these acts of resistance may be small-scale and individually motivated, they reveal underlying tensions between drivers and algorithmic management. Drivers trying to sidestep the system points to a desire for more autonomy and frustration with perceived restrictions from algorithmic decision-making in the gig economy. Examining these subtle resistance tactics provides key insights into the evolving relationship between gig workers and the algorithmic platforms they must navigate.

Conclusion

To sum up, this study has examined in detail how algorithmic management affects the autonomy that Uber drivers have over their jobs in Thiruvananthapuram, Kerala. With the rise of the gig economy and the extensive use of algorithms, workers in rideshare platforms face new challenges. The aim of this study was to understand how algorithmic management influences the fundamental conditions of work, shedding light on the experiences of Uber drivers in this new environment.

The concept of "algorithmic domination" is put forth to analyse how algorithms, particularly in gig work, are utilised as tools to impose control over workers. Though discussion of algorithmic unfairness is increasing, this research uniquely examines a less-studied area – the impact of algorithms on personal freedom. The findings shed light on the intricate connections between information access, drivers' independence, and the broader structure of labour relations within the gig economy.

The theme of unequal access to information was a prevalent concern, with drivers voicing similar perspectives on Uber withholding key trip specifics. This lack of transparency significantly constrains drivers' autonomy, hindering their capacity to negotiate favourable terms and creating an imbalance in the driver-platform relationship. The research advocates for a more fair distribution of information to empower gig workers.

Communication challenges highlighted by participants reveal the limits imposed by automated, standardised messaging systems. The absence of direct, substantive channels prevents drivers from effectively addressing issues or negotiating conditions, reducing their agency and control over working terms. Frustrations with automated responses underscore the need for more responsive, human-focused communication, especially regarding sensitive payment matters.

Moreover, indications of minor resistance among Kerala's Uber drivers shed light on adaptive tactics used to navigate and disrupt predetermined algorithms. While individually motivated and relatively small-scale, these subtle acts of defiance reflect a collective desire for more autonomy within gig platforms. Examining these emerging dynamics provides key insights into tensions between gig workers and algorithmic management, signalling a reassessment of algorithmic practices is needed.

This research contributes to the broader academic discourse by exploring the impacts of algorithmic gig platforms on worker autonomy in Kerala specifically, a state with strong labour organisation history. The lack of local research on this topic reveals a significant gap, prompting further investigation into the unique intersection of algorithmic management and gig work in Kerala's sociopolitical context. As the gig economy continues evolving, these perspectives are critical for promoting balanced, ethical relationships between gig workers and the platforms influencing their labour experiences

Conflict of Interest Declaration

I declare that there is no conflict of interest regarding the research presented in my article. I am not associated with any organization that has a financial interest in the subject matter or the data/materials used in the article.

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