Tilburg School of Social and Behavioural Sciences

"Algorithmic Management, Labor relations, and Regulation: Examining Bolt's Business Model in the Era of Digital Capitalism and the European Platform Directive"

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Introduction

Digital platforms have significantly transformed the labor markets by introducing algorithmic management which challenge traditional employment structures (Duggan et al., 2019; Adekoya et al., 2023) . Platform work or often called “gig”work is characterized by short-term, task based work facilitated through digital platforms, with workers classified as independent contractors rather than employees (Duggan et al., 2019). Due to the rise of this technological innovation called algorithmic management, temporary labour is increasingly becoming more attractive for workers as well as for companies (Duggan et al., 2019; Adekoya et al., 2023; JRC, 2024b). Companies like Bolt, Uber and Deliveroo use digital platforms and operate through the structure algorithmic management, where digital technologies govern work practices such as work allocation, performance evaluation, and wage determination (Duggan et al., 2019).

Graham et al. (2017) showed that the gig economy provides workers more economic opportunities, autonomy at work, flexibility and the work-life balance. Nonetheless, a key issue on which this paper focuses is that employment in the gig economy is habitually precarious, independent contractors who work for companies like Bolt do not receive the same benefits as those in traditional employment (Duggan et al., 2019; Adekoya et al., 2023; World Info Exchange, 2022). This is mainly caused by algorithmic management, since algorithmic management exerts employer-like control while workers remain classified as independent contractors. These controls mirror employer-employee relationships, undermining the argument of the independent contractor status (Duggan et al., 2019). This paper is going to dive into the classification issue of platform workers amplified by the algorithmic management systems in

digital platforms.

The classification of platform workers as independent contractors but using algorithmic management to exercise employer-like practices, is an issue due to the lack of rights and power imbalance that comes with it. Traditional work employment includes greater job security with benefits like redundancy protections, regular pay raises, and social support structures. While platform workers face precarious conditions, with platforms able to terminate access unilaterally and no guaranteed hours or income (Graham et al., 2017; Duggan et al., 2019).

“Low pay, few labor rights and dangerous working conditions, for millions of European gig workers, it can be a rough job. But a deal thrashed out by EU ministers this week aims to address one of their biggest headaches: management by algorithm.” (Gill, 2024)

Gill (2024) is talking here about the European Platform directive as part of broader efforts to regulate algorithmic management and artificial intelligence , complementing the EU AI Act . The directive pushes digital platforms to introduce clearer employment classifications, greater transparency in algorithmic decision making, and improved labour protections (Gill, 2024). Workers of digital platforms remain unclassified as employees while being managed by algorithms that mimic traditional employment structures, therefore this study addresses the following research questions:

How does Bolt’s algorithmic management system shape the classification of its workers, and to what extent do emerging regulations like the European Platform Directive challenge its categorization of drivers as employees?

To address this question, this paper will first analyze, through secondary, data the challenges that algorithmic management presents to platform workers and explore the importance of recognizing them as employees. Subsequently, the European Platform Directive

will be analyzed as a regulatory response to the challenges of algorithmic management, focusing on the articles that compel companies like Bolt to adopt fairer practices and reclassify their workers as employees. Finally, a case study of Bolt will examine its algorithmic management practices , the pressures it faces to reclassify their workers and their response to the directive.

In conclusion, this research should theoretically contribute to how bolt and similar platforms that work with algorithmic management might have to adapt to regulatory pressures including potential shifts in their employment structures. Practically this paper will contribute to shaping the future of platform work. It will contribute to a broader debate on whether algorithmic efficiency can coexist with fair labor standards and whether current regulatory efforts are effective in addressing worker misclassification and algorithmic transparency. By analyzing Bolt's model, this study will provide insights into the role of algorithmic management in shaping worker classification, and the impact of the European platform directive on this matter

Theoretical framework

One of the evolving digital technologies in the labor markets is algorithmic management. Which is challenging labor practices of the traditional conceptualization of employment (Duggan et al., 2019) . This study is positioned at the intersection of management and organization sciences. Specifically, it examines how algorithmic management restructures labor relations in platform work contexts because of its stucture that mimics managerial tasks (Graham et al., 2017; Duggan et al., 2019; Jarrahi et al., 2022; Adekoya et al., 2023). By drawing on theories as labor process theory (LPT), algorithmic management , and employment classification, this framework critically assesses the implications of algorithmic management for worker autonomy, control and precarity. The analysis of Bolt's platform model situates this

discussion within current debate on information asymmetry, legal accountability, and the transformation of labor relations in the digital economy.

To conceptualize the necessity for reclassification and to examine how algorithmic management practices causes this need, it is essential to conceptualize the core constructs of this study: algormic management , platform work, worker classification, and power asymmetry. Algorithmic management is defined as the use of automated , data-driven systems to assign tasks, monitor performance and make decisions. Which are traditionally managed by humans (Duggan et al., 2019; Jarrahi et al., 2021). Platform work is defined as short-term, task-based labor mediated through digital platforms such as Bolt, where workers are generally classified as independent contractors rather than employees, platform work is often termed as gig work as well (Duggan et al., 2019; Jarrahi et al., 2022). Workers access to benefits and protections typically afforded to employees are limited for platform workers by the legal distinction of platform workers classified as independent contractors rather than employees. Which reinforces their precarious position (Graham et al., 2017; Duggan et al., 2019). Worker classification is therefore crucial in determining labor rights, because this classification underpins many challenges faced by platform workers, including job security and limited bargaining power (Gill, 2024). Then, precarity refers to the unstable and insecure nature of platform work, characterized by irregular hours, unpredictable earnings, and lack of social protections, intensified by asymmetrical power dynamics between platforms and their workers (Graham et al., 2017). These conceptualizations help to analysis of Bolt's algorithmic management practices with the legal and regulatory responses on them, particularly the regulatory response of the European Union, the European Platform Directive.

The chosen concepts reflect the dynamics of gig work,where digital platforms use

technology to exercise control over workers while legally framing them as independent contractors (Duggan et al., 2019). Control is exercised through algorithmic management, which makes algorithmic management the cause of the issue of misclassification because it is a hidden control (Duggan et al., 2019; Jarrahi et al., 2022; World Info Exchange, 2022). Algorithmic management enables both operational efficiency and deepens precarity, challenging established theories of employment relationships (Graham et al., 2017). Graham et al. (2017) also highlights the power asymmetry inherent in digital platforms, due to algorithmic management platform work is defined as distinct from traditional employment .

For this paper, literature relating to the concept have been analysed. Studies on algorithmic management emphasize it's role in automating HR functions, thereby reducing worker autonomy and increasing surveillance (Graham et al., 2017; Duggan et al., 2019 ; Jarrahi et al., 2022). Then research on gig work or platform work using algorithmic management in real life reveals it's precarious nature. Labor Process Theory (LPT) is a thoery focused on how managerial control and worker autonomy are shaped within a organization (Graham et al., 2017) .Literature on labor process theory (LPT) states these changes within broader socio economic shifts, pointing to how digital platforms reconfigure work organization and control (Graham et al., 2017; Adekoya et al., 2023). Regulatory perspectives are discussed by the Joint Research Centre (2024) & Gill (2024) and they emplain the growing legal challenges to platform work companies who use algorithmic control while classifying their workers as independent contractors. A particular regulatory response is the European Platform Directive which introduces transparency and fairness in algorithmic management. The European Platform Directive aims to address the challenges posed by algorithmic management in platform work by enhancing transparency and worker protections , pushing for proper worker classification.

To summarize and understand the relationship between the concepts, the central mechanism of this paper is algorithmic management that shapes the labor process in platform work, in which the hidden control through the system uses calls for worker reclassification. The technological control hidden in algorithmic management systems undermines workers autonomy and complicates the traditional employee-independent contractor distinction. Therefore, the European Platform Directive emerges as a regulatory response to these challenges, aiming to align legal definitions with actual work conditions shaped by digital platforms (Gill, 2024). With these concepts explored, this paper then explains how Bolt's algorithmic management practises are challenged by evolving regulatory frameworks as well as legal cases.

Research design and methods

Further in this research an outline of the methodology will be presented which is adopted to investigate how algorithmic management shapes the classification of Bolt's workers, and the extent to which emerging regulations, such as the European Platform Directive, challenge this classification. By starting with the research context and introducing Bolt and it's practices, then explaining the design and case selection process with the population focus, followed by the data collection and operationalization process. Additionally, an outline of the data analysis will be presented.

Research context

As mentioned before, the rise of digital platforms has transformed the nature of work , creating digital economies where short-term, task-based labor is managed via algorithms .

Companies like Bolt use this transformation, with data-driven systems to assign work, monitor performance, and determine wages (Bolt, n.d.).

While this has made things work better, it has also caused worries about job safety, worker types, and missing worker help. In Europe, these problems have led to rules, like the European Platform Directive, that try to show things clearly and make work fair, (Gill, 2024; European Platform Work Directive, 2024). By looking at Bolt, this study learns about platform work and investigates how computers manage people and if workers need to be sorted in Europe.

Bolt is a big European travel company from Estonia, working in many lands with services like rides, food, and scooters. A key feature of Bolt's business model is its use of algorithmic management to coordinate large-scale labor across countries. Bolt's Data Science and Machine Learning teams are deeply embedded in the Engineering division, where data scientists develop and own machine learning models and optimisation algorithms that power decisions across the platform . These systems determine task allocation, set fares, monitor performance, and automate work-related decisions such as ride distribution and driver deactivation (Bolt, n.d.) . While this approach promotes operational efficiency and scalability, it also raises fundamental questions about worker autonomy, classification, and legal protection especially as companies such as Bolt continue to classify its drivers as independent contractors rather than employees (Gill, 2024) .

Research design & Case selection

For this research a qualitative case study design is used to explore how algorithmic management influences worker classification on digital platforms, with a particular focus on

Bolt. Bolt is selected as the case because it is a prominent European digital platform that operates through algorithmic management while classifying their drivers as independent contractors. The platform has been at the center of recent legal and regulatory scrutiny, making it a relevant and recent subject for analysis. Complementing the case study, secondary data analysis has been done, which enables an in-depth examination of platform practices and regulatory responses without direct access to internal company data.

Data collection and operationalization

As previously mentioned, this study focuses on the European labor context. Since the European Platform Directive directly impacts digital platforms operating in the European context, the population of interest includes platform workers and platform companies subject to these regulations. Primary data has not been collected, therefore purposive sampling was applied in selecting Bolt as the central case and finding secondary data on algorithmic management practices. However some of the secondary data analyzed includes cases and practices related to Bolt in regions such as the United Kingdom and Africa. These cases were included because they illustrate how Bolt implements algorithmic management. Despite regional differences, Bolt's core practices remain largely consistent, making these examples relevant for understanding Bolt's overall approach to worker classification and control (Bolt, n.d.). Additional supporting examples from platforms such as Uber and Deliveroo are occasionally referenced for comparative purposes.

The secondary data sources include academic literature, policy documents, legal analyses, media reports, and official publications from institutions such as the European Commission and worker advocacy groups. Key concepts, which are algorithmic management,

platform work , worker classification, power asymmetry, were operationalized by using a thematic approach (Appendix B). Themes were identified across the data by examining recurring patterns, language, and examples that illustrate how platform practices affect labor conditions and employment status. Rather than using predefined variables , this paper allowed themes to emerge organically through repeated engagement with the materials, forming the basis for the thematic analysis.

Data analysis

Using secondary data drawn from academic literature, policy reposts, legal documents and media investigations a qualitative thematic analysis was conducted (Appendix A, Appendix B) . Key themes were identified across the data, by categorizing the data sources found in the following categories: Conceptualizing Algorithmic management & worker classification, Worker precarity and working conditions, Primary Legal analysis, Secondary Legal analysis, Bolt's practices , Bolts media reporting, Legal responses to algorithmic management (Appendix A). Then important relations between themes have been categorized as well, quotes from the data related to these themes are included (Appedix B). Quotes from media articles are not included. This categorization of data contributes to adequately analyzing the data.

Results

The challenges that algorithmic management presents to platform workers have been analyzed with secondary data and existing literature to explore why these challenges have initiated the necessity for reclassification. Subsequently, the European Platform Directive is

examined as a regulatory response to these issues. Finally, a case study of Bolt is given to illustrate how workers and regulatory responses challenge their independent contractor model.

Hidden control through Algorithmic Management & Worker Autonomy

Digital platform companies such as Bolt utilize algorithmic management to structure and oversee labor. This system involves automated decision-making processes that govern managerial tasks as task allocation, performance evaluations, ride distribution, and even deactivation (Jarrahi et al 2021; Duggan et al., 2019; JRC, 2024). But algorithmic management not only refers to the automation of managerial tasks but also to data-driven logic used to make decisions, the rules and decisions made by the algorithm are not random or personal, they are based on predetermined rules and data patterns which are coded into the system (Duggan et al., 2019; Litardi et al., 2024). As Duggen et al. (2019) wrote, this management system is embedded in data analytics systems that continuously track and evaluate worker behaviour in real time. While these methods increase operational efficiency , the implication of such practices is that managerial decisions are based on algorithms that often lack fairness (Litardi et al., 2024). Companies like Uber and Bolt control their independent workers using systems that allocate tasks, set prices and monitor performance which effects their workers, but they formally present these systems as normal automated systems (Duggan et al., 2019; Jarrahi et al., 2021; Worker Info Exchange, 2022). Therefore it can be seen that algorithmic management practices impose hidden controls that resemble traditional managerial oversight which exploits platform workers who are classified as independent contractors (Graham et al., 2017; Adekoya et al.,2023). This hidden control creates information and power asymmetry between the platforms and their workers allowing platforms to exercise employer-like authority without legal accountability (JRC, 2024a; Zhu et al., 2024).

The issues introduced by algorithmic management makes it clear that there is a misclassification of platform workers as independent contractors. Unlike traditional employees , independent contractors lack access to collective bargaining caused through power asymmetries and the lack of traditional workplace protections (Duggan et al., 2019; Jarrahi et al., 2021; JRC, 2024a). As Graham et al. (2017) argues, this model with independent contractors enables platforms to retain control while offloading responsibility which creates a duality that undermines worker rights. According to the Joint Research Centre of the European Commission (2024b) : "Algorithmic management often operates as a 'black box' system, where workers have little knowledge of how decisions are made, creating significant power asymmetries." With this quote the author explains how these asymmetries weaken worker bargaining power and diminish transparency. Which leaves platform workers unable to challenge or oppose decisions that directly affect their livelihoods. Jarrahi et al. (2021) and Duggan et al. (2019) provide empirical evidence that such systems significantly limit worker autonomy and make employment conditions precarious through opaque rules that they cannot contest or influence.

"Digital monitoring and algorithmic management create business opportunities, improve efficiency and simplify workflows, enabling firms to reduce costs related to coordination, monitoring, and supervision." (JRC, 2024b)

Platform work companies often use these digital platforms to have greater efficiency, lower costs and more flexibility, which makes them more profitable compared to companies with human oversight (JRC, 2024b; Litardi et al., 2024). Independent contractors on the other hand, are attracted to digital platform work due to its promise of flexibility, but this is often undermined by opaque hidden controls (Adekoya et al., 2023). According to Adekoya et al.

(2023) drivers of Bolt in Nigeria value the flexibility but feel trapped by rating systems and sudden suspensions.

Employers not being accountable as an employer and still exercising power limits the bargaining power of their workers when it comes to decisions made through these systems such as sudden deactivations (JRC, 2024a). Adekoya et al., (2023) and Graham et al., (2017) workers have little power when there are sudden deactivations or pay changes driven by automated evaluations . This hidden managerial control limits workers autonomy while staying profitable as a digital platform. Platforms like Bolt are strongly invested in defending this labor model to stay profitable, by even engaging in political lobbying to resist regulatory reforms like the European Platform Work Directive, this issue will be addressed in greater detail in a later section (Corporate Europe Observatory, 2024; Gill, 2024).

The European Platform Work Directive as a Regulatory Response

"Platform companies are operating in a lawless space where they believe they can make the rules. Unfortunately this isn't a game; virtual realities have harsh consequences for gig workers in real life. What's encouraging is that workers themselves are not waiting for laws, policymakers or even allies in the human rights movement to rescue them. Gig workers are organizing and using their collective voice to demand new protections that are fit for purpose in a digitizing economy." (Worker Info Exchange, 2022)

This statement from Worker Info Exchange (2022) highlights the severe regulatory space in which platform companies currently operate. A “lawless space” emphasizes how companies like

Bolt have been able to design and enforce their own labor practices, by escaping established labor standards and protections. In the figure of Appendix C, it can be seen that there are only 3 countries with legislation on algorithmic management targeting platform workers specifically while other countries focus on the general algorithms, which could also be algorithms used in traditional workplaces not related to the precarious state of platform workers and some do not even have such legislation (Litardi et al., 2024).

