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ALGORITHMS AT WORK:

THE MANAGEMENT OF GIG WORK IN SRI LANKA

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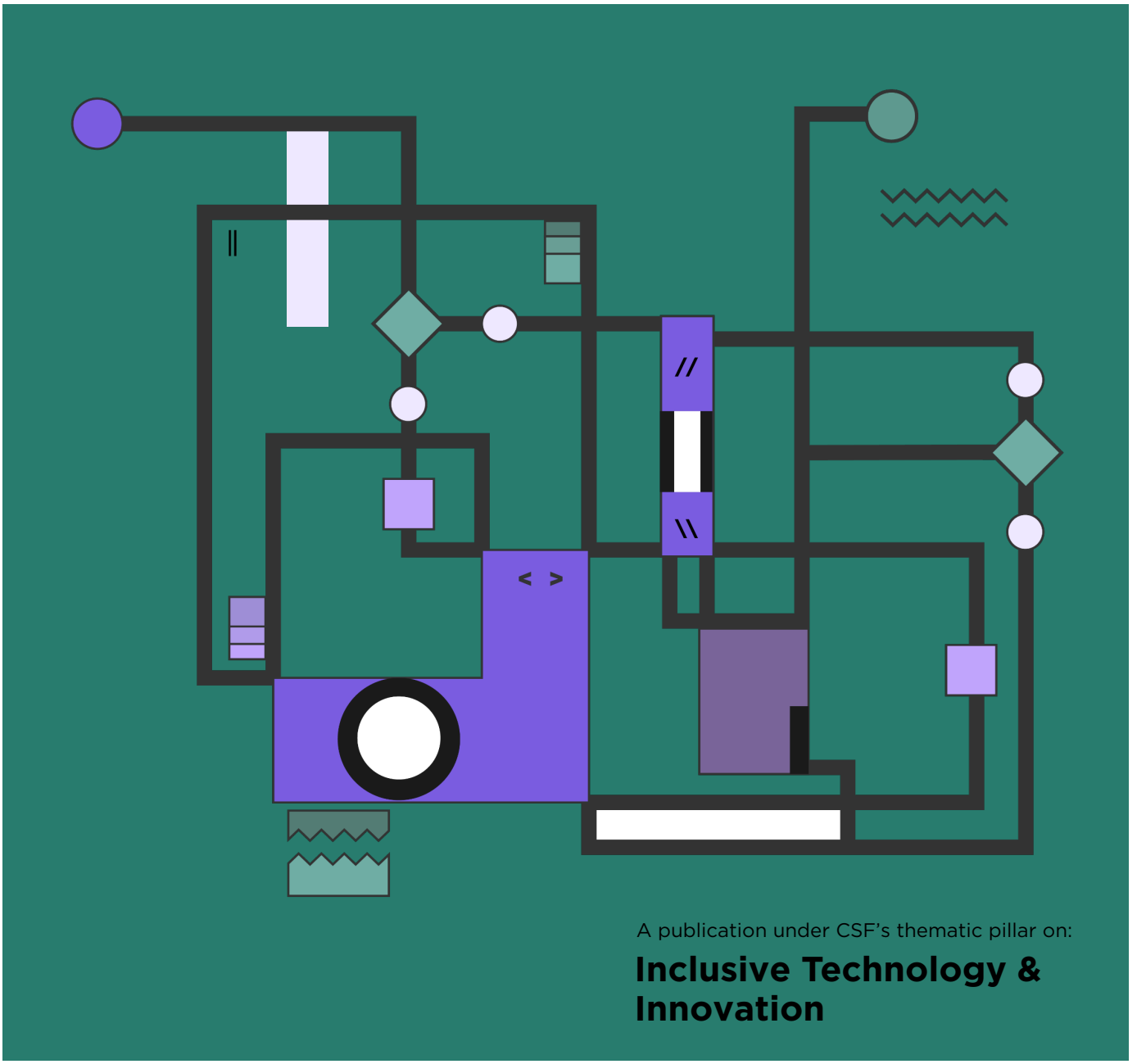

A publication under CSF's thematic pillar on:

Inclusive Technology & Innovation

Inclusive Technology & Innovation: Research and policy engagement on ensuring technological advancements are inclusive and are rooted in lived realities of citizens and communities. Ongoing work includes studies on platform -based gig work, governance of digital policies (including participating in the National Artificial Intelligence Strategy working committee), and digital inclusion and equity in key sectors such as education.

