

## CHAPTER 6

# Algorithmic Management in Food Delivery Platforms: Between Digital Neo-Taylorism and Enhanced Subjectivity

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### Introduction

The emergence of platform capitalism has brought about new managerial models and practices (Srnicek 2016; Armano, Murgia and Teli 2017), as well as the control of work and data informed by digital connectivity, both of which are at the basis of so-called ‘algorithmic management’ (Beverungen, Beyes and Conrad 2019; Flyverbom 2019; Mumby and Plotnikof 2019). But what exactly do we mean when we speak of algorithmic management? Drawing on the case of digital food delivery platforms, this chapter proposes theoretical and interpretative hypotheses regarding the introduction of algorithmic management systems. This management model is explored in relation to both the typical model of industrial capitalism, based on direct and disciplinary control, and the managerial model typical of post-Fordism, centred instead on the subsumption of subjectivity and autonomy (Boltanski and Chiapello 1999).

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The first part of the chapter presents the interpretative hypothesis according to which algorithmic management can, in some ways, be described as not completely new, since it includes both elements of the digital re-Taylorisation of work and the subsumption of autonomy. The second part, drawing on the results of co-research carried out with delivery riders working for food delivery platforms who took part in demonstrations in the city of Turin (Leonardi, Murgia and Armano 2020), investigates how algorithmic management is expressed and how it works in this specific context.

The conclusions highlight the redefinition of the concept of (theoretical and practical) autonomy and (direct and indirect) control on an algorithmic basis and therefore contributes to debates (see Moore, Briken and Engster 2020) which have cast light on the forms of management and self-precarization caused by digital technology.

### **From Direct Control of Scientific Work Organisation, Through Indirect and Introjected Control, to Algorithmic Management**

As claimed by Mengay (2020), from the managerial point of view, digital transformation implies different strategies for managing forms of worker autonomy and control.

Autonomy can be described at various levels: from the broadest level concerning the aims and goals of the work carried out, to the merely organisational and operational level. It depends greatly on the type of work that people carry out, but also on management styles and strategies. A highly qualified job usually requires a high degree of decision-making autonomy – in terms of knowledge, relations, and capacity for action – while a job that requires few qualifications is more often characterised by a low degree of autonomy.

As far as control is concerned, three main forms are taken into consideration in this chapter: direct control, indirect control and algorithmic control.

Direct control is exercised by superiors and is based on the direct surveillance of performances, while machines are prevalently used to measure them. It is a typical method of the Taylorist phase of industrial capitalism, in which it is the person determining the speed of a production line who exercises control, even if mediated by measurement tools.

Indirect control is a form of domination that plays on workers' autonomy (Mengay 2020): management defines particular goals and conditions (technical supplies, goal agreements, strategic priorities, resources, etc.) and it is the responsibility of workers to define how to achieve the allotted goals by implementing a sort of 'responsible autonomy'. Indirect control requires allegiance to market imperatives, which are presented as inescapable, with workers pushed to identify with the employer's economic success and even to set their own goals, which were once defined by management themselves. Hence, management decisions evaporate behind forces considered to be objective and 'workers

are thereby made responsible for the translation of their own labour power into labour output' (Ferschli 2017, 172). It is a control method typical of post-Fordism, which puts to work the subjects' very passions and desires (Armano and Murgia 2017; Bologna 2018).

The last form of control – algorithmic control – engages with both direct control and indirect and introjected control using new methods. Big Data, new sensors, integrated systems and machine learning can enable constant cycles of feedback and real-time control of labour processes. Direct control algorithms are used to inform management of decisions or automatically impose goals. But algorithmic management can be taken to a more pervasive level in the case of indirect control, when it is the worker who 'voluntarily' follows the imperatives of online reputation and 'likes'. As such, algorithmic management devices encourage alleged worker 'autonomy', but at the same time give rise to even more pervasive forms of precariousness (Wood et al. 2019; Woodcock and Graham 2019) and intervene directly in modelling identities through a similar mechanism to the interiorisation of market imperatives (Cardon 2015; Finn 2018; Zuboff 2019).

In this context, a critique of algorithmic management appears more topical than ever. An algorithm is a procedure that resolves a certain problem through a series of elementary steps. It is first of all a linguistic coding tool that enables the extension of the application of the notion of calculability. Therefore, if algorithms are linguistic coding tools, consisting of a (more or less complex) set of instructions (sequences) that the machine can carry out on the basis of a certain memory, all the worker has to do is interact (or not interact) with this digital machine. In turn, the algorithm produces tracking, in space and time, of bodies, movements and intentions, measuring with a precision that was unthinkable even a few years ago (Moore 2018).

On this basis, the theoretical hypothesis that we propose in this chapter assumes that the algorithm is activated through interaction with subjects and that, in order to be activated, it must be integrated relationally through an *active combination* with *living-human-capacity* (Alquati 1994; 2021). Specifically, the active combination connects living-human-capacity with the procedures coded in the algorithm and therefore permits the digital machine to reproduce itself. This process, to use Deleuzian terms, consists of *agencement* [assemblage] (Deleuze and Guattari 1980; Gherardi 2016) between the language and practices of the living being with the language of the digital machine. With regard to the reflections proposed by Alquati (1994; 2021), today the active combination tends to be even more pervasive and is stretching further and further, in a differentiated and diversified way, and structures different production and reproduction activities, from (increasingly digitalised) paid work to social media activities. Every time a person uses an app or platform, there is a form of active combination. In these terms, not only is active combination part of the value extraction process, but it depends on – and at the same time models – subjectivity itself. Therefore, lean digital platforms (Srnicek 2016)

work through the transfer of risk from the company to the individual and the investment of his/her subjectivity, a transfer giving rise to a sort of ‘precarious self-entrepreneurisation’ that is also a mirror of neoliberal transformation.

### Algorithmic Management in Food Delivery Platforms

The structure of food delivery platforms enables the work/activity/service supply to be regulated at any moment with corresponding consumption/fruition behaviour. What is significant is that the algorithmic control processes intervene in relation to the regulation and synchronisation of these two cycles which can be analytically distinguished and separated, even though they are functionally closely correlated.

This type of digital platform (Griesbach et al. 2019) enables the creation of a closed frame of reference inside which workers are asked to draw up their own strategies to maximise their earnings. Indeed, the food delivery platforms tend to build pre-coded environments of situations and possible action schemas, as well as routing predefined answers. Therefore, they are environments that model and restrict the possible choices of both workers and consumers, hence also conditioning their ways of thinking. To some degree, it could be said that the rules of the game are defined beforehand, unbeknownst to the players. And so, remuneration logics, order allocations and performance assessments are obscurely packaged within the algorithms that govern how platforms work. As such, workers often experience the algorithm as something that acts on their working and living conditions in an arbitrary and unfathomable manner – in not such a different way to the arbitrary authority that can be exercised by a flesh and blood manager.

What differentiates algorithmic management, according to our hypothesis, is the connection between digital algorithms and human action. The algorithm has its own internal coherence of logic and control, but the passage to operativity is not inevitable. Indeed, when an algorithm is applied to social processes, it must transform the ‘numerical representations’ (Manovich 2001) into a complex process of interaction with human language, social representations, subjectivities and behaviours. As a consequence, the decisive element of algorithmic management is not so much the automatised control of labour processes, but the directioning of social praxis, and above all – through *agencement* – the management of the margins of uncertainty that are implicit in them. In this context, information asymmetries are a central element of the platform’s control over the work (Heiland and Brinkmann 2020; Rosenblat and Stark 2016; Rosenblat 2018; Ravenelle 2019), since the power results from the uncertainty zone that an actor can control through his/her behaviour towards a counterparty and vice versa. Therefore, in operational terms, algorithms are relevant not only due to their objective sequence, for example, the delivery allocation and order distribution program, but also due to the concealment of the

data that they use, and the decision-making and manipulative processes that they implicitly carry out.

In the next section – using the results of co-research (Alquati 1993) conducted between 2016–2021 with a group of food delivery riders, who are very active in mobilising for better working conditions – we examine the processes giving shape to forms of algorithmic management and analyse both the various control methods put into practice through platforms and the answers found by workers to operate within these complex environments, as well as the attempts to challenge this management model.

### *Access to the Platform: Connection and Work Times*

Riders access their work and begin their shift by logging into a smartphone app from their telephone. Once logged in, delivery orders are sent and assigned to them through interaction with an algorithm. Therefore, the workers must activate the app in order to be able to receive and carry out their work. After riders have provided their availability through the mobile phone app, they receive delivery requests. They are given a few seconds to accept a job, without being able to view the location details. If a rider accepts the request, the service is notified, and the rider must reach the physical site for the order to officially commence. Workers have allocated zones so the possibility of choosing or setting preferences regarding the routes they would like to receive on their app is therefore very limited. Further, companies encourage workers to use the ‘auto-assignment’ mode, that is, a mode in which they must accept all the orders that arrive, with no possibility of selecting them. In the words of one interviewee:

You can substantially say to the app: accept all of the orders that arrive, or you can say: let me see all the orders that arrive and I’ll tell you if I want to do them ... You get 30 seconds to choose, or maybe even less...10 seconds on the telephone. And you can say: ‘yes, I want them, no, I don’t want them’. If you turn off auto-assignment, you can be out and about in the city for 12–13 hours and you’ll never get an order.

In this delivery acceptance and uptake mechanism, it appears clear that the algorithm has to be activated by a human act, and by a human worker capable of interacting with it in a positive manner in order to prompt a labour process. So, we have a subject who must remain available within a waiting time for the call to work, which is not his/her own time, but neither is it a time of (remunerated) performance according to business logic. It is an algorithmic management system that results in the emergence of a new conception of work time, which does not remunerate all the working hours but only time strictly defined for the delivery itself. However, such time necessarily requires additional invisible, non-obtrusive – and unpaid – worker availability, as well as listening,

interpersonal and adaptive skills. These are among the most common skills in social life, but they take on vital importance in the productive context mediated by the algorithmic management of food delivery platforms. Indeed, through the connective action of *agencement*, capacities and time are connected to the language of the algorithm and made to produce value even though they are neither acknowledged nor paid. In this scenario, a new conception emerges both of the workplace and of urban space, which is reterritorialized by this experience of connectivity. Indeed, as we have seen, riders can enter and exit their workplace with just a swipe of their smartphone (Warin 2017).

### *Rating on the Platform: Measuring Performances and Acceptance Mechanisms*

Central to algorithmic management is the order allocation and performance measurement system which is integrated with an evaluation system that assesses delivery riders' performances. After the delivery, both delivery service partners and customers make an evaluation through a system mediated by the platform. This is a complex mechanism that calls upon multiple actors. Indeed, riders are assessed by three figures: the customers receiving the delivery, the restaurants that use the platform (partners) and, finally, the company.

In this evaluation, customers consider if the rider is punctual, friendly, if the food is good and meets expectations, and if the service provided means they will want to use the platform again. In addition, the platform calculates the delivery acceptance rate, by dividing the number of accepted deliveries by the total number of requests sent to the rider. It is a mechanism that encourages availability in busier times of day, when there are more requests. Or it could be said that it is a punitive mechanism for those who do not work in the most order-intense moments. Hence, riders are compelled to maintain a high rate of delivery acceptances, which is also encouraged through occasional promotions such as 'rain bonuses' which encourages work in bad weather.

Within this framework, the evaluation system effectively results in workers accepting the highest number of deliveries possible. In general, as Ciccarelli (2019) writes:

The ranking is a classification that serves to measure a rider's 'reputation' based on two criteria: reliability and participation. The first is measured based on a scale of 100/100, the second is expressed in a scale of 12/12. The 'evaluation' period covers two weeks when the rider carried out an activity. The algorithm sanctions riders with a loss of points in the system defined as 'reputational ranking'.

As a consequence, riders with a low average evaluation by customers and a low acceptance rate can be pushed down in the ranking and placed in the

category of those who are only offered the most distant, most inconvenient and least remunerative deliveries. In practice, the mechanism is quite complex: as a rewarding logic, algorithmic management allows those with a higher score in the ranking system to view the shifts available for the next week earlier than those with the lowest scores, who can only view them at a later stage. The lower a rider's score, the less the probability of finding free shifts. As a result, s/he will be unlikely to work, which is also due to the fact that platforms deliberately 'hire' a lot more workers than are actually needed. To climb back up the ranking, riders must log on all the time, hope that a colleague will cancel at the last minute and give up their availability to cover that shift. As can be read on the Deliverance Project page:<sup>1</sup>

The ranking is what chains a rider to his/her work, the long nose that reveals all the lies about fun and flexibility [...] 'Work when you want' thus translates into 'work when we tell you or you won't work anymore'.

Further, interviewees mention the existence of differences between the various companies. According to one participant in the research:

With Deliveroo we know some parameters and there's a certain punishment on the score. Instead on Just Eat the score is hidden, no one knows their score, nor the criteria it's based on.

This is why some riders opt to be hired by different platforms at the same time while trying to utilise the subtleties between the different working conditions, which are minimally in their favour. These are typical devices that push the individual to follow a sort of pre-set path, to take on risk and make their own choices on the basis of company indications imparted by the 'objective' rules of algorithmic management.

### **Conclusions: What's New in Algorithmic Management?**

The innovation in organisational processes introduced with the phenomenon of connectivity mediated by lean platforms (Srnicsek 2016) has enabled a freelance work model on a digital scale (also putting the crowd to work – see Sundararajan 2016) in which subjectivity, autonomy and risk-taking have become barycentric. The algorithms and algorithmic management are indeed changing the way in which people work in an ever-growing number of fields, with a notable jump in the period of the pandemic when the consequences of the shut-in economy were taken to the extreme (Smiley 2015), notably in the field of food delivery (Cozza et al. 2020).

The fieldwork highlighted the coexistence of two processes in the algorithmic management of food delivery platforms, which led us to develop the

interpretative hypotheses presented in this chapter: a form of digital Taylorism, in itself quite evident, extended to the social sphere, and – at the same time – the request for a proactive attitude on the part of workers also typical of the culture of digital ‘collaboration.’ As a consequence, what effectively manages to impose control on the social actor is not just a simple piece of technology of neo-Taylorist discipline which controls, limits, tracks and directs. Indeed, what clearly emerged from the conversations with riders was firstly, the significance of the intensity of co-active interaction inherent within a digital connectivity environment, and secondly, the insistent request for availability and a proactive attitude. This shows how much the devices behind the working of the digital machine tend to perform subjectivity by propelling human capacity in a performance-based direction (Chicchi and Simone 2017). The new element that emerges with algorithmic management is therefore the formalisation of a managerial decision-making process that uses workers’ perceived autonomy over the control of their labour process, which seems to be expanding as never before. By combining the terms of automation and hetero-direction (namely, the opposite of autonomy), Ekbia and Nardi (2017) coined the term *heteromation* specifically to describe the current relationship between human beings and machines, in which human operations become a mere performative appendix that depends on the algorithmic organisation of the machine. From this perspective, unlike the debate on automation revolving around the replacement and, tendentially, also the elimination of the human agent, the presupposition is therefore that human activity is still necessary. In our view, it would be a mistake to read into the labour processes that characterise platform capitalism only digital Taylorism, which Braverman, speaking about labour processes (1974), already identified as extending tendencies towards formatting, discipline and impoverishment on a digital scale. Labour processes in digital society, which in a word we could call a society of (hyper)industrialisation (Alquati 2021), are indeed less evident than those of the Fordist factory, but with further-reaching consequences than in the past. Previously, work organisations used to determine the rhythms, times and living conditions in a disciplinary manner. Now businesses intervene directly in manufacturing the neoliberal subject by putting motivations, workers’ desires for autonomy and their ability to manage their own private time at stake (Zuboff 2019), thus forcing subjects into proactive behaviours and forging their very subjectivity.

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## Note

- <sup>1</sup> Page created by the demonstrating riders: [https://www.facebook.com/DeliveranceProject/about/?ref=page\\_internal](https://www.facebook.com/DeliveranceProject/about/?ref=page_internal).

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