Multi-Party Working Relationships in Gig Work:

Towards a New Perspective

James Duggan, Ultan Sherman, Ronan Carbery & Anthony McDonnell

ABSTRACT

Work in the gig economy is widely debated for its promises and pitfalls. In gig work, roles are heavily fragmented and hyper-flexible, ‘gigs’ are issued on a task-by-task basis, and workers are classified as independent contractors rather than employees. In this chapter, we examine the unique nature of ‘gig’ working relationships, focusing exclusively on the app-work variant to explore how this arrangement develops with the involvement of multiple parties and inherently disrupts traditional conceptualisations of the employment relationship. In lacking a robust legal architecture, we draw on psychological contract theory to critically examine the individualised nature of the multi-party working relationship found in app-work, where the governing role of technology shapes the arrangement. In doing so, we contribute to understanding of the social problems related to app-work (e.g. precarity, questionable working conditions), explore potential solutions to these issues, and consider the practical and theoretical implications of this heavily digitalised working relationship.

Keywords: gig economy; gig work; employment relationship; psychological contract; app-work; algorithmic management.

Funding Acknowledgement: This research is funded by the Irish Research Council through the Government of Ireland Postgraduate Scholarship Programme [GOIPG/2018/2196].

INTRODUCTION

Overview of Chapter

In this chapter, we discuss the unique nature of working relationships in the gig economy, explore how these relationships develop with the involvement of multiple parties, and assess the inherent disruption to the traditional employment relationship. In doing so, we focus exclusively on platform-enabled gig work, primarily that which is executed via smartphone applications – what we refer to as ***'app-work'***.

For clarity, we outline the following terminology used throughout the chapter:

- We refer to the individual tasks completed by gig workers as '***gigs'***.
- We refer to the independent workers who complete gigs as '***gig workers'*** in the first instance, and as '***app-workers'*** where we refer to those workers who specifically engage in the 'app-work' variant of gig work.
- We refer to the digital labour platform organisations, who enable and intermediate gig work, as '***platform firms'.***
- Finally, we refer to individual consumers who request the services offered by platform firms as '***customers'***.

The chapter commences by situating gig working arrangements within the established understanding of non-standard employment, thereby considering the various challenges posed by the 'independent contractor' classification assigned to gig workers. Following this, we focus specifically on the 'app-work' variant (i.e. app-based gig work which is executed in local markets, such as ridesharing and food-delivery services) to consider the critical role of technology and the algorithmic management function in facilitating and shaping the working arrangement. Building on these insights, we explore the theoretical issues posed by the disruptive notion of multi-party working relationships in app-work, and the subsequent implications for our traditional conceptualisations of the employment relationship. Drawing on psychological contract theory, we critically examine the individualised nature of these multi-party working relationships, where the governing role of technology shapes the dynamics of the arrangement. Practically, we explore the fragmented, atypical nature of app-working relationships by assessing the interplay and exchanges between each party in the arrangement. In doing so, we contribute to understanding of the social problems related to gig work (e.g. precarity, questionable working conditions), explore potential solutions to these issues, and consider the practical and theoretical implications of this heavily digitalised working relationship.

The Nature of Work in the Gig Economy

The dynamic nature of work has left employment relationships in flux. Characterised by changing workplace trends and a fast-paced business environment, recent years have seen a significant shift in how organisations operate (Barley, Bechky, & Milliken, 2017). A combination of factors has contributed to this shift, such as increasing demand for flexibility from workers, a rise in convenience-led consumer demand, and organisational efforts to strategically reduce costs and increase profitability. As a result of these, and other changes, work itself is likely to become increasingly fragmented as many organisations continue to utilise non-core workers to fill roles traditionally held by salaried employees (Lemmon, Wilson, Posig, & Glibkowski, 2016). These changing workplace trends are especially evident in the gig economy: work is heavily fragmented and issued on a task-by-task basis; workers are classified as independent contractors rather than employees; roles are advertised as offering high levels of worker flexibility and autonomy; and markets are heavily shaped and often controlled by consumer demand (Kuhn & Maleki, 2017; Meijerink & Keegan, 2019).

The gig economy, which has developed over the past decade, departs greatly from the once-standard employment model, characterised by full-time, permanent contracts with stable salaries and career progression opportunities (Harvey, Rhodes, Vachhani, & Williams, 2017). Work in the gig economy tends to be built upon radically different foundations when compared to traditional employment relationships (i.e., one which exists between an employer and employee). For example, as self-employed independent contractors, gig workers are supposedly granted significantly high levels of flexibility in choosing when to work and which tasks to accept. Likewise, platform firms benefit from the flexibility of this working arrangement by avoiding the various financial obligations that typically accompany the legal employment relationship. Yet, these firms simultaneously act as a type of digital intermediary, closely monitoring various aspects of the service-delivery and engagements between gig workers and customers (Duggan, Sherman, Carbery, & McDonnell, 2020). Thus, on the surface, the gig working relationship appears to consist of a highly-defined, narrow, finite set of obligations (Lemmon et al., 2016) – in other words, a heavily transactional type of arrangement between a service-providing independent contractor and an intermediary platform firm.

If this conceptualisation held true, it would be relatively simple to make sense of working relationships in this 'new economy' based on our existing understanding of various types of contingent labour and the overall nature of transactional work arrangements. However, a multitude of issues, debates and controversies have accompanied discourse on gig working. This includes, amongst others, concerns about worker exploitation, the erosion of employment standards, power imbalances, questionable working conditions, and various legal complexities (Friedman, 2014; Stewart & Stanford, 2017; Wood, Graham, Lehdonvirta, & Hjorth, 2019). Likewise, attention has focused on the role of technology in gig working, and particularly on the rise of algorithmic management as a novel, alternative tool for monitoring, managing and controlling workers (Duggan et al., 2020; Rosenblat, 2018). Given the nature of these concerns, it has been argued that there is considerable scope for gig workers to be considered as employees under the control of platform firms, rather than independent contractors (Collier, Dubal, & Carter, 2017; Fabo, Karanovic, & Dukova, 2017) and that gig workers could, by implication, develop a more nuanced working relationship with the platform itself (Sherman & Morley, 2020). Thus, considering the impact of the aforementioned complexities, it would be simplistic and, perhaps, inappropriate to assume that all working relationships in the gig economy can be reduced to simple transactional, economic exchanges between independent parties.

MAIN SOCIAL / PRACTICAL PROBLEM

The obfuscation surrounding working relationships in the gig economy is likely attributed to the overall lack of knowledge on what exactly gig work involves, who participates, where they participate, and why they participate. In this regard, despite increased focus over the last five years, research on gig working remains in its infancy. Bergman and Jean (2016) note that this may be due to the methodological complexities associated with defining and conceptualising the exact role and motivations of workers in the gig economy, particularly as platform firms and the range of services offered continue to expand and develop. Accordingly, policymakers and scholars have turned their attention to the gig economy in efforts to better understand how it potentially disrupts the nature of work and impacts on those who participate (Graham, Hjorth, & Lehdonvirta, 2017). For example, despite the independent contractor classification and outwards similarities with non-traditional forms of work, several key differences exist in gig work that warrant specific consideration (e.g. the involvement of multiple parties; the governing influence and reliance upon technology and digital platforms). Likewise, given the lack of homogeneity in gig work, in terms of both services offered and platform-based differences, there is no one universal work classification or set of 'rules' that can be implemented across work in the gig economy. Accordingly, many have called for the development of a robust legal architecture characterised by appropriate policy and legislative solutions (Schmidt, 2017; Todolí-Signes, 2017). Yet, beyond, and perhaps as a precursor to this discussion, there are critical issues around the dynamic nature of working relationships that require further consideration in the first instance.

Situating Gig Work in Non-Standard Employment

In order to make sense of gig working relationships, it is important to first contextualise gig work within the domain of contingent labour. Broadly speaking, working arrangements are becoming increasingly precarious, with significant sectors of the labour market commonly associated with contingent working arrangements and various forms of self-employment or subcontracting (Bonet, Cappelli, & Hamori, 2013; Harvey et al., 2017). For example, recent estimates indicate the prevalence and wide-range adaption of non-standard working arrangements and conditions may, in some capacity, affect up to 75 percent of the global workforce (Cappelli & Keller, 2013; Harvey et al., 2017). Strategic outcomes of these developments for organisations include a diversified, dynamic workforce without the costs associated with full-time, traditional employment (Harvey et al., 2017). For individuals, the outcomes are more varied. Key advantages may include increased flexibility over where and when to work, diversified income sources, and the opportunity to select projects that best align with an individual's goals and competencies (Weil, 2017). Yet, for others, the decline in traditional working arrangements holds greater risk and precarity, characterised by a notable lack of protections, security, and career development opportunities (Lemmon et al., 2016).

We propose that gig working arrangements are best described as a hybrid of several contingent work types (Duggan et al., 2020). For example, as per the classification assigned to gig workers, it has obvious similarities to *independent contracting* (Carr, Hall, Mason & Varney, 2017) and forms of subcontracting with the involvement of at least three parties. Likewise, gig work also bears similarities to *temporary employment*, which is neither full-time nor open-ended (Friedman, 2014); *temporary agency work*, which distributes work via third-party labour intermediaries (Ward, Grimshaw, Rubery & Beynon, 2001); and *zero-hour contracts*, where no guaranteed hours are offered (O'Sullivan, Turner, McMahon, Ryan, Lavelle, Murphy, O'Brien, & Gunnigle, 2015). Gig working arrangements are undoubtedly characterised by precarity, with a lack of commitment to long-term relