Conceptualising Employment Relationships: Why the Law Struggles to Regulate Platform Work

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Abstract

To date, regulating platform work in a manner that genuinely extends labour rights to workers has been an uphill battle. Across jurisdictions, the notion of the standard employment relationship has shaped both the scope of labour law and the course of its conceptual development, limiting the law's capacity to regulate atypical forms of work, such as platform work. Against this backdrop, this dissertation explores the extent to which labour law has been able to conceptualise and respond to platform work. After deconstructing the notion of the standard employment relationship and its legal counterpart - the contract of employment, this dissertation explores how platforms have organised work, through an analysis of four patents filed by Uber and DoorDash. This analysis is followed by a comparative overview of caselaw on the determination of platform worker status. Overall, this dissertation finds that a major obstacle to extending genuine labour rights to platform workers is to be found in platforms' ability to organise and reorganise work through algorithmic means around the legal form of employment, resulting in these firms being able to repeatedly place workers into the legal category of self-employment - even following court decisions to the contrary.

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Author's Declaration

"I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution."

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Introduction

Over the past two decades, so called 'on-demand' services have become a routine part of our day-to-day lives, and the platforms that provide them are now household names - for example, ride-sharing apps like Uber or Bolt, or food delivery apps like DoorDash, Foodora and Deliveroo.[1] But what does it mean for the people who provide these services that their work should be on-demand? Are they on-demand too? According to the founders of these businesses, the answer is yes. Let us recall the oft-quoted words of Lukas Biewald, CEO of CrowdFlower (now known as FigureEight):

> 'Before the internet, it would be really difficult to find someone, sit them down for ten minutes and get them to work for you, and then fire them after those ten minutes. But with technology, you can actually find them, pay them the tiny amount of money, and then get rid of them when you don't need them anymore'.[2]

What began in the mid-2000s as a small niche for digital work, has since snowballed into a behemoth global platform economy which appears to be in the process of re-writing the rules of work.[3] Through their apps and websites, platforms host vast numbers of short-term, contract-based workers that are ready to pick up a task at any time of day. As independent contractors, these workers do not have access to social and employment-related protections,[4] and as noted above can be paid a minuscule sum for their labour and then be discarded if they are no longer needed.

Since platforms emerged, legal actors, regulators and policy makers have been trying to stop this radical form of worker exploitation. Yet, despite the multiple attempts by national and supranational

[1] Jeremias Adams-Prassl, *Humans as a Service: The Promise and Perils of Work in the Gig Economy* (Oxford University Press 2018) 2.

[2] Moshe Marvit, 'How Crowdworkers Became the Ghosts in the Digital Machine' (The Nation, 24 February 2014) < https://www.thenation.com/article/archive/how-crowdworkers-became-ghosts-digital-machine/ > Accessed 20 March 2024; Florian Schmidt, *Digital Labour Markets in the Platform Economy: Mapping the Political Challenges of Crowd Work and Gig Work* (Frederich-Ebert-Stiftung 2017), 13.

[3] Adams-Prassl (no 1).

[4] James Duggan et al., 'Algorithmic Management and App-Work in the Gig Economy: A Research Agenda for Employment Relations and HRM' (2019) 30 *Human Resource Management Journal* 114.

institutions to address the misclassification efforts of platform companies,[5] extending genuine employment rights to platform workers has proven to be a seemingly Sisyphean task.

In the course of this dissertation, I argue that this is because the algorithmic coordination of labour by platforms combined with the legal form of contract permits platforms a fluidity to *repeatedly* organise work outside of the legal category of employment. To elaborate this point: when the issue of platform worker status is brought before the courts, even if the courts rule that the workers in question are employees or dependent contractors, platforms' freedom of contract remains essentially intact. The platform remains free, in other words, to reorganise the work (and amend the contract) in a way that takes it, again, outside of the legal category of employment. This is for two reasons.

Firstly, the organisation of work by platforms has consistently been designed in direct response to employment law and the legal rules governing employment status.[6] Platforms have been known to eliminate the more explicit elements of workforce control, for instance, in response to court proceedings brought against them for worker misclassification.[7] The implications of this are that existing legal tests and concepts for determining the existence of an employment relationship are not particularly useful for regulating these types of work, as in the case of platforms, how they structure their labour processes becomes an evasive tool in itself.

The second piece of the puzzle is to be found in how the law conceptualises and understands labour relations. The standard employment relationship ('SER') is a model which has informed the conceptual basis of contemporary labour law and has created a narrow lens through which the law is able to understand and regulate labour relations. The legal form of employment is one that has been shaped and cultivated with reference to the SER - a notion which emerged in industrialised countries in the mid-twentieth century.[8] The consequence of this is that the conceptual tools

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[5] Annika Rosin, 'Towards a European Employment Status: The EU Proposal for a Directive on Improving Working Conditions in Platform Work' (2022) 51 *Industrial Law Journal* 478; Fulvio Mannino, 'Ley Rider: A New Era for Digital Platform Workers' Rights in Spain' (2025) 1 *Dritto della Sicurezza Sul Lavoro* 21.

[6] Tiago Vieria and Pedro Mendonça, 'The Times, Are They Changing? Examining Platform Companies' Chameleonic Labour Process as a Response to the Spanish Ley Rider' (2024) *Socio-Economic Review* forthcoming.

[7] Christina Heißl, 'The Classification of Platform Workers in Case Law: A Cross-European Comparative Analysis' (2021) 42 *Comparative Labour Law & Policy Journal* 465, 514.

[8] Jim Stanford, 'The Resurgence of Gig Work: Historical and theoretical perspectives' (2017) 28 *The Economic and Labour Relations Review* 361, 389.

available to labour law are informed by ideas of subordination,[9] limiting the regulation of labour relations to models in which worker subordination is expected to take certain forms.[10] Practically, the result of this is that the law provides employment and social protections only to workers who are seen to spend time working under the direct authority of an employer.[11]

In a world where capital-labour relations have fundamentally changed,[12] and in recent times have further been restructured by the platform economy,[13] the question remains whether labour law's conceptual tools remain capable of regulating new and emergent forms of work. This research seeks to further examine how platforms' organisation of work relates to the legal form of employment to generate a clearer understanding of why labour law continues to struggle to conceptualise and regulate platform work.

As I explain in Chapter 1, this is a question left partially unaddressed by current scholarship. Chapter 1 undertakes a review of existing scholarship on platform work, identifies the gaps in the literature and concludes with a statement of the dissertation's main research questions. As I will explain, much of existing labour law scholarship has confronted the platform worker classification issue either through a purely doctrinal lens, arguing that the problem is to be attributed to under-inclusive employment statuses.[14] Other disciplines, such as sociology and industrial relations, have mainly investigated the wider subject of platform work through qualitative means, aimed at providing a greater insight into the workers' own experience of platform work, nonetheless with less consideration given to the law's role in influencing platforms' labour processes. Such approaches can leave platform companies' perspectives out of the discussion, however, failing to explore how and why these firms organise work the way that they do.

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[9] ibid.

[10] Bruno Veneziani, 'The Employment Relationship' in Bob Hepple and Bruno Veneziani (eds), *The Transformation of Labour Law in Europe - A Comparative Study of 15 Countries 1945-2004* (Bloomsbury Publishing 2009) 112.

[11] Zoe Adams, 'The Legal Constitution of Work' in Zoe Adams (eds), *The Legal Concept of Work* (Oxford University Press 2022) 28.

[12] ibid.

[13] Nick Srnicek, *Platform Capitalism* (Polity Press 2016).

[14] Antonio Aloisi, '"With Great Power Comes Virtual Freedom"A Review of the First Italian Case Holding That (Food-Delivery) Platform Workers Are Not Employees' (2018) Dispatch 35 *Comparative Labor Law and Policy Journal 1*; Anna Roskin, 'The Right of a Platform Worker to Decide Whether and When to Work: An Obstacle to their Employee Status?' (2022) 13 *European Labour Law Journal* 471; Emanuele Menegatti, 'Platform Workers: Employees or Not Employees? The EU's Turn to Speak' (2023) 23 *ERA Forum* 313.

This dissertation takes a novel approach to investigating platform work and worker status. Aiming to understand why labour law continues to struggle to conceptualise platform work, it combines critical, socio-legal theory with an analysis of two leading platforms' patents. The primary objective of the analysis is to demonstrate the limitations of labour law's conceptual framework as the basis for governing labour relations on platforms, and consequently to question whether this framework remains applicable to the social reality of today's world of work.

Chapter 2 of this dissertation deconstructs the constitution of the legal form of the employment relationship. Essentially, I ask why labour law is stuck to a specific notion of employment and how this came to be. In the majority of jurisdictions employment status remains the key to social, employment and labour protections.[15] However, the legal form of employment is shaped by and rooted in a conception of work which no longer reflects the predominant form of work relations.[16] Here, I identify the conceptual foundations of the legal form of employment, exploring how it relates to the notion of the SER and general principles of private law.

In part, the answer to this is in the SER's establishment as the dominant form of regulating and structuring labour relations, to which the law adapted its form and resulted in the contract of employment as being the predominantly used tool to regulate the sale of labour.[17] As I explain, however, this must be understood within the wider context of capitalist legal systems which are founded on certain principles: notably, the capacity of the individual to bear property rights and the freedom of the individual to contract.[18]

My analysis in Chapter 2 serves as the basis for answering my chosen research questions. Including an analysis of employment's legal and conceptual constitution into any discussion of platform work and worker status is essential both to understanding why platform work is organised in the way that it is, and for understanding why the law has struggled to conceptualise atypical forms of work, like platform work. But before I jump into answering these questions, I first turn to examine precisely how location-based platforms organise work.

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[15] Valerio De Stefano et al., *Platform Work and the Employment Relationship* (International Labour Organisation Working Paper 27 2021) 4.

[16] Carlo Caldarini, *Atypical Work and the Social Protection of Migrants in Europe* (Foundation for European Progressive Studies 2022).

[17] Judy Fudge, 'The Future of the Standard Employment Relationship: Labour Law, New Institutional Economics and Old Power Resource Theory' (2017) 59 *Journal of Industrial Relations* 374, 375.

[18] Evgeny Pashukanis, *Law and Marxism: A General Theory* (Pluto Press 1987).

In Chapter 3 I analyse four patents filed by the ride-hailing and delivery companies Uber and DoorDash. I describe the systems used by them to manage their workforces by outlining two patents from each company (four in total), one detailing the allocation of tasks to workers and the other on determination of labour price or monetary bonuses. My analysis breaks down each step of the labour management process and highlights how these processes are made adaptable to specific environments.

In the first half of Chapter 4, I explore how these platforms' organisation of work relates to the legal form of employment. Here, I ask how platform work departs from other models of work, in particular from the rigid working time arrangements and continuity of standard employment models. Linking this back to my discussion of the legal form of employment in Chapter 2, I question how the legal form of employment has shaped the organisation of work by platforms, finding that both Uber and DoorDash's models embed legal counter-indicators of employment in how they structure work.

Finally, in the second half of Chapter 4 I look at how labour law has been able to conceptualise location-based platform work to-date, through an analysis of case law from various jurisdictions. By identifying common threads across different legal systems' tests for determining the existence of an employment relationship, I pinpoint a collective legal understanding of employment and discuss how it has responded to platform work. In short, while platform work has pushed labour law to broaden its conception of employment, this conception nonetheless remains rooted in specific notions of subordination that do not translate particularly well to these new forms of work.

Overall, Chapter 4 comprises a wider critique of the law's ability to respond to and regulate emergent work models. I argue that regulating labour relations through the lens of employment is both restrictive to labour law's own scope, but also influences how these firms structure their own exploitative work models. Discussing how the conceptual framework of labour law conflicts with these emerging forms of work, I find that expanding the personal scope of labour law or adapting its foundational concepts can only do so much in confronting non-standard forms of work. Rather, the moment has come to develop a new legal vocabulary distinct from the SER for the regulation of labour relations. Finally, I conclude with a summary of my findings.

Chapter 1 - The Nature and Organisation of Location-Based Platform Work

1. Introduction

When platforms first came about just over a decade and a half ago,[19] their emergence sparked a great deal of scholarly interest. In labour law discourse, the central question revolved around the status of the worker.[20] The initial response of some scholars to platform work was to insist that not much had changed from existing models of work. For instance, some scholars have understood platform work to simply represent a continuation of existing models of work, aided by information technology.[21] Other scholars, instead, saw platforms to have introduced new mechanisms of organising labour, creating novel challenges for the question of worker status.[22]

These mechanisms mainly include the algorithmic matching of paid tasks to workers or of workers with clients, for the purpose of providing services for pay,[23] taking place on web-based platforms or through mobile device applications.[24] The use of these systems to coordinate labour not only has raised questions around workers' status, but has also generated concerns over the harmful nature of these systems. In particular, scholars have noted the economic, physical and psychological, as well as the data protection harms arising from platform work.[25] The question of status is therefore crucial in precarious work, such as platform work.

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[19] Willem Pieter de Groen et al, *Digital Labour Platforms in the EU: Mapping and Business Models*, (CEPS Report for the Directorate-General for Employment, Social Affairs and Inclusion of the European Commission 2021), 7.

[20] Jeremias Adams-Prassl and Martin Risak, 'Uber, Taskrabbit, and Co: Platforms as Employers? Rethinking the Legal Analysis of Crowdwork' (2015) 37 *Comparative Labor Law & Policy Journal* 619, Brishen Rogers, 'Employment Rights in the Platform Economy: Getting Back to Basics' (2016) 10 *Harvard Law & Policy Review* 479; Ben Steinberger, 'Redefining Employee in the Gig Economy: Shielding Workers from the Uber Model' (2018) 23 *Fordham Journal of Corporate & Financial Law* 577; Michael Nadler, 'Independent Employees: A New Category of Workers for the Gig Economy' (2018) 19 *North Carolina Journal of Law & Technology* 443.

[21] Matthew W. Finkin, 'Beclouded Work, Beclouded Workers in Historical Perspective' (2016) 37 *Comparative Labour Law & Policy Journal* 603; Carl Hughes, 'The Assembly Line at Ford and Transportation Platforms: A Historical Comparison of Labour Process Reorganisation' (2025) 40 *New Technology, Work and Employment* 41.

[22] Valerio De Stefano, 'The Rise of the Just-in-Time Workforce: On-Demand Work, Crowdwork, and Labor Protection in the Gig-Economy' (2016) 37 *Comparative Labour Law & Policy Journal* 471; Miriam A. Cherry, 'Beyond Misclassification: The Digital Transformation of Work' (2016) 37 *Comparative Labour Law & Policy Journal* 577; Aaron Shapiro, 'Between Autonomy and Control: Strategies of Arbitrage in the "On-Demand" Economy' (2018) 20 *New Media & Society* 2954; Adams-Prassl (no 1).

[23] De Stefano et al. (no 15), 3; Eurofound, *Employment and Working Conditions of Selected Types of Platform Work* (Publications Office of the European Union 2018); Schmidt (no 2).

[24] ibid.

[25] Alex Rosenblat and Luke Stark, 'Algorithmic Labor and Information Asymmetries: A Case Study of Uber's Drivers' (2016) 10 *International Journal of Communication* 3758; Zane Muller, 'Algorithmic Harms to Workers in the Platform Economy: The Case of Uber' (2020) 53 *Columbia Journal of Law & Social Problems* 167; Jeremias Adams-Prassl et al., 'Regulating Algorithmic Management: A Blueprint' (2023) 14 *European Labour Law Journal* 124

The ILO notes that while there is uniform definition for precarious work, it is usually defined by factors such as,

> 'uncertainty as to the duration of employment, multiple possible employers or a disguised or ambiguous employment relationship, a lack of access to social protection and benefits usually associated with employment, low pay, and substantial legal and practical obstacles to joining a trade union and bargaining collectively.'[26]

Platform work meets this definition because the vast majority of platforms categorise their workers as self-employed - which by definition creates obstacles for collective bargaining[27] - in addition they pay their workers minuscule sums (often below the living wage),[28] and of course, pay no social and health insurance contributions for their workers.[29] The combined difficulty of securing employment status for platform workers, as well as the increased worker harms and opaque nature of platform work, has led some scholars to call for alternative worker protections, many identifying data protection and human rights law as a suitable recourse.[30]

Rather than exploring alternative legal mechanisms for addressing the pitfalls of platform work, or engaging in normative discussions of whether employment status should be extended to platform workers, I instead seek to investigate why the law struggles to conceptualise platform work through the lens of the employment relationship. The focus of the dissertation is restricted to location-based platform work, as opposed to other types.[31] Part of this investigation asks how the organisation of work by platforms relates to, and is shaped by, the law's regulation of labour relations. The

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[26] International Labour Organisation, *From Precarious Work to Decent Work* (International Labour Organisation 2012) 27.

[27] Bernd Waas and Christina Hießl, *Collective Bargaining for Self-Employed Workers in Europe: Approaches to Reconcile Competition Law and Labour Rights* (Kluwer 2021).

[28] Juliet Schor et al., 'Consent and Contestation: How Platform Workers Reckon with the Risks of Gig Labor' (2023) 38 *Work, Employment and Society* 1423.

[29] ibid.

[30] Valerio De Stefano and Antonio Aloisi, 'Fundamental Labour Rights, Platform Work and Human Rights Protection of Non-Standard Workers' in Janice Bellace and Beryl Haar (eds), *Research Handbook on Labour, Business and Human Rights Law* (Edward Elgar 2019); Wenlong Li and Jill Toh, 'Data Subject Rights as a Tool for Platform Worker Resistance: Lessons from the Uber/Ola Judgments' in Hideyuki Matsumi et al., *Data Protection and Privacy: In Transitional Times* (Bloomsbury 2023).

[31] Five main types of platform work have been identified: location-based (which is the focus of this research), 'micro-tasking', freelancing, contest-based and content creation. Location-based platform work, as the name suggests, is work that is organised via a platform but takes place offline, for instance, delivery courier or domestic work. See M. Six Silberman et al, 'Content Marketplaces as Digital Labour Platforms: Towards Accountable Algorithmic Management and Decent Work for Content Creators' (Proceedings of the 8th Conference on Regulating for Decent Work, International Labour Office, Geneva, 10–12 July 2023) <https://ssrn.com/abstract=4501081> Accessed 4 September 2024.

objective of such an investigation is to create a better understanding of why the law struggles to conceptualise platform work and, by extension, non standards form of work more broadly.

1.1. The Organisation of Location-Based Platform Work: A Review of the Literature

How has scholarship to date understood the organisation of work by platforms? To address this question, we must look to complementary disciplines and areas of research, including critical and socio-legal scholarship, labour law, political economy and industrial relations scholarship. A key point of focus, for our purposes, lies with scholarly understandings of how platforms use contracts to designate the nature of the working relationship between themselves and their workers, as well as how this contractual designation impacts platforms' labour processes.

From the time of the initial appearance and spread of location-based platform work, scholars recognised that it involves the construction of workers as self-employed. On a contractual level, this is done through platforms' use of service agreements in preference to contracts of employment.[32] Uber contracts labour through an 'end-user license agreement' (EULA), for example, which is framed as a software license agreement allowing drivers the right to use the Driver App as though they were customers, rather than employees.[33] Through this agreement, Uber reserves the right to determine the terms of exchange at its behest, reserving the right to unilaterally change its 'fare calculation formula' and 'commission fees' ('Service Fees') at any given time, 'based upon local market factors'.[34] Similar observations have been made about DoorDash's terms, and more generally about the changeable nature of platforms' terms of use.[35] The consequence of this is that platforms constantly experiment with different remuneration models, resulting in variable and uncertain pay for workers.[36]

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[32] June Wang and Julia Tomassetti, 'Labor-capital relations on digital platforms: Organization, algorithmic discipline and the social factory again' (2024) 18 *Sociology Compass* 1, 5.

[33] Julia Tomassetti, 'Algorithmic Management, Employment, and the Self in Gig Work' in Deepa Das Acevado (eds), *Beyond the Algorithm: Qualitative Insights for Gig Work Regulation* (Cambridge University Press 2020) 131.

[34] ibid, 137.

[35] Lauren M. Thompson, 'Striking a Balance: Extending Minimum Rights to U.S. Gig Economy Workers Based on E.U. Directive 2019/1153 on Transparent and Predictable Working Conditions' (2021) 31 *Indiana International & Comparative Law Review* 225, 239.

[36] Jeremias Adams-Prassl, 'Lost in the Crowd' in Adams-Prassl (no 1).

For the most part, courts are not usually amenable to false legal constructions such as these – nevertheless, the extent to which is greatly jurisdictionally dependent[37] - and so, courts generally look for other elements of subordination when determining whether platform workers are employed or self-employed.[38] Resultantly, platforms employ so-called 'strategies of arbitrage': mechanisms of workforce control that allow workers to appear self-employed, while simultaneously allowing the platforms to exercise managerial control over workers' behaviour without seeming like employers.[39]

Whereas platforms advertise their work to be 'flexible', selling the idea that workers are unconstrained as to when, where and for how long they work,[40] location-based platforms have large numbers of workers across various jurisdictions, whose labour must be coordinated in a systemic and synchronised manner.[41] These discrepancies pose an issue for platforms, which must grapple with how to ensure that the necessary labour supply is met in the most cost and time-effective way possible. [42]

This issue is often addressed through algorithmic management mechanisms,[43] which significantly direct how platform workers do their job while 'logged-in'.[44] However, algorithmic management tools have their limits, as they can only do so much as to when and how much platform workers work.[45] So, these mechanisms must implement compelling financial and behavioural incentives that are able to direct workers without the platform appearing to act as an employer.

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[37] The main point of divergence between various jurisdictions in how they determine the existence of an employment relationship, is the weight attributed to the contract. See Guy Davidov, Mark Freedland, and Nicola Kountouris, 'The Subjects of Labor Law: "Employees" and Other Workers' in Matthew W. Finkin and Guy Mundlak (eds), Comparative Labor Law (Edward Elgar 2015) 117.

[38] Simon Deakin, 'Decoding Employment Status' (2020) 31 *King's Law Journal* 180.

[39] Shapiro (no 22).

[40] Rosenblat and Stark (no 25) 3761.

[41]Mareike Möhlmann et al., 'Algorithmic Management of Work on Online Labor Platforms: When Matching Meets Control' (2021) 45 *MIS Quarterly* 1999, 2001.

[42] Niels van Doorn, 'From a Wage to a Wager: Dynamic Pricing in the Gig Economy' in James Muldoon and Will Stronge (eds), *Platforming Equality: Policy Challenges for the Digital Economy* (Autonomy 2020) 11.

[43] Algorithmic management refers to the partial or full automation of employer duties through technological means, examples of these means include but are not limited to geolocation, wearable monitoring devices, data analytics, machine learning. *See*, Prassl et al. (no 25); Sara Baiocco et al., 'The Algorithmic Management of Work and its Implications in Different Contexts' (2022) International Labour Organisation Working Paper No.9 for the Joint EU-ILO Project "Building Partnerships on the Future of Work" < https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_emp/documents/publication/wcms_849220.pdf > Accessed 24 March 2025.

[44] Van Doorn (no 42), 11.

[45] ibid.

1.2. Mechanisms of Workforce Control

Given that platforms make it their objective to avoid appearing to act in an employer capacity at all costs, how then do platforms exercise control over workers in the absence of employment and a managerial prerogative? Part of platforms' ability to exercise control over workers without being seen as an employing entity is rooted in the fact that platform work provides new temporal and spatial means of exercising control over the workforce.[46] The following section provides an overview of the various mechanisms of workforce control utilised by platforms and identified in existing literature, such as but not limited to, surge pricing, gamification, the use of metrics and information asymmetries.

1.2.1. Surge Pricing

Existing literature highlights that control over workers by platforms is often exercised through less visible, 'soft' mechanisms,[47] such as through changeable terms of service which adjust base rates/ minimum fares at the platforms' whim (which vary across cities);[48] surge pricing mechanisms - the artificial inflation of fares in relation to a certain geographic location on the basis of perceived increased demand; and the use of behavioural engagement techniques.[49]

Other scholars identify surge pricing mechanisms and bonus pay as a common feature of platforms' labour control mechanisms, noting that all platforms used surge pricing mechanisms and bonus pays to incentivise workers to work during periods of high demand.[50] They argue that platforms' calculative power enables them to direct worker behaviour on a collective level through surge pricing.[51] This allows platforms to maintain the appearance of autonomy for individual workers while legitimising their misclassification as self-employed.[52] Comparably, one author understands

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[46] Cherry (no 22).

[47] Rosenblat and Stark (no 25); Valentin Niebler et al., 'Platform Labour: Contingent Histories and New Technologies' (2020) 7 *Soft Power* 255, 258.

[48] Rosenblat and Stark (no 25), 3763.

[49] ibid, 3766; Jorn Kloostra, 'Algorithmic pricing: A Concern for Platform Workers?' (2022) 13 *European Labour Law Journal* 108, 119.

[50] Kathleen Griesbach et al., 'Algorithmic Control in Platform Food Delivery Work' (2019) 5 *Socius: Sociological Research for a Dynamic World* 1, 5.

[51] Aaron Shapiro, 'Dynamic Exploits: Calculative Asymmetries in the On-Demand Economy' (2020) 35 *New Technology, Work and Employment* 162.

[52] ibid.

price as a 'productive force' capable of determining the relationship between markets and people, and correspondingly identifies labour price setting as a central feature of how platforms exercise control over workers while evading the obligations of an employment relationship.[53]

1.2.2. 'Gamification' and Metrics

Often, surge pricing is combined with behavioural engagement techniques, such as the integration of game-like elements into work processes. An author who worked for the ride-hailing platform, Lyft, highlights the excessive incorporation of game-like elements, such as 'point-scoring, levels, competition with others, measurable evidence of accomplishment, ratings and rules of play', into platforms' organisational structures of workforce control.[54] The inclusion of game-like elements into non-game contexts, such as work contexts, is defined as 'gamification'.[55] The author contends that these mechanisms are used to influence implicitly worker behaviour and to increase workers' emotional investment in finishing work tasks.[56] For instance, they recount the frequent use of algorithmically generated 'challenges' prompting her to work during particular times in return for a monetary bonus.[57]

Game-like elements, such as ratings, have proven effective in directing worker behaviour.[58] Scholarship emphasises the disciplinary role of metrics and ratings.[59] Drawing from qualitative research conducted across several platforms - including Uber, Lyft, DoorDash, UberEats, Instacart and TaskRabbit - one author notes that the majority of platforms use a five-star customer rating system,[60] as well as completion rates and time-efficiency rates (used in particular by DoorDash).[61]

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[53] Van Doorn (no 42) 11-12.

[54] Sarah Mason, 'High score, low pay: why the gig economy loves gamification' (*The Guardian*, 20 November 2018) < https://www.theguardian.com/business/2018/nov/20/high-score-low-pay-gamification-lyft-uber-drivers-ride-hailing-gig-economy> Accessed 20 May 2024.

[55] Krishnan Vasudevan and Ngai Keung Chan, 'Gamification and Work Games: Examining Consent and Resistance among Uber Drivers' (2022) 24 *New Media & Society* 866, 867.

[56] Mason (no 55).

[57] ibid.

[58] Ngai Chan, 'Algorithmic Precarity and Metric Power: Managing the Affective Measures and Customers in the Gig Economy' (2022) 9 *Big Data and Society* 1; Jamie Woodcock and Mark R. Johnson, 'Gamification: What it is, and How to Fight it?'(2018) 66 *The Sociological Review* 542.

[59] Chan (no 58), 2.

[60] ibid, 3.

[61] ibid, 5.

They contend that the disciplinary effect of metrics is to create a sense of uncertainty and precarity around work, as they have a direct effect on workers' access to continuous work.[62]

Others emphasise the relationship between metrics and access to future work opportunities, explaining that most platforms prioritise the allocation of work to those who have the highest ratings. For instance, DoorDash deactivates workers with a rating bellow 4.2 out of 5 stars.[63] When used to determine workers' access to future work, metrics become a form of control used by platforms to create a homogenous service experience for customers and to enable platforms to provide a standardised service.[64]

1.2.3. Information Asymmetries

Information asymmetries are an essential element of workforce control on platforms. Platforms give workers just enough information to complete the next task, whereas platforms are able to utilise surveillance technologies, such as GPS, to track and evaluate workers' every move.[65]

As platforms operate on several fronts, they 'deeply structure the rules and parameters of action available to users'.[66] Delivery and ride-hailing platforms operate on four fronts: the first is the platform; the second is the labour supply side; and the third is the consumer demand side; on some platforms (usually food delivery), there is a fourth front comprising of third parties, such as restaurants or supermarkets.[67] The multifaceted nature of the platform permits a power asymmetry in favour of the platform.

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[62] ibid, 5.

[63] Griesbach et al. (no 50), 7; DoorDash, 'Dasher Ratings Explained' (*DoorDash*) < https://help.doordash.com/dashers/s/article/Dasher-Ratings-Explained?language=en_US#:~:text=Q: What is the minimum,a customer rating below 4.2. > Accessed 24 May 2024.

[64] Rosenblat and Stark (no 25), 3772; David Stark and Ivana Pais, 'Algorithmic Management in the Platform Economy' (2020) 14 *Sociologica* 47, 56.

[65] Jamie Woodcock, 'The Algorithmic Panopticon at Deliveroo: Measurement, Precarity, and the Illusion of Control' (2020) 20 *Ephemera: Theory & Politics in Organisation* 67, 81.

[66] John Zysman and Martin Kenney, 'The Next Phase in the Digital Revolution: Intelligent Tools, Platforms, Growth, Employment' (2018) 1 Communication of the ACM 54, 62.

[67] Willem Pieter de Groen et al. (no 19), 7-8.

The platform side has an all-encompassing view of the interactions between user groups, from which it shapes their future exchanges.[68] Therefore, how worker performance is evaluated and how this impacts their future access to work is often kept from the workers.[69] This asymmetry has severe implications for the certainty of pay. As a result of their position, platforms are able to calculate the precise wage-rates necessary to incentivise sought-after behaviours from workers, whereas the workers themselves are only able to speculate how their wages are set.[70]

1.2.4. Personalised Pay and Unpaid Working Time

Several authors have highlighted the injustice involved in these mechanisms and techniques. Because of these work structures, workers experience 'individual level pay discrimination'.[71] Qualitative research across several delivery platforms has shown that algorithms 'learn' the lowest rate of pay a worker is likely to accept for a task at any given time,[72] and correspondingly adjust how they price tasks for each worker.[73]

This observation is confirmed by a study on Deliveroo couriers, which demonstrates that couriers who worked fewer hours received a lower average income per hour in comparison to those who worked more hours.[74] Similarly, one scholar argues that individual workers receive different hourly wages for more or less the same work in ride-hailing platforms.[75] This phenomenon has led one author to conclude that surge pricing operates similarly to personalised pricing because platforms use analytics from workers to match pay incentives to worker profiles, resulting in algorithmically determined personalised wages.[76]

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[68] Schmidt (no 2) 3.

[69] Hatim A Rahman, 'The Invisible Cage: Workers' Reactivity to Opaque Algorithmic Evaluation' (2021) 66 *Administrative Science Quarterly* 945; Alex Rosenblat, *Uberland: How Algorithms Are Rewriting the Rules of Work* (University of California Press 2018).

[70] Veena Dubal, 'On Algorithmic Wage Discrimination' (2023) 7 *Columbia Law Review* 1929, 1935.

[71] Griesbach et al. (no 50), 6.

[72] These included Instacart, DoorDash, Postmates, Uber Eats, GrubHub, and Shipt.

[73] Griesbach et al. (no 50), 6.

[74] Melissa Renau Cano, Ricard Espelt and Mayo Fuster Morell 'Flexibility and Freedom for Whom? Precarity, Freedom and Flexibility in On-demand Food Delivery' (2021) 15 *Work Organisation, Labour & Globalisation* 46, 60.

[75] Dubal (no 70), 1933-1934.

[76] Zephyr Teachout, Algorithmic Personalized Wages (2023) 51 *Politics and Society* 319, 440-441.

Many scholars identify unpaid working time as a systemic feature of platform work.[77] As workers are only remunerated for completed tasks, pay is fragmented in relation to the allocation of work. Resultantly, the time spent waiting in-between tasks while 'logged-on' is not remunerated.[78] This separation of paid/ and unpaid working time by platforms has wider consequences for how work-related risks are externalised to workers.

Because of this distinction, workers 'absorb' the costs of availability. They must be 'available, accessible and responsive' to the platform without ever 'being guaranteed paid work'.[79] As put by one author, 'such techniques essentially turn the wage into a recurring wager'.[80] Not only do these models devalue labour, but they also create an extremely precarious working environment for workers, in which they are kept in a constant state of uncertainty.[81] Thus workers' experience of platform work then becomes inherently in opposition with the function and purpose of work: the provision of economic stability and security.[82]

1.3. Platform Work: New or Old?

Existing scholarship is undecided on the nature of platform work. Some scholars have categorised it as simply a continuation of old forms of work,[83] contending that platform work evidences an 'evolution' of Taylorism.[84] Taylorist production techniques sought to maximise workers' labour productivity in the workplace by fragmenting work into specified tasks, rewarding workers for successfully meeting objectives and punishing workers for not.[85] This has led some scholars to adopt the term 'digital Taylorism' to describe the management techniques used by platforms, which

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[77] Mariana Fernández Massi and Julieta Longo, 'Technology and Remuneration of Working Time: A Study on Paid and Unpaid Working Time in Platform Work' (2024) 48 *Cambridge Journal of Economics* 151; David Mangan, Karol Muszyński and Valeria Pulignano, 'The Platform Discount: Addressing Unpaid Work as a Structural Feature of Labour Platforms' (2023) 14 *European Labour Law Journal* 541.

[78] ibid.

[79] Rosenblat and Stark (no 25), 3768.

[80] Van Doorn (no 42), 9.

[81] Dubal (no 70), 1969.

[82] ibid, 1962.

[83] Stefan Kirchner, Sophie-Charlotte Meyer, and Anita Tisch, '"Digital Taylorism" for some, "Digital Self-Determination" for others? Inequality in Job Autonomy Across Different Task Domains' (2023) 69 *Zeitschrift für Sozialreform* 57; Joss Moorkens, '"A Tiny Cog in a Large Machine"- Digital Taylorism in the Translation Industry' (2020) 9 *Translation Spaces* 12.

[84] Simon Joyce and Mark Stuart, 'Digitalised Management, Control and Resistance in Platform Work: A Labour Process Analysis' in Julieta Haidar and Maarten Keune (eds), *Work and Labour Relations in Global Platform Capitalism* (Edward Elgar 2021) 166.

[85] Frederick Taylor, 'Shop Management' (1903) 24 *Transactions of the American Society of Mechanical Engineers* 1337.

refers to the use of digital tools, such as algorithmic management systems and surveillance technologies, to monitor and control the workforce, with a view to continuously intensifying labour productivity.[86]

Other scholars have likened location-based platform work to Fordist labour processes.[87] Rather than representing a departure from old forms of work, some argue that platform work extensively incorporates previously utilised methods of control by Fordist productive processes, such as the use of technology to control the pace of work (in the case of Fordist models this is the assembly line, and in the case of location-based platforms this is the app), restricting workers' knowledge of the productive process (e.g. through task-based work rather than a comprehensive involvement in the entire productive process), and the use of surveillance to incentivise workers.[88]

In antithesis, a final group of scholars have understood platform work to represent a break with established models of work.[89] They understand the platform model not simply just to be a new way of organising work, but something which 'epitomizes a new form of the firm itself'.[90] They argue that platforms have reshaped firm relations in all directions: between the firm and workers, have become increasingly consumer-and-investor focused, and have cultivated prominent political presences through aggressive lobbying.[91]

They see platforms to depart from previous models of work (in particular Fordist models), which directly employed vast numbers of workers indefinitely and importantly, whose corporations were governed by a stakeholder model rather than the increasingly prevalent shareholder model which took root in the late twentieth century. Instead platforms represent a 'hyper-outsourced' version of

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[86] Mohammad Amir Anwar and Mark Graham, 'Digital Taylorism: Freedom, Flexibility, Precarity, and Vulnerability' in Mohammad Amir Anwar and Mark Graham (eds), *The Digital Continent: Placing Africa in Planetary Networks of Work* (Oxford University Press 2022) 107.

[87] Hughes (no 21).

[88] ibid.

[89] K. Sabeel Rahman and Kathleen Thelen, 'The Rise of the Platform Business Model and the Transformation of Twenty-First-Century Capitalism' (2019) 47 *Politics & Society* 177; Alex de Ruyter et al., 'Gig Work and the Fourth Industrial Revolution: Conceptual and Regulatory Challenges' (2019) 72 *Journal of International Affairs* 37.

[90] Rahman and Thelen (no 89).

[91] ibid, 178.

the firm,[92] whose business model prioritises 'aggressive outsourcing, asset stripping, and labor-reducing strategies.'[93]

1.4. What the Existing Literature Misses: the Significance of Legal Form

While the above literature provides valuable insight into how platforms organise work and pay, existing scholarship fails to account for the relevance of the law itself for the organisation of work. Most authors draw links between platforms' attempts to evade the label of employer and their organisation of work, however, they do not explore these links with reference to the fundamental characteristics of law and legal systems. The benefit of evaluating legal form alongside platforms' organisation of work is to create a better understanding of how firms arrange their labour processes in response to the law, as well as to better understand the law's capacity to conceptualise platform work, and thus respond to and regulate it.

The above scholarship on platform work understands labour law's personal scope to be unnecessarily restrictive, excluding vulnerable workers from its protective scope. This is true, nevertheless, the existing literature fails to acknowledge how notions of employment have been influential in shaping the law, which in turn has shaped labour processes in non-standard forms of work, such as platform work. The conceptual notion that I refer to, is one which has influenced most labour law systems across the world: the SER.[94]

In the absence of an employment relationship, 'wages are replaced by a price payable for labour and other services',[95] as the responsibility for employment-related costs such as social security contributions, tax and so forth are externalised by firms.[96] Platforms capitalise on this by arranging work in a manner which presents their workers as economically and organisationally separate from themselves. And so, legal benchmarks of subordination, rather than indicating to the law which workers it should protect, become indicators to be avoided by those seeking to evade employer-related costs and responsibilities. However, this is only one part of the problem, the other is that

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[92] Srnicek (no 13), 43.

[93] Rahman and Thelen (no 89), 178.

[94] Veneziani (no 10).

[95] Ruth Dukes and Wolfgang Streeck, 'Liberalization as Emancipation' in Ruth Dukes and Wolfgang Streeck (eds), *Democracy at Work: Contract, Status and Post-Industrial Justice* (Polity Press 2023), 89.

[96] ibid; David Weil, *The Fissured Workplace* (Harvard University Press 2014).

platforms' reconfiguration of labour processes conflicts with how the law understands the performance of labour in the context of an employment relationship.

The law struggles to recognise labour performed as employed work, if the organisation of work by a would-be employer strays too far from standard employment models. As a result, the law cannot always recognise instances of deliberate misclassification.[97] As is evidenced from the above literature, platforms' entire organisation of work is based on evading the label of 'employer'. What existing scholarship does not address is how the law's distinction of labour, as either labour performed as employed work or as non-employed work, shapes platforms' organisational logic. Firms recognise the law's limited capacity to recognise labour as employed work, and seek to in turn, organise work on this basis. What existing accounts fail to note, is that without this distinction, firms would have no basis upon which to organise work in such a manner.

The function of labour law, as Adams notes, is to keep firm's extraction of surplus labour within its sustainable limits (by this she means that workers are paid enough for their labour to meet their costs of living).[98] When the law distinguishes between labour, as either time spent working for another or as non-work and selectively offers protection to those in the first category, it allows for the extraction of surplus labour beyond its sustainable limits for those in the second category. Platform work is organised around this distinction, with the overall objective of lowering their labour-related costs by not directly employing any workers.[99]

In only looking to how platforms organise work, existing scholarship overlooks the relation of platforms' work models to labour law's wider conceptual framework. The law's limited capacity to conceptualise labour as employed work contributes to how platforms, as firms, arrange their labour processes. To investigate these issues, this dissertation addresses the following questions:

How do platforms organise work? What is the relationship between the legal form of employment and the organisation of work by platforms? And, to what extent is the law able to conceptualise and respond to platform work?

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[97] Guy Davidov, 'The Three Axes of Employment Relationships: A Characterization of Workers in Need of Protection' (2002) 52 *The University of Toronto Law Journal* 357, 363.

[98] Zoe Adams, 'Invisible Labour: Legal Dimensions of Invisibilization' (2022) 49 *Journal of Law and Society* 385, 393.

[99] Rahman and Thelen (no 89).

These questions have not yet been answered satisfactorily by the existing literature. To date, the literature on the organisation of work by platforms has failed to account for the wider legal framework in which these platforms operate, and question how, if at all, this framework relates to platforms' labour processes. The following chapter sets out the theoretical and methodological framework used to answer the above research questions.

The objectives behind the investigation are threefold: Firstly to grasp how and why platform work is organised the way that it is, so that regulators may be more equipped to respond to these forms of work; secondly, to create a better understanding of the functioning of our existing framework for the regulation of labour relations; and, finally to explore whether this framework remains capable of protecting the worker in the face of rapidly changing modes of work.

Chapter 2 - Invisible Labour and the Law

2. Introduction

Advanced economies[100] are experiencing a dilution of standard employment models.[101] Increasingly new work arrangements are constructed, such as on-demand work via apps, which fall outside of the scope of established forms of employment. Collectively, these are known as 'non-standard' forms of work.

This dissertation addresses the question to what extent labour law is able to recognise and respond to these new forms of work through its own framework, constructed around contract and shaped to a significant degree by the idea of 'standard' employment. As part of the theoretical approach it uses to answer its chosen research questions, it incorporates, alongside legal form scholarship, scholarly discussions on the origins and juridical form of the employment relationship. It then focuses upon the ride hailing and delivery platforms Uber and DoorDash, utilising patent analysis to examine the relationship between the legal form of employment and the organisation of non-standard forms of work,[102] such as location-based platform work.

While the questions of how ride-hailing and delivery platforms structure work and what this means for workers and wages have already been addressed, to some extent, in the literature, there is more to be learned about how the law influences the organisation of non-standard forms of work. Without contextualising labour law in relation to its structural bases, labour law scholarship often fails to grapple with the question of, why the law can only do so much to fix issues such as low pay and under-inclusive employment statuses.[103] The same can be said for much of the existing scholarship on platform work.

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[100] Advanced economies include countries such as the United States, the United Kingdom, Canada, Japan, Australia, Israel, Singapore and countries in the European Economic Area, such as Germany, Spain and Italy. For a full list see, International Monetary Fund (IMF), 'Statistical Appendix' in IMF (eds), *World Economic Outlook* (IMF 2024) 115-118.

[101] Deirdre McCann, 'Non-Standard Work, Flexibility, and United Kingdom Labour Law' in Deirdre McCann (eds), *Regulating Flexible Work* (Oxford University Press 2008); Anne Green and Ilias Livanos, 'Involuntary Non-Standard Employment in Europe' (2017) 24 *European Urban and Regional Studies* 175; Arne L. Kalleberg, 'Precarious Work, Precarious Lives: Changing Employment Relationships in Rich Democracies' in Frank Hendrick and Valeria Pulignano (eds), *Employment Relations in the 21st Century: Challenges for Theory and Research in a Changing World of Work* (Wolters Kluwer 2019).

[102] The organisation of work in this context refers to the coordination of work and control of the workforce to fulfil the objectives of the firm. This includes considerations of how work is planned and systematically arranged; the processes of distributing paid tasks to workers; how work is compensated; and an examination of platforms' ability to set and determine the price of labour and thus worker's pay.

[103] Zoe Adams, 'Labour Law from an Ontological Perspective' in Zoe Adams (eds), *Labour and the Wage: A Critical Perspective* (Oxford University Press 2020) 13.

Legal concepts such as 'employment' play a defining role in how non-standard forms of work, such as platform work, are constructed. To regulate society, law must conceptualise social relations in forms it can recognise,[104] such as contract. The employment contract is the instrument through which labour law – among other laws aimed at protecting workers against social risks, such as social security laws – provides workers with a certain level of protection and grants workers collective rights,[105] such as collective bargaining and the right to strike.[106] Often, firms organise work to appear as though there is no employment relationship between themselves and their workers, resulting in work being performed that is not legally recognised as 'work', thus excluding these workers from the protective ambit of employment laws.

Platforms are notorious for (mis)classifying their workers as self-employed in an attempt to evade employment related costs.[107] The issue of classification is one that is repeatedly brought before courts.[108] While many cases have resulted successfully in the reclassification of workers as employees,[109] the extent to which the law is effective in improving the working conditions and terms of platform workers remains in question. Even when courts do reclassify workers as employees, platforms typically respond by appealing those decisions until the last instance and, in the meantime, change elements of their labour processes or contractual terms,[110] so that even last instance cases can be evaded by claiming lack of relevance to their current work models.[111] Often, this results in work becoming even *more* precarious for workers. This brings into light the relevance of legal form for the organisation of work, raising a number of initial questions.

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[104] Zoe Adams, 'A Structural Approach to Labour Law' (2022) 46 *Cambridge Journal of Economics* 447, 455.

[105] Fudge (no 17), 375.

[106] Not all jurisdictions bar non-standard workers access to collective rights; however, access to collective rights is severely restricted for non-standard and self-employed workers. See Valerio De Stefano, 'Non-Standard Work and Limits on Freedom of Association: A Human Rights-Based Approach' (2017) 46 *Industrial Law Journal* 185.

[107] Daniel Halliday, 'On the (mis)Classification of Paid Labor: When Should Gig Workers Have Employee Status?' (2021) 20 *Politics, Philosophy & Economics* 229.

[108] De Stefano et al. (no 15); Nastazja Potocka-Sionek, 'Easier done than said? An Empirical Analysis of Case Law on Platform Work in the EU' (2023) 1 *Hungarian Labour Law E-Journal* 46; Heißl (no 7).

[109] ibid; Christina Heißl, 'Case Law on the Classification of Platform Workers: A Cross-European Comparative Analysis and Tentative Conclusions' (2024) *Comparative Labour Law & Policy Journal* forthcoming.

[110] 'Labour process' refers to the manner in which labour and capital come together to produce goods and services. See William Lazonick, 'Labour Process' in John Eatwell et al. (eds), *Marxian Economics* (Palgrave Macmillan 1990).

[111] Notoriously, Uber has invoked this tactic in response to the multiple decisions against them. See, Hießl (no 7), 514; Christina Heißl, 'The Legal Status of Platform Workers: Regulatory Approaches and Prospects of a European Solution' (2022) 15 *Italian Labour Law e-Journal* 13, 24.

1. *What is the legal form of 'employment'?*
2. *How do platforms organise work?*
3. *What is platform work's relation to the legal form of employment?*
4. *To what extent is the law able to conceptualise and respond to platform work?*

The value of such an investigation is to shed light on the role of the law in shaping the configuration of non-standard forms of work. Labour law constructs labour power as a commodity and governs the arising socio-economic relations.[112] In doing so, the law informs how firms shape their own socio-economic relations. This dissertation aims to explore how firms organise their labour processes in response to the law and questions the capacity of the law to conceptualise these new forms of work.

2.1. Theoretical Framework

2.1.1. The Standard Employment Relationship

The question of the personal scope of labour law has been frequently and repeatedly addressed within labour law discourse. Employee status is the determining factor as to whether an individual is able to enjoy employment-related rights, or none at all.[113] The employment-self-employment binary which defines labour law's personal scope exists in essentially all legal systems and serves as the basis for labour regulation.[114] In understanding why this distinction exists within the law, we must first look to the conceptual framework that has shaped the legal employment relationship – the SER.[115]

At its core, the SER refers to employment models which for the most part are full-time, without a fixed end, inclusive of labour and social security protections and between an individual worker and a 'single, clearly defined employing entity'.[116] The SER is the outcome of historical processes, and

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[112] Simon Deakins, 'What Exactly is Happening to the Contract of Employment? Reflections on Mark Freedland and Nicola Kountouris's *Legal Construction of Personal Work Relations*' (2013) 7 *Jerusalem Review of Legal Studies* 135, 143.

[113] Davidov et al. (no 37) 119; Davidov (no 97).

[114] Giuseppe Casale, *The Employment Relationship: A Comparative Overview* (Hart Publishing 2011).

[115] Fudge (no 17).

[116] Paul Schoukens and Alberto Barrio, 'The Changing Concept of Work: When Does Typical Work Become Atypical?' (2017) 8 *European Labour Law Journal* 306, 307-308; Simon Deakin, *Addressing Labour Market Segmentation: The Role of Labour Law* (International Labour Organisation Working Paper No. 52 2013), 1.

in temporal terms, it is a fairly recent notion.[117] Its origins can be observed in the centralised production systems of factory work in the nineteenth century but it only began to institute itself as a dominant model in industrialised countries following the end of the Second World War,[118] alongside the rise of large, limited liability, vertically integrated firms.[119] Certain characteristics of the SER vary between countries because of different national experiences of industrialisation and the development of their accompanying industrial relations frameworks.[120]

The SER is often linked to Fordist models of production because this model is seen to have helped institute the SER as the dominant form of organising labour relations.[121] Stanford explains that the growth of mass-production manufacturing technologies, coupled with the introduction of Fordist assembly-line methods, was a shift from previous models of work.[122] Subsequently, the running of these sizeable factories necessitated a reliable, stable and constant workforce, which incentivised these mass-production firms in turn to employ their workers on a full-time and indefinite basis.[123] Eventually, labour market and social institutions adapted to reflect the SER as the main way of organising labour relations, and so labour laws, trade union and collective bargaining laws, social security and tax policies evolved on the assumption that work would take a certain form.[124]

To be differentiated from the SER itself, the *theory* of the SER was developed during the decline of standard employment models and originated in German socio-legal scholarship in the 1980s.[125]

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[117] Deakin (no 116), 5.

[118] Veneziani highlights that for some countries its adoption occurred later, due to ongoing political conflicts following the end of the War (Greece, Spain, and Portugal). See Veneziani (no 10) 100.

[119] Simon Deakin, 'Evolution for Our Time: A Theory of Legal Memetics' (2002) 55 *Current Legal Problems* 1, 15; Simon Deakin, 'Legal Origin, Juridical Form and Industrialization in Historical Perspective: The Case of the Employment Contract and the Joint-stock Company' (2009) 7 *Socio-Economic Review* 35; Rossella Ciccia, 'Classifying Labour Regimes Beyond the Welfare State: A Two-dimensional Approach' in Seán Ó Riain et al (eds), The Changing Worlds and Workplaces of Capitalism (Palgrave Macmillan 2015) 59; Fudge (no 17); Stanford (no 8), 389.

[120] Deakin (no 116).

[121] It is however, important to note that while the SER was the predominant mode of organising labour relations, it was not the only model. The SER was linked to the male 'breadwinner', whose income was to support the entire family. See Leah Vosko et al., *Gender and the Contours of Precarious Employment* (Routledge 2009).

[122] Stanford (no 8), 390.

[123] ibid.

[124] ibid, 389.

[125] Gerhard Bosch, 'Hat das Normalarbeitsverhältnis eine Zukunft?' (1986) 3 *WSI-Mitteilungen* 163; Ulrich Mückenberger, 'Zur Krise des Normalarbeitsverhältnisses - Thesen' in Jürgen Friedrichs (eds), *23. Deutscher Soziologentag 1986* (Westdeutscher Verlag 1987); Ulrich Muckenberger, 'Non-Standard Forms of Work and the Role of Changes in Labour and Social. Security Regulation' (1989) 17 *International Journal of the Sociology of the Law* 387.

There it was framed in functional terms as a regulatory means of governing industrial relations in capitalist economies and was understood as a 'normative' model[126] rather than legal doctrine in a stricter sense.[127] The notion of the SER encompasses more than simply particular characteristics of any job and implies a wider concept of social governance through the establishment of institutional constraints, or as Vosko et al. put it 'a state of security in employment', through institutions such as 'labour law and policy, social security, family policy, taxation, and employment policy'.[128]

While the SER is not a legal concept, nor a 'term of art', its significance to law becomes evident when one considers how it has guided legal reasoning, decision-making and rules. The notion of the SER has fundamentally shaped - and continues to shape - the juridical form of the employment relationship. As I will explain in the following section, its role as a normative model has guided labour law's personal scope and has influenced legal actors' understandings of the functioning of labour law and the governance of labour relations. For this reason, any discussion of the legal form of employment should not be divorced from a discussion of the SER.

2.1.2. The Juridical Form of the Standard Employment Relationship

The contract of employment is the legal foundation for the employment relationship and has become the primary means of regulating labour relations. This was for several reasons. In order to regulate social relations, including labour relations, the law must abstract these relations in to forms it is able to recognise, such as contract.[129] Resultantly, the contract of employment emerged as the juridical form of the SER - a model which, as I explain above, was instituted as a normative model of employment in industrial capitalist and democratic countries and a core institution of early twentieth century labour markets.[130] As such, the law adapted its form to this model and the contract of employment thus became the legal instrument through which labour is commodified.[131]

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[126] ibid.

[127] Deakin (no 116).

[128] Vosko et al. (no 121) 10.

[129] Zoe Adams, 'Labour Law, Capitalism and the Juridical Form: Taking a Critical Approach to Questions of Labour Law Reform' (2021) 50 *Industrial Law Journal* 434, 453.

[130] Veneziani (no 10) 110.

[131] Fudge (no 17), 375.

The contract of employment and the SER are two forms which are inherently intertwined, and whose constitution informs that of the other. Before explaining how these notions relate to one another, it is essential to first outline the employment relationship's legal constitution. To do so, we can begin with the notions of contract and status.[132] Contract can be defined as voluntary agreement and the free stipulation of terms by parties to an agreement, and status as the 'rights and obligations, privileges and duties, capacities and incapacities' of parties arising from their association to a certain social or legal group.[133] When determining the nature of any work relationship, the law does two things. It first decides the nature of the contract - determining whether the contract is one *of* service or one *for* services - and then assigns a status to its parties.[134] Employees work under a contract *of* service, meaning a contract of employment, whereas the self-employed worker operates under contracts *for* services.[135] At the employment end, the law affords workers full employment rights, as it acknowledges the subordinate place of the employee to the employer, in the context of the contractual rights and obligations associated with the employment relationship.[136] At the opposite end, the self-employed worker is understood as economically and organisationally separate from those with whom they contract to work and receive no employment-related rights as they are legally and socially conceived of as independent.[137]

Work relationships which do not fit into the legal category 'employment' are understood, in the eyes of the law, to involve self-employment. Self-employment is, in other words, a 'residual category', which increasingly encompasses work relations that look – from a non-legal perspective – much more like employment. Some legal systems have attempted to fix this mismatch by recognising an additional, third category of dependent contractor,[138] somewhere in between employment and self-

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[132] See Ruth Dukes and Wolfgang Streeck, 'Introduction' in Ruth Dukes and Wolfgang Streeck (eds), *Democracy at Work: Contract, Status and Post-Industrial Justice* (Polity, 2023) 6-10.

[133] ibid.

[134] ibid, 11.

[135] ibid; Annalisa Murgia et al., 'Hybrid Areas of Work Between Employment and Self-Employment: Emerging Challenges and Future Research Directions' (2020) 4 *Frontiers in Sociology* 1.

[136] Dukes and Streeck (no 132), 12.

[137] ibid; Jahel Queralt, 'The Goods (and Bads) of Self-Employment' (2023) 31 *The Journal of Political Philosophy* 271.

[138] Dukes and Streeck (no 132), 12 - 13; René Böheim and Ulrike Muehlberger, 'Dependent Self-Employment: Workers Between Employment and Self-Employment in the UK' (2009) 42 *Zeitschrift für ArbeitsmarktForschung* 182.

employed. Typically, dependent contractors are afforded some but not all employment-related rights.[139]

The reason why the law perceives self-employed workers to be economically and organisationally independent from those with whom they contract to work, and thus not in need of protection, is because it perceives these workers to have spent no time working under the subordination of an employer.[140] Subordination, or control, is the determining factor by which the law identifies the existence of an employment relationship between an employer and an employee.[141] Employee subordination is an inherent characteristic of the standard employment model and became a defining feature of the legal employment relationship[142] - a feature which shaped the law's own restrictive conceptual framework for understanding labour relations and created within the law certain 'legal imaginaries'.[143]

Dukes and Streeck explain how the law imagines the employee to have willingly contracted away their autonomy to their employer, in return for the financial security that waged, employed work is meant to provide.[144] In part, this perception is reinforced by the fact that legal actors see the power imbalance between employee and employer - and thus the subordinate position of the employee, to which the law is expected to remedy - to originate in the contract of employment.[145] Consequently, the law recognises employed work in connection with the employment relationship, and therefore only selectively recognises labour performed under the subordination of an employer as 'work'. By association, the law does not recognise the economic reliance of workers outside this framework,

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[139] For an overview of how different jurisdictions have categorised dependent contractors, see Miriam A. Cherry and Antonio Aloisi, 'Dependent Contractors in the Gig Economy: A Comparative Approach' (2017) 66 *American University Law Review* 635; Deakin (no 116).

[140] Adams (no 11) 28; Felicia Rosioru, 'The Changing Concept of Subordination' in György Kiss (eds), *Recent Developments in Labour Law* (Akademiai Kiado 2013); Mark Freedland and Nicola Kountouris, 'The Formation and Structure of Contracts of Employment' in Mark Freedland and Nicola Kountouris (eds), *The Legal Construction of Personal Work Relation*s (Oxford University Press 2011).

[141] The notion of subordination is most present in civil law systems but exists in the common law under different names (for instance, the 'control' test). See Simon Deakin, 'The Legal Framework of Employment Relations' (2007) Centre for Business Research, University of Cambridge Working Paper No.349 <https://www.jbs.cam.ac.uk/wp-content/uploads/2023/05/cbrwp349.pdf> Accessed 6 September 2024.

[142] Rosioru (no 140).

[143] Dukes and Streeck (no 132), 12.

[144] ibid, 12.

[145] Adams (no 98), 393.

because it perceives the worker to be organisationally and economically separate from the employer, and thus not in need of protection.

In contrast, self-employed workers are conceived of by the law as economically and organisationally independent from those with whom they contract for work, and thus not in need of legal protection.[146] This view is shaped by a legal imaginary which perceives the self-employed worker to be a small business undertaking, which voluntarily *chooses* the autonomy of independent work over employed work.[147] At the heart of this choice, is a voluntary assumption of economic risk by the self-employed worker, who is expected to weather the economic burdens of market fluctuations in exchange for their freedom from subordination to an employer and the opportunity to make a profit.[148]

These imaginaries underpin and are reproduced within the institutions and mechanisms through which labour is regulated and are reflective of the SER's legacy as the dominant form of structuring labour relations. Resultantly, in the absence of 'a contractually mediated relationship of subordination and dependence',[149] labour law excludes the governance of these labour relations from its scope. Beyond this relationship of control, any attempt to regulate the terms of the contract (such as the price of labour or the determination of working time) loses its rationale (protecting the subordinated party) and could be seen as an unwarranted interference with parties' freedom to contract.[150] This logic is rooted in the wider conceptual and legal structures that underpin capitalist systems, first and foremost the institutions of private law: the legal person, the contract and private property.[151]

To commodify labour and allow for commodity exchange,[152] the law must impose a conceptual separation (abstraction) between the conditions of capitalist reproduction and itself. To do this, the

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[146] Dukes and Streeck (no 132), 12.

[147] ibid.

[148] Davidov et al. (no 37), 121.

[149] Adams (no 11) 29.

[150] Adams (no 11) 29.

[151] Richard Kinsey, 'Marxism and the Law: Preliminary Analyses' (1978) 5 *British Journal of Law and Society* 202, 202.

[152] The market exchange of goods/ services for money. See Karl Marx, *Capital: A Critique of Political Economy, Volume 1* (Penguin 1976) 126.

law is conceptually reliant upon assumptions of the political equality and autonomy of the individual. Drawing on Marx's discussion of the commodity form, Pashukanis explains that this is because the relationship of exchange between individuals is expressed through contract, whereby individuals contracting must understand those with whom they engage in exchange as their equals - as capable of holding property rights.[153]

Under capitalism, then, individuals sell their labour through contractual means under the assumption that both the seller and buyer are free, equal, autonomous, right-bearing individuals. For this reason, the law accepts that individuals may desire to sell their labour independently of an employer, under a contract for service rather than a contract of service. Under a contract for service, the law understands an individual to have willingly contracted away their autonomy for the financial security of an employment relationship.[154] This is why the law perceives the power imbalance between an employer and their employee, to which it is expected to remedy, to originate in the contract of employment.[155] So, outside of this relationship, any interference with the terms through which individuals sell their labour is perceived as an intrusion upon the parties' freedom to contract.[156]

As a result, when labour relations are established between parties where a contractual right of control does not exist, the law does not extend employment and social protections to the worker, as no time is seen to be spent working under the direct authority of an employer.[157] Because the law's understanding of subordinate labour is tied to standard employment models, the law's capacity to recognise the existence of an employment relationship in atypical models is limited. As Adams explains, the result of the law's limited ability to recognise all labour as work, and thus regulate it, is an 'invisibilisation' of certain forms of labour which fall outside of the law's own restrictive understanding of labour relations: namely, labour relations which are structured as contracts *for* service, rather than *of* service.[158]

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[153] Pashukanis (no 18).

[154] Dukes and Streeck (no 132), 12.

[155] Zoe Adams, 'Invisible Labour: Legal Dimensions of Invisibilization' (2022) 49 *Journal of Law and Society* 385, 393.

[156] ibid.

[157] Adams (no 11) 28.

[158] Adams (no 19), 393.

Essentially, when the law excludes labour performed in atypical work models from its regulation, it leaves would-be employers unconstrained by employment-related restrictions on pay (such as a minimum wage) and employment-related costs (such as social security payments), meaning that these would-be employers are able to extract maximum surplus value from their workers' labour.[159] For this reason, many firms wishing to evade employment related-costs, structure work to appear as though there is no relationship of control or subordination between themselves and their workers.

2.1.3. Decline of the Standard Employment Relationship

Early theorists interpreted the decline of the SER - the decline of full-time, indefinite employment models - to be a result of external factors,[160] such as political and economic factors,[161] like financial liberalisation, labour market deregulation, a rise in flexible working models and increased outsourcing,[162] as well as due to changing social structures[163] and the emergence of a globalised economy.[164] Scholars writing about more recent developments in the world of work, in addition to the factors listed, have identified platform work and the increasing digitalisation of work as novel threats to the SER.[165]

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[159] Surplus value refers to extra labour that produces value, above what a worker receives in return for its production. Eg. If an employer makes £150 in daily revenue from one worker but pays the worker £70 per day, the remaining £80 is surplus. See Janelle Cornwell, 'Surplus Labor' in Douglas Richardson (eds), *International Encyclopedia of Geography: People, the Earth, Environment and Technology* (Wiley-Blackwell 2017).

[160] Mückenberger (no 125) 117; Gerhard Bosch, 'Working Time and the Standard Employment Relationship' in Jean-Yves Boulin et al. (eds), *Decent Working Time: New Trends, New Issues* (International Labour Organisation 2006).

[161] The rise of non-standard forms of work during this time have been argued to be due to the significant economic restructuring undertaken by most OECD countries in the 1970s, following economic decline. See Andreas Fagerholm, 'Towards a Lighter Shade of Red? Social Democratic Parties and the Rise of Neo-liberalism in Western Europe, 1970–1999' (2013) 14 *Perspectives on European Politics and Society* 538; OECD (Organisation for Economic Co-operation and Development), 'Non-Standard Work, Job Polarisation and Inequality' in OECD (eds), *In It Together: Why Less Inequality Benefits All* (OECD 2015) 136.

[162] Jill Rubery, 'Part-Time Work: A Threat to Labour Standards?' in Colette Fagan and Jacqueline O'Reilly (eds), Part-Time Prospects (Routledge 1998); Arturo S. Bronstein, 'Temporary Work in Western Europe: Threat or Complement to Permanent Employment' (1991) 130 *International Labour Review* 291; Hugh Collins, 'Independent Contractors and the Challenge of Vertical Disintegration to Employment Protection Laws' (1990) 10 *Oxford Journal of Legal Studies* 353; Ulrich Mückenberger and Simon Deakin, 'From Deregulation to a European Floor of Rights: Labour Law Flexibilisation and the European Single Market' (1989) 7 *Zeitschrift für Sozialreform* 415.

[163] Such as rising female participation in the labour force. See Mark Wooden, 'The Changing Labour Market and its Impact on Work and Employment Relations' in Ron Callus and Russell Lansbury (eds), *Working Futures: The Changing Nature of Work and Employment Relations in Australia* (Federation Press 2002).

[164] John Burgess and Duncan MacDonald, 'Are Labour Standards Threatened by Globalisation?' (1998) 6 *International Journal of Employment Studies* 145.

[165] Seth Oranburg and Liya Palagashvili, 'Transaction Cost Economics, Labor Law, and the Gig Economy' (2021) 50 *Journal of Legal Studies* 219; Stanford (no 8); Cherry (no 22).

Some scholars argue that the proliferation of platform work, and generally non-standard forms of work, are primarily due to the wider informalisation and 'flexibilisation' of work,[166] which they contend have permitted the gradual incorporation of increasingly market-like features into work.[167] Nevertheless, non-standard forms of work are not new or app-based and have been on the rise since the late twentieth century. By now, they have become a dominant feature of labour markets, contrary to the label 'non-standard'.[168]

Since the early 80s, management strategies and labour market restructuring have incorporated the language of 'flexibility' to legitimise unsustainable deregulatory models implemented in the wake of economic recession in an attempt to boost production at workers' expense.[169] One consequence of increased labour market flexibility is the increased informalisation of work. [170] Because of changing organisational forms, firms can contract labour through non-standard forms – such as casual and contract labour, outsourcing, and various forms of subcontracting.[171] Weil categorises the changing organisational forms of firms as 'workplace fissuring'.[172] Fissuring, otherwise known as vertical disintegration, refers to the outsourcing by firms of all functions aside from their core competencies in a bid to cut costs and increase share value, resulting in the creation by firms of a legal gap or fissure between themselves and those who work for them.[173]

The erosion of the SER, however, should not be understood as a solely external phenomenon. Rather, Fudge contends that the SER did not simply accompany industrial capitalism but was

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[166] The concept of flexibility emerged in the mid-90s, advocating in favour of labour market deregulation, in the hopes that this would lead to increased investment and higher employment levels. See Gerry Rodgers, 'Labour Market Flexibility and Decent Work' (UN DESA Working Paper No. 47 2007); World Bank, *World Development Report 2005: A Better Investment Climate for Everyone* (World Bank 2005); OECD (Organisation for Economic Co-operation and Development), *The OECD Job Study* (OECD 1994).

[167] Stanford (no 8); Srnicek (no 13); K. Sabeel Rahman and Kathleen Thelen, 'The Rise of the Platform Business Model and the Transformation of Twenty-First-Century Capitalism' (2019) 47 Politics & Society 177.

[168] Daniel Drache, Anne LeMesurier and Yanick Noiseux, *Non-Standard Employment, The Jobs Crisis and Precarity: A Report on the Structural Transformation of the World of Work* (Center for Studies on Integration and Globalisation 2015).

[169] Cano et al. (no 74), 49.

[170] Informality refers to the unregulated processes of income-generation taking place in a socio-legal framework in which comparable activities are regulated. Standing first identified the relationship between informalisation and labour market flexibility, noting the informalisation of work in developed economies, leading an increasing number of jobs to possess 'informal characteristics', such as, no 'regular wages, benefits, employment protection, and so on'. See Guy Standing, 'Global Feminisation Through Flexible Labor: A Theme Revisited' (1999) 27 *World Development* 583, 585; Judy Fudge, 'Blurring Legal Boundaries: Regulating for Decent Work' in Judy Fudge, Shae McCrystal and Kamala Sankaran eds., *Challenging the Legal Boundaries of Work Regulation* (Hart 2012) 7.

[171] Fudge (no 170) 7.

[172] Weil (no 96).

[173] ibid, 43-44; Hugh Collins, 'Independent Contractors and the Challenge of Vertical Disintegration to Employment Protection Laws' (1990) 10 *Oxford Journal of Legal Studies* 353.

concurrently embedded in, and the result of, the capital-labour compromise following the end of the Second World War.[174] Its use as a means of regulating labour relations was entwined within an 'institutional ensemble' - namely, trade union and state regulation – upon which its robustness depended.[175] Importantly, the SER represented a 'political compromise between labour and capital mediated by the democratic state', curbing the extent to which labour was commodified.[176] During this time, the state relied upon employment for the maintenance of the welfare state and the provision of social insurance, through income tax.[177]And so, in the wake of trade union decline, coupled with the breakdown of the post-war settlement and the introduction of neoliberal deregulatory policies, the SER could no longer function as intended.[178]

This has led some scholars to conclude that the standard employment model was a historical exception to capitalism's norm,[179] its existence 'limited to a certain area of the world, during a certain number of years'.[180] And in fact, that the reemergence of precarious work models is simply part of the re-commodification of labour experienced by the core capitalist countries in the wake of neoliberalism.[181] Scholars have noted that as a result of neoliberal labour law and market reforms, the contract was instituted both as the primary institution for the regulation of work relations and, concurrently, the dominant ideology.[182] Neoliberal rhetoric on labour relations tended to proclaim the benefits of free markets, identifying trade unions, collective bargaining and legislatively prescribed employment rights as damaging to the interests of workers and businesses, on the premise that they unduly threatened market competition.[183]

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[174] Fudge (no 17), 376.

[175] ibid.

[176] ibid, 382.

[177] ibid, 377.

[178] Fudge (no 17), 382.

[179] Jan Breman and Marcel van der Linden, 'Informalizing the Economy: The Return of the Social Question at a Global Level' (2014) 45 *Development and Change* 920; Eloisa Betti, 'Precarious Work: Norm or Exception of Capitalism? Historicizing a Contemporary Debate: A Global Gendered Perspective' (2016) 35 *IWM Junior Visiting Fellows' Conference Proceedings* 1; Francesco Di Bernardo, 'The Impossibility of Precarity' (2016) 198 *Radical Philosophy* 7.

[180] Francesco Di Bernardo, 'The Impossibility of Precarity' (2016) 198 *Radical Philosophy* 7, 17.

[181] Kurt Vandaele, 'Will Trade Unions Survive in the Platform Economy? Emerging Patterns of Platform Workers' Collective Voice and Representation in Europe' (2018) European Trade Union Institute Working Paper 2018.05, 9.

[182] Ruth Dukes and Wolfgang Streeck, 'Labour Law After Neoliberalism' (2023) 50 *Journal of Law and Society* 165, 171.

[183] ibid.

The narrative of neoliberalism promised that free markets and liberated contracting would be beneficial to workers and businesses alike, so long as these newfound markets were permitted to operate without impediment (from things such as pesky minimum wages or employment-related protections).[184] Despite all of the above described socio-political, economic and legal changes to labour markets, the SER has continued to shape the conceptual and legal bases for the regulation of labour relations in these markets.

2.2. Methodology

To answer the chosen research questions, I bring together the above theoretical framework with the methodology outlined in this Section. Briefly to restate the research questions, this dissertation asks the following:

How do platforms organise work? What is platform work's relation to the legal form of employment? And, to what extent is the law able to conceptualise and respond to platform work?

Addressing these questions requires a concurrent examination of how platforms organise work the way that they do, as well as an evaluation of the law's capacity to recognise and regulate platform work. I begin by identifying two of the largest delivery and ride-hailing platforms globally, Uber and DoorDash.[185] Both firms based in the United States that operate across global markets.[186] In 2022, DoorDash - the United States' largest food delivery company - acquired the Finnish food delivery platform, Wolt, which operates in Nordic, Baltic, Eastern and Central European countries.[187] These companies manage vast workforces and rely upon algorithmic management to organise labour, so I reason that investigating their workforce management strategies could provide more insight into the relationship between legal forms and the organisation of work by platforms, as opposed to smaller firms operating in fewer places.

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[184] ibid, 172.

[185] Hubert Horan, 'Will the Growth of Uber Increase Economic Welfare' (2017) 44 *Transportation Law Journal* 33, 33; Camilla Hodgson and Yasemin Craggs Mersinoglu, 'Food delivery apps rack up $20bn in losses in fierce battle for diners' (*Financial Times*, 29 May 2024) < https://www.ft.com/content/675f5c8b-6029-4393-8eba-d6f00327e090 > Accessed 18 June 2024;

[186] Willem Pieter de Groen et al. (no 19), 11.

[187] Wolt, 'DoorDash + Wolt = one team' (*Wolt Blog*, 1 June 2022) < https://blog.wolt.com/hq/2022/06/01/doordash-wolt-one-team/ > Accessed 26 March 2024; Ian Martin, 'DoorDash Muscles Into Europe With $8 Billion Wolt Deal' (Forbes, 10 November 2022) < https://www.forbes.com/sites/iainmartin/2021/11/10/doordash-muscles-into-europe-with-8-billion-wolt-deal/ > Accessed 26 March 2024.

The business models of platforms like Uber and DoorDash are predicated on 'not directly employing *any* workers', with the exception of a few core employees.[188] The manner in which they arrange their labour processes is indicative of how firms aiming to evade employment-related responsibilities respond to legal forms and is illustrative of the role of the law in facilitating non-standard forms of work. In investigating the relationship between legal forms and the organisation of non-standard work, it follows that 'gig work' on platforms is a particularly good place to look.

Concurrently, I adopt an interdisciplinary approach to answering the above questions, combining elements of comparative, socio-legal and critical legal studies with patent analytics. Socio-legal scholarship aims to investigate the role and functioning of law in society,[189] while similarly, critical legal studies aim to question and unmask the 'ideological nature of law'.[190] Unlike other legal disciplines, labour law's primary tradition is critical,[191] meaning that the purpose of labour law scholarship has been to investigate the effects of social and legal frameworks for workers with the objectives of influencing policy and the interpretation of the law.[192] I conclude that a critical, socio-legal approach could better situate my research within existing labour law scholarship and allow me to contribute to it.

In addition, I also incorporate some comparative elements into my research to investigate the extent to which legal actors have been able to conceptualise and respond to platform work, by looking to case-law from multiple industrialised jurisdictions.[193] I use case law from these countries because their legal systems are those which have adapted to and are reflective of the SER as the once-dominant form of organising labour relations. Therefore case-law from these places would be best suited to my research questions. Overall, a combination of these approaches allows me to investigate the nature of labour relations on platforms, as well as to investigate the law's capacity to regulate platform work.

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[188] Dukes and Streeck (no 95), 73-74.

[189] Mike McConville and Wing Hong Chui, *Research Methods for Law* (2nd edn, Edinburgh University Press 2017) 6.

[190] Stefan Sciaraffa, 'Critical Legal Studies' (1999) 5 *Legal Theory* 201, 202.

[191] Karl Klare, 'Horizons of Transformative Labour Law' in J. Conaghan, R.M. Fischl, K. Klare (eds), *Labour Law in an Era of Globalisation: Transformative Practices and Possibilities* (Oxford University Press 2002) 4; Ruth Dukes, 'Critical labour law: then and now' in E. Christodoulidis, M. Goldoni and R. Dukes (eds), Research Handbook on Critical Legal Theory (Edward Elgar 2019), 345.

[192] Kenneth W. Wedderburn, *The Worker and the Law* (3rd edn, Hammond 1986).

[193] This excludes newly industrialised countries, see the list of countries above at (no 100).

Patent analytics is an area of study focused on systematically reviewing and evaluating patents within a certain field. It aims at discovering new trends and innovation within that field and is mainly used by those in the intellectual property industry.[194] Taking initial inspiration from Delfanti and Frey, who analyse Amazon patents to better understand how Amazon is integrating technology into warehouse productive processes and to gauge the nature of their future business operations,[195] I look at patents to investigate how platforms organise work and pay. A patent is an exclusive right granted for an invention by the state (or a state-like institution).[196] They are publicly accessible documents that contain a detailed description of the invention, often including illustrations.[197] Looking at patents is an effective way of understanding the organisation of work from the firm's perspective, as opposed to trying to piece together the firm's organisational logic through an analysis of workers' experiences.

For the following reasons, patent analytics provides an especially effective and novel approach to addressing the question of how Uber and DoorDash organise work. Firstly, this approach of investigating the manner in which platforms organise work has never been used before. Practitioners and academics alike in this area often bemoan the inaccessibility of algorithmic formulas used to manage platforms' labour force,[198] and this is for good reason. Platforms fiercely guard their algorithmic formulas even when ordered by courts to reveal them.[199] Patents offer a way around this information access barrier, because they explain the logic and functioning of these algorithms, without needing to have access to the algorithms themselves.

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[194] Jieun Kim, Buyong Jeong, Daejung Kim, *Patent Analytics: Transforming IP Strategy into Intelligence* (Springer 2021) 4.

[195] Alessandro Delfanti and Bronwyn Frey, 'Humanly Extended Automation or the Future of Work Seen through Amazon Patents' (2021) 46 *Science, Technology, & Human Values* 655.

[196] Annette Kur, Thomas Dreier, and Stefan Luginbuehl, *European Intellectual Property Law* (Edward Elgar 2019) 78.

[197] Delfanti and Frey (no 195).

[198] Teachout (no 76).

[199] For instance, Uber continues to refuse to reveal to information to applicant drivers who had been 'robo-fired' on the basis of fraudulent activity, as to why they had been automatically terminated, even after having being ordered to do so by an appeals court in the Netherlands. See Worker Info Exchange, 'Historic digital rights win for WIE and the ADCU over Uber and Ola at Amsterdam Court of Appeal' (*Worker Info Exchange*, 4 April 2023) < https://www.workerinfoexchange.org/post/historic-digital-rights-win-for-wie-and-the-adcu-over-uber-and-ola-at-amsterdam-court-of-appeal > Accessed 24 June 2024; Natasha Lomas, 'Uber Still Dragging its Feet on Algorithmic Transparency, Dutch Court Finds' (*TechCrunch*, 5 October 2023) < https://techcrunch.com/2023/10/05/uber-slow-on-algo-transparency/ > Accessed 16 January 2025.

Secondly, the majority of the literature investigating platform work relies upon qualitative research. This research mainly consists of interviews conducted with platform workers or information gathered from platform workers' online forums,[200] or even the author's own experience of working for these platforms.[201] While the value of qualitative research is not to be underestimated as it provides an invaluable insight into worker experiences, I found that existing literature had exhausted the avenue of qualitative research. In addition, I found that qualitative research provides a limited insight into the organisational logic of the firm due to its focus on worker experience, which can only tell you so much about how platforms choose to organise work. Working with patents would, I hope, provide me with the best insight into these firms' organisational logic.

Patents registered with the World Intellectual Property Organisation ('WIPO') are most likely to be registered in multiple jurisdictions. WIPO is a specialised agency of the United Nations, which aims to advance the protection of intellectual property on a global level and offer services in pursuit of this. Usually patents are granted by the relevant national authority of a given state, but WIPO allows applicants to gain international protection for their patents through the Patent Cooperation Treaty ('PCT') in PCT Contracting States, essentially enabling applicants to apply for patent registration in multiple jurisdictions simultaneously without having to apply individually to register patents in each jurisdiction.[202] The public nature of patents would allow me to search for and identify patents submitted by Uber and DoorDash to WIPO through their 'PATENTSCOPE' database.[203]

To date, DoorDash Inc., has 129 patents registered with WIPO and Uber Technologies Inc., has 2104 registered with WIPO. To find the patents most relevant to workforce management, I would use search terms such as 'management', 'provider' (this is how Uber refers to their drivers in their patents), 'associate' (this is how DoorDash refers to their delivery workers as in their patents), 'optimization', and 'selection'. These terms would generate patents which were most relevant to

[200] Möhlmann et al. (no 41); Shapiro (no 22); Rosenblat and Stark (no 25); Griesbach et al. (no 50); Chan (no 58); Woodcock (no 65); Willem Pieter de Groen et al. (no 19); Cano et al. (no 74); Dubal (no 70); Massi and Longo (no 77); Mangan et al. (no 77).

[201] Mason (no 54); van Doorn (no 42).

[202] WIPO, 'Summary of the Patent Cooperation Treaty (PCT) (1970)' (WIPO)< https://www.wipo.int/treaties/en/registration/pct/summary_pct.html > Accessed 24 June 2024.

[203] WIPO, 'PATENTSCOPE Advanced Search' (*WIPO*) < https://patentscope.wipo.int/search/en/advancedSearch.jsf > Accessed 24 June 2024.

workforce management. From these, I would choose four patents which most explicitly explained these platforms' workforce management mechanisms and pay structures – two from each platform.

The novelty of my research is rooted, first and foremost, in its methodological and theoretical approaches used to answer the chosen research questions. No existing literature brings together patent analysis with critical, socio-legal theory to investigate platform work. The greatest strengths of this approach are firstly that the patent analysis overcomes the issue of algorithmic opaqueness, providing an alternative means of understanding the algorithms used by these powerful entities to organise work - an insight which could prove useful both to academics and legal practitioners in the field. Secondly, the socio-legal and critical theoretical framework which I use to evaluate my findings allows us to understand how platform work relates to labour law's conceptual foundations. The benefit of such an evaluation is that, in order to actualise decent work, or as Fudge puts it, 'at the very least [avoid] unacceptable forms of work',[204] we must first understand the wider context in which these less desirable forms of work are able to emerge and institute themselves.

[204] Fudge (no 17), 376.

Chapter 3 – A Glimpse Into the Algorithms

3. Introduction

This chapter addresses the question of how platforms organise work through an analysis of patents filed by Uber and DoorDash. Patent analysis provides a novel way to investigate the manner in which platforms structure their productive processes and contributes to an existing body of literature on the matter. As I will explain, these patents provide an invaluable insight into these platforms' workforce management and pay mechanisms, and with that, an indispensable insight into the organisational logic of these firms.

3.1. DoorDash: 'Optimization of Delivery Associate Incentives'

This first patent, filed by DoorDash, describes a system that calculates and determines the allocation of monetary incentives to couriers when the platform needs to boost its labour supply. To clarify, DoorDash refers to their couriers as associates.