With the proliferation of the platform economy, the use of algorithms to automatically manage, organise, coordinate and evaluate workers has become a key feature of digital labour platforms. Whilst gig work is often presented as being flexible and allowing greater freedom for workers than traditional employment, this is often at odds with the control that the algorithm extends to managing work (Zhang et al. 2022). Previous work conducted by CSF for an international organisation on the expansion of platform-based gig work in Sri Lanka has also highlighted power asymmetries that exist on these platforms, much of it rooted in the management of work through algorithms (Dahanayake 2024). This research brief builds on ongoing research, exploring the algorithmic management of work in Sri Lanka and its implications for gig workers.

Representing a shift away from full-time models of employment - traditional employee-employer relationships, to a model where workers are hired for task-based work or work for a certain period of time - often assignment based- or temporary (Surie and Koduganti 2016), gig-work has gained popularity in Sri Lanka. When engaging with these platforms, workers usually take the role of 'independent contractors' or 'own account workers'.

Schmidt (2017) distinguishes two types of gig work in digital labour markets, the first related to cloud work, where web-based digital labour takes place remotely. The second is gig work based on location, such as those hired for delivery services or transportation often geographically tethered to a demarcated area. In Sri Lanka, the gig economy has witnessed the emergence of global, regional, and national platforms, recruiting workers to work on both types of platforms – cloud-based and geographically-tethered. This article delves into the issues faced by gig workers on geographically-tethered platforms, with a focus on delivery and ride hailing platform applications in Sri Lanka.

In order to manage the sheer volume of workers engaging on these platforms, algorithms are used to increase productivity and reduce costs for the company's bottom line, all whilst maintaining worker efficiency (Zhang et al. 2022).

The use of algorithms to manage workers and their work is referred to as algorithmic management of work and is a key feature of how digital labour platforms operate.

When human is replaced by code

The term 'algorithmic management' was first coined by Lee et al. (2015), where they defined it as, *"software algorithms that assume managerial functions and surrounding institutional devices that support algorithms in practice".* Managerial functions that are done by humans in traditional employer - employee relationships, are now replaced by algorithms in digital labour platforms. These algorithms assume managerial functions to allocate, optimise, and evaluate work (Lee et al. 2015).

Gig workers on geographically-tethered platforms such as Uber and PickMe are subject to their work and behaviour being managed by the algorithms of the platforms that they operate on. On these platforms, algorithms have been known to undertake a range of tasks and represent features such as continuous tracking of driver behaviour, constant performance evaluation, automatic implementation of decisions, passenger-driver assignment, and dynamic pricing and remuneration (Lee et al. 2015; Mohlmann and Zalmanson 2017).

Our past and ongoing research with gig workers on geographically-tethered platforms in Sri Lanka has highlighted that they are aware of an unknown force shaping their work, but with little clarity on who is behind this or how it manifests.

Continuous tracking of driver behaviour

The most fundamental of these features that shapes gig work is the gamut of data that is being collected via these platforms. This includes data of workers and almost any interaction they have with the app-based platform. Given that their work is overseen and managed by the algorithm, gig workers are under constant surveillance whenever they are operating on their respective platforms, with any interaction made with the application being tracked at all times.

The mass collection of data underpins the work that managerial algorithms do, as they use this data to carry out coordination and control functions (Möhlmann et al. 2021).

In-depth interviews with gig workers revealed that whilst majority of the workers recall agreeing to the terms and conditions when signing up to the platform, they were not actually aware of what they were consenting to.

Many reported they had skimmed through the conditions, especially as they had no help to understand them, as they are often only in English. Further, while some workers were aware that these applications were collecting data on them, there were some workers who were unaware of this, having unknowingly consented to sharing their data with the platform when they signed up. Gig workers may not always have the clarity and understanding to navigate the long and complicated terms and conditions applied by the platforms.

Performance evaluation and incentive structures

The data that is collected plays a key role in performance evaluation and incentive structures, managed entirely by algorithms. Many gig workers we interviewed report that they are unsure of what data points are used to calculate their performance - if it is a star rating alone (where customers rate their driver based on the experience they have had), or if other factors such as length of time operating on the platform or number of hours worked also play a role. The way their performance is evaluated is of particular importance to them, as they are concerned that this plays a role in ride allocation - where higher rated, or better performing drivers are allocated more rides through the algorithm. Having greater awareness of how performance ratings contribute to features such as ride allocation, if any, would enable workers to operate with greater clarity and maximise the time spent on the platform to their benefit.

In addition to performance evaluation, both Uber and PickMe drivers noted that the applications have bonus and incentive structures in place, where drivers are eligible for bonuses for completing a certain number of rides or deliveries within a stipulated time frame. The constant tracking of driver behaviour feeds the algorithm in determining who is eligible for bonuses based on the number of rides completed. Whilst Uber has a limit on the number of hours that can be worked a day, PickMe drivers reported that they were unaware of any such limits, leaving gig-workers operating for long hours to try and achieve bonus targets set by the platform and determined by the algorithm. This leaves drivers under immense pressure to achieve targets or complete work, at a cost to their health and well-being, especially when there is little clarity around the existing incentive structures in place.

The constant tracking of worker behaviour coupled with incentive mechanisms such as this, represent an effort by platform companies to encourage workers into working more, which may not always be in their best interest. This fuels power asymmetries as platforms are able to influence workers to operate in a particular way (Zhang et al. 2022)- often identified as a form of 'soft control' exerted by platforms over workers (Rosenblat and Stark 2015).

Passenger-driver and delivery-rider assignment

Another concern that was highlighted by drivers through qualitative interviews was the lack of transparency around how rides get allocated, both for delivery as well as ride-hailing. There is little understanding that these occur through algorithms.

"It is evident that some drivers get allocated rides more than others. There seems to be a degree of favouritism in who gets allocated rides, whilst some of us have to wait for long periods of time."
Delivery rider, Colombo

Interviews with drivers, highlighted a lack of understanding on how rides get allocated. In this case, drivers' perceptions around favouritism indicate that there is a lack of understanding that this decision-making process on driver allocation is done by an algorithm.

"I wait for a long period of time hoping for a delivery to be allocated to me. Sometimes, other drivers have gone and come back, and gone again, and I still haven't had a ride allocated to me. I wonder what features impact this – is it because the other drivers work more hours than me?"
Delivery rider, Colombo

In addition to a lack of understanding that this is done by the algorithm, there is also a lack of clarity on what characteristics driver's need to have, in order to be assigned rides or prioritised by the algorithm. Customer rating, number of hours operating weekly on the app, proximity to pick-up location, number of rides completed were a range of features drivers guessed were used as metrics to assign work. However, none had a definitive understanding on what exactly this entailed.

The lack of transparency around how the algorithm allocates rides, can also dictate the different strategies drivers use to try and improve this, be it working longer hours or locating themselves in certain areas to increase their chances of being allocated work.

Dynamic pricing and remuneration

Following in-depth interviews with delivery riders, we observed that they had little clarity on how their remuneration was structured. They noted that different journeys at different times of the day would yield different remuneration. Similar to how rides are allocated through the algorithm, there is little awareness that remuneration is also determined by the algorithm.

As such, no driver was able to identify what exact variables would impact a change in fare. When prompted, drivers noted that they had noted a general fare increase with the increase in fuel costs, however, that there were still fluctuations daily depending on the journey being undertaken.

Drivers, once again, find themselves trying to identify or guess what factors are more likely to give them a higher remuneration, and structure their work around these factors.

Most drivers have reported lack of clarity around commission structures, with many reporting different percentages paid to the company when enquired further. There are also fluctuations in commission structures depending on hours worked a day, as reported by some drivers - although not all seemed to be aware of this. Once again, drivers are unaware of what they will be paid when they undertake a journey and what features will impact this – leaving many operating under a degree of ambiguity daily.

As a result, we see drivers trying to guess, and undertake strategies that will give them a higher remuneration, as they don't have clarity on what factors the algorithm uses to determine remuneration.

For example, drivers have reported locating themselves in certain areas, taking longer rides, or working at different times of the day to try and maximise earnings. Much of this is learnt by trial and error. Additionally, drivers are left to also rely on learnings by peers, informal WhatsApp groups or online forums to try and demystify what factors maximise their earnings.

Automatic implementation of decisions

With the replacement of the human with code, decisions are undertaken by an algorithm based on predetermined parameters. This leaves many drivers vulnerable to arbitrary decisions that may be beyond their control, with little grievance mechanisms available for drivers to complain and rectify issues. For example, both PickMe and Uber drivers have reported being blocked from apps and certain features such as cash-based rides when they are unable to pay commissions earned through these rides. Whilst these are part of the terms of engagement, automatic implementation of decisions does not take into account personal or external reasons as to why being able to make payments such as this have not been possible.

"I used to operate on Uber but then they blocked me from the application - I'm not sure why. There was no way to even complain and get my account activated. Now I have switched to using PickMe."
Ride hailing driver, Colombo

Lack of clarity on how the algorithm runs, combined with the automatic implementation of decisions by the algorithm, leaves many drivers at risk of being unable to access not just certain features of the application, but sometimes, the application itself. With little room for grievance mechanisms that operate in real time, for the problems that arise in real time, the algorithm leaves workers exposed to losing out on work.

Algorithmic (dis)advantage – navigating opaque systems

Whilst the algorithm was introduced to manage gig-work and bring about greater worker efficiency, it has left many drivers vulnerable and controlled by a system they do not understand. Gig work is often presented as being flexible and allowing freedom for workers, but this is often at odds with the control that the algorithm extends to managing work (Rosenblat and Stark 2015).

This has led to a high degree of opacity between platform operators and users, engendered through information asymmetry (Adekoya et al. 2023). As such, drivers' increasingly find themselves struggling to navigate work under opaque systems with information asymmetry. Whether it's understanding how rides are allocated, fees are structured, or performance is calculated – drivers and riders do not have the necessary information required to navigate the platform to their advantage. This has led to many riders, guessing what type of behaviour would give them more work and adjusting their behaviour accordingly.

Regaining autonomy against the algorithm

Möhlmann and Zalmanso (2017) in a study of Uber drivers identified 'guessing' behaviour by drivers as a way to supplement a lack of information and help navigate the platform to their advantage to regain autonomy. As our research highlights, this is prevalent even amongst gig workers in Sri Lanka, with many workers guessing what features would give them more work, trying strategies to maximise their remuneration or consulting with peers, informal WhatsApp groups or online forums.

In addition to guessing as a means of regaining autonomy, Möhlmann and Zalmanso (2017) also consider three other forms, namely, resisting, switching and gaming the system. A form of resistance includes not taking certain rides allocated to them or cancelling rides in short 'resisting the system' or what the algorithm expects them to do. This could be due to personal preference such as card vers cash payment, or not wanting to take passengers who may seem intoxicated, for concerns of their health.

The third behaviour identified to regain autonomy is switching the system, which is a common feature in Sri Lanka as well – where drivers and riders operate on multiple platforms simultaneously.

Some workers interviewed noted operating on both Uber and PickMe simultaneously, accepting requests based on which comes first. This helps to mitigate against factors beyond their control such as driver-passenger assignment determined by the algorithm that may impact their income if operating only on one application.

"I operate on PickMe and Uber at the same time, and accept whatever ride comes first. In this way, I am not waiting for one application to assign me a ride. I am able to maximise my earnings."
Ride hailing driver, Colombo

The last form of gaining autonomy is gaming the system, which includes drivers' finding loopholes in the system to use it to their advantage. This could include strategies such as logging out of the system during peak hours to activate surge pricing. This can also include drivers accepting rides through the platform but asking the passenger to cancel the ride on the application and proceed with the ride 'offline' through cash without going through the platform. This helps the driver to gain autonomy over opaque algorithms, by using the application to find and accept passengers, but going 'offline' to maximise earnings.

These four strategies of gaining autonomy are evident in geographically tethered gig work

happening in Sri Lanka too, as a means to navigate lack of transparency and information asymmetry in gig work. Algorithmic management is a mechanism that platform companies use to exert power over gig workers with workers having to behave in a certain way, often even unknown to them, to have the best chance of succeeding on the platform.

Concluding thoughts

How are gig-workers expected to succeed when they are working on a platform with an algorithm that may be working against them?

As gig-work grows, workers cannot be expected to guess, resist, game, or switch systems to gain autonomy in the face of opaque systems, information asymmetries and power imbalances. The onus needs to be firmly placed on platform companies to provide more clarity to workers. From the moment they sign up – through clearer, trilingual terms and conditions, to better guidance on how to navigate incentives and improve chances of passenger or delivery allocation – more needs to be done to help gig workers to succeed.

Globally, we are seeing a greater push for protecting gig-workers rights. In the European Union, the EU Parliament and the Council of the EU have proposed the Platform Workers Directive, which aims to improve the conditions and rights of workers working for digital labour platforms. As part of this, there is a greater focus on algorithmic management and imposing the necessary safeguards to protect workers against the continuous monitoring and decisions made by the algorithms of these platforms. Calls for greater transparency on automated monitoring and decision-making systems, and responsibility for more human-driven decision making are part of this directive (Hadzic 2024).

As Sri Lanka moves ahead with strategies to promote digitisation and Artificial Intelligence through national level strategies, it is imperative that calls for greater transparency of algorithms controlling the work of those who operate on digital labour platforms are taken into consideration, to promote greater participation in the digital economy and protect the rights of gig-workers.

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