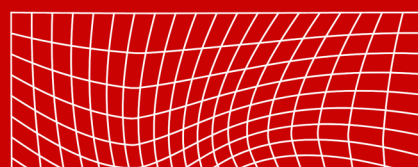# There's no ghost in the machine!

A field study of platform workers' experiences of algorithmic management in India

Sadhana Sanjay, Nandini Chami, Saloni Mishra & Madhulika T

About Centre for Labour Studies, NLSIU Bengaluru

The Centre for Labour Studies has been set up as an interdisciplinary research unit to address various issues that define regulation and governance in employment relations. It seeks to primarily engage with five issues: labour law and regulation; trade unions and collective bargaining; labour law governance, in Karnataka; understanding employment relations and structure of industry in select sectors of informal and formal employment, precarious work and forced labour. In connection with this engagement, CLS has undertaken research, held seminars and workshops and engaged with trade unions, labour economists, academicians and the labour department on specific issues of rights of workers.

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Introduction: Turning the spotlight on the algorithmic assemblage

Algorithmic management refers to the use of computer-programmed procedures to support and partly implement the management of labour inputs within workplaces, particularly the functions of planning, staffing, commanding, coordinating, and controlling.[1] It is a defining feature of a new pattern of employment that is becoming pervasive in the platform economy – the 'logged labour' model – that (i) cuts work assignments into standard, quantifiable components; (ii) engages in the continuous data-based surveillance and monitoring of workers; and (iii) requires individuals to be connected to an online platform as a mandatory precondition for obtaining work.[2]

Algorithmic management is ubiquitous on location-based platforms in India's burgeoning platform economy. The FairWork India Ratings Report (2024) noted how many location-based platforms have adopted a new slot-based system of work allocation that furthers the algorithmic logic of preferential work allocation by "using performance criteria to categorise platform workers into tiers, and forcing them to compete for [pre-determined time] slots, with higher tiers being given higher priority [3]." Similarly, the research group Paigam's (2024) comprehensive survey of 10,000 ride-hailing and food delivery workers across eight Indian cities found that over 68% of respondents reported "unexplained and arbitrary deductions through company algorithms" as a key issue affecting their working conditions.[4] Studies of the domestic and care work sector have shown how algorithmic rating and scoring determine job allocation and even access to the platform itself (with workers being locked out/deplatformed if ratings fall below a particular level). [5] Evidence is also emerging of algorithmic workforce optimisation being used to support the backend logistical operations of e-commerce platforms such as Amazon and Big Basket in their operations in the country.[6]

This field study seeks to make an incremental, but important, contribution to the existing body of knowledge on how algorithmic management in India's burgeoning platform economy affects worker agency, autonomy, and rights at work. We make a significant shift to the lens of enquiry by turning the spotlight from mapping the impacts of algorithmic decision-making to decoding the workings of the algorithm itself. The term 'algorithmic management' conjures up an image of a boss-bot, an autonomous agent that is ordering and exploiting a passive workforce.

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1   Baiocco, S., Fernandez-Macías, E., Rani, U., and Pesole, A. 2022. The Algorithmic Management of work and its implications in different contexts. International Labour Organisation. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_emp/documents/publication/wcms_849220.pdf.

2   Huws, U. 2016. Logged labour: a new paradigm of work organisation? Work Organisation, Labour & Globalisation, 10(1), 7–26. https://doi.org/10.13169/workorgalaboglob.10.1.0007.

3   Fairwork. Labour Standards In The Platform Economy. 2024. https://fair.work/wp-content/uploads/sites/17/2024/10/Fairwork_India_Report_2024.pdf.

4   Prisoners on Wheels: Report on Working and Living Conditions Of App-Based Workers In India. 2024. Paigam, University Of Pennsylvania. https://tgpwu.org/2024/03/13/prisoners-on-wheels-report/.

5   Rathi, A. and Tandon, A. Platforms, Power, & Politics Perspectives From Domestic & Care Work In India. 2021 Centre of Internet and Society. https://cis-india.org/raw/platforms-power-and-politics-pdf.

6   2021. Case Study: Behind Big Basket's Operations Engine – A Playbook in Digital Agility & Fulfillment Precision.https://www.linkedin.com/pulse/case-study-behind-big-baskets-operations-engine-playbook-naveen-d-n-yznoc/.

But in reality, the term is used commonly to refer to a loose constellation of data-driven management practices whose level of autonomy lies on a broad spectrum. All algorithmic systems require "intensive human intervention for the design, maintenance, and troubleshooting of the algorithms".[7] No algorithmic system can design itself in an entirely autonomous manner. To unravel the complex interplay of factors involved in the working of algorithms, we adopt a socio-technical perspective. It recognises that in algorithmic work management systems, humans and algorithms form "an assemblage in which the components of their differing origins and natures are put together and relationships between them are established". [8] The advantage of such a socio-technical perspective is that it is able to effectively avoid the trap of viewing the algorithm as the 'ghost in the machine' – an automated boss with a black-box logic whose actions escape the comprehension of a 'passive' workforce or 'helpless' supervisors. Instead, it can grasp the ontology of an algorithmic system of work management as a composite of human-algorithm relations that is "immanently formed through the relational attributes of selves and others"[9].

As Louise Amoore (2020) eloquently explains, "algorithms do not bring new problems of black-boxed opacity and partiality, but they illuminate the already present problem of locating a clear-sighted account in a knowable human subject."[10] Such an approach is valuable as it enables us to make a step-change in the quest for bringing algorithmic power to account. Instead of searching for an algorithmic code of ethics that "instil[s] the good, the lawful, or the normal into the algorithm", it forces us to examine the conditions of emergence of a particular algorithmic assemblage, and bring to the fore how its workings establish "new thresholds of normality and abnormality, against which actions are calibrated"[11]. Based on such an unpacking, it becomes possible to design an adequate response "to the perceptual power of the algorithm and to prize open the aperture of the single output", to reveal what truth-claims were brushed away, what representations of reality were ignored, and whose interests were served in the output modelling choices made. [12]

From this starting point, our research attempts to decode platform workers' experiences of algorithmic management in India, with a view to unpacking the specificities of the operations of power in, and through, such algorithmic assemblages. Specifically, it seeks to address the following questions:

- What are the key ethico-political challenges in the emerging algorithmic assemblages of work organisation and control in the platform economy?

- How can a new threshold for worker agency and autonomy be reclaimed in this new normal?

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7 Baiocco, S., Fernandez-Macías, E., Rani, U., and Pesole, A. 2022. The Algorithmic Management of work and its implications in different contexts. International Labour Organisation. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_emp/documents/publication/wcms_849220.pdf.

8 Jarrahi, M. H., Newlands, G., Lee, M. K., Wolf, C. T., Kinder, E., & Sutherland, W. 2021. Algorithmic management in a work context. Big Data & Society, 8(2). https://doi.org/10.1177/20539517211020332

9 Amoore, L. Cloud Ethics: Algorithms and the Attributes of Ourselves and Others. 2020. Duke Press https://www.dukeupress.edu/cloud-ethics.

10 Amoore, L. Cloud Ethics: Algorithms and the Attributes of Ourselves and Others. 2020. Duke Press https://www.dukeupress.edu/cloud-ethics.

11 ibid

12 ibid

Towards addressing these research questions, a qualitative methodology was adopted. Semi-structured interviews were conducted between November 2024 and February 2025 with 26 workers and five union organisers (one each organising ride-hailing and urban services workers, and three from the Amazon Workers Union). An open-ended questionnaire was utilised to encourage detailed narratives about daily interactions with algorithmic systems. This format intentionally allowed participants to expand beyond predefined questions, fostering unstructured dialogue around their subjective experiences with algorithmic systems, essential for capturing a 'thick description' of their experiences of algorithmic management.[13]

As Table 1 details, a snowball sampling methodology was adopted to cover women and men working across a range of location-based platform work arrangements (urban services, ride-hailing, food delivery), often in multi-homing arrangements with dominant platforms in the Indian market, as well as the warehouse workforce of the e-commerce giant Amazon. The platforms that interviewees had worked for included Urban Company and No Broker in urban services; Uber, Ola, Rapido, and the alternative driver-first mobility platform, Namma Yatri, in ride-hailing; and Zomato and Swiggy in the food delivery sector.

Recruitment occurred via two channels: (1) collaboration with union organisers, and (2) direct outreach through the platform apps through which workers seek gigs in the case of location-based platforms. Interviews were conducted in person across worksites, residential quarters, and public spaces. Data was analysed using reflexive thematic analysis, with inductive coding to identify emergent patterns in worker experiences of algorithmic management and ethico-political challenges.

Table 1. Profile of research participants

Category	Participants	Locations	Gender
Warehouse operations	13	Manesar	M (7) and F (6)
Urban services	5	Bengaluru (4), Hyderabad (1)	M
Ride-hailing	1	Bengaluru	M
Food delivery workers	7	Bengaluru (6), Belagavi (1)	M
Union Organiser working with platform workers	2	Bengaluru	M
Union Organiser working with Amazon workers	3	Manesar	M (2) and F(1)

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13   Clifford, G. 1973. Thick description: Toward an interpretive theory of culture. The interpretation of cultures: Selected essays. HarperCollins Publishers, Inc, 3, 5-6. https://share.google/6aorr6IwBUzqH7qKB.

Findings: Algorithmic assemblages and the new normal of work in India's platform economy

Studies have documented how algorithmic work organisation in platform work and logistics operations in e-commerce order fulfilment has entrenched a model of disposable labour across the globe. There is unmistakable evidence of algorithmic work organisation leading to a widespread decline in job quality by perpetuating "job and income insecurity, due to unpredictability of work demands; [...] accidents and mental distress at work; high work intensity [...] and difficulties for work-life balance reconciliation". [14]

Building on the existing analysis, our research study investigated how platform workers in India perceive and experience the new normal of work in these algorithmic assemblages. Two main findings emerged. Firstly, the everyday experience of platform work has become a quest for survival in a regime of "machinic dispossession,"[15] whose key dimensions are the despotism of algorithmically-set targets, the tyranny of ratings, and a 360-degree data surveillance of worker relations that impedes worker mobilisation and collective action.

Secondly, workers' navigation of algorithmic assemblages in the workplace is characterised by pervasive algorithmic anxiety and the erosion of their autonomy. The opaque, random, unfair and unaccountable decision-making that workers experience in their interactions with algorithmic work management systems results in extreme mistrust toward both the algorithm (non-human agents) and platform management (human agents) that make up this assemblage.

Finding 1. The algorithmic regime of machinic dispossession

Machinic dispossession refers to the reduction of workers to 'living appendages' to an all-powerful data machine that organises the labour process in the context of algorithmic organisation and management of work. Our research found evidence of three key dimensions of worker dispossession in algorithmic assemblages, as described below.

1.1. The despotism of algorithmically determined targets: findings on Amazon's ADAPT system in its warehouses, Urban Company's auto-acceptance feature, and Zomato's target-based incentives

The despotic power of targets in algorithmic work organisation and control came across starkly in the accounts of Amazon workers from the company's Manesar warehouse in Gurgaon. These workers are on precarious contracts where, at best, they earn between 14,000 and 18000 INR per month – an amount which is hardly enough to make rent and send home to their families after expenses. Their everyday work experience is a tale of being enslaved to the Associate Development and Performance Tracker (ADAPT) that the company uses to maximise efficiencies in its warehouse operations.

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14   Baiocco, S., Fernandez-Macías, E., Rani, U., and Pesole, A. 2022. The Algorithmic Management of work and its implications in different contexts. International Labour Organisation. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_emp/documents/publication/wcms_849220.pdf.

15   Delfanti, A. 2021. Machinic dispossession and augmented despotism: Digital work in an Amazon warehouse. New media & society, 23(1), 39-55.

Workers from Amazon's Manesar warehouse reflected in a focus group carried out for this study:

> People doing scanning of products have targets—1200 products to be scanned per hour—and the person scanning also has to load, meaning they have to keep throwing products into the truck. They have to do both things, but the pressure does not account for that—1200 products are a must. When attempting to meet the target in these conditions of high pressure, if you [accidentally] damage a product and the spy camera catches it, you get blacklisted. [16]

The pressure of unrealistic targets in Amazon warehouses is corroborated by other independent research studies. In a 2024 survey of Amazon workers in India by UNI Global Union in partnership with Amazon India Workers Association (AIWA), four out of five warehouse workers (sample of 1838 participants) reported that "the targets set by Amazon are difficult or very difficult to achieve".[17]

The ADAPT-determined targets are not just unreasonable but also unilaterally developed and imposed without any input from the workers. One worker whom we interviewed had the following analogy to describe this scenario:

> It's as if we're riding a bike and the meter is on their end [the managers of the warehouse] and our job is just to ride. They can see what speed you're riding at, but you can't. We are doing the work, but they're tracking the speed at which we're working.[18]

A similar scenario haunts the workers of the location-based urban services platform, Urban Company. In 2023, the platform rolled out a new feature called 'auto-acceptance'.[19] To workers who opt in to this feature, the algorithm automatically assigns orders without allowing them the option of accepting or rejecting bookings. The stated intent behind this feature is that workers can focus on completing jobs and reduce the time spent searching for jobs. As a union organiser we interviewed highlighted, workers opting into the 'auto-acceptance' feature may earn more, but the price they pay is the loss of flexibility in determining how much to work and when to take breaks. In auto-acceptance, the target for the day – the number of orders a worker has to meet – is determined by the platform's algorithm.

> If opting for auto acceptance, it is really difficult for a worker to take breaks, even though earnings might be more in a day. Women who have families and care responsibilities find it difficult to opt into this, and as a result, they earn less. Also, if workers cancel orders after opting in for auto acceptance, penalties are levied, and accounts can be suspended [for not meeting targets]. [20]

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16   Interview conducted on 15th February, 2025.

17   UNI Global Union. 2024. Amazon workers in India report high pressure, hazards on the job and low pay. https://uniglobalunion.org/news/amazon-india-survey/.

18   Interview conducted on 15th February, 2025.

19   As of December 2025, there is no indication that Urban Company has rolled back this policy.

20   Interview conducted on 28th December, 2024.

Urban Company workers who participated in a focus group discussion for the research noted that once signed into 'auto-acceptance' for the day, there is no easy mechanism to opt out.

> We have no control over what tasks we do or when we do them. With the auto-accept system, things have become worse—we're automatically assigned jobs and expected to follow through. If you feel unwell, you might have to cancel multiple jobs in a single day, but it is not possible, as the only reason for cancellation (without penalty) that the system accepts is an accident. Cancellation due to illness is accepted when you submit a doctor's note, and only for that specific day. [21]

Last but not least, as food delivery workers who participated in the research reported, there are instances of algorithms specifically gaming work environments in order to prevent workers from meeting targets for the day that are linked to performance incentives. Bengaluru-based workers of the food delivery platform, Zomato, shared the following observation during the focus group discussion:

> To win incentives, we have to be logged into the app during peak hours, which is between 12-3 PM IST and then 7-10 PM IST. During peak hours, we notice that the platform reduces the orders allotted to workers who are nearing their targets, thus making it difficult for them to clinch the incentive. A worker who is close to clinching the incentive is not allotted an order even if the pickup location is close by. Instead, the order is allotted to workers who are several kilometres away to avoid payment of target-based incentives. [22]

Taken together, the algorithm imposes exacting demands on workers' labour and their time. The targets are so onerous that it becomes impossible for workers to interact with their peers, making it difficult for workers to organise themselves into a union.

1.2. The tyranny of ratings: findings on performance scoring practices and their ties to work allocation

Many location-based platforms in India have adopted a slot-based system of work allocation, which uses performance criteria – especially ratings – to categorise "platform workers into tiers, and forcing them to compete for slots, with higher tiers being given higher priority" in booking. [23]

As a Belgaum-based worker reflected:

> Workers in the gold category can book slots well in advance, while those in silver and bronze can only book a day before. During peak hours, these slots disappear in under 15 minutes. Earnings differ between those who book in advance and those who don't.

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21   Interview conducted on 28th December, 2024.

22   Interview conducted on 7th November, 2024.

23   Fairwork. Labour Standards In The Platform Economy. 2024. https://fair.work/wp-content/uploads/sites/17/2024/10/Fairwork_India_Report_2024.pdf.

Swiggy groups workers into three performance tiers – bronze, silver, and gold – based on a scoring system that combines customer ratings, cancellation rates, and adherence to platform policy.[24] In every tier of performance, the platform offers a minimum monthly guarantee, and if worker earnings fall below that threshold, the platform compensates them 65% of the deficit/shortfall in earnings. Bronze is the entry-level tier requiring Know Your Customer (KYC) verification; silver tier workers are those who have certifications verified by the platform in addition to KYC; and gold tier workers are those who have 100 5-star plus service ratings in addition to meeting bronze and silver tier requirements. The workers we interviewed in Bangalore reported that it was difficult to maintain a gold-tier score as it required them to maintain high ratings and low cancellations simultaneously, which is a difficult proposition.

A higher rating was associated with higher earnings by some workers, but others maintained that such a connection was tenuous. As one Bengaluru-based Urban Company worker, who we interviewed in the course of our research, reflected:

> On the topic of ratings, the company always tells us that the better our ratings [and tier designation], the more you will get jobs and incentives [...] If we get good ratings, we have not gotten more benefits or incentives. But if we get bad ratings, there is always backlash and punishment, like our ID being shut down. My rating has never been below 4.8, and usually, it's 5. But my earnings have not increased because of my good ratings.[25]

Even on a zero-commission platform such as Namma Yatri, which positions itself as a facilitator between drivers and customers operating on a flat subscription fee model, a quasi-performance scoring seems to operate. The respondent we interviewed flagged this:

> After I wait for a customer for 10 minutes, if I cancel a ride [...] I do not have the option of justifying why I chose to cancel the trip. On other apps, I have the option of saying the customer cancelled and can claim money. In the case of Namma Yatri, because I have been flagged for cancelling rides, the number of rides that are available for me to choose from has reduced. [26]

1.3. The stranglehold of ubiquitous data surveillance: findings on worker tracking and union busting

Our research demonstrated how employers engage in excessive and disproportionate surveillance at the workplace using their data capabilities in a manner that thwarts freedoms of association and any potential for collective action.

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24   Reporting from 2024 also illustrated how the tiered categories are also used to determine whether or not a worker gets access to health insurance. As of December 2025, there is no reporting to suggest that this categorisation has been rolled back.

25   Interview conducted on 26th December, 2024.

26   Interview conducted on 23rd October, 2024.

Food delivery workers in Bengaluru were of the view that the platform's GPS tracking capabilities helped managers disperse collective gatherings of workers in between orders. As one worker described to the research team:

> I have seen a huge LED system in Swiggy's branch office in Bengaluru, which is able to map where the workers are located. [Through this,] Swiggy officials are able to identify where and how many workers are clustered or congregated in a particular area. Where this is the case, company officials ensure that these meetings are instantly dispersed by assigning orders to the congregated workers instantly and dispatching them in opposite directions. [27]

Considering the platform has a record of being hostile to union action, including blocking the ID cards of protesting workers, such hunches are not far-fetched.

Workers in Amazon's Manesar warehouse reported how ADAPT and CCTVs prevented a moment's breather that could be used for personal time and conversations with peers:

> There are around 2,000 CCTV cameras everywhere—it's a surveillance state. They catch people using their phones or doing anything else through the CCTV and pull them up for it [...] On ADAPT, they track your every movement; this is how they calculate idle time for each worker. Idle time is the period when you're not working actively—for example, the millisecond recorded when shifting your mobile phone from one place to another is counted as idle time.[28]

Finding 2. Pervasive algorithmic anxiety and the erosion of worker autonomy

Algorithmic anxiety is a term that has emerged in the sociological literature on the platform economy to describe the pervasive unease that individuals face when they come up against the fact that "the possible self is circumscribed, bounded and governed by algorithmic regimes"[29] and a "perceived lack of control and uncertainty around responding to algorithms".[30]

In the specific instance of algorithmic management systems in platform work environments, the term algorithmic paranoia has been used to describe workers' negative affects in a system that keeps them in a state of perennial insecurity and unsettlement.[31]

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27   Interview conducted on 7th November, 2024.

28   Interview conducted on 16th February, 2025.

29   De Vries, P. 2020. Algorithmic anxiety in contemporary art: A Kierkegaardian inquiry into the imaginary of possibility. https://mediarep.org/server/api/core/bitstreams/ec4bf59f-4cc3-484d-9426-4149da99b338/content.

30   Jhaver, S., Karpfen, Y., & Antin, J. 2018, April. Algorithmic anxiety and coping strategies of Airbnb hosts. In Proceedings of the 2018 CHI conference on human factors in computing systems (pp. 1-12).

31   Alacovska, A., Bucher, E. and Fieseler, C. 2025. Algorithmic Paranoia: Gig Workers' Affective Experience of Abusive Algorithmic Management. New Technology, Work and Employment. 40: 421-435. https://doi.org/10.1111/ntwe.12317.

In our study, we observe that workers experience various forms of anxiety in negotiating with capricious algorithms when faced with their opacity, randomness, and unfairness. Even though workers are able to partially decode the logics of algorithmic assemblages, the inability to hold them meaningfully to account erodes and constrains worker autonomy, compounding such anxiety and unease.

2.1 Intentional obscurities and partial revelations: An algorithmic regime of opacity, randomness, and unfairness

Where algorithms are the primary determinants of work control and organisation, they also demarcate the boundaries of what is disclosed and what is not, what is explained and what is not. This is not random or incidental, but a crucial entry point towards studying both the constituents and logic of algorithmic assemblages. As these testimonies demonstrate, workers are able to identify clearly the regime of dispossession and violence that the algorithm enacts. The anxieties of workers about their ratings, allocation of tasks and rides, and their earnings, therefore, do not stem from their perceptions of algorithms as entirely unknowable. Rather, as workers' accounts explain, it stems from the partial obscurity of the algorithm's decisions, whose tyranny is both discernible and seemingly unchallengeable. This creates a regime of opacity, randomness, and unfairness, leading to chronic anxiety and insecurity among workers.

Opacity in work organisation, control, and disciplinary measures

Workers note that the algorithmic assemblage is shrouded in secrecy, with important information, such as the allocation and monitoring of work, left unknown to them. Many platforms use algorithmic systems to demarcate categories of work that are available to a worker at any given moment – which workers are aware of – but the criteria on the basis of which these allocations are made are never disclosed, and constantly fluctuate. As an organiser mobilising workers on Urban Company described:

> On the app, there are different categories of work, like premium and normal, that determine the type of work you do. Premium tasks include facials, hair treatments, spa services; other non-premium tasks include head or foot massages, and so on. Which category you end up in is entirely decided by the algorithm, and it's completely unpredictable. We have no idea what criteria it uses to allocate premium versus normal work – it's very unclear.[32]

From the above testimony, we can glean that what is referred to as task categories is, in fact, the slabbing of earnings into algorithmically determined brackets. Tasks that are likely to fetch higher earnings, such as facials and spa treatments, are accorded "premium" status, presumably to make workers "earn" their right to be allocated such tasks.

This logic is therefore somewhat discernible. However, what workers must do in order to be assigned premium tasks is anyone's guess. As a result, workers are left to anxiously speculate and try to game the algorithm in anticipation of a desired outcome. In this way, we see that the opacity is strategic; through systemic and deliberate information asymmetry, the algorithm reinforces the unilateral power of platform management over work organisation and control.

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32   Interview conducted on 26th December, 2024.

Another instance was shared workers in an Amazon warehouse in Manesar, who spoke of authoritarian discipline enforced by the algorithm. As discussed, the ADAPT tool used in these warehouses to purportedly maximise efficiency sets impossible targets for workers. The same tool also functions as a punitive force in the workplace, whose logic is neither determined with input from workers nor disclosed to them. One worker described the punishing rule of the ADAPT tool in the following manner:

> Earlier, if you received three bad feedbacks, then one ADAPT [notification] would be generated. If you got three ADAPTs (i.e., nine negative feedbacks), you would be terminated. This means you are blacklisted and cannot work at any Amazon warehouse. That was the previous system. Now, there is no feedback — ADAPT is given directly without the earlier threshold of three negative feedbacks. The manager gives the ADAPT, tracking performance through the ID card using a network of computers. It automatically goes to HR, who then decides what to do. Every time a worker gets an ADAPT, they are made to sign it — there's no room to get a word in.[33]

Randomness in task allocation and ratings

The perceived randomness of algorithmic assemblages at work is well-illustrated in the case of task allocation. The allocation of tasks can be an extremely volatile and unpredictable experience, with workers scrambling to be seen in the system and assigned work, resulting in a constant state of anxiety regarding the stability of their workflow and, by extension, the security of their income. The ordering of the workplace in this manner executes a gamified environment[34] that keeps workers perpetually insecure about the stability of their livelihoods. As workers in Amazon warehouses describe, the allocation of work is a fraught process in algorithmic workplaces.

Getting a slot is very hard since the app is unpredictable. The company releases work slots randomly during the day, without any prior notification and on no fixed time. It's like booking a Tatkal train ticket — whoever sees it first can book multiple slots. Once all the slots are full, only if someone cancels their slot, will it become available to others. There are often very few vacancies. It's not uncommon to go four to five days without getting a single slot. This slot distribution follows no discernible schedule or fairness, hence we are kept in perpetual uncertainty about our livelihood. For instance, we know of one worker who didn't get any slot - not day or night - for a whole month and had to return to his village.[35]

The technical architecture of algorithms is also composed of a system of weights, thresholds and attributes, which are intentionally designed and determined. Several studies on algorithmic management in platform work have observed the crucial variable of ratings and the central role it occupies.

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33   Interview conducted on 16th February, 2025.

34   Gurumurthy, A., Zainab, K., and Sanjay, S. 2021. The Macro Frames of Microwork A study of Indian women workers on AMT in the post-pandemic moment. IT for Change. https://itforchange.net/sites/default/files/2392/The%20Macro%20Frames%20of%20Micro%20Work%202021.pdf.

35   Interview conducted on 15th February, 2025.

In other words, the "weight" assigned to ratings in a workplace algorithmic model is very high and influences the minutiae of workers' day-to-day experiences. However, even when the causality of a particular input is clearly established, the outcomes can appear random to workers. For instance, a worker on Urban Company explained the randomness in the functioning of the ratings system, wherein its impact on their working conditions is far from consistent:

> Nobody knows how exactly the system works – it is often very irrational: sometimes we benefit from good ratings, and sometimes we don't and we don't know how the same thing can have different results. But the disadvantage we will definitely get is if the ratings are bad, so the system is very biased.[36]

The above testimony shows how the workings of algorithms are perceived as random and arbitrary by workers. What should be a straightforward relationship – rewards for higher ratings, penalties for poor ratings – is subverted in this example by seemingly irregular applications of this rule. This also contributes to agitation at work, when any degree of stability and predictability is immediately snuffed out by the algorithm's seeming randomness. But in reality, the "randomness" is deliberately designed to keep workers in a state of anxiety and alienation.

Unfairness of algo-design environments' indifference to workers

In addition to the opacity and randomness in algorithmic assemblages, workers also attribute their anxieties to unfairness – or the sense that the deck is stacked against them. A worker who works on food delivery platforms (both Swiggy and Zomato) outlined their perception of how the algorithm's allocation model can often operate to extract as much labour as possible from the worker, using subtly vindictive measures:

> There is an option on the app to get orders on their route back home. However, this option is never honoured. One worker shared that when he chooses this option, the app will assign orders to him which are far away from his house. He can't reject the order because it will impact his incentive, and as a result, he ends up having to work for an extra hour. [37]

Sometimes, the techno-design and features in the app are identified as inherently unfair to workers. For example, as a worker on Urban Company points out, limitations in the number of options available to customers to describe why a service was not performed mean that by default, the option selected is one that penalises the worker:

> The tag "Professional not reachable" is often used by customers, and it counts against us. But many customers have told me that Urban Company doesn't give them other options to choose from – so they just select whatever is available. They feel stuck too, thinking, "Why should I be penalised after paying ₹1000?" But I'm the one who ends up suffering.[38]

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36   Interview conducted on 26th December, 2024.

37   Interview conducted on 7th November, 2024.

38   Interview conducted on 26th December, 2024.

2.2 Foggy accounts of the locus of power and control: The accountability gap in algorithmic management

Workers clearly explain that their grievances are not solely due to the algorithm alone. The architecture of control is composed not only of the algorithm and the punishing precarity and insecurity it inflicts, but also includes the platform, corporate executives, the plethora of subcontractors engaged, and human managers. In their testimonies, they turn their attention to platforms and managers – the human agents in the algorithmic assemblage who hold inscrutable powers in shaping the algorithmic regime. As this worker in an Amazon warehouse describes, the supposed grievance redressal mechanisms are a smokescreen for entrenching control, leaving workers with a feeling of there being nowhere to go and no one to demand answers from:

> We don't have the legally mandated grievance redressal committee, so we are told to raise our grievances through the 'My Voice' app. Although grievances are supposed to be visible publicly, in many cases, HR can hide grievances that criticise managers. In theory, it is meant to be a platform for grievance redressal, but in reality, it rarely works in our favour.[39]

We also find that even when there are humans in the loop (an oft-cited demand in calls for algorithmic accountability), the managers defer to the algorithm's decision, with little to no input from the workers. They often even resort to deceitful practices to defend unfair and unjust decisions, as this worker on Urban Company explains:

> Because I brought up a complaint about my work area, they ejected sofa cleaning training from my profile, which requires a higher category of expertise and is a better job than bathroom cleaning. When I asked why my sofa cleaning option was removed, they said there was a customer complaint against me, which is obviously false, because I have proof that there is no complaint from any customers. There is no message, email, or notification from the company regarding any complaint, so they were just lying. I was very angered by this.[40]

Platforms and managers also resort to feigned helplessness in such situations, treating algorithmic decisions as the final word:

> With regards to grievance redressal, they are unconcerned, I missed a job due to a technical issue or network issue, where I didn't get the job notification, and it was automatically recorded as missed. The company said that since I did not accept the job, they couldn't help me – so the decision of the app is very rigid and I was penalised without any fault of mine. How can I accept a job without being informed of its availability?[41]

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39   Interview conducted on 16th February, 2025.

40   Interview conducted on 26th December, 2024.

41   Interview conducted on 26th December, 2024.

Taken together, we see that platforms and managers are not neutral arbiters of a technical tool, but form an integral part of the overall algorithmic assemblage. This forecloses any opportunity for workers to have their issues addressed fairly and justly, adding to the feelings of insecurity and anxiety.

We therefore find that the regime of dispossession, the hostility of the algorithmic environment and workers' anxieties are mutually reinforcing dynamics. The perceptions of algorithms as opaque, random and unfair are accompanied by a knowledge that algorithms are not entirely incomprehensible. Workers are often able to precisely articulate what they speculate to be the logic of the algorithm. These occluded descriptions of the algorithm's workings that workers report through their everyday experiences of anxiety and uncertainty are nevertheless revealing and authentic accounts of algorithmic logic. Seen in this way, the algorithm's assault on workers' rights and well-being cannot be wished away as mistakes or errors in otherwise rational systems.

Conclusion: Addressing the blind spots in the regulation of workplace algorithmic management systems

As algorithmic management systems become deeply embedded across sectors, calls for their accountability have grown louder and more urgent. Much of the existing policy responses to platform work regulation have focused on the legal recognition of platform workers as employees and, to an extent, rightly so. Such recognition opens the door to a wide array of rights for workers – including the right to a minimum wage, to statutory leaves, and to unionise, among other labour rights – while also acknowledging the entrenched power differentials in employment relationships. Yet, in policy responses, the role of algorithms has not been given its due. Where the regulation of algorithmic management systems enters the conversation, it is mostly framed as the need for enshrining obligations of transparency or explainability – that of seeing inside the technical system and understanding the pathways that led to its decision.

For instance, in India, while several states have introduced legislation aimed at regulating platform work, their treatment of algorithmic systems remains superficial.

The Rajasthan Platform-Based Gig Workers (Registration and Welfare) Act does not touch upon this issue at all. The Karnataka Platform-Based Gig Workers (Social Security and Welfare) Act, 2025, and the proposed Telangana Gig and Platform Workers (Registration, Social Security and Welfare) Act, 2025, and Jharkhand's Platform-Based Gig Workers (Registration and Welfare) Bill, 2025, merely acknowledge "automated monitoring and decision-making systems," offering workers a limited right to request information. These laws also stop short of allowing workers to challenge the fairness of such algorithmic decisions, as they do not provide for institutional mechanisms that can hear challenges to algorithmic decisions, provide the right to compensation or redress, or outline any due process to be followed in algorithmic challenges. Another critical flaw is their exclusive focus on the individual worker's right to access information. There is no provision allowing trade unions or worker collectives to exercise similar rights, thereby denying workers the ability to act collectively.

As this study demonstrates, algorithmic systems shape every facet of the workday: from task allocation and pay determination to ratings, surveillance, and the right to organise. Their pervasive presence mediates nearly every worker interaction, often invisibly. The absence of robust regulation over these systems has left workers exposed to opaque, biased, and often punitive forms of control. Workers' testimonies also prove how they systematically decode the logic of algorithmic assemblages – identifying patterns, anticipating behaviours, and navigating the immense human and managerial intervention that actually sustains these systems. As these firsthand accounts reveal, these assemblages actively generate partial revelations of themselves, simultaneously exposing fragments of the power structures deeply embedded within their design and operation. Therefore, holding an algorithmic assemblage accountable requires moving beyond the narrow focus on transparency – or "looking inside" any single component – and instead "seeing across the system" as a networked whole.[42] Neither accountability nor justice can be achieved through transparency alone – especially if it merely involves revealing the workings of systems without providing avenues for contestation, correction, or collective action.

There is, thus, a significant blind spot in policy discourse on algorithmic regulation at the workplace. As our findings show, while power imbalances have always shaped labour relations, this report – and others – show that the introduction of algorithms does not merely continue these trends, but exacerbates them in troubling ways. To effectively regulate these emerging forms of technological control, we must begin with a clear understanding of how they are designed, developed, and deployed. This is not only an ethical imperative but a practical necessity for improving the conditions of workers. In the concluding section of our report, we lay out recommendations for future-looking algorithmic regulation that meaningfully redistributes power and control over these assemblages.

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42   Ananny, M., & Crawford, K. 2016. Seeing without knowing: Limitations of the transparency ideal and its application to algorithmic accountability. New Media & Society, 20(3), 973–989. https://doi.org/10.1177/1461444816676645.

Recommendations

We propose the following as a set of '**minimum common principles**' for workplace algorithmic accountability. These are not intended to be exhaustive or comprehensive. Rather, they serve as a starting point – a "patient zero" or index case for any regulatory framework on workplace algorithms.