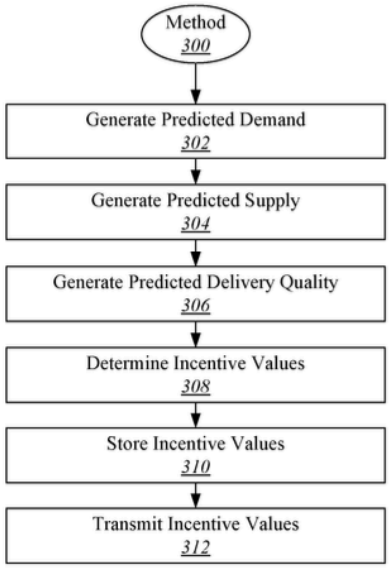

FIG. 3

Figure 3 depicts the method used for determining predicted customer demand for services, which is then used to determine the deployment and calculation of monetary bonus incentives. The method in Figure 3 is implemented through the system shown in Figure 4 below.[205]

The first step of the method is to predict customer demand (302). This task is undertaken through the 'Demand Prediction Module' (412), shown in Figure 4. The Demand Prediction Module generates predicted customer demand using historical customer demand data, which comprises the total

[205] Jiaru Ren et al., 'Optimization of Delivery Associate Incentives' (International Publication No.WO 2021/162952A1, World Intellectual Property Organisation, 19 August 2021) 9, [33-34].

number of deliveries made during a particular period of time in a particular region.[206] Regions are determined on the basis of population density, therefore larger cities with denser populations are split up into more regions as opposed to less densely populated areas which are split up into fewer regions.[207] The historical customer demand from regions is used to train a machine learning algorithm,[208] which generates predicted customer demand values.[209]

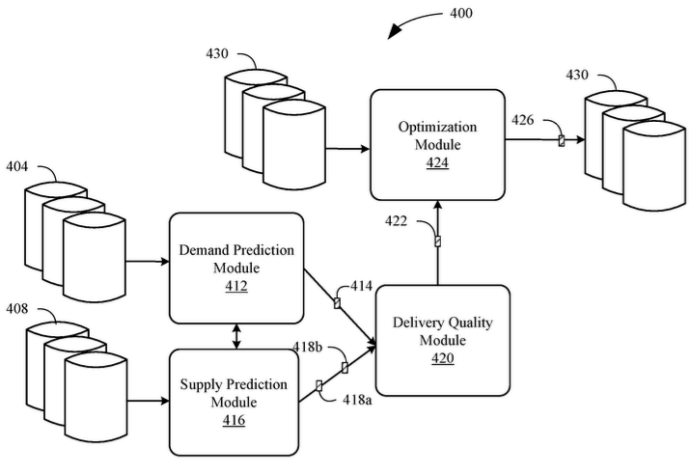

FIG. 4

The module adjusts predicted demand by taking into account factors that have previously impacted customer demand in a particular region during a particular time,[210] for instance lunch or dinner time.[211] The module also calculates the actual number of deliveries that were completed by couriers and the predicted number of orders lost due to an insufficient number of delivery couriers. For example, a customer may choose to use a competitor's platform to order a meal from, if that platform has a lower estimated delivery time due to having more couriers working at that time. Thus, the Demand Prediction Module also takes missed opportunity into account in its predictions.[212]

The second step of the method shown in Figure 3 is to generate predicted labour supply. This is done through the 'Supply Prediction Module' (416) shown in Figure 4.[213] Labour supply is

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[206] ibid, 10, [35].

[207] ibid, 11, [40].

[208] Machine learning systems are specific algorithms and statistical models that computer systems use to carry out a certain function automatically, that is without being explicitly programmed to do so. Once a machine learning system 'learns' what to do with information, it is able to carry out its tasks automatically. See Batta Mahesh, 'Machine Learning Algorithms - A Review' (2020) 9 *International Journal of Science and Research* 381.

[209] Ren (no 205), 10.

[210] ibid, 10-11, [37-39].

[211] ibid,12, [42-43].

[212] ibid, 10, [38].

[213] ibid, 14, [48].

calculated in part using historical data on the amount of delivery couriers working during a particular time, in a particular region and the corresponding monetary incentive that applied. This information is used to train a different machine learning algorithm which generates future predicted labour supply.[214] Other information used to train the algorithm is the actual number of delivery couriers available to work in a particular region during a particular time after being offered a monetary incentive, and how this number compares to the predicted number of couriers.[215]

The 'Supply Prediction Module' categorises delivery couriers in its database (408) on the basis of the length of time spent working for the platform (e.g. one, two or three months etc.), as well as the average number of hours worked by delivery couriers and prior performance. The 'Supply Prediction Module' uses this information to predict how many working hours the platform receives from its existing pool of delivery couriers, as well as their predicted productivity levels.[216] This information is then used in the third step of the system's method, which is to determine predicted 'delivery quality'.

Delivery quality values are generated by the 'Delivery Quality Module' (420) pictured in Figure 4, using data from the Predicted Supply Module.[217] Delivery quality is the ratio of available delivery couriers in relation to outstanding orders at any given point in time.[218] Essentially, this ratio is calculated with a view to lowering delivery waiting times for customers, as in principle, the higher the labour supply the less time a customer spends waiting for their order to be delivered.[219] Delivery quality is calculated by the module through a simulated process, estimating delivery duration, supply and demand distribution and the applicable incentive values for a particular region.[220]

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[214] ibid, [49-50].

[215] ibid, 15, [51].

[216] ibid, 16, [55].

[217] ibid, 17, [56].

[218] ibid, [58-61].

[219] ibid, 10, [38].

[220] ibid, 17, [57].

Delivery quality values are generated for each incentive value of a region and period of time, for example a particular area in the city between 18:00 and 21:00 for $1, $2 and $3 incentives. Here, delivery quality values would be calculated for each monetary incentive.[221] The following table breaks down the calculation of delivery quality:

TABLE 1

	Time Period		
Incoming Deliveries	10	10	10
Outstanding Deliveries	10	20	30
Delivery Associates	8	10	12
Delivery Quality	1.25	2	2.5

The delivery quality values are used in the fourth step of the method, which is to determine incentive values. These monetary bonus incentives are determined through the 'Optimization Module' (424) shown in Figure 4. These are determined on the basis of previous incentive values and previous delivery quality values,[222] as well as an overall budget.[223] The weightings that these factors are given are unclear, as the function of the Optimization Module is changeable depending on the outcome that human administrators would like the system to achieve. For example, the objective could be set to maximise delivery quality, therefore a higher overall budget could be set for incentive values, or if the priority was to save money rather than maximise delivery quality, the overall budget could be lowered in line with this.[224]

The budget acts as a guide to the module and constraints the total cost of all incentive values generated.[225] Budgets can be set both on a regional level and overall,[226] and can be set either by a human administrator or by the system.[227] Where the system determines the budget, it does so using data from previous incentive values, leveraging a dataset of historical budgets and how they

[221] ibid, [58].

[222] ibid, 19, [63].

[223] ibid, [63-66].

[224] ibid, [65-66].

[225] ibid, [64].

[226]ibid, 21, [70].

[227] ibid, 21, [68].

corresponded to previous delivery quality values.[228] The patent suggests that the Optimization Module is used to refine the human administrator's budgetary choices. For instance, a hypothetical example is given by the patent where a human administrator sets a budget for one million dollars, but the system infers that a budget of one million, ten thousand and five dollars would result in a significantly higher delivery quality. Thus the system makes recommendations to the human administrator, allowing them to adjust the budget accordingly.[229] Figure 5A shows how incentive values are determined according to region and budgetary constraint.

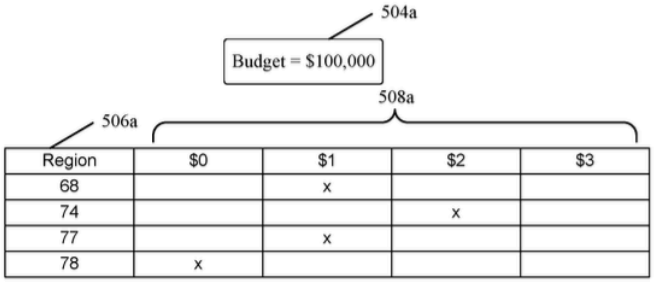

FIG. 5A

The penultimate step of the method is to store the incentive values generated by the Optimization Module in its database (430),[230] and the final step is to transmit them to delivery couriers. The patent does not specify how exactly the system determines to which delivery couriers incentive values are transmitted. However, the patent does suggest that incentive values may be linked to historical delivery practices. For example, a courier might receive an incentive to carry out deliveries in a certain neighbourhood that they have a history of delivering in, if labour supply for that area is predicted to be low. Or, incentive values may be linked more generally to regional demand for labour during a certain time of day.[231]

[228] ibid.

[229] ibid.

[230] ibid, [72].

[231] ibid, 22, [73].

3.2. DoorDash: 'System and Method for Dynamic Pairing Function Optimization'

This second patent filed by DoorDash essentially matches delivery routes for food orders with available couriers. The patent outlines how 'feasible pairings' are determined through a scoring process based on weighted factors, such as geographical location, courier vehicle type,[232] order type,[233] time, date, traffic and weather conditions, 'historical courier performance and size of markets'.[234]

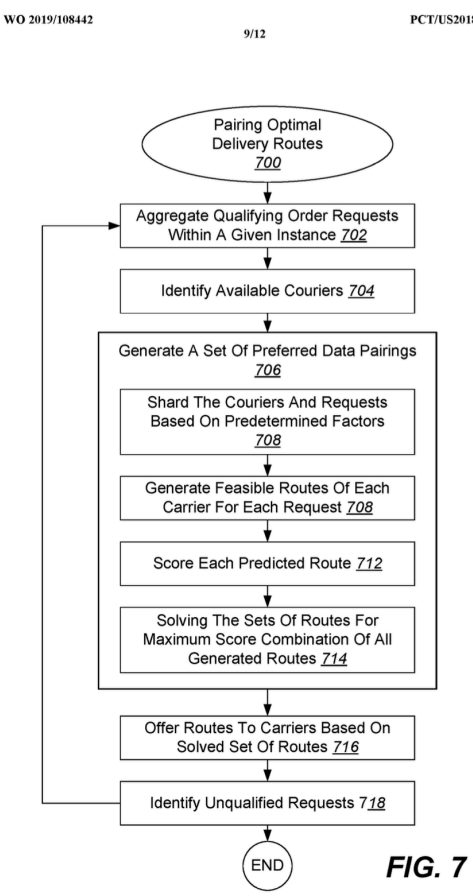

FIG. 7

In this calculative process, scores are used to determine the courier pairing with the combined highest scores, with a view to ensuring that the courier arrives at the time of or after an order is completed by the merchant (usually a restaurant). If a courier's estimated time of arrival ('ETA'), is after that of the merchant's order completion ETA, a pairing is deemed unfeasible and is not made. In these instances, a courier is returned to the sequence of pairing evaluations, basically sent to the bottom of the list, until a feasible pairing is identified for them. The objective here is to 'optimize the courier activity' with the aim of ensuring that orders are delivered to customers in the shortest time possible.[235] Figure 7 shows the system's method.

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[232] '[…] a motorcycle or scooter may be assigned a higher score than a car for particular routes because a motorcycle may be able to split lanes in heavy traffic.' Rohan Chopra et al., 'System and Method for Dynamic Pairing Function Optimization' (International Publication No.WO 2019/108442A1, World Intellectual Property Organisation, 6 June 2019) 38, [0144].

[233] ibid, 8-12.

[234] ibid, 23, [0088].

[235] ibid, 42, [0158].

The process begins when the server receives an order from a customer. At the second step, the server receives a dataset of couriers, which is filtered by an 'active status'.[236] Active couriers are determined on two bases (i) being logged-on to the system, and (ii) being in the 'active region' - a region defined by 'geo-hashed data coordinates to maintain a desired ratio of orders created to available couriers', which the system adjusts accordingly.[237] From this point, the system organises the data determining the first set of infeasible pairings on the basis of vehicle constraints in relation to the order size. Following this step, routes are determined for 'feasible pairings', which are based on a score calculated on the basis of variable weighted factors.

The patent describes the changeability of these factors which are ascribed different weightings in the scoring process, taking account of the fact that certain days, such as public holidays, are associated with increased traffic and more orders. It also ascribes varying weight to other changeable conditions such as time of day and weather conditions, parameters which are 'continually updated in real-time'.[238] Another variable factor is the number of available couriers in relation to orders.

The patent notes that an insufficient number of couriers is undesirable, as this leads to longer customer ETAs. It indicates that a surplus of active couriers is preferred by the system,[239] which as noted above, has the capacity to expand or contract an 'active region' to include or exclude a certain number of couriers.[240]

Figure 2 below depicts the use of surveillance technologies, such as bluetooth and GPS components on the courier's smartphone, to track the courier's every move. Mainly, the use of surveillance is to ascertain a courier's geographical location with a view to calculating their predicted delivery ETA, as well as to track the completion of tasks in the work process ('milestones'), which serves to 'provide guidance to an assignment or routing algorithm to efficiently route couriers'.[241]

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[236] ibid, 2.

[237] ibid, 3, [0013].

[238] ibid, 23, [0090].

[239] ibid, 36, [0137].

[240] ibid, 32, [0123].

[241] ibid, 15, [0060].

At first glance, one would assume that 'route efficiency' referred to the suitability of a particular route formulated by the algorithm. On the contrary, 'route efficiency' refers to how fast a courier is able to complete an assigned route within their predicted ETA.[242] A courier's ETA is estimated using 'historical courier performance data… real time traffic information and other geographical data items.'[243] Historical courier data is tracked in 30-day increments. Data before those immediate 30 days is also taken into account, but is used in the scoring process with 'lower weighted thresholds'.[244] If a delivery is completed before the ETA, it is assigned a higher score. If it is completed after, it receives a lower score. The patent also notes that there may be the imposition of a time threshold. If a delivery is completed after the threshold, then 'the route may be given a zero score'.[245] To put things simply, a worker is scored on their ability to meet algorithmically imposed targets, which are shaped by numerous changeable determinants. This information is fed back into the system and used in the sorting and matching of new 'feasible pairings' between couriers and routes for orders, which is based on a combined maximum of scores for the courier and route.[246]

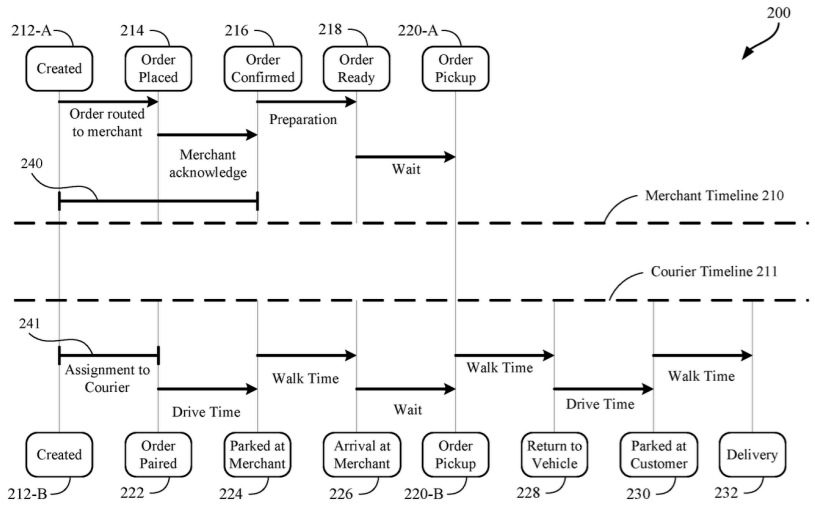

FIG. 2

[242] ibid, 38.

[243] ibid, 38, [0144].

[244] ibid, 26, [0099].

[245] ibid, 38, [0146]

[246] ibid, 41, [0156].

3.3. Uber: 'Dynamic Selection of Geo-Based Service Options in a Network System'

This patent filed by Uber identifies user demand in a geographical area, allocates rides to drivers, directs drivers to areas of high demand and importantly, describes how Uber adjusts price based on demand. Figure 1 depicts the overall network system responsible for coordinating the matching of available drivers to user trip requests by linking data collected from the user app and the driver app. As a point of clarification, the patent refers to passengers as users and drivers as providers.

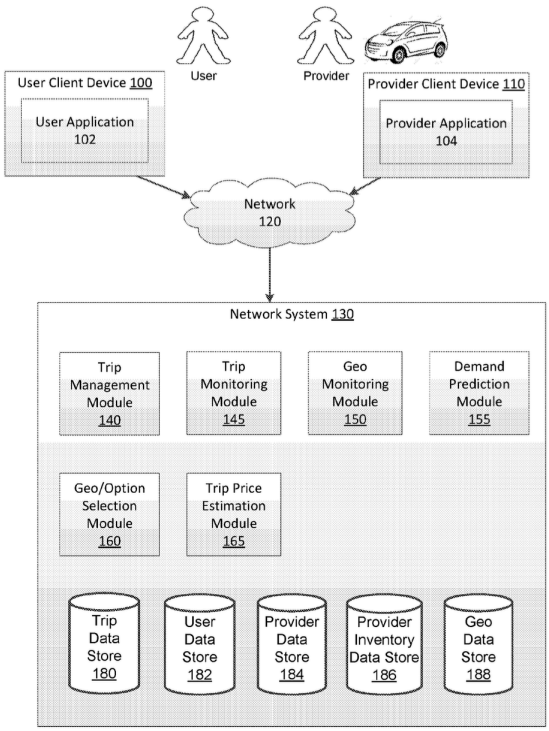

FIG. 1

The network system is comprised of the following modules: trip management (140) and monitoring (145) modules, a geo-monitoring module (150), a demand prediction module (155), a selection module (160) and a trip price estimation module (165). In addition, the network stores data on users, drivers, geographical demand and past trips. These components are used to predict user demand, adjust the price of trips, and direct worker behaviour in response. The trip data store (180) maintains a record of both each in-progress trip and each completed trip coordinated by the network system. The patent elaborates that each trip provided by a driver is defined by a set of attributes which together make up a trip record. These 'describe aspects of the provider, the user, and the trip… each trip record includes or is associated with a trip identifier (ID), a user ID, a provider ID, the origin location, the destination location, the duration of the trip, the service type for the trip, estimated time of pick up, actual time of pickup, and provider rating by user, user rating by provider, price information, market information, and/or other environmental variables as described.'[247]

[247] Yifang Liu, 'Dynamic Selection of Geo-Based Service Options in a Network System' (International Publication No.WO 2018/146622A1, World Intellectual Property Organisation, 16 August 2018) 20, [0068].

Current and future user demand for trips is calculated through the demand prediction module, which employs machine learning to sharpen future demand prediction over time.[248] The demand prediction module (155) coordinates with other modules, such as the trip management module to gauge demand in certain geographical areas. The trip management module monitors the number of users interacting with the app, either by taking note of the amount of trip requests or users' indication of intent to request a trip (e.g. when users look up the price of a trip from destination A to B),[249] and by generally tracking the number of users who are in a certain area.[250] The demand prediction module sends its data to the geo monitoring module (150), which uses the data to estimate future prices.[251]

Figure 2 is an interaction diagram depicting how the system decides to allocate resources based on predicted demand. The geo monitoring module (150) has the function of determining 'price multipliers' in specific 'geos'. A geo is defined as 'user defined regions, overlapping regions, regions of different sizes or dimensions, and/or regions defined by a coordinate system or array of shapes'.[252] Essentially, these refer to specific geographical zones. While a pricing multiplier refers to a modifier applied to the baseline trip price, which increases the price on the basis of the ratio of user demand to driver supply.[253] If the ratio is above a certain threshold, the modifier calculates a price based on that ratio and applies it to a geo. Each geo is defined in the system by its price multiplier and influences the allocation of trips to drivers.

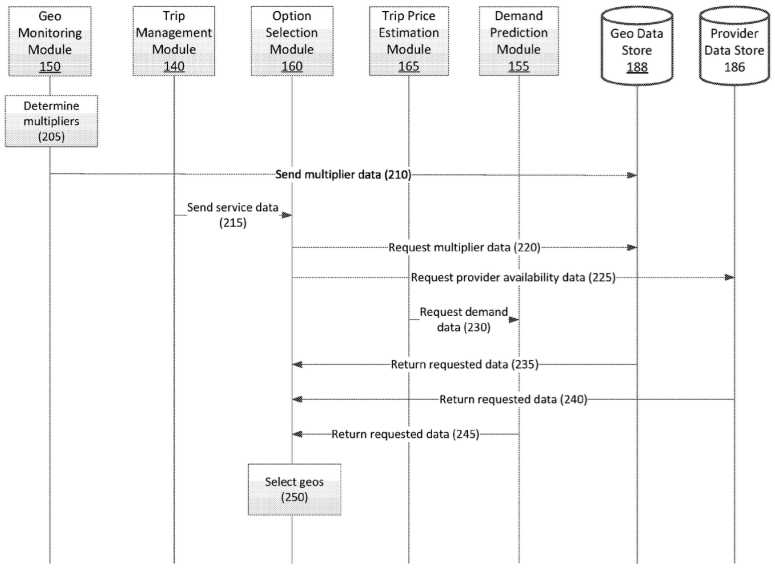

FIG. 2

[248] ibid, 11, [0040]; 18, [0062].

[249] ibid, 11, [0039].

[250] ibid, 10-11, [0037].

[251] ibid, 11, [0038].

[252] ibid, 10, [0035].

[253] ibid, 11, [0035].

After receiving a trip request from a user, the option selection module (160) selects available drivers for the job. The system does this on varying bases, depending on what factor the system gives a stronger weighting to. These include considerations such as the price multiplier of a certain geo, the estimated time of pick-up, and the predicted trip price. It may select the driver who is most quickly able to reach the customers' pick-up location (this applies when the request is imminent, for scheduled requests at a later time, the selection process may be different). However, where there are multiple drivers available whose estimated time of pick-up is the same, the module may select the driver in the geo with the lowest price multiplier.[254]

Following this process, the trip price estimation module (165) estimates and determines the cost of a trip. Some variations of the system include a pick-up price in the overall trip price and some do not.[255] Where the system does include a pick-up price, it is comprised of the estimated duration and distance of the trip from the driver's start location to the pick-up location and the price multiplier in the driver's current geo.[256] Nevertheless, if the pick-up location is nearby to the driver's start location, the pick-up price is zero.[257]

To determine the overall cost of a trip, the module takes into account the pick up location, the drop off location, the route of travel, the estimated duration of the trip, the service type, and the time at which the trip is to take place.[258] In addition to the factors listed, the trip price estimation module (165) also takes into account the estimated time of arrival, current and past traffic conditions, the number of passengers, the type of vehicle, and the number of available drivers in a certain geo in relation to demand for trips in that geo.[259] The trip price estimation module uses driver supply and customer demand to shape the price, by applying a price multiplier during periods of high demand.[260]

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[254] ibid,14, [0048-0049].

[255] ibid,17, [0058].

[256] ibid.

[257] ibid.

[258] ibid, 15, [0051].

[259] ibid, 16-17, [0056 - 0057].

[260] ibid, 17, [0057].

The overall logic of the system is informed by an optimisation formula, which in simple terms, instructs the system on how to select the best drivers to meet trip demand across different geos, with the overall objective of maximising total revenue and overall market generated value ('MGV'). The market generated value is a measure of how much value trips generate for the overall system.[261] This includes considerations of driver earnings, customer satisfaction and system efficiency.

However, the system does not operate solely on the basis of maximising total revenue and MGV. The formula imposes several constraints upon the system in relation to matching supply and demand, driver availability and the overall number of drivers.[262] The first constraint instructs the system that the number of trips made between geos must be equal to the number of drivers selected to fulfil those trips. The second constraint tells the system that it cannot select a number of drivers to fulfil trip requests that exceeds the number of available drivers. The final constraint tells the system to identify available drivers in a geo, on the basis of how many drivers leave that geo, how many trips end in that geo, and how many new drivers log onto the system in the geo. This formula is the mathematical way of instructing the system that it needs to make the most money from fares and ensure that the service works efficiently for drivers and passengers, while also ensuring that drivers are redirected to areas with a low supply that are predicted to have a high demand for trips.

The process of assigning drivers to geos on the basis of demand is carried out by the trip management module (140). This module uses future demand predictions from the demand prediction module to 'position providers [drivers] across and within geos to optimise the number of trip requests that the network system 130 is able to fulfil'.[263] This is done by sending drivers 'incentives' in the form of increased pay to travel to areas of predicted high-demand: 'The trip management module (140) might display the payment as a standalone incentive or as a component of the provider's income from a specific trip'.[264] Pay can also function as a disincentive. The patents note that drivers are liable to face a 'financial penalty' if they accept a trip request but fail to fulfil it by cancelling.[265] This information is collected through the driver's app which surveils drivers and

[261] ibid, 15-16, [0052[0053].

[262] ibid.

[263] ibid, 19, [0067].

[264] ibid, 20, [0067].

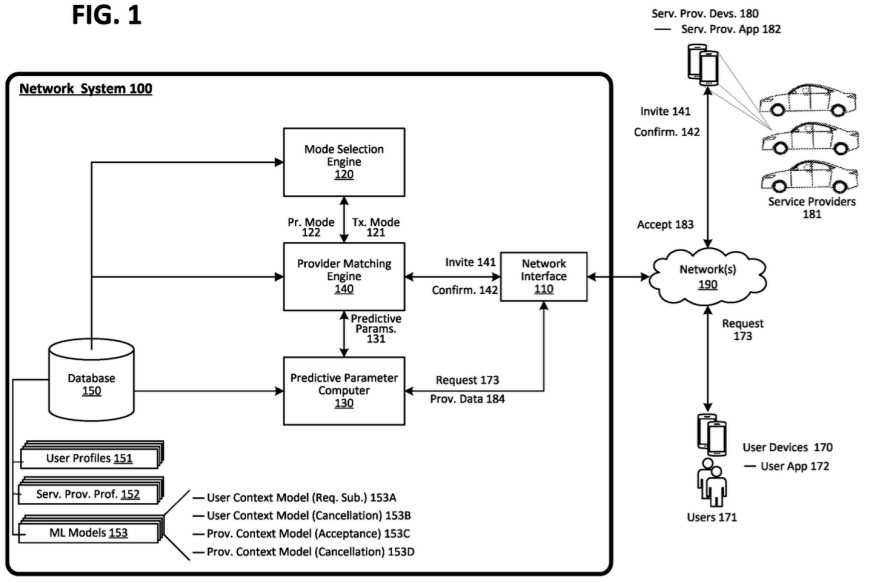
[265] ibid, 8, [0027].

provides 'historical information about the provider's services received, provided, canceled, and/or completed, such as the times, locations, and routes traveled associated with such services'.[266]

3.4. Uber: 'Dynamic Invitation Transmission and Presentation'

This final patent, filed by Uber, describes how Uber drivers are allocated work on the basis of certain parameters. Figure 1 shows the overall network system which coordinates the matching of drivers to customer requests for rides. Figures 2A, 2B, 2C and 2D depict the method behind the system.

FIG. 1



The first step of the system's method, shown in Figure 2A on the following page (at step 2101), is when the system receives a ride request from a customer.[267] At the next step (2102), the system generates predictive parameters which decide to which driver(s) the ride request is allocated to.[268] Predictive parameters are matching scores generated for the purpose of identifying and ranking available drivers with the aim of 'identifying optimal service provider [Uber driver] matches for fulfilling the request for service'.[269]

At a sub-step of the second step (2102-1 and 2102-2), two separate predictive parameters are generated. The first relates to drivers' estimated time needed to reach the customer's pick-up

[266] ibid, 19- 20, [0069].

[267] Emre Demiralp, 'Dynamic Invitation Transmission and Presentation Mode Determination for a Network-Based Service' (International Publication No.WO 2022/197673A1, World Intellectual Property Organisation, 22 September 2022) 15, [0049].

[268] ibid, 16, [0051].

[269] ibid, 3, [0016].

location.[270] The lower the time needed the higher the driver's matching score.[271] The second predictive parameter relates to the likelihood of a requested trip being completed.[272] This score is influenced by two further predictive indicators - one of which calculates the likelihood of the customer cancelling their ride request and the other which calculates the likelihood of the Uber driver accepting the request for service.[273]

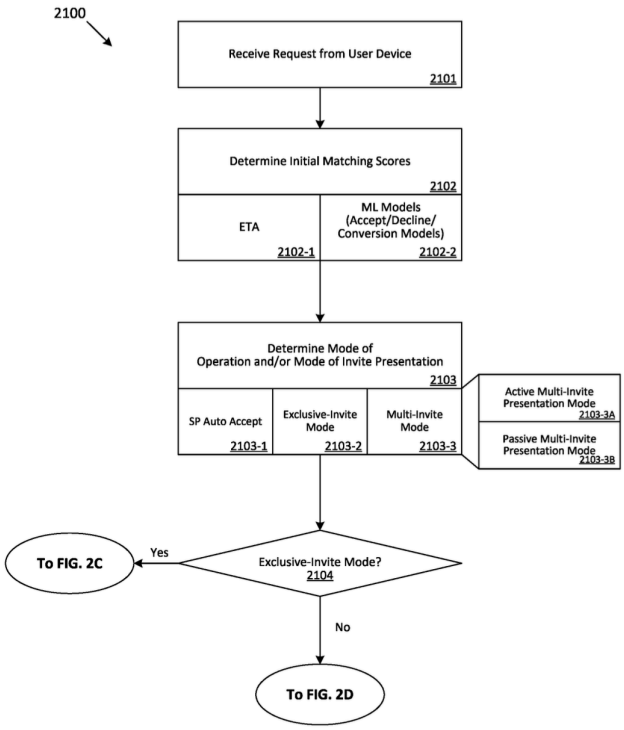


FIG. 2A

This information is generated by machine learning models trained using historical data on driver acceptance and cancellation rates, live data on alternative transportation means (e.g. disruptions to public transportation systems) and driver 'context' data.[274] Driver context data is used to infer the likelihood of drivers accepting service requests or cancelling service requests after having accepted the offer of work.[275] Also included in driver context data is the likelihood of drivers responding to prompts from the application to undertake certain tasks and actions, or as the patent puts it: 'the propensity of the service provider [Uber driver] who operates the service provider device… to perform an action via the service provider application'.[276] Data on a driver's propensity to respond to algorithmic nudges includes records of how drivers have previously responded to prompts for action, prior interactions with the app and a driver's location and sensor data, which includes information relating to a driver's driving habits and their direction of travel.[277] All of this information is used in the third step (2103) to generate drivers' initial matching score.

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[270] ibid, 16, [0052].

[271] ibid.

[272] ibid, 17, [0053].

[273] ibid.

[274] ibid.

[275] ibid, 35, [0107].

[276] ibid.

[277] ibid.

The third step of the method determines how and to whom work is allocated to. This is done by sending invites for ride requests to specific drivers. Here, the system will either decide to automatically identify and match an available driver with the request (2103-1) and then send an exclusive invitation to that specific driver (2103-2); or the system will send multiple invitations to a subset of drivers.[278] Figure 2B shows the method by which either single or multiple invitations for service requests are determined. Figure 2B is a subcomponent of step 3 in Figure 2A.

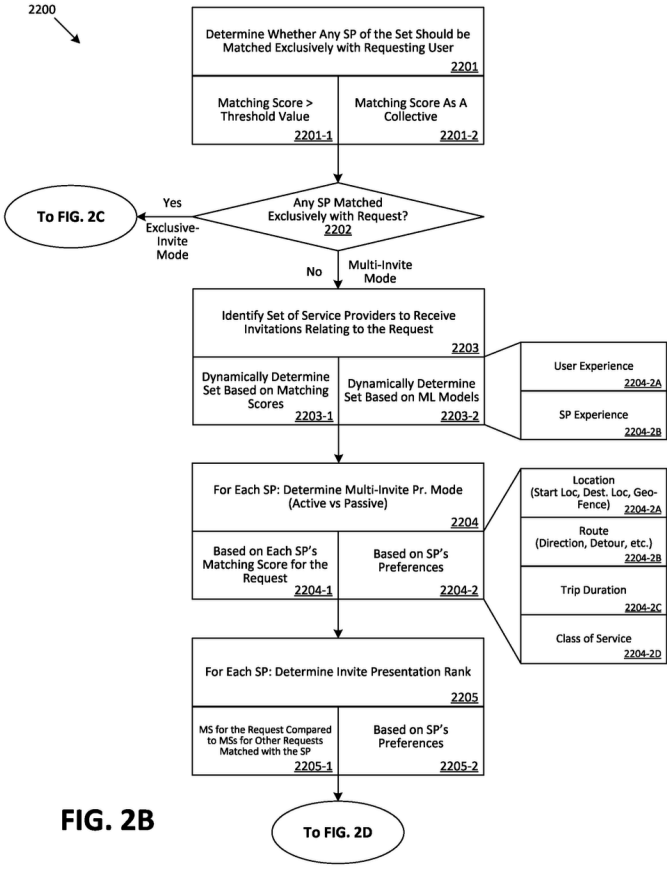

FIG. 2B

The first step of the matching process (2201) happens when the system determines whether any available drivers are suitable to fulfil a service request, and if so, they will be matched exclusively with the request.[279] This is done on the basis of whether the matching scores generated for a certain driver meet or exceed the threshold value, which happens at step 2 of Figure 2A described above. The threshold value is the minimum score needed by a driver to be considered suitable by the system to fulfil a request. However, if one or more available drivers meet the threshold value, the system will choose whether to send an exclusive invite to a single driver or multiple invites to many drivers.[280]

In determining whether to send a single invite or multiple invites to drivers, the system tests the drivers' matching scores in relation to the threshold values set. Threshold values are set for various factors that impact the service. For example, threshold values are calculated for different times, such as days of the week and times of day, for specific locations like the geographic region and

[278] ibid, 17-18, [0055].

[279] ibid, 19, [0060].

[280] ibid, 20, [0060-0061].

subregion of the pick-up location and other miscellaneous factors which may impact demand for service, such as whether the ride request's pick up location is an airport, whether large events such as concerts or sporting events are being held nearby and weather conditions (e.g. if it is raining more people are likely to order an Uber).[281]

Once the system takes the step of sending a multi-invite request to drivers to fulfil a service request (step 2203), it first determines the number of drivers to whom invitations are to be sent to. This process is done using information on drivers' initial matching scores calculated in previous steps, as well as drivers' previous acceptance rates.[282] At the next step (2204), the system uses two machine learning models to determine the 'optimal' number of drivers to whom offers for work are sent to.

The first machine learning model generates a predictive ratio of service requests to completed trips. The second machine learning model generates a predictive ratio of Uber driver acceptance rates to trips. Using this information, the system generates the 'optimal' number of drivers to whom offers of work are sent to.[283] In this process, historical data relating to factors which influence drivers' likelihood of accepting a request for service/ offer of work are taken into account. For instance, information such as the trip's pick-up/ drop-off locations, the driver's route preferences, trip duration and class of the service requested.[284]

[281] ibid, 19, [0060].

[282] ibid, 21, [0065].

[283] ibid, [0066].

[284] ibid, 23, [0069].

Both exclusive and multiple-invites allow the driver a limited amount of time to accept or reject the offer of work. The length of time allocated to each driver is personalised on the basis of their matching scores.[285] For exclusive invites (Figure 2C), the system will offer the driver a limited time window for them to accept the offer of work.[286] If they do not accept the offer within the specific time, or reject the offer, the system will either then re-match drivers and ride requests and send an exclusive invite to another driver, or the system will send multiple invites to a set of drivers.[287]

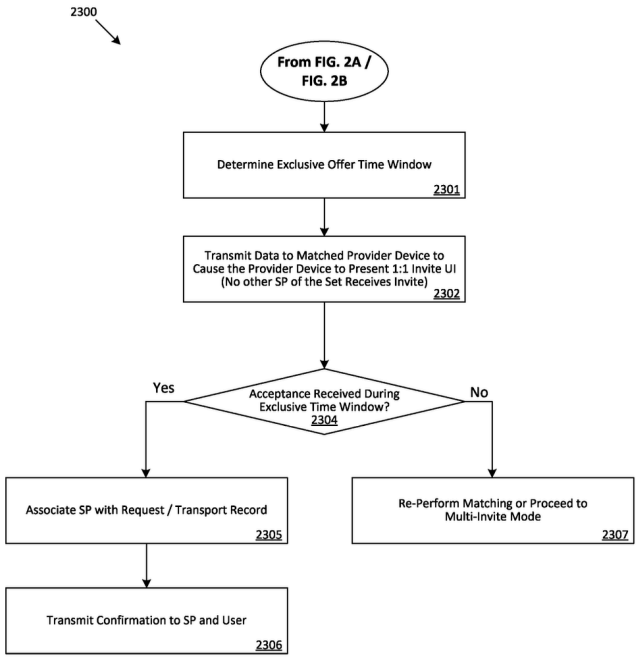

FIG. 2C

With multiple invites (Figure 2D), the system compares the predictive parameters of available drivers, using the matching scores generated at previous steps, to determine the amount of time it will allocate each driver to accept an offer of work.[288] For instance, if the system decides that a driver has a lower score than average, it may allocate a longer response time to other drivers to whom invitations for work have also been sent to. However, if the

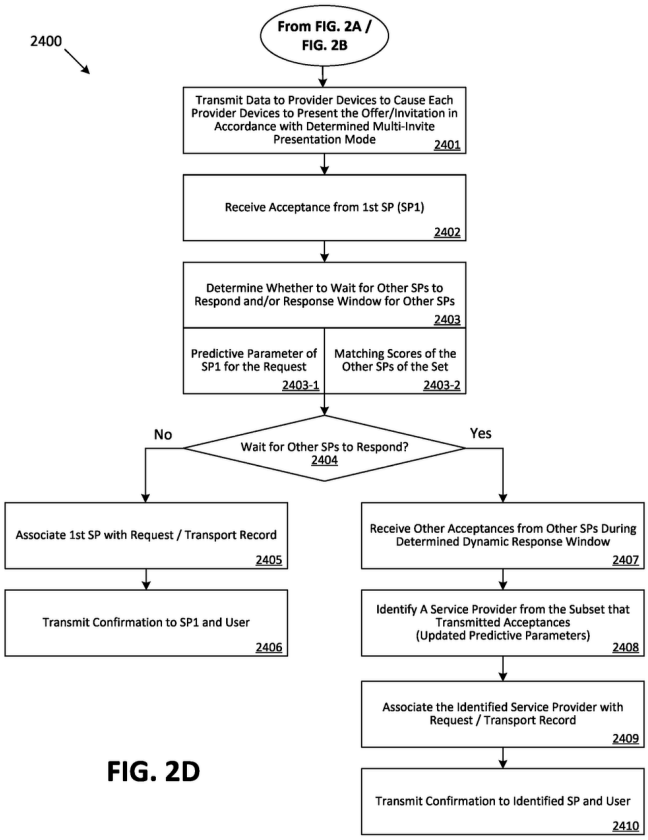

FIG. 2D

[285] ibid, 24, [0072].

[286] ibid, 24, [0072].

[287] ibid.

[288] ibid, 26, [0079].

system determines that a particular driver in a set of drivers to whom multiple invites for the same offer of work have been sent to has a higher score than average, the system may allocate that driver the offer of work and prioritise their potential acceptance of the offer without waiting for the other drivers in the set to accept or reject the offer of work.[289] This creates a ranking of drivers and shapes how work is allocated to each on the basis of their scores.

Where multiple drivers have accepted the same offer of work, the system will chose one driver to whom to give the offer of work. The system does this using the 'same underlying logic and computational processes as step 2203'.[290] Step 2203 outlined above, is where the system determines to how many drivers a multi-invite for the same offer of work is sent. Essentially, this is a ranking process which takes into account drivers' previous matching scores, predictive information generated by machine learning models relating to the likelihood of a driver accepting an offer of work and completing a trip once having accepted, as well as information relating to the drivers' ETA.[291] Once a driver is selected, they receive the allocated trip request.

3.5. Conclusion

Uber's and DoorDash's organisation of work is a reflection of their 'hyper-outsourced'[292] business models. These models take contract work to the next level by leaving the allocation of work and determination of pay to be decided by predictive systems that are programmed to make as much profit as possible from workers, while at the same time, allocating work only to the most productive workers.

Through an analysis of key patents, this Chapter has shown precisely how these platforms organise work and has exposed the organisational logic driving these work models. The significance and novelty of this analysis is that it lets us look behind the 'trade secrecy' wall, upon which these firms often rely to avoid sharing details of the algorithmic processes they use to manage their

[289] ibid, 26-27, [0078-0079].

[290] ibid, 27, [0081].

[291] ibid.

[292] Srnicek (no 13), 43.

workforce.[293] In doing so, the analysis provides some much needed transparency on how platforms structure their productive processes.

While this Chapter has focused solely on the issue of how platforms organise work, the following Chapter brings together this analysis with the earlier discussion of legal form in Chapter 2 in order to investigate the law's capacity to regulate this type of work in a manner that affords workers labour law protections.

[293] Giovanni Gaudio, 'Algorithmic Bosses Can't Lie! How to Foster Transparency and Limit Abuses of the New Algorithmic Managers' (2022) 42 *Comparative Labour Law and Policy Journal* 707, 710.

Chapter 4 - Legal Form, Platform Work and Employment Status

4. Introduction

Since its emergence, platform work has posed a regulatory challenge for labour law.[294] Almost a decade and a half later, notwithstanding attempts by various institutions to tackle the issue, platforms continue to undermine workers' labour rights through their exploitative labour models.[295] One reason why platforms are able to implement such exploitative work models is because they categorise their workers as independent contractors, meaning that protective laws (such as minimum wage laws and so forth) are inapplicable to their workforce.

While some scholars have argued that the literature has been too preoccupied with the issue of worker status,[296] I instead argue that worker status is something that in fact cannot be overlooked and is a defining factor of how these companies organise work. These companies build labour management systems that flout labour rights on the basis that legally, their systems are excluded from the scrutiny of the law. Thus, the structuring of work by platforms is deliberately designed in response to employment law and the legal rules governing employment status.

In relation to this issue, I argue that the problem is not simply one of platforms seeking to minimise the appearance of exercising managerial control (as some authors have argued).[297] Significantly the *entire* model conflicts with how the law understands employment, which is why labour law struggles to regulate platform work. The implications of this are that the organisation of platform work becomes an evasive tool in itself. However, this is only one part of the problem. The wider issues are to be found in a combination of the law's limited capacity to regulate work relations through contract and the ability of platforms to persistently organise and reorganise work outside of the the legal category of employment.