Algorithm management used by digital platforms has results for platform workers' livelihood, it creates uncertain and unstable functioning conditions. Importantly, the quotation admits that in the absence of adequate legal safety, gig workers are rapidly organizing and advocating for strong labor security that reflects the reality of algorithm management in the stage economy (Worker Info Exchange, 2022; Booth 2025; Osborne, 2016; Wiedemann, 2021;)

“ A coalition including the TUC, Amnesty International, couriers’ unions and the campaign group Privacy International claim the opaque use of algorithms is “automating exploitation”. They say withholding vital information from couriers about their work is “creating precarity, stress, and misery”.” (Booth, 2025)

Booth (2025) explains here a campaign launched in January 2025. Gig workers, trade unions and human rights groups started a campaign for more transparency from Uber Eats, Just Eat and Deliveroo about algorithmic management that determines what work gig workers do, what they are paid and automated performance monitoring and ratings in which workers are in fear of losing their jobs . Before this campaign James Farrar and Yaseen Aslam, former drivers of Uber also brought a legal case to court against Uber, in which they argued that Uber drivers should be granted greater employment rights, including a minimum wage, holiday pay and other

protections based on traditional employment (Osborne, 2016). Both cases capture the core issue that algorithmic management leaves workers triggered by distrust and emotional strain, the confusion creates ground for collective action. For example, algorithmically enforced delivery targets, such as meeting a strict 10 minute delivery target, led to growing worker frustration over unrealistic performance expectations and unsafe working conditions.

Also in Germany, couriers organized collectively to challenge these practices and advocate for better labor protections within the platform which was followed by the formation of the Gorillas Workers Collective in Berlin (Wiedemann, 2021). And in other parts of the world as Brazil collective bargaining against the working conditions under algorithmic management has been challenged with a National Day of action. On April first 2025 Brazilian couriers organised a day of action in which thousands of workers engaged in protest to demand better pay and algorithmic fairness in at least 60 cities (Nunes, 2025).

Gig platforms appear more committed than ever to maintaining control over their workforce while avoiding the legal and financial consequences of reclassifying workers from independent contractors to full employees. Many platform work organizations rely on misclassification tactics to avoid legal responsibilities associated with being an employer. This includes providing basic worker rights, providing social protections, a stable income, paying national insurance contributions (Worker Info Exchange, 2022). While classifying their workers as independent contractors Bolt and other companies exercise strong control through algorithmic management systems. With which they offload risks and costs onto the workers themselves (Duggan et al, 2019; Jarrahi et al., 2021). Again as Duggan et al. (2019) explains, algorithmic management effectively automates Human Resource functions such as task allocation and performance monitoring without being accountable as an employer. The European Union

therefore proposed the Platform Work Directive to address the growing power imbalance and legal concerns surrounding algorithmic management.This directive is a direct response to accumulating concerns about the exploitation of gig workers, particularly the misclassification of platform workers as independent contractors while clearly exercising control over their labor (Gill, 2024; European Platform Work Directive, 2024). The misclassification of platform workers allows platforms to avoid providing workers with basic labor rights which makes it able for companies like Bolt to minimize labor costs while exerting employer-like control via algorithmic systems (Worker Info Exchange, 2022).

The European Platform Work Directive addresses this fundamental contradiction of employer-like control through algorithmic management but classifying workers as independent contractors by establishing a legal structure that redefines employment relationships in digital platforms. The directive includes key articles that seek to correct the misclassification of gig workers and introduce transparency to algorithmic systems (Gill, 2024; European Platform Work Directive, 2024). Articles 4 and 5 introduce a legal presumption of employment which applies to platforms whey they exert a significant degree of control over workers. This could be evaluated through control excersized by setting prices, allocating tasks, determining working hours, or monitoring performance through algorithms (European Platform Work Directive, 2024). This gives companies the burden of proof who must now justify why their workers should not be classified as employed when these control indicators are present.

Moreover, the directive explicitly addresses the role of algorithmic management in reproducing employment-like control while simultaneously denying accountability. Articles 9-11 addresses this issue by asking for transparency in algorithmic decision-making, requiring platform companies to inform workers about how automated systems influence their access to work,

income and evaluations. Through this regulation, workers are able to challenge automated decisions, including unfair deactivations resulting from opaque performance metrics. Workers are getting some degree of agency over these invisible systems that govern their working conditions, it is a small power shift in the favor of workers (Gill, 2024) .
Further strengthening institutional oversight, Articles 16 and 17 mandate platforms again to adhere to transparency obligations, requiring platforms like Bolt to give information about working conditions and contractual relationships not only to workers but also to national authorities and worker representatives (European Platform Work Directive, 2024). This enables regulators to monitor compliance.

As Gill (2024) explains, this directive represents “a crucial step to protect European workers from machine made decisions”. Because the directive directly challenges the systems of digital platforms by making previously hidden mechanisms of control visible and accountable (Gill, 2024; JRC, 2024). According to the Joint Research Centre (2024), mandatory transparency would enable workers to understand and challenge the algorithms that govern them. The transparency addresses the core information asymmetries that Duggan et al. (2019) and Jarrahi et al. (2021) identify as characteristics of algorithmic management, which otherwise leave workers powerless against unilateral automated systems.

Worker Info Exchange (2022) frames the directive as a tool to break the “lawless space” platforms currently exploit. The companies like Bolt, Uber and Deliveroo are getting forced to justify classifying workers as self-employed. the directive lays a foundational framework for

future labor protections in digital platforms by introducing standards for algorithmic transparency and employment classification.

Additionally, Europe's broader AI Act, which imposes strict guidelines on how artificial intelligence can be used in employment contexts, particularly concerning automated decision-making and worker surveillance gets an addition with the directive (JRC, 2024). Together, these policies represent a European approach that aims to have ethical standars into the growing digital labor market. To secure that technological innovation does not erase ethical standards.

Bolt and Institutional Resistance

Bolt's labor model, centered on algorithmic management, forms an example for the very practices the European Platform Work Directive aims to reform. Although the company classifies its drivers as independent contractors, recent legal challenges suggest there should be a reclassification since its internal operational systems mirror those of traditional employment structures (Duggan et al., 2019; Jarrahi et al., 2021). Algorithmic management is central in this structure while this management systems mimics the traditional employer tasks without direct human supervision (JRC, 2024b). This form of digital control illustrates the "hidden employer authority" exercised by platforms like Bolt, the platform dictates the key conditions of work but without the legal obligations that comes with formal employment (Duggan et al., 2019).

Bolt's labor model and the negative aspects of their algorithmic systems has over time attracted a lot of legal attention. In November 2024, a UK tribunal ruled that Bolt's drivers were effectively workers, entitled to rights such as minimum wage and holiday pay. The court found that Bolt's

practices such as setting prices, allocating tasks through algorithms, and enforcing performance criteria all directed to control enforced in a traditional employment relationship. The tribunal's ruling made courts realize the concerns about hidden control. for example, drivers had little to no control over pricing, no opportunity to negotiate, and were subjected to performance metrics that affected their continued access to the app (Croft, 2025). This aligns with Duggan et al's (2019) assertion that "outsources accountability while retaining authority", creates a power imbalance which heavily favors the platforms and in Bolt's case, without legal recognition. The case also highlights worker resistance against their classification as independent contractors. Bolt drivers have actively sought reclassification by challenging the platform's business model through legal venues (Croft, 2024).

Beyond the EU, Bolt also faces regulatory challenges elsewhere, such as in Kenya. In Kenya authorities have threatened to revoke Bolt's license because non-compliance with local labor standards shows that regulatory scrutiny is not confined to Europe but is part of a broader global issue (Kiplagat, 2023). These regulatory changes are designed to close the gap between how platform work is framed legally and how it operates in practice. They aim to align worker classification with the realities of algorithmic control, pushing companies like Bolt to reconsider their labor models (Gill, 2024; Worker Info Exchange, 2022). These regulatory debates aim to close the gap between the legal framing of platform work and the practical realities of algorithmic management. This is done with the European Platform Work Directive, for instance by directly addressing that gap by embedding a presumption of employment of workers who are subject to extensive control mechanisms (European Platform Work Directive, 2024; Gill, 2024).

Even with the pressure from the European Platform Work Directive and several legal cases, Bolt has actively lobbied against the Platform Work Directive. Media investigations reveal that Bolt has engaged in lobbying efforts to influence EU regulation in favor of maintaining the independent contractor model. Internal documents revealed by Corporate Europe Observatory show that Bolt was closely coordinating with the Estonian government to weaken the European Platform Work Directive, particularly the legal presumption of employment. Bolt's lobbyists drafted a letter against stronger worker protections and encouraged Estonia to send it to the Spanish EU presidency as an official government position. This situation was enabled by personal connections, including a senior Estonian official, Sandra Särav who was a former Bolt lobbyist. But she still held stock in the company during her government role. Emails showed continued influence by Bolt and other platform companies during negotiations, aiming to delay or dilute the Directive until after EU elections. This again shows how platform companies like Bolt exert institutional influence to stay in a business model based on classifying workers as independent contractors, even with growing legal and political pressure to recognize their employee-like working conditions (Corporate Europe Observatory, 2024). By lobbying Bolt pushed for language that would make it harder to trigger the presumption of employment, aiming to keep more flexibility in classifying drivers as independent contractors. This underscores the institutional pushback from platforms seeking to avoid increased labor costs and legal responsibilities (Corporate Europe Observatory, 2024).

In summary, the findings reveal that algorithmic management functions as both a governance tool and a profit-maximization strategy that allows platforms like Bolt to maintain operational control without granting workers the rights associated with employment. This hidden

control generated precarious working conditions and power asymmetries but it is also vague about the workers' income, job security and long-term career stability (JRC, 2024a ; Adekoya et al., 2023; Graham et al., 2017). The European Platform Work Directive is a direct response to these structural issues by introducing legal mechanisms for reclassification, demanding transparency in factors as algorithmic decision making, and granting workers the right to challenge automated managerial decisions (European Platform Directive, 2024; Gill, 2024). By analyzing Bolt's practices within this regulatory context, the case study shows that algorithmic management is not only a technological innovation, but it also restructured labor relationships that mirrors traditional employment while evading the legal obligations that comes with traditional employment (Duggan et al., 2019; Jarrahi et al., 2021). The institutional resistance that is ongoing from companies like Bolt demonstrates that regulatory reforms will remain a challenge. Ultimately, these insights gives the importance to the need of strong, enforceable legal frameworks are needed to safeguard workers' rights in the face of rapidly advancing algorithmic management systems. Without these protections digital labor platforms risk the growth of existing inequalities and undermining long-established labor standards in favor of opaque, profit-driven control structures.

Discussion

Summary of key findings

This study explained how Bolt but also companies like Bolt use algorithmic management and how this system shapes the classification of it's workers and how emerging regulations such as the European Platform Work Directive challenge these practices. The findings reveal that while Bolt officially classifies its drivers as independent contractors, the operational control done

by them mirrors traditional employment relationship practices (Duggan et al., 2019; Jarrahi et al., 2021; Graham et al., 2017). Algorithmic management automated functions as task allocation, fare setting, performance evaluation, and even disciplinary action were actually performed before by human managers (Duggan et al., 2019). Through real-time data collection, location tracking, customer ratings, and automated performance thresholds , Bolt manages not only the tasks performed by their drivers but also influences their access to income stability and long-term participation on the platform (Jarrahi et al., 2021). Algorithmic management and its role as hidden manager creates an environment were there is a what Duggan et al. (2019) calls "decoupling of control and accountability", companies have hidden decision-making authority while distancing themselves from legal responsibilities. It contributes to a power asymmetry which leaves drivers unable to negotiate working conditions or challenge decisions made by automated systems (Adekoya et al., 2023).

A sense of dehumanization is also fostered by algorithmic management. Drivers are increasingly subject to decisions made by algorithms rather than human managers (European Commission's Joint Research Centre, 2024). As Graham et al., (2017) emphasizes , these conditions mirror precarity and insecurity.

Legal challenges have been triggered because of the misalignment between Bolt's control mechanisms and it's classification model. Courts have begun to recognize the misclassification, in which gig workers are formally independent contractors, the nature of control exercised by platforms qualifies them as employees. In the UK for example, a tribunal ruling in 2024 concluded that Bolt drivers were actually employees and thus have the rights to basic employment rights such as minimum wage, paid holidays and pension contributions (Croft, 2025; The Guardian, 2024). The UK tribunal findings directly reflects the findings in literature,

particularly Duggan et al. (2019), who argues that gig work undermines establishes employment norms by deploying managerial authority without accountability. Bolt's pricing control, task allocation through algorithms and constant performance monitoring served as key indicators of employment-like control, neglecting the fact that the drivers of Bolt work as independent contractors.

The European Union introduces the Platform Work Directive (2024) is a regulatory response to address worker misclassification and algorithmic opacity. It has a legal presumption of employment when platforms exercise significant control over their workers, forcing platforms to justify why workers are classified as independent contractors. Additionally the directive asks for algorithmic transparency, requiring platforms to disclose how automated systems govern managerial tasks. It also strengthens institutional oversight by requiring platforms to submit algorithmic processes, contracts and employment data to regulatory bodies and worker representatives (European Platform Work Directive , 2024; JRC, 2024). These legal mechanisms are directly connected to improving information asymmetries and hidden employer control documented in the literature of this study (Duggan et al., 2019; Jarrahi et al., 2021).
Even with this political pressure, platform companies like Bolt have engaged in lobbying campaigns to undermine or delay the implementation of the Platform Work Directive. As revealed by Corporate Europe Observatory (2024), Bolt coordinated with the Estonian government and drafted official government statements opposing the presumption of employment. With personal political connections, Bolt's lobbyists tried to protect the independent contractor model to stay profitable (Corporate Europe Observatory, 2024). By maintaining the classification of independent contractors, platforms are avoiding legal obligations that come with traditional employment (Worker Infor Exchange, 2022). This

resistance shows the high financial stakes and profitability involved in the issue of employment classification, since Bolt tried to lobby against the European Platform Work directive to safeguard their low-cost, high-flexibility labor model.

Misclassification within digital platform models has not only been challenged in Europe, also in other parts of the world this has been a recent issue with Bolt but also companies like Uber and Deliveroo that use the same algorithmic system while classifying their workers as independent contractors (Duggen et al., 2019; Jarrahi et al., 2021; Adekoya et al., 2023). In Kenya, for example, authorities threatened to revoke Bolt's license due to non-compliance with labor standards (Kiplagat, 2023). But also in Brazil a day of action was organized demanding such delivery companies for better pay and conditions (Nunes, 2025). Or in Berlin where the formation of the Gorilla Worker Collective happened for better labor protections for platform workers (Wiedemann, 2021) . These developments illustrate that the debate on algorithmic management and worker classification are not confined to Europe but represent a global realignment of how platform work is governed (Adekoya et al., 2023; Graham et al., 2017).

Theoretical and practical contributions

a. Theoretical Contributions

This research contributes to the broader field of management and organization studies by providing an understanding of algorithmic management in the gig economy. Building on the conceptual foundations laid by Duggan et al. (2019) and Jarrahi et al. (2021), this study bridges the gap between abstract models of algorithmic governance and the lived experiences of workers. Especially for the workers of delivery platforms such as Bolt. It extends the Labor Process Theory (LPT) by showing how new technologies replicate traditional managerial hierarchies

under the name of innovation and flexibility (Graham et al., 2017). In particular, emphasizing on how algorithmic management creates hidden forms of managerial control without legal accountability and with this system platforms avoid employer responsibilities (Duggan et al., 2019; Jarrahi et al., 2021; Worker Info Exchange, 2022).

The study further demonstrates how labor relations are changing with information asymmetries between platforms and platform workers within the context of digital capitalism. Technology has been rapidly growing over the past decade, with AI being one of the biggest innovations. In recent years, it has been under legal discussion since it is used everywhere without any limitations (JRC, 2024b). As such, algorithmic management has been an innovation that is under legal discussion as well since this has a great impact on the working conditions of workers managed through algorithms (Duggan et al., 2019; Jarrahi et al., 2021; Worker Info Exchange, 2022; Litardi et al., 2024) . This study further adds an understanding on how the technological innovation of algorithmic management mimics human-like managerial tasks that are seen in traditional employment relations, but in digital platforms these tasks are performed without the legal obligations of a traditional employer-employee relationship. In further legal discussions this understanding contributes to the misclassification concerns of platform workers, such as the platform workers of Bolt who filed a case at court in the UK.

Moreover, this study adds to emerging theoretical debates on regulatory governance by demonstrating how legal interventions, such as the European Platform Work Directive, serve as corrective mechanisms that recognize algorithmic management as constituting functional employment control (European Platform Work Directive, 2024; Gill, 2024).

This research also contributes to the classification theory in employment relations. The findings reveal how digital platforms manipulate these legal categories for strategic advantage. With this study there is a calling for a more dynamic understanding of employment classification that accounts for the algorithmic governance and organizational accountability.

Finally, the study extends on the understanding of worker agency. As workers engage in legal challenges , protests and collective organization against algorithmic control. New forms of resistance emerge which was not the case in the past since these innovations did not exist. This study therefore also adds to the understanding of algorithmic control for platform workers , to understand their working conditions since this is hindered by power asymmetries within digital platforms (JRC, 2024a).

b. Practical Contributions

This research provides several important practical insights for each different stakeholders involved in the governance and operation of digital labor platforms.