Accountability beyond individualised and case-by-case transparency measures

The principal harm of algorithmic control is not individual instances of injustice and violence, but that algorithms expand the boundaries of how capital can extract value from workers and entrench them as acceptable frontiers. They make it harder for newer ethical and political claims to be made in a digital workplace. Instead, algorithmic accountability must stretch across the entire socio-technical assemblage in which workers' rights are entangled at every level. This calls for workers and their collectives to be represented at every stage of algorithmic design and deployment, and institutional mechanisms that support meaningful algorithmic accountability. Considering this, measures such as algorithmic transparency (of individual algorithmic decisions) and human-in-the-loop (who provides the explanation) are incapable of meaningfully engaging with the political and economic aspects of algorithmic design. We therefore propose the following measures to redistribute power and agency across networked algorithmic assemblages.

i) Mandatory worker co-creation:

It requires embedding workers and their representatives directly into every stage of algorithmic system development right from problem definition, data design, model development, testing, deployment, and revisions. This goes beyond consultation: it treats workers as political actors whose situated knowledge can identify the risks, exploitation, and alternative logics of value that the firm-centric design process systematically obscures.[43]

ii) Institutional mechanisms for algorithmic accountability:

There is a need for novel institutional mechanisms to build systemic and binding accountability for platform companies. For instance, public algorithm repositories that require companies to register algorithmic systems – including documenting purpose, data flows, optimisation criteria, and known risks can create a legally binding layer of algorithmic traceability, allowing regulators, unions, and researchers to audit systems for harmful labour impacts. These repositories also reduce information asymmetries by compelling platforms to document the socio-technical choices (such as thresholds, weights, reward functions, risk scores) that currently remain proprietary and opaque.

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43   Juego, B., Kuldova, T. Ø., & Oosterwijk, G. R. 2024. Algorithms By And For The Workers: Towards A Fair, Democratic And Humane Digitalisation Of The Workplace. https://feps-europe.eu/wp-content/uploads/2024/01/PS-Algorithms-by-and-for-the-workers.pdf.

Worker-centric data governance & algorithmic design

Data is the chief battleground in which power asymmetries between platforms and workers play out – platform companies continuously extract data from workers, have total control over the infrastructure necessary to engineer this data to perfect algorithmic decisions, all with a view to maximising profits. The central role of data in driving algorithmic decision-making at work must be addressed through data governance that goes beyond individual worker privacy, recognising it as a site through which agency can be meaningfully redistributed.

i) Holistic data governance:

Data governance in algorithmic regulation must look beyond individualistic concerns of privacy and security, and engage with the structural injustices perpetuated by algorithmic systems. Data minimisation – restricting the collection and processing of data for what is strictly necessary – is a fundamental starting point for data governance. Additionally, workers and their representatives must have a say in determining the boundaries of data collection, and have the right to impose limitations on extractive and surveilling practices, such as GPS tracking, biometric capture, productivity monitoring, and behavioural profiling. Recognising the collective rights of workers, trade unions, and other collectives to access data, and imposing mandatory data-sharing obligations on platforms is also central to balancing power asymmetries in a data-driven workplace.[44]

ii) Alternative algorithmic imaginaries:

Simultaneously, along with robust data governance, we also need to encourage algorithmic architectures that maximise workers' agency, autonomy, and dignity rather than managerial control. Shifting away from surveillance- and extraction-oriented infrastructures toward architectures that enable workers to set preferences, negotiate constraints, and collectively bargain with the system itself is essential to reimagine algorithmic assemblages as emancipatory rather than exploitative. These could include building the capacity of unions and worker organisations to meaningfully contribute to algorithmic design, no-commission models (such as in Namma Yatri), as well as cooperatively owned platforms and collectively designed algorithms. Worker-first digital industrial policy

The laissez-faire, market-first approach of the state towards the digital economy needs a rethink. The promise of the platform economy as a generator of meaningful employment opportunities has not materialised. The state should instead reclaim its role as a steward of industrial policy for the digital age, steering the digital economy towards providing decent and dignified work that centres workers' rights. This requires a combination of publicly financed alternatives to undo the private financial flows that currently underpin the platform economy, as well as stringent regulation of platform companies that requires them to comply with fundamental labour rights, irrespective of employment status.

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44   Gurumurthy, A., Chami, N. Chatterjee, S., Shah, Sakhi. 2022. Workers' Data Rights in the Platformized Workplace - A New Frontier for the Labor Agenda. IT for Change. https://itforchange.net/workers%E2%80%99-data-rights-platformized-workplace-a-new-frontier-for-labor-agenda.

Worker-first digital industrial policy

i) Public financing for decent and dignified work in the platform economy natives:

Public investment is essential to break the dependence on venture-capital-driven business models that prioritise rapid scaling, data extraction, and algorithmic control, and perfectly encapsulate the perils of rentier capitalism. Worker-centred digital industrial policy requires reorienting state investment toward infrastructures that generate decent and dignified work. Publicly-funded and locally controlled platforms in sectors like transport, care, logistics, or food delivery, that are designed around fair wages and democratic governance, can serve as an effective counter to platform capitalism. The state can implement these visions by supporting and investing in alternative models, such as platform cooperatives.

ii) Redlines for workplace management algorithms:

Proactive, enforceable, and meaningful regulation that takes a precautionary approach to safeguarding foundational labour guarantees in the age of algorithms is essential. There needs to be stringent restrictions in the labour market for the use of work management algorithms – such as the idea of "red lines"[45], or banning outright the use of algorithms for certain functions (eg, dynamic wage suppression, risk scores without evidence, behavioural nudging to overwork, or automated deactivation without human review by an independent body).

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45   AI Now Institute. 2023. Algorithmic Management: Restraining Workplace Surveillance. https://ainowinstitute.org/publications/algorithmic-management.