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[294] Antonio Aloisi, 'Commoditized Workers: Case Study Research on Labor Law Issues Arising from a Set of on-Demand/Gig Economy Platforms' (2016) 37 *Comparative Labor Law & Policy Journal* 653; Webster Edward, 'The Uberisation of Work: The Challenge of Regulating Platform Capitalism. A Commentary' (2020) 34 *International Journal of Applied Economics* 512.

[295] Fabian Ferrari et al., 'The German Platform Economy: Strict Regulations But Unfair Standards?' (2024) 6 *Digital Geography and Society* 1; Kurt Vandaele and Silvia Rainone, 'Regulating Platform Work: Insights From the Food Delivery Sector in Europe and Beyond' in Kurt Vandaele and Silvia Rainone (eds), *The Elgar Companion to Regulating Platform Work* (Edward Elgar 2025).

[296] Tiago Vieira, 'Platform Couriers' Self-exploitation: The Case Study of Glovo' (2023) 38 *New Technology, Work and Employment* 493.

[297] Shapiro (no 26).

This Chapter explores these issues, addressing the remaining two research questions: *What is platform work's relation to the legal form of employment? And, to what extent is the law able to conceptualise and respond to platform work?*

I begin by describing how Uber and DoorDash structure their work models in response to legal notions of employment. Following this, I provide an overview of how recent case law concerning worker status has characterised platform workers and, finally, I finish with an evaluation of the law's capacity to regulate platform work in a manner that affords workers labour rights.

4.1. Platform Work and the Legal Form of Employment

As I have explained, worker subordination has come to be a hallmark of the employment relationship as a result of the SER's legacy as the normative and dominant model of structuring labour relations in industrial capitalist and democratic countries during the twentieth century.[298] Resultantly, this model came to define the employment relationship, and worker subordination as expressed through this model became integral aspects of the contract of employment.[299] Labour laws responded to this model of work and began to conceptualise worker subordination as taking certain forms and having certain attributes.[300]

Notably the concept evolved from simply the power to direct another's work to a more enmeshed and comprehensive notion, one which considers the employee's position in relation to the employer's organisation. Contemporary labour law's understanding of subordination reflects the move from Fordist productive relations to those more complex relations under post-Fordist accumulation regimes, whereby the employee began to gain more autonomy in performing work due to a greater flexibilisation of work.[301] Here, the notion transformed from a simple exchange of obligations (work for remuneration) to one of economic subordination, which conceptually takes on a far more functional role.[302] This is reflected in the legal tests used to determined the issue of status.

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[298] Fudge (no 17), 375.

[299] Veneziani (no 10) 110.

[300] ibid.

[301] ibid, 112.

[302] ibid, 112.

Across jurisdictions, courts faced with the question whether an employment relationship between platforms and their workers exists, have looked to the following criteria: (i) the contract's designation of the relationship; (ii) the contract's duration; (iii) whether an obligation exists between the parties' to work or to provide work;[303] (iv) whether work must be personally performed; (v) the existence of exclusivity clauses; (vi) the degree of the worker's integration into the organisation; and (vii) the extent of direction and control.[304]

These tests can be linked to several broader categories:[305] (i) the extent to which someone has the power to direct another's work; (ii) the extent to which a worker is integrated into the supposed employer's firm; and (iii) an evaluation of who bears the economic risk.[306] Whereas the details of these criteria may differ slightly between legal systems, the premise of these tests remains, for the most part, relatively similar.[307] Essentially this premise is the degree of control or subordination which the employer exercises over the employee, and the degree to which a worker is dependent upon a certain employer (or in antithesis, the degree to which a worker operates independently).[308] The more independent a worker appears to be, the less likely they are to be considered an employee, and thus to be protected by labour law.[309]

Uber and DoorDash have attempted to create a work model which to the least extent possible, resembles standard employment models. It is important to note the deliberate design and implementation of platforms' labour management systems. The manner in which these firms' labour processes take form is not simply a side-effect of their being directed through technological means, rather platforms' labour processes are carefully constructed and are embedded within these systems.

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[303] The mutuality of obligations is a primarily common law concept. See Rosioru (no 140); Felicia Rosioru, 'Legal Acknowledgement of the Category of Economically Dependent Workers' (2014) 5 *European Labour Law Journal* 279, 291-292.

[304] Heißl (no 109), 56-77.

[305] Pierluigi Digennaro, 'Subordination or Subjection? A Study About the Dividing Line Between Subordinate Work and Self-Employment In Six European Legal Systems' (2020) 6 *Labour & Law Issues* 4, 41.

[306] ibid.

[307] Davidov et al (no 37), 119.

[308] ibid.

[309] ibid.

Beginning with the most significant measure of subordination, the power to direct another's work is a defining element of the employment relationship.[310] This category includes things such as the power to instruct workers on how to carry out tasks, the direction of working hours and the obligation to work (a concept primarily relied upon in common-law jurisdictions).[311] The patents show that Uber's and DoorDash's systems are designed to avoid explicitly instructing all three of these things.

They instead rely on a system of incentives and sanctions, so no explicit instruction of the kind is seen to have been carried out by these platforms. As existing scholarship has noted and the patents have confirmed, location-based platforms' direction of workers is effected through an intricate web of surveillance technologies. These systems collect information on workers' locations, speed, and completion times for the purpose of calculating their efficiency, which is fed back into the system and used to determine their future allocation of work.

Uber's and DoorDash's patents document the use of scoring-based systems to determine the allocation of work based on factors such as previous performance, time spent working, and even workers' 'propensity' to respond positively to algorithmic nudges. So, this performance-based allocation of work fosters competition between workers, whereby the continuation of the working relationship is contingent on the ability of individuals to compete for tasks by meeting certain performance standards, which obviously are not communicated to workers.

The performance-based allocation of work is not a new mechanism unique to platforms.[312] However, the hyper-individualisation involved in achieving such a labour model arguably is. The patents explain how the working relationship between platforms and their workers is hyper-individualised, as workers are intensively profiled and evaluated through scoring mechanisms, which form the basis of how these platforms allocate work. By fostering an environment where workers must maintain high performance to access better-paying tasks, platforms are able to make it seem as though their workers are independent actors, who accept work at their own discretion

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[310] Casale (no 114).

[311] Rosioru (no 140); Rosioru (no 303), 291-292.

[312] Ilda Durri, 'The Intersection of Casual Work and Platform Work: Lessons Learned from the Casual Work Agenda for the Labour Protection of Platform Workers' (2023) 14 *European Labour Law Journal* 474.

(notwithstanding the fact that failing to accept such tasks will result in a lower score for that worker or in the case of Uber drivers, a 'financial penalty').

Similarly, this tactic makes it appear as though platforms neither instruct their workers as when to work nor oblige them to work during certain times. The determination of working hours by the employer and the obligation of the employee to work during that time is an established marker of the employment relationship across jurisdictions.[313] Instead of having a set schedule, workers are implicitly directed to work during certain times, for certain durations. Uber's and DoorDash's systems use predictive analytics to gauge future demand and automatically set monetary incentives accordingly, for instance by applying price multipliers to trips or sending workers bonuses. While formally there is no obligation to work continuously, there is an implicit pressure upon workers to accept tasks and work longer hours.

As I argue, however, the issue is not just that platforms minimise the appearance of exercising managerial control, platforms arrange work overall to appear distinct from typical employment models. Moving on to the final two categories, the worker's integration into the firm refers to whether a worker forms an essential part of the purported employer's firm, and the economic risk test looks to whether that worker assumes the business' financial risks.[314] In antithesis, the systems adopted by Uber and DoorDash attempt to create as much distance - both economically and organisationally - between themselves and their workers.

The assumption of financial risk for the business, and generally to engage with the wider external market, is a fundamental employer function.[315] Platforms externalise financial risks, legal liabilities, labour costs and the means of production to their workers,[316] reinforcing the notion that their workers are economically and organisationally separate from them. For instance, the patents show that Uber's and DoorDash's pay structures externalise the risk of low demand to workers, as well as only paying workers for completed tasks, and not for their time spent waiting.

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[313] Davidov (no 97), 386, 403.

[314] Digennaro (no 305), 41.

[315] Jeremias Adams-Prassl, 'The Received Concept of the Employer' in Jeremias Adams-Prassl (eds), *The Concept of the Employer* (OUP 2015), 36.

[316] Schmidt (no 2) 10-11.

The patents reveal a deliberate piecemeal structuring of work, where each task is compensated individually. Rather than paying workers an hourly wage, platforms break down pay to each specific task and compensate workers correspondingly. The systems outlined calculate the price of each task (e.g. each delivery or ride) based on factors such as distance, time, predictive and actual demand, and other location-based variables, like the weather. These arrangements align with the legal imaginary of the self-employed worker, who the law understands to have voluntarily weathered the risk of market fluctuations for the opportunity to turn a profit.

Platforms' ability to set the price of each task demonstrates the significant control that the platform wields over the workers' capacity to make a profit,[317] however, platforms attempt to distance themselves from appearing to exercise such significant control.[318] Rather, they claim that the price of each task is determined solely by market forces. For instance, Uber's ex CEO, Travis Kalanick, in an interview asserted that 'We [Uber] are not setting the price. The market is setting the price... We have algorithms to determine what that market is.'[319]

In this sense, platforms distance themselves from appearing to adopt employer functions by purporting that the determination of price is entirely delegated to market forces. This model taps into the legal imaginary of entrepreneurship, because under this system workers assume the financial risk of market fluctuations - both for the availability of work and the price of their labour. As a result, platforms present themselves as distinct from their workers by embedding market fluctuations into their organisation of work and shifting the assumption of risk for those fluctuations onto workers.

Overall, through their organisation of work, platforms tap into and reinforce a legal imaginary which sees the self-employed worker as an entrepreneurial figure. In addition to how platforms organise work, they actively cultivate this narrative through various means. For instance, by using innovative language to describe the gig economy, platforms recast would-be employees as entrepreneurs.[320] They sell the story that workers are free to work whenever and for as long as they

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[317] Jeremias Adams-Prassl, 'Disrupting the Disruptors' in Jeremias Adams-Prassl (eds), *Humans as a Service: The Promise and Perils of Work in the Gig Economy* (Oxford University Press 2018), 102.

[318] The determination and provision of pay is a typical employer responsibility. See Jeremias Adams-Prassl, 'The Received Concept of the Employer' in Jeremias Adams-Prassl (eds), *The Concept of the Employer* (Oxford University Press 2015), 32-36.

[319] Marcus Wohlsen, 'Uber Boss Says Surging Prices Rescue People from the Snow' (*Wired*, 17 December 2013) < https://www.wired.com/2013/12/uber-surge-pricing/ > Accessed 21 November 2024.

[320] Jeremias Adams-Prassl, 'Doublespeak' in Jeremias Adams-Prassl (eds), *Humans as a Service: The Promise and Perils of Work in the Gig Economy* (Oxford University Press 2018).

like, and that ultimately, the chance to turn a profit is up to each worker.[321] In actuality, the narrative of entrepreneurship is simply another window dressing that platforms use to justify their business model. The reality of the matter paints a starkly different picture: those who work less hours overall, earn less per hour on average.[322] And in the absence of legal intervention, workers often earn less than the minimum wage.[323]

Uber and DoorDash deliberately embed counter-indicators of employment into their labour models, as to strategically organise work in opposition to how the law understands employment. So, rather than indicating to the law who it should protect, the legal criteria used to determine the existence of an employment relationship have become markers to evade by firms wishing to sidestep employment-related costs, shaping the development of precarious work models.

4.2. The Law's Capacity to Conceptualise Platform Work

Because platforms' labour processes are deliberately structured on the boundaries of what the law is able to recognise as employed work, the law finds it difficult to understand the nature of platform work through its own analytical rubric, which is evidenced by a patchwork of inconsistent caselaw on this matter across jurisdictions.[324] In the previous section, I explored the manner in which platforms have organised work in response to the legal form of employment. In this section, I now turn to how the law has responded to platform work.

As I have explained, in determining workers' status, courts and legal actors have relied on certain tests and criteria. Briefly to restate them, these are: (i) the contract's designation of the relationship; (ii) the contract's duration; (iii) whether an obligation exists between the parties' to work or to provide work;[325] (iv) whether work must be personally performed; (v) the existence of exclusivity

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[321] Alexandrea J. Ravenelle, '"We're Not Uber:" Control, Autonomy, and Entrepreneurship in the Gig Economy' (2019) 34 *Journal of Managerial Psychology* 269.

[322] Cano et al. (no 74), 60.

[323] Alex Wood, Brendan Burchell and Nick Martindale, 'Gig Rights and Gig Wrongs' (2023) Initial Findings from the Gig Rights Project: Labour Rights, Co-Determination, Collectivism and Job Quality in the UK Gig Economy < https://www.bristol.ac.uk/media-library/sites/business-school/documents/Gig Rights & Gig Wrongs Report.pdf > Accessed 27 October 2024.

[324] Heißl (no 7); Heißl (no 109); De Stefano et al. (no 4).

[325] The mutuality of obligations is a primarily common-law concept. See Rosioru (no 140); Rosioru (no 303), 291-292.

clauses; (vi) the degree of the worker's integration into the organisation; and (vii) the extent of direction and control.[326]

In relation to the first three criteria, courts have looked for the most part to the performance of the contract in determining workers' employment statuses,[327] regardless of whether platforms contractually designate the relationship between themselves and their workers as one for service. As a consequence, platforms have learned to look to other means of constructing relationships for service, rather than of service, between themselves and their workers. A primary means of doing so is by including no formal obligation for their workers to work or for them to provide work. This, as well as the ability to determine one's own working hours has traditionally been relied upon by courts as hallmarks of genuine entrepreneurship.[328] While some courts have dismissed the lack of a formal obligation to work as a genuine indicator of self-employment status in light of platforms' capacity to significantly influence workers' working hours indirectly,[329] other courts remain tied to it as a defining feature of self-employment.[330]

Similarly, as regards the prolific use of substitution clauses by platforms, the majority of courts have recognised that these act as a façade of sorts, whose contractual purpose is to act as a counter-indicator of employment status.[331] For instance, the Amsterdam Appeals Court held, in a case concerning Deliveroo riders, that riders' contractual right of substitution was in actuality impracticable,[332] because their account could not be used by more than one person at any given time.[333] However, some courts have found the existence of these clauses to be an insurmountable

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[326] Heißl (no 109), 56-77

[327] ibid. An exception has been the Brussels Labour Court, which has placed an excessive reliance on the 'will of the parties' (as expressed through their contractual agreement) in determining employment status, which it relied upon to refuse employment status to Uber drivers and Deliveroo riders.

[328] Heißl (no 7), 506.

[329] For example, the Netherlands Supreme Court Decision of 24 March 2023, ECLI:NL:HR:2023:443 (on Deliveroo riders).

[330] For instance, this can be seen in the string of judgements issued by the Paris Appeals Court which rejected the reclassification of food delivery platform workers as employees. Namely, concerning Deliveroo riders are the Paris Court of Appeal Decision of 9 November 2017, n° 16/12875 and Paris Court of Appeal Decision of 7 April 2021, n° 18/02846. Regarding UberEats couriers is the Paris Court of Appeal Decision of 14 September 2023, n° 22/09471. See Heißl (no 109), 20.

[331] De Stefano et al. (no 15), 39-40; Heißl (no 109), 59-60.

[332] The contract noted that couriers could use substitutes granted that they showed a valid ID and proof of the right to work in the Netherlands.

[333] Amsterdam Court of Appeals Decision of 16 February 2021, ECLI:NL:GHAMS:2021:392, [3.7.5]. This judgment was confirmed by the Supreme Court Decision referred to at (no 329).

barrier to finding an employment relationship.[334] For instance, the United Kingdom's Supreme Court refused Deliveroo riders dependent contractor ('worker') status,[335] on the grounds that riders had a genuine right of substitution.[336] A Brazilian Court similarly found that Uber drivers were not employees because they could use substitutes.[337]

The contract's duration, working hours and the obligation to work are also indicators that courts use to determine the extent of the workers' integration into the organisation. Several judgments refer to platform work's sporadic character as a counter-indicator of an employment relationship.[338] And, in some jurisdictions, the lack of a formal obligation to work and the absence of fixed working hours have led to some quite tortured legal constructions. For instance, an Irish Court construed 'single stints of work' as capable of comprising cumulatively a series of short fixed-term employment contracts (for tax purposes) but no continuous employment relationship.[339] Cases like this demonstrate how the law struggles to conceptualise forms of work which stray too far from its own established notions of subordination and dependence. And, as noted by scholars, the fragmentation of worker status across various areas of law has wider negative repercussions for workers.[340] For instance, workers who are considered to be employees under tax laws but not under labour laws, have the tax burdens of employee status, for instance by having their income tax deducted at source, but enjoy no employment-related labour rights.

While it is evident that these firms exercise substantial control over their workforces, the issue remains whether legal actors are able to recognise these forms of control. For the most part, the

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[334] Heißl (no 109), 77.

[335] Worker status in the United Kingdom is a form of dependent contractor status, which grants individuals some but not all employment rights, such as the minimum wage and paid holiday. See Mark Freedland and Hitesh Dhorajiwala, 'UK Response to New Trade Union Strategies for New Forms of Employment' (2019) 10 *European Labour Law Journal* 281.

[336] *Independent Workers Union of Great Britain v Central Arbitration Committee* [2023] UKSC 43, [70]; Joe Atkinson and Hitesh Dhorajiwala, 'IWGB v RooFoods: Status, Rights and Substitution' (2019) 48 *Industrial Law Journal* 278.

[337] Regional Labor Court of the 3rd Region of Brazil Decision of 31 January 2017, N° 0011863-62.2016.5.03.0137. See De Stefano et al. (no 15), 39.

[338] Supreme Court of Hungary Decision of 13 December 2023, Kúria Mfv. VIII.10.091/2023/7 (BH2024. 66) (Foodora); Brussels Labour Court Decision of 8 December 2021, JT 08/12/2021 (Deliveroo); Austrian Federal Administrative Court Decision of 12 January 2021, BVwG W209 2219856-1, ECLI:AT:BVWG:2021:W209.2219856.1.00 (Mystery Shopper Platform). See Nikolett Hős, 'A platform alapú munkavégzés dilemmái a Kúria ítélete és nemzetközi tendenciák keresztтüzében' (2024) 20 *Iustum Aequum Salutare* 31; Potocka-Sionek (no 108).

[339] *The Revenue Commissioners v Karshan (Midlands) Ltd t/a Domino's Pizza* [2023] IESC 24, para 276.

[340] Simon Deakin et al, *Deakin and Morris' Labour Law* (7th edn, Hart Publishing 2021), 135; Michael Doherty, 'Domino Dancing: Mutuality of Obligation and Determining Employment Status in Ireland' (2024) 53 *Industrial Law Journal* 524, 541.

majority of courts reclassifying ride-hailing and delivery platform workers as employees accept these forms of algorithmic management as a means of directing worker behaviour.[341] Nevertheless, there has been some controversy over how much weight courts have been willing to ascribe to technological control. The absence of direct oversight and management of platform workers' activities has been identified as a factor against classifying them as employees.[342] For example, the Employment Court in Auckland, New Zealand found that an Uber driver was an independent contractor. The Court stated, among other points, that 'work was not directed or controlled by Uber beyond some matters that might be expected given [the driver] was operating using the Uber "brand"'.[343]

Several courts in Belgium,[344] France[345] and Hungary[346] explicitly reject the use of GPS tracking as a method of control, noting that the tracking feature is merely a built-in aspect of the platforms' service model and is not primarily intended for the purpose of monitoring its workers.[347] In addition, there has been some disagreement amongst courts over whether the platforms' imposition of a certain route amounts to sufficient evidence of direction and control.[348] This issue arises because, while the apps generally provide a suggested route, formally they do not necessitate that drivers or riders follow it.[349] Some courts interpret this as a counter-indicator of direction and control, while others use it to argue that the platform is effectively dictating all elements of the service provided.[350]

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341 Heißl (no 109); Heißl (no 7); Heißl (no 111); De Stefano et al. (no 15); Potocka-Sionek (no 108).

342 Heißl (no 109), 69.

343 *Arachchige v Rasier New Zealand Ltd & Uber BV* [2020] NZEmpC 230, [56]. For a more detailed account, see De Stefano et al. (no 4), 36.

344 Brussels Labour Court Decision of 21 December 2022 RG 21/632/A (Uber).

345 Supreme Court of France Decision of 13 April 2022 n° 20-14.870 (LeCab), in which the court noted 'the geolocation system inherent in the operation of a digital platform for connecting VTC drivers with potential customers does not characterise a legal subordination link between drivers and the platform since this system is not intended to control the activity of drivers, and is only used to contact the connected driver in the best place to meet the customer's request' (translated by the author).

346 Supreme Court of Hungary Decision (no 338).

347 Heißl (no 109), 69

348 ibid.

349 ibid, 65.

350 ibid.

Overall though, the law struggles to conceptualise platform work because it stands in opposition to the continuity and predictability of typical employment models, and in particular to the strict working time arrangements of Fordist models.[351] Heißl examining case law from eighteen countries,[352] found that almost all cases (one hundred and forty three in total) which rejected dependent contractor or employee status for platform workers relied on the lack of the obligation to work for a certain amount of time.[353] The supposed freedom that platform workers are perceived to enjoy in determining their working hours, and more broadly the choice whether to work at all, are things that the legal imagination finds to be incompatible with the subordinate nature of work.

Although the law has struggled to conceptualise platform work, platform work is nevertheless prompting a reevaluation of how the juridical form of the employment relationship is defined in relation to the SER. Current case law illustrates that as the law grapples with these new work arrangements, it is compelled to expand its understanding of employee subordination. For example, some courts have begun to recognise more implicit means of exercising control. In a case concerning crowd working, the German Federal Labour Court acknowledged that the design of the platform was set up to allow its most active users access to better work opportunities, and so those seeking to earn significant income through the platform were obliged to focus their efforts primarily on that platform.[354]

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[351] For instance, the eight-hour working day. See Stephen Meyer, *The Five Dollar Day: Labor Management and Social Control in the Ford Motor Company, 1908-1921* (State University of New York Press 1981) 33.

[352] Austria, Belgium, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom. See Heißl (no 109).

[353] ibid.

[354] German Federal Labour Court Decision of 1 December 2020, 9 AZR 102/20 (Roamler).

Notably, the Spanish Supreme Court explicitly acknowledged the need to expand orthodox understandings of dependency and subordination,

> '[…] in post-industrial society, the notion of dependence has become more flexible. Technological innovations have led to the introduction of digitalised control systems for the provision of services. The existence of a new productive reality makes it necessary to adapt the notions of dependence and subordination to the social reality of the time in which the rules must be applied'.[355]

Finally, some courts have even begun to reconsider existing tests for determining the existence of an employment relationship. In the Irish decision referred to above, for example, the court acknowledged that the obligation to work for a set amount of time is no longer a defining feature of the employment relationship, concluding that the mutuality of obligation[356] is not a 'sine qua non' of the employment relationship that need not involve a continuous or ongoing obligation on the employer's part to provide work or for the worker to accept.[357] Other courts, too, have begun to look to less traditional and less popular tests for determining employee status, such as the degree of the worker's economic dependence upon the platform; and rather than look for criteria indicating employee status, to look for indicators pointing towards employer status.[358] For example, the Netherlands Supreme Court took into account the economic dependence of Deliveroo riders in finding an employment relationship.[359]

These developments demonstrate that while the law struggles to conceptualise labour that it cannot recognise as employed work, its rigidity should not be overstated. As case law demonstrates, legal

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[355] Spanish Supreme Court Decision of 25 September 2021, 805/2020, [7.2]. Translation adopted from Willem Waeyaert et al., 'Spain's "Riders" Law: New Regulation on Digital Platform Work' (European Agency for Safety and Health at Work, 2022) < https://osha.europa.eu/sites/default/files/2022-01/Spain_Riders_Law_new_regulation_digital_platform_work.pdf > Accessed 25 November 2024.

[356] In the common law, the 'mutuality of obligation' is understood as two-sided: On the one side, for the employer to provide work and pay wages, and on the other, for the employee personally to work. See Zoe Adams, 'Mutuality of Obligation and the Social Wage' in Zoe Adams (eds), *Labour and the Wage: A Critical Perspective* (Oxford University Press 2020); Nicola Contouris, 'Uses and Misuses of "Mutuality of Obligations" and the Autonomy of Labour Law' in Alan Bogg et al (eds), *The Autonomy of Labour Law* (Bloomsbury 2015).

[357] Moreover, the Court also interpreted the mutuality of obligation not as a duty to provide work, but as a duty to pay for work. See *The Revenue Commissioners v Karshan (Midlands) Ltd t/a Domino's Pizza* (no 339), [206-212].

[358] Heißl (no 109), 56-77.

[359] Finding that 'one-third of delivery drivers…earn more than €603.92 per month (40% of the minimum wage). They are therefore, it can also be assumed, more dependent on the earnings earned from Deliveroo for their livelihood than their hobbyist colleagues.' Netherlands Supreme Court Decision (no 329), para 2.4.2 (translated by the author).

actors are adapting and broadening their legal imaginaries in response to new, non-standard forms of work. Platform work has forced legal actors to reconsider how they understand dependence and subordination, and on a wider level has challenged the extent to which the juridical form of the employment relationship is shaped by notions of the SER.

Ultimately though, this reconceptualisation has its limits. Because labour law's ability to recognise the performance of labour as employed work is restricted in relation to the perceived existence of worker subordination, it remains tied to understanding employed work through this lens. Regardless of how these concepts have been adapted to new realities, they nonetheless remain the bases of how the law defines the employment relationship. And so, in any case, the capacity of the law to conceptualise new, non-standard forms of work extends only so far. This can be observed through case law. Even in the most flexible of approaches, such as that of the Spanish Supreme Court referred to above, the Court discusses the necessity of adapting the notions of dependence and subordination, but does not explicitly question them, or consider departing from them.

In this sense, the collective legal understanding of the employment relationship is still rooted in notions of subordinate labour, which do not neatly transpose themselves to new forms of work, such as platform work. Demonstrably, this understanding still sees subordination as the crucial component to finding an employment relationship, and thus, identifies those work relationships as the only ones in which the law is permitted to interfere. In relations where subordination is not expressed in a specific way, others risk being excluded from employment-related protections and are likely to face exploitation.

4.3. Why Can the Law Only Do So Much?

These cases demonstrate the law's limited capacity to regulate platform work in a manner that affords workers labour rights. Regardless of the outcome of these court decisions on workers' status, the problem remains that they leave platforms' freedom of contract essentially intact, whereby the platform remains free to reorganise work (and amend the contract) in a way that takes it, again, outside of the legal category of employment. This combined with the algorithmic coordination of work by platforms is problematic because platforms' digital direction of labour is what permits them the flexibility to organise work evasively.

To elaborate, changing aspects of their labour processes which are too indicative of explicit direction is easy in this model of work. In this sense, platform work represents a transformation of productive processes through the digital direction of labour.[360] As Srnicek explains, 'data have come to serve a number of key capitalist functions: they educate and give competitive advantage to algorithms; they enable the coordination and outsourcing of workers; they allow for the optimisation and flexibility of productive processes'.[361]

The fluidity now embedded within productive processes is precisely what labour law struggles to come to grips with in relation to the contractual form. Both the legal form of contract and the algorithmic coordination of labour allow platforms to continually amend and tailor their work models around what the law is able to perceive as employment. So, even in the case that court decisions do reclassify workers as employees, the reach and lasting significance of court decisions is significantly undermined by the fact that platforms are able to adjust their working models around the legal category of employment.

For example, Deliveroo eliminated shift schedules for workers following the Amsterdam Court of Appeal judgment classifying their workers as employees.[362] Larger platforms with more active workers are those which are most able to forgo the most explicit elements of control, such as shift schedules, direct instructions or even sanctions; as the in-built competition between workers means that there will always be someone to meet the labour demand.[363] In these cases, workers are even less likely to be reclassified as employees using established legal tests.[364]

This issue is reflective of broader issues in the regulation of labour relations through contract. The law is unable to perceive the economic dependence and exploitation of the worker through the mechanism of contract, but instead sees the worker as an independent economic actor who in equal standing to the firm, has the freedom to contract the sale of their labour as they see fit.[365] Thus, the

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[360] Matthew Cole, '(Infra)structural Discontinuity: Capital, Labour, and Technological Change' (2023) 55 *Antipode* 348.

[361] Srnicek (no 13), 29.

[362] Amsterdam Court of Appeal Decision (no 333); See Hießl (no 111), 24.

[363] Heißl (no 7), 514.

[364] ibid, 515.

[365] Zoe Adams, 'Labour Law, Capitalism and the Juridical Form: Taking a Critical Approach to Questions of Labour Law Reform' (2021) 50 *Industrial Law Journal* 434.

law's distortion of the workers' position of economic vulnerability in relation to the firm is made particularly evident in platform work, as platform companies are able to leverage their freedom of contract to reorganise work outside of the legal category of employment indefinitely, while the worker is only able to accept the app's unilaterally amended terms and conditions if they want to continue working.[366]

The contractual relationships' distortion of economic realities is reflected in the foundational premises of contract law, whereby the law only sees itself as justified in interfering in the contractual terms between parties where there is an inequality of bargaining power.[367] As I have explained, this is why labour law only intervenes in the contractual terms between parties where it perceives the worker to be in a subordinate position to the employer. In order to determine whether a worker is in fact in a subordinate position, the law relies on certain legal tests and criteria. In the case of platform work, these legal benchmarks for determining the existence of an employment relationship, now provide criteria to be avoided by those seeking to evade employer-related costs and responsibilities.

The continuous emergence of new digital labour platforms and the 'platformisation' of various industries,[368] has pointed towards a pressing need for labour law to move beyond the employment-self-employment binary and instead build a new conceptual framework for the regulation of labour relations. Because labour law remains tied to this binary, attempts to regulate emerging non-standard forms of work through this same framework are likely to have a limited effect.

For instance, the European Union's recently passed Platform Work Directive has faced criticism for this reason.[369] While the Directive provides for a rebuttable presumption of employment, it only applies 'where facts indicating direction and control' are found 'in accordance with national law,

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[366] Helena Verhuyck, 'The Achilles Heel of the Platform-to-business Regulation: No Unfair Term Protection for Platform Workers?' (2024) 3 *Journal of Law, Market and Innovation* 260.

[367] Rebecca Stone, 'The Inequality of Bargaining Power Principle' in Prince Saprai and Mindy Chen-Wishart (eds), *Research Handbook on the Philosophy of Contract Law* (Edward Elgar 2025).

[368] Enrique Fernandez-Macias et al., *The Platformisation of Work* (Publications Office of the European Union 2023)

[369] Silvia Rainone and Antonio Aloisi, 'The EU Platform Work Directive' (2024) ETUI Research Paper - Policy Brief 2024.06 < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4957467 > Accessed 22 February 2025.

collective agreements or practice in force in the Member States and with consideration to the case-law of the Court of Justice',[370] to workers of 'digital labour platforms organising platform work.'[371]

These developments have brought about a renewed reconsideration of the law's employment/self-employment binary and the narratives that underpin it. As I have argued, not only is this binary restrictive of labour law's own scope it also shapes the organisation of exploitative work models. Platforms' labour processes reveal how legal notions around employment influence these firms' organisation of work, leading to the development of precarious work models. It follows that expanding the personal scope of labour law, or adapting its foundational concepts to be more flexible, can only go so far in addressing new, non-standard forms of work. Labour law discourse must question the place of the employment/self-employment binary in contemporary labour law systems and reconsider whether it should continue to define labour relations.

As noted by Fudge in 2006, 'the problem is that labour law, which was conceived for Fordist productive relations, does not yet have the conceptual tools to deal with the new forms of organization and work arrangements.'[372] Almost twenty years later, this statement very much still stands. The issue today is that not only are labour law's tools insufficient to grapple with new forms of work, but in addition, firms are finding increasingly creative ways of circumventing the law. In the case of platforms, as my research has demonstrated, new technologies have provided mechanisms through which firms can organise labour to reconfigure status.

In light of the above, the time has come to develop a new legal vocabulary for how we understand and define labour relations. Our existing conceptual framework for regulating labour relations is tied to a model that no longer is the dominant form through which labour is organised. Our current social reality calls for a departure from outdated notions of subordination and control in regulating labour relations and instead points to the necessity of re-writing the conceptual tools with which we govern work.

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[370] Article 5(1) of the Directive (EU) 2024/2831 of the European Parliament and of the Council of 23 October 2024 On Improving Working Conditions in Platform Work, OJ 2024 L.

[371] ibid, Article 1(3).

[372] Judy Fudge, 'Fragmenting Work and Fragmenting Organizations: The Contract of Employment and the Scope of Labour Regulation' (2006) 44 *Osgoode Hall Law Journal* 609, 648.

Conclusion

Before embarking on this research journey, I worked, in 2023, with a non-profit organisation. My experience there was a key source of inspiration for this project. During my time, I was primarily involved in cases dealing with worker surveillance and the algorithmic management of warehouse workers. This piqued my interest more generally as to how emerging technologies are changing the nature of work and in particular, how large firms are using these technologies to exploit their workers.

My attention turned to platform work, as around the same time, several cases were successfully brought against the platforms Uber and Ola Cabs in the Dutch courts by the non-profit organisation Worker Info Exchange. In all cases, the platforms had 'robo-fired' workers – in other words, deactivated their accounts for alleged 'fraudulent activity'.[373] Following this, a draft of the European Commission's now passed Platform Workers' Directive was underway in trilogue proceedings.[374] Notwithstanding these developments though, headlines still recounted the persistent exploitation of platform workers.[375]

Why, despite all of the policy-making, litigation, activism and so forth, were these firms still able to exploit their workers? What was so different about platform work that allowed these firms to evade regulation? It seemed that labour laws were unable to keep up with these changing forms of work. Or was the issue to be found in labour law's own constitution? These initial questions planted the seeds of this research project.

As the starting point of my research, I began by undertaking a literature review in order to gain a better understanding of the world of platform work. After reviewing existing scholarship, I found

[373] Worker Info Exchange (no 199); the Dutch rulings were Amsterdam Court of Appeal Decision of 4 April 2023, ECLI:NL:GHAMS:2023:793; Amsterdam Court of Appeal Decision of 4 April 2023, ECLI:NL:GHAMS:2023:796; Amsterdam Court of Appeal Decision of 4 April 2023, ECLI:NL:GHAMS:2023:804.

[374] Pierre Bérastégui, 'The Council of the EU Rejected the Platform Work Directive Deal Negotiated in Trilogues' (*European Trade Union Institute*, 9 January 2024) <https://www.etui.org/news/council-eu-rejected-platform-work-directive-deal-negotiated-trilogues> Accessed 28 March 2025.

[375] Nesrine Malik, 'When Your Food Comes via a Delivery App, the Exploitation is Baked Right In' (*The Guardian,* 19 February 2024) < https://www.theguardian.com/commentisfree/2024/feb/19/food-delivery-apps-exploitation-worker-rights > Accessed 28 March 2025; Heather Stewart, 'Publish Data on Ride-hailing Apps "To Cut Exploitation and Emissions", Say Campaigners' (*The Guardian*, 2 September 2024) < https://www.theguardian.com/business/article/2024/sep/02/ride-hailing-apps-data-drive-miles-wages-carbon-emissions > Accessed 28 March 2025.

that much of the literature examining how platforms organised work did only that. In only looking to how platforms organise work, scholarship overlooked the role of the law in shaping platform's work models. This is not to say that this scholarship did not address platforms' attempts to evade the label of employer, but rather that it did not explore these links on a deeper level - i.e. with reference to the fundamental characteristics of law and legal systems. In addition, much of the scholarship on platform work was rooted in qualitative research, which could only reveal so much about the systems and methods that these firms use to coordinate labour. These gaps in the literature helped me to refine my own research questions as follows:

How do platforms organise work? What is platform work's relation to the legal form of employment? And, to what extent is the law able to conceptualise and respond to platform work?

My decision to examine Uber's and DoorDash's patents in combination with an analysis of the SER was aimed at cultivating a greater understanding of how these firms organise work, with the overall objective of ascertaining why platform worker misclassification continues to pose a problem for legal actors, regulators, and policymakers alike. In short, my intention was to explore why labour law is struggling to regulate platform work in a manner that successfully extends labour rights' protections to workers.

The answer that I have developed in this dissertation is that a combination of algorithmic management by platforms and the legal form of contract has allowed platforms to retain the flexibility to continuously organise and reorganise work outside of the legal category of employment, meaning that platforms have been able to continue to exploit their workers as independent contractors. There are two reasons for this. On the one hand, platforms deliberately utilise technology to organise work in direct opposition to how the law understands employment. On the other, this use – or misuse – of technology is facilitate by the conceptual tools of labour law which are unable to move past the orthodox notions of subordination which form their foundations. Consequently, legal actors struggle to conceptualise platform work through the lens of 'employment', because the manner in which platforms direct their workers conflicts with how the law understands subordination.

Chapter 3 provided a step-by-step breakdown of the exact ways in which Uber and DoorDash organise labour, detailing the systems that these firms use to coordinate their workforce. Through this analysis, I have demonstrated the extent to which worker misclassification efforts are embedded within the workforce management systems that these firms adopt. In combination with a critical analysis of our collective legal understanding of employment, my investigation has provided a novel insight into the organisation of work by these firms. In the course of my research, I departed from the predominately-used qualitative methodology for investigating platform work and instead turned towards the firm through an analysis of patents.

My combination of patent analysis and critical socio-legal theory provided a unique perspective from which to investigate my chosen research questions. The patent analysis provided a good foundation for understanding the changing nature of work in the platform economy, demonstrating how platforms are restructuring productive relations through the digital direction of labour. My analysis of the legal form of employment and the SER in Chapter 2, and my analysis of caselaw across various jurisdictions in Chapter 4, allowed me to elucidate how the collective legal understanding of employment has confronted – or failed to confront – these changing forms of work. Here, I explained how labour law's foundational concepts rooted in the employed/self-employment binary inherently constrain its ability to adapt to new forms of work, like platform work, which depart from typical models. My investigation of caselaw from multiple jurisdictions demonstrated that this problem is not restricted to any single jurisdiction, but is something shared across labour law systems.

In law, as I have explained, the contract of employment has long been the dominant form of conceptualising and regulating labour relations. Definitions of the contract of employment have been shaped, in turn, by the idea of the SER.[376] Labour law expects certain indicators of worker control and dependence to manifest in specific ways, ways which are reflective of the SER. Labour relations whose models of work stray too far away from these orthodox notions of control and dependence are excluded from labour law's protective ambit. Here, the law fails to recognise the performance of work, as no time is seen to be spent working under the direct authority of an employer.[377] The fact that labour law is only able to recognise certain forms of labour performed in

[376] Fudge (no 17), 375.

[377] Adams (no 11) 28.

certain contexts as those warranting protection is a severe limitation, made more evident by the misclassification battles over platform workers' statuses.

The interconnection of these things has fundamentally restricted the scope of labour law, both in relation to its practical applicability and in relation to its conceptual development. And so, the collective legal understanding of employment has remained tied to a concept of subordinate labour rooted in the SER.[378] As a result, employment has become a legal, social and economic concept that applies solely to specific work relationships.[379]

My overarching finding has been the conclusion that our existing conceptual framework for the regulation of labour relations is not only insufficient to regulate these new forms of work but has actively contributed to the configuration of exploitative work models. Firms, such as platforms, whose objectives are to disguise labour from labour law's protective ambit, recognise and respond to the law's limited capacity to conceptualise and regulate labour and structure their work models in opposition to how the law understands those to be in the context of an employment relationship.

While I have gone some way to exploring the issue of how platforms respond to legal frameworks, further research would be needed on how platforms 'mutate' in response to different domestic regulatory frameworks.[380] In addition, further research would also benefit from an analysis of patents filed by other platform companies. It goes without saying that my focus on only two platform companies is a limitation of my research. Whereas platform work shares certain similarities across the board – for instance, the piecemeal nature of work – each platform manages its labour differently in some respects. As I have investigated location-based platform patents (ride-hailing and delivery), other potential patents to look at could be from crowd-working platforms.

What I have demonstrated in this dissertation is that the design and implementation of exploitative work models, such as platform work, are devised with direct and detailed reference to the legal distinction between employed and self-employed persons. Uber's and DoorDash's patents have shown that their organisation of work deliberately embeds legal counter-indicators of employment

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[378] Fudge (372), 648.

[379] Rogers (no 20), 498.

[380] Vieira and Mendonça (no 6).

within their systems for labour management, resulting in the creation of precarious work models. This, combined with the legal form of contract for the regulation of labour relations, has allowed platforms, like Uber and DoorDash, to repeatedly reorganise work outside of the legal category of employment, enabling the exploitation of their workers.

It follows that the time has come for legal systems to move away from the SER as the lens through which they conceptualise and regulate work. Not only has this notion unduly restricted the scope of labour law, it has also shaped the development of how the law understands the performance of work. The conceptual vocabulary of labour law is insufficient to confront these emerging non-standard forms of work, such as platform work, which significantly have restructured established productivity processes and thus, whose form appears foreign to the law. The consequence of this is that vast numbers of workers are excluded from access to employment-related rights and protections. Incongruously, these excluded workers are often those most in need of protection. Thus, at a time where work is becoming increasingly precarious, we need more than ever to reconfigure the tools with which we regulate labour and move toward more encompassing frameworks for the protection of workers.

Table of Abbreviations

Estimated Time of Arrival (ETA)

Global Positioning System (GPS)

International Labour Organisation (ILO)

International Monetary Fund (IMF)

Market Generated Value (MGV)

Organisation for Economic Co-operation and Development (OECD)

Patent Cooperation Treaty (PCT)

Standard Employment Relationship (SER)

World Intellectual Property Organisation (WIPO)

World Trade Organisation (WTO)

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