Concerning the digital platform companies such as Bolt, a reconsideration of their current labor models are necessary with consideration to algorithmic accountability. The findings highlight that companies such as Bolt, Uber and Deliveroo will increasingly face regulatory and legal challenges that in place challenge their existing business models centered on algorithmic management and independent contracting. As revealed by the legal case of Bolt in the UK, courts are beginning to recognize that platforms exert employer-like control through algorithmic management, undermining the validity of the independent contractor status. This signals a strategic need for reevaluating the labor models for companies using digital platforms. If platforms choose to continue relying on algorithmic management without proper oversight or

worker protections, it will have its consequences. The reputation of digital platforms could be damaged, by legal cases that could arise. The European Platform Work Directive is just the beginning of legal pressure on automated systems, in the light of legal discussions there will also be a rise in legal liabilities, in which not adhering to them could consequate in financial penalties. As the European Platform Work Directive mandates algorithmic transparency and human oversight in key decisions (article 9-11) , companies must invest in a more transparent algorithmic design. This design must include improved communication with workers rather than automated decisions that cause information asymmetires. Bolt and similar platforms should proactively develop systems where algorithms assist management decisions but final decisions are reviewed by human supervisors (European Platform Work Directive, 2024; JRC, 2024b). Particularly these final decisions should be reviewed by human supervisors such as penalties, deactivations, and contract terminations. By improving transparency, platforms can also foster greater worker trust and reduce legal disputes related to unfair algorithmic decision-making.

Furthermore, this study highlights the urgent need for policymakers to align regulatory frameworks with the practical realities and consequences of algorithmic management. The legal presumption of employment embedded in the European Platform Work Directive (articles 4 and 5) is a legal tool for regulators to close the classification exploited by digital platforms. Regulators prevent worker misclassification and ensure that platform workers receive appropriate labor protections, including minimum wage, social security and employment benefits by shifting the burden of proof to companies with the European Platform Work Directive (Gill, 2024; Worker Info Exchange, 2022). The information sharing requirements in Articles 16 and 17 are an important step in facilitating oversight on platforms (JRC, 2024). Additionally, Bolt's efforts to influence the European Platform Work Directive through national governments must

not repeat and regulators must stay against institutional lobbying (Corporate Europe Observatory, 2024). Transparent policymaking processes are necessary to safeguard regulatory integrity and prevent corporate capture.

For worker organizations, unions and advocacy groups, this study offers valuable insights for those seeking support for platform workers. The empirical evidence confirms that algorithmic management functions as a powerful control mechanism, which limits autonomy (Duggan et al., 2019; Jarrahi et al., 2021; Adekoya et al., 2023). They can use these findings to argue that platform workers are subjected to employer-like control, and demand for reclassification and collective bargaining rights. Successful collective actions such as protests by Gorillas Workers Collective and the UK tribunal cases against Bolt illustrate that worker autonomy remains possible even in algorithmically managed environments (Wiedemann, 2021; Croft, 2025). Furthermore, to enable better monitoring of platform practices and facilitating negotiations on fairer performance metrics, task distribution and dispute resolution mechanisms, worker organizations can utilize transparency provisions of the European Platform Work Directive to gain access to algorithmic data.

Finally the European Platform Work Directive (2024) itself is a global precedent on regulations around algorithmic management. This research provides practical understanding of this directive, particularly related to the misclassification of platform workers. For countries outside Europe, such as Kenya, where Bolt has faced regulatory challenges, the European Platform Work Directive is an example to balance innovation with fair labor standards (Kiplagat, 2023). The European Platform Work Directive, which combines employment classification with algorithmic transparency, human oversight and cross-border regulatory cooperation sets as an example model for global policy makers (European Platform Work Directive, 2024; Gill, 2024).

Limitations and future research

Despite its theoretical and practical contributions this study is subject to some limitations that offer important directions for future research.

The data is entirely secondary data, including academic literature, policy documents, legal rulings, media reports and advocacy publications. These sources provide valuable insights into algorithmic management practices and regulatory developments, but they do not capture first-hand worker experiences or platform management perspectives. As noted by Adekoya et al. (2023) and the Joint Research Centre (2024b), workers' lived experiences under algorithmic management may vary across individual cases. The understanding regarding how Bolt drivers personally experience algorithmic control, how they perceive fairness in task allocation, or how they emotionally navigate opaque performance evaluations could have been found with primary data, which is limiting the depth of this research with only secondary data. Future research could incorporate interviews or survey methodologies to provide more insights into the subjective worker experiences (Jarrahi et al., 2021; Duggan et al., 2019).

Apart from that this study is mainly focused on the European Platform Work Directive and includes case studies as the UK tribunal and Bolt's lobbying in Estonia, which all is a largely Eurocentric focus. However, the gig economy operated globally, and platform labor models may differ because of national labor laws, cultural norms or institutional frameworks. Looking at the regulatory challenges Bolt faced in Kenya suggests that labor governance in non-european contexts may require different regulatory frameworks because of different socio-economic dynamics and enforcement capacities (Kiplagat, 2023; Adekoya et al., 2023; Graham et al., 2017).

Another limitation is the evolving nature of both algorithmic management technologies and regulatory responses. Findings in this study are based on the current regulatory environment, but ongoing developments may make platform work substatially different in the near future. Longitudinal studies will be needed to assess the effectiveness of these regulations over time and in this way to evaluate how platforms adapt or resist new obligations.

In light of these limitations, several key areas emerge for future research on algorithmic management, labor relations and platform governance. As said earlier as well, future studies should prioritize qualitative, worker-centered research to explore more about the effects of algorithmic management and why classifying them as employees is important. Future research could also explore on how algorithmic management is actually designed, understanding how decisions are weighted and which data is used and how AI principles can be integrated into platform work management. While this study looks at worker protests, unionization, and legal challenges. A more systematic research could explore how workers collaborate , organize and develop innovative restistance tactics (Wiedemann, 2021). This kind of research would provide insights into the evolving balance of power between platforms and workers in the digital age and could contribute to the Labor Process Theory by highlighting both control and resistance dynamics.

Conclusion

In the beginning of this research the central question stated was: *How does Bolt's algorithmic management system shape the classification of its workers, and to what extent do emerging regulations like the European Platform Work Directive challenge its categorization of drivers as employees?* Through a detailed analysis of secondary literature (appendix), policy

documents, legal rulings, and media reports, this research demonstrates that algorithmic management plays an important role in reshaping labor relations within digital platform work. Companies like Bolt formally categorize their workers as independent contractors, which allows these companies to neglect legal obligations related to wages, benefits, job security and social protections (Duggan et al., 2019). But in practice, Bolt exerts employer-like control through their algorithmic systems. This algorithmic system also called algorithmic management is used by many digital platforms like Bolt to manage task allocation, price-setting, performance monitoring, and even disciplinary actions (Jarrahi et al., 2021; JRC, 2024b). The findings of this paper confirm that this control structure creates a fundamental contradiction. This contradiction lies in the fact that while these platforms deny legal responsibility for their workforce, they nevertheless maintain significant functional authority that mirrors traditional employment relationships (Graham et al., 2017). This duality exposes workers to precarious working conditions, for instance income volatility and psychological strain arising from constant digital surveillance and opaque algorithmic decision-making (Adekoya et al., 2023).

Furthermore, courts are beginning to recognize these algorithmic management practices as clear indicators of employment-like dependency, this is seen in legal developments as the UK tribunal ruling against Bolt in 2024 and different protests in Europe as well as in other parts of the world and the development of the European Platform Work Directive (Croft, 2025; The Guardian, 2024; Wiedemann, 2025; European Platform Work Directive, 2024). This highlights the increasing tension between digital platform business models and traditional employment principles grounded in fairness, accountability and social protections, since the business models of digital platforms exercise extensive employer-like control through algorithms. The European Platform Work Directive represents a regulatory intervention aims to directly addressing these

contradictions. By embedding a legal presumption of employment and mandating algorithmic transparency and oversight, the directive shifts the regulatory focus from formal contractual definitions to the actual control systems exercised by platforms (European Platform Work Directive, 2024; Gill, 2024). It recognizes the modern form of managerial authority that should have legal recognition as employment relationships.

However, from the perspective of platform companies like Bolt this study uncovers substantial resistance as well. Bolt actively lobbied to weaken or delay the directive's implementation (Corporate Europe Observatory, 2024). This resistance reflects the profitability and pros companies like Bolt see in the independent contractor model, it is a way to minimize their costs while maximizing flexibility. It also demonstrates that regulatory enforcement remains a significant challenge that will require sustained political will and active participation from worker organizations, unions and civil society (Worker Info Exchange, 2022). At a broader level, the findings explains ongoing theoretical debates about how algorithmic management reshapes labor relationships and dynamics. The study extends the Labor Process Theory (LPT) by illustrating how algorithmic technologies mimics managerial tasks while concealing employer accountability (Graham et al., 2017; Duggan et al.,2019; Jarrahi et al., 2021).

Again, the findings challenges employment classifications in the digital economy highlighting how control and dependency is exercised and how this should determine their employment status. In conclusion, Bolt's use of algorithmic management explains how digital platforms should restructure labor relations because of blending technological innovation with managerial authority. Algorithmic management offers operational efficiency for platforms but it simultaneously creates hidden control structures. The European Platform Work directive is a significant legal response, offering a framework for reclassification and transparency. But

ongoing institutional resistance underscores that fully aligning digital labor practices with fair employment classifications will require continuous policy innovation and active enforcement. Algorithmic efficiency and fair labor standards are not mutually exclusive, and as the gig economy continues to grow this balance will be central to shape the future of work in digital platforms.

References

Algorithmic management and digital monitoring of work. (2024a). The Joint Research Centre: EU Science Hub. https://joint-research-centre.ec.europa.eu/projects-and-activities/employment/algorithmic-management-and-digital-monitoring-work_en

Algorithmic management practices in regular workplaces are already a reality (2024b). The Joint Research Centre: EU Science Hub. https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/algorithmic-management-practices-regular-workplaces-are-already-reality-2024-02-23_en

Adekoya, O. D., Mordi, C., Ajonbadi, H. A., & Chen, W. (2023). Implications of algorithmic management on careers and employment relationships in the gig economy – a developing country perspective. *Information Technology And People*. https://doi.org/10.1108/itp-01-2023-0064

BBC News. (2024, November 8). *Bolt drivers win right to holiday and minimum wage*. https://www.bbc.com/news/articles/c7047kz0vr0o

Bolt's shady lobbying on the Platform Work Directive, exposed by internal documents, causes public outcry in Estonia. (n.d.). Corporate Europe Observatory. https://corporateeurope.org/en/2024/05/bolts-shady-lobbying-platform-work-directive-exposed-internal-documents-causes-public?

Croft, J. (2025, 2 april). Bolt drivers seek to be classed as workers at London employment tribunal. *The Guardian*. https://www.theguardian.com/money/article/2024/sep/11/bolt-drivers-london-employment-tribunal-workers-rights

Directive - *EU - 2024/2831 - EN - EUR-LEX*. (2024). https://eur-lex.europa.eu/eli/dir/2024/2831/oj/eng

Duggan, J., Sherman, U., Carbery, R., & McDonnell, A. (2019). Algorithmic management and app‐work in the gig economy: A research agenda for employment relations and HRM. *Human Resource Management Journal*, *30*(1), 114–132. https://doi.org/10.1111/1748-8583.12258

Gill, J. (2024, 19 maart). EU's new gig-worker rules could tame "management by algorithm". *The Japan Times*.

https://www.japantimes.co.jp/business/2024/03/19/companies/eu-gig-worker-rules-algorithm/

Graham et al., (2017): *Digital labour and development: impacts of global digital labour platforms and the gig economy on worker livelihoods*

https://doi.org/10.1177/1024258916687250

How data science is done at Bolt | Bolt. (z.d.). https://bolt.eu/en/blog/how-data-science-is-done-at-bolt/

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

Kokshagina, O., Reinecke, P. C., & Karanasios, S. (2022). To regulate or not to regulate: unravelling institutional tussles around the regulation of algorithmic control of digital platforms. *Journal Of Information Technology*, *38*(2), 160–179. https://doi.org/10.1177/02683962221114408

Litardi, C., Adăscăliței, D., Widera, S. (2024). *Regulatory responses to algorithmic management in the EU | European Foundation for the Improvement of Living and Working Conditions*. https://www.eurofound.europa.eu/en/resources/article/2024/regulatory-responses-algorithmic-management-eu

Nunes, R. (2025, 25 april). A lesson from Brazil – where gig workers have rallied against the right. *The Guardian*. https://www.theguardian.com/commentisfree/ng-interactive/2025/apr/25/brazil-right-precarious-workers-pay-conditions?

The Guardian . (2024, November 8). Thousands of UK Bolt drivers win legal claim to be classed as employees. *The Guardian*. https://www.theguardian.com/law/2024/nov/08/uk-bolt-drivers-employment-tribunal-employees

Worker Info Exchange (2022). Managed by Bots, a report by Worker Info Exchange. *Worker Info Exchange*. https://www.workerinfoexchange.org/post/managed-by-bots-a-report-by-worker-info-exchange

Zhu, J., Zhang, B., & Wang, H. (2024). The double-edged sword effects of perceived algorithmic control on platform workers' service performance. *Humanities and Social Sciences Communications*, *11*(1). https://doi.org/10.1057/s41599-024-02812-0

Appendices

Appendix A

Data Table:

Data theme	Data source	Data summary	Relevance to RQ
Conceptualizing Algorithmic management & worker classification	Duggan et al. (2019): *Algorithmic management and app‐work in the gig economy: A research agenda for employment relations and HRM. Human Resource Management Journal, 30(1), 114–132.* https://doi.org/10.1111/748-8583.12258	The data defines key concepts such as algorithmic management, gig economy, platform work, and independent contractors. It explains how algorithmic management restructures employment relations by enabling platforms to exert significant control while classifying workers as independent contractors to avoid legal obligations.	Supports the argument that platforms like Bolt exert employer-like control while avoiding formal employment responsibilities. This directly links to debates on worker misclassification and regulatory challenges.
	Jarrahi et al. (2021): *Algorithmic management in a work context. Big Data & Society, 8(2).* https://doi.org/10.177/20539517211	Examines how algorithmic management automates traditional managerial tasks such as scheduling, task assignment, and performance monitoring. The data highlights how this automation reduces worker autonomy, transparency and creates new forms of control in both the gig and traditional platforms.	Provides a understanding on how algorithmic management automated control over workers, limiting their autonomy while maintaining the appearance of independence. It supports the analysis on Bolts practices and contributed to worker misclassification and the necessity of a regulatory response
	Algorithmic management and digital monitoring of work. (2024a). https://joint-research-centre.ec.europa.eu/projects-and-activities/employment/algorithmic-	Provides empirical insights into how algorithmic management and digital monitoring shape labor conditions in platform and traditional work. And how this affects job quality, worker autonomy, transparency and why regulatory	Evidence on how platforms use algorithmic management which mimics employer like control while avoiding legal obligations. It highlights the urgency and justification behind measures such as the EU

	anageMent-and-digit l-monitoring-work_n	oversight is important.	directive.
Worker precarity and working conditions	Adekoya et al. (2023): *Implications of algorithmic management on careers and employment relationships in the gig economy – a developing country perspective.* https://doi.org/10.1108/itp-01-2023-0064	Explores the impact of algorithmic management and career development, particularly in developing countries. The study highlights precarity, reduced worker autonomy, opaque decision making processes that limits worker rights and security	Strengthens the analysis of Bolts use of algorithmic management by showing how it leads to precarious work conditions and undermines traditional labor protections. Reinforces the need for reclassification of platform workers in a broader context.
	Graham et al., (2017): *Digital labour and development: impacts of global digital labour platforms and the gig economy on worker livelihoods* https://doi.org/10.1177/10242258916687250	Focuses on how gig work creates new opportunities while also introducing instability, lack of protections and increased control over workers through digital systems,	Conceptualizes the broader impact of platforms like Bolt by explaining how these labor structures empower and exploit workers. It supports the argument that algorithmic management contributes to worker precarity and underscores the importance of regulation.
	Algorithmic management practices in regular workplaces are already a reality. (2024b). The Joint Research Centre: EU Science Hub. https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/algOrithmic-management-prActices-regular-workplaces-are-already-reality-2024-02-23_en	Empirical findings on algorithmic employer control and need for legal clarity.	Further supports the argument on how platforms like Bolt exert control through algorithmic management avoiding employment obligations. It strengthens the argument for the need of regulatory intervention.
Primary Legal analysis	EU Platform work Directive: Articles 4 & 5	The directive introduces a legal presumption of employment for platform workers if there are indicators of direction and control by the platform.	If Bolt exerts control over drivers such as setting prices, allocating tasks or monitoring work performance, they may legally be considered employees rather than independent contractors. These articles are relevant

			in discussing whether bolt drivers should be classified as employees or self-employed , this directive provides legal backing for reclassification efforts.
	EU Platform Work Directive: Articles 9-11	Algorithmic management and transparency: Digital labour platforms must disclose how their algorithms work, especially in areas such as task allocation, payment structures, performance evaluation and penalties.	Workers therefore have the right to challenge automated decisions, if bolt uses automated systems to allocate rides, set dynamic pricing, or deactivate drivers, this pushes them to reclassify their independent contractors.
	EU Platform Work Directive: Articles 16 & 17	Regarding cross border platform regulations and transparency: Platforms must declare work performed by drivers to national authorities.	Bolt therefore must disclose data on employment status, earning and working conditions to both authorities and worker representatives. This is relevant regarding how this directive challenges Bolt to comply with the reporting requirements.
Secondary Legal analysis	Gill, J. (2024). *EU's new gig-worker rules could tame "management by algorithm"*. The Japan Times. https://www.japantimes.co.jp/business/2024/03/19/companies/eu-gig-worker-rules-algorithm/	Reports on the EU directive focusing on regulating algorithmic management by requiring human oversight and transparency in decision making. It emphasizes the aim of the directive to protect gig workers from opaque and exploitative algorithmic control	Relevant to illustrate how the EU directive addresses issues posed by Bolt's algorithmic management system. Arguments that such regulation is essential in challenging misclassification of worker and ensuring fair labor practices.
Bolt's practices	*How data science is done at Bolt | Bolt*.(z.d.). https://bolt.eu/en/blog/how-data-science-is-done-at-bolt/	Explains that data scientists play a central role in developing and maintaining machine learning models that automate core business functions such as ride	Highlights how Bolt relies on algorithmic systems to manage its workforce, replacing traditional managerial roles with automated decision-making. It

		allocation, pricing, and performance monitoring.	supports the research question by showing how such practices contribute to the employer-like control of drivers, reinforcing concerns around misclassification
Bolts media reporting	The Guardian (2024, November 8): *Thousands of UK Bolt drivers win legal claim to be classed as employees. The Guardian.* https://www.theguardin.om/law/2024/nov/08/u-bLt-drivers-employment-trunal-employees	In November 2024, a UK employment tribunal ruled that Bolt drivers should be classified as employees, entitling them to rights such as minimum wage and holiday pay. The decision was based on Bolt's significant control over drivers, including fare setting and ride allocation; the company has announced it will appeal the ruling.	This case is relevant to the research as it directly challenges Bolt's use of independent contractor status, showing how legal systems are responding to algorithmic control with demands for proper employment rights; just like the European Platform Directive aims to do.
	Croft, J. (2025, 2 april). Bolt drivers seek to be classed as workers at London employment tribunal. *The Guardian*. https://www.theguardian.com/money/article/2024/sep/11/bolt-drivers-london-employment-tribunal-workers-rights	Reports on a legal case in which Bolt drivers in London are seeking to be classified as workers rather than self-employed contractors. The drivers argue that Bolt exercises significant control over their work through algorithmic systems that determine pay, assign rides, and manage performance. The tribunal will assess whether these management practices establish a functional employment relationship.	Supports the research question by showing how Bolt's algorithmic management practices are being challenged legally as a form of disguised employment.
	Bolt's shady lobbying On the Platform Work Directive, exposed by internal documents, causes public outcry In Estonia. (n.d.). https://corporateeuro	The article reveals that Bolt engaged in undisclosed lobbying efforts to influence the European Platform Work Directive, aiming to	It underscores the tension between platform companies' interests and regulatory efforts like the European Platform Work Directive, which aims to

	e.rg/en/2024/05/bolshaY-lobbying-platfm-woK-directive-exosed-intRnal-documnts-causes-ublic	maintain the classification of its drivers as independent contractors.	ensure fair labor practices in the gig economy.
	Kiplagat, S. (2023, November 1st) *Bolt ordered to comply with rules or lose license.* https://www.businessdailyafrica.com/bd/corporate/companies/bolt-ordered-to-comply-or-promptly-lose-its-license--4420514	Kenya's National Transport and Safety Authority (NTSA) warned Bolt that it risked losing its operating license due to alleged violations, including unauthorized commission charges and booking fees. In response, Bolt pledged to invest €100 million in Kenya over five years to expand its services and improve compliance with local regulations.	Illustrates how regulatory bodies are challenging Bolt's operational practices, highlighting the broader issue of how digital platforms must adapt to evolving legal frameworks
Legal responses to algorithmic management	Booth, R. (2025, 20 januari). Delivery apps urged to lift lid on 'black-box algorithms' affecting UK couriers. *The Guardian*. https://www.theguardian.com/business/2025/jan/20/fOod-delivery-apps-uberetS-deliveroo-justeat-urgedReveal-how-algorithms-affect-uk-courierss-work	UK labor organizations demanding transparency from food delivery platforms like Uber eats, Deliveroo and Just Eat. In this article is seen howthese platforms use opaque algorithms to assign work, set pay rates and deactivate workers without proper explanations. Workers call for new regulations requiring transparency.	This article supports this RQ with the argument that algorithmic management exerts employer-like control, on which workers call for new regulations.
	Nunes, R. (2025, 25 april). A lesson from Brazil – where gig workers have rallied against the right. *The Guardian*. https://www.theguardian.com/commentisfree/ng-interactive/2025/apr/25/brazil-right-precarious-workers-pay-conditions?	This article emphasizes on how platform workers have organized themselves to push for better wages, protections and legal recognition but are now facing political setbacks that may weaken these advances.	It is a strong example of worker agency and collective resistance towards the algorithmic control digital platforms use. It also shows that even where legal recognition exists, political pressure can reverse or weaken labor protections, highlighting the ongoing struggle for regulatory enforcement.

	Osborne, H. (2017, 28 november). Uber loses right to classify UK drivers as self-employed. *The Guardian*. https://www.theguardian.com/technology/2016/oct/28/uber-uk-tribunal-self-employed-status	This article is another UK employment tribunal decision ruled that Uber drivers should be classified as workers.	The decision illustrates how courts have already recognized that algorithmic control equals employer-like control, undermining self-employment claims by platform companies.
	Litardi, C., Adăscăliței, D., Widera, S. (2024). *Regulatory responses to algorithmic management in the EU | European Foundation for the Improvement of Living and Working Conditions*. https://www.eurofound.europa.eu/en/resources/article/2024/regulatory-responses-algorithmic-management-eu	This policy brief explains the growing regulatory responses across the EU to algorithmic management, focusing on transparency, human oversight and employment classification. It provides a detailed summary of the directive, highlighting efforts to realign worker classification with actual working conditions shaped by algorithmic control.	Its a direct policy analysis that helps this research with understanding the European Platform Work directive. It gives a confirmation that the EU sees algorithmic management as a serious risk to fair labor standards.
	Worker Info Exchange (2022). Managed by Bots, a report by Worker Info Exchange. *Worker Info Exchange*. https://www.workerinfoexchange.org/post/managed-By-bots-a-report-by-worker-info-exchange	The report explains how algorithmic management exerts significant control over workers as independent contractors. It also exposes lobbying effects from platform companies to resist regulatory changes aimed at addressing these issues.	It gives detailed information on how algorithmic management allows platforms to control workers while maintaining the misclassification of independent contractors.

Appendix B

Theme	Code	Quotes
Digital platforms & Algorithmic Management	Profitability of platforms using algorithmic management	"Algorithmic management keeps marginal and labour costs relatively low, with considerable savings stemming from platforms functioning as virtual automated managers, thus negating the need for human supervisors and managers." (Duggan et al., 2019) "Algorithmic management could improve service supply, enhance efficiency, lower costs, reduce deficiencies and unproductiveness in existing markets, facilitate the creation of new markets, promote flexibility and increase accessibility for workers" (Adekoya et al., 2023) "Platform providers have a detailed, rigid in-house financial control system that aims at firmly controlling labour costs. This is one of the reasons why employers cut the payment made to employees, as gig economy drivers act as buffers to absorb business costs or shocks during the production process and dispose of them if they are uncollaborative, uncooperative and need to save costs." (Adekoya et al., 2023) "Digital monitoring and algorithmic management create business opportunities, improve efficiency and simplify workflows, enabling firms to reduce costs related to coordination, monitoring, and supervision." (JRC, 2024b) "Platforms' ability to scale up operations with little increase in human resources has made algorithmic management an essential tool for maximising efficiency and profitability." (Litardi et al., 2024)
	The definition of algorithmic management	"We define algorithmic management as a system of control where self-learning algorithms are given the responsibility for making and executing decisions affecting labour, thereby limiting human involvement and oversight of the labour process." (Duggan en al., 2019) "Algorithmic management should rather be understood as a sociotechnical process emerging from the continuous interaction of organizational members and the algorithms that mediate their work." (Jarrahi et al., 2021) "Digitalisation, including digital monitoring and algorithmic management, creates new business opportunities, improves efficiency and simplifies

		workflows.” (JRC, 2024a) "Algorithmic control refers to management’s utilization of advanced digital technologies and intelligent algorithms to align individual worker behaviors with the goals of the organization." (Zhu et al., 2024) "Algorithmic management refers to the use of data-driven algorithms to allocate work, evaluate performance and determine employment conditions." (Litardi et al., 2024)
	Algorithmic management and control	“Algorithmic management tracks, disciplines and sets expectations for workers without human supervision or recourse, often potentially to the detriment of workers’ social protection.” (Duggan et al., 2019) “Platforms use different mechanisms of control to withhold information from the workers or even remove them from the platform.” (Jarrahi et al., 2021) “Algorithmic opacity can be employed as a control mechanism to maximize the organization’s objectives.” (Jarrahi et al., 2021) “Performance and rating systems are employed as part of the labour process on digital platforms. Uber and Bolt deployed similar performance and rating systems.” (Adekoya et al., 2023) “Algorithmic management refers to the delegation of managerial functions to algorithmic systems, often replacing or complementing human supervision.” (JRC, 2024) “Algorithmic management creates information asymmetries between employers and employees, weakening bargaining power and involvement of workers.” (JRC, 2024a) “Algorithmic management often operates as a ‘black box’ system, where workers have little knowledge of how decisions are made, creating significant power asymmetries.” (JRC, 2024b) "Algorithmic control damages individuals’ job autonomy and creates power asymmetry in information availability." (Zhu et al., 2024) "Platforms rely on continuous monitoring of worker behaviour, tracking acceptance rates, ratings, location data, and performance indicators." (Litardi et al., 2024)
Worker classification and	Relation between algorithmic	“Despite being termed as ‘partners’ by Uber and Bolt,

misclassification	management and misclassification	drivers perceive that the platforms do not truly care what happens to them as long as they receive their commission." (Adekoya et al., 2023) "Gig work platforms emerged as new organizations without pre-existing relationships among the management and the workforce… there is a clear hierarchy of power between the workers, the platform, and the service recipients." (Jarrahi et al., 2021) "While most gig organisations deny the existence of an employment relationship, the strict levels of control enforced by many app-work organisations via algorithmic management raises noteworthy contradictions that warrant developed empirical consideration." (Duggan et al., 2019) "Through algorithmic management, platforms exercise significant control over workers' performance and availability, while formally defining them as self-employed." (JRC, 2024a) "The use of algorithmic management in digital labour platforms leads to a situation where workers are subject to substantial control over how, when, and how much they work, while formally being classified as self-employed." (JRC, 2024b) "Employers have become more adept at hiding management control in automated algorithmic processes. The employment misclassification problem continues, but the mask rarely slips." (Worker Info Exchange, 2022) "These misclassification techniques, commonly used across the gig economy, enable platforms to avoid employer legal responsibilities such as basic worker rights protections and national insurance contributions. In the UK it has also enabled platform companies to avoid value added sales tax (VAT)." (Worker Info Exchange, 2022) "Algorithmic management changes the relationship between employers and workers by centralising control in algorithms, often limiting worker autonomy and obscuring decision-making processes." (Litardi et al., 2024) "While platforms deny an employment relationship exists, their use of algorithmic control mechanisms often exercises a level of control consistent with employment, raising questions about worker classification." (Litardi

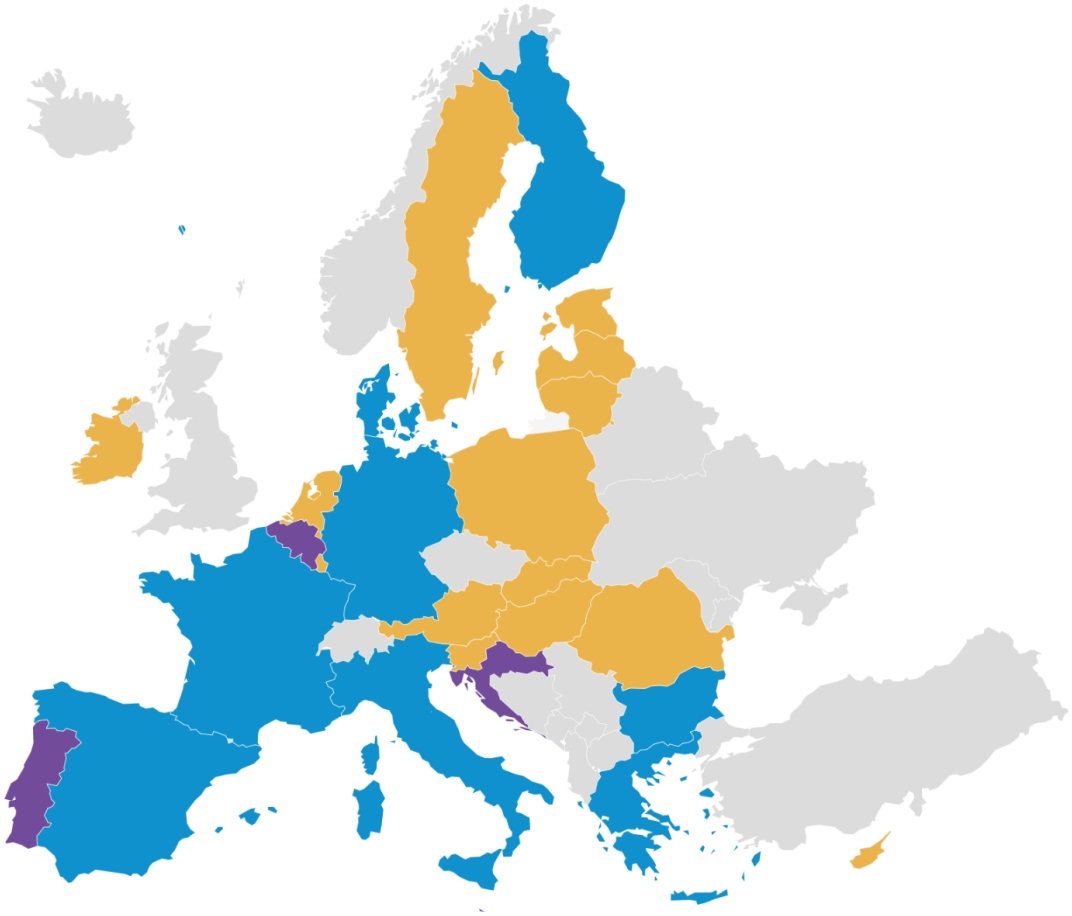
		et al., 2024)
Regulatory responses	Regulatory responses/ Legal cases on algorithmic management	“In Kenya, the National Employment Authority has recently adopted legislation to safeguard gig workers.” (Adekoya et al., 2023) “Workers must be informed about automated monitoring systems and performance evaluation processes affecting their working conditions.” (JRC, 2024a) “Across Europe, courts have passed several significant judgments recognising the exploitative role of algorithmic management practices by gig platforms while also condemning the lack of fairness and transparency in such automated systems.” (Worker Info Exchange, 2022). “Spain passed the first legislation to attempt to regulate AI in the area of employment, establishing both worker status for gig workers and the right to be informed about the rules and parameters of the algorithms they are subject to.” (Worker Info Exchange, 2022) "In Italy, Spain and the Netherlands, courts have ruled that control exercised via algorithms constitutes evidence of employment relationships." (litardi et al., 2024)
	Regulatory responses/Legal cases on and from Bolt	“Drivers in Nigeria have organised strike actions demanding higher pay and better working conditions from Uber and Bolt, but with limited success due to weak legal protections.” (Adekoya et al., 2023) "Internal documents obtained by Corporate Europe Observatory show how Bolt tried to influence the EU Platform Work Directive negotiations to water down the legal presumption of employment." (Corporate Europe Observatory, 2024) "The lobbying aimed to weaken key articles of the directive, particularly those addressing algorithmic management transparency and the employment status presumption." (Corporate Europe Observatory, 2024) "This lobbying illustrates the lengths to which gig companies will go to preserve the independent contractor model in the face of growing regulatory pressure in the EU." (Corporate Europe Observatory, 2024)
	The European Platform Work Directive	“The European Commission proposed the Platform

	as a regulatory response	Work Directive to address challenges related to algorithmic management and misclassification in platform work, introducing a legal presumption of employment and strengthening transparency requirements.” (JRC, 2024b) “The Platform Work Directive introduces a legal presumption of employment and transparency obligations concerning algorithmic management.” (JRC, 2024a) “The new proposed EU directive has made great strides in identifying important new protections for gig economy platform workers in Europe such as the presumption of employment and enhanced protections against unfair automated decision making.” (Worker Info Exchange, 2022) "The Platform Work Directive aims to address misclassification by introducing a presumption of employment and strengthening obligations for transparency in algorithmic management." (Litardi et al., 2024) "Under the Directive, workers must be informed about how algorithms affect decisions regarding their working conditions, access to work, and income." (Litardi et al., 2024)

Appendix C

EU countries with legislation on algorithmic management and platform work

Targeting all employees | Targeting platform workers | No such national legislation



Notes: A country is considered to have national legislation on algorithmic management if there is legislation that specifically regulates algorithmic management and/or automated decision-making. The Netherlands has no regulation but it does have an algorithm register. In Greece, the legislation covering algorithmic management does not explicitly mention 'management' but does address the regulation of labour inputs via algorithms.

Source: Eurofound, based on inputs from Eurofound's Network of Correspondents, as of April 2024. Concise country reports are available at: https://apps.eurofound.europa.eu/legislationdb/algorithmic-management and https://www.eurofound.europa.eu/en/resources/platform-economy-repository • Get the data • Download image • Download SVG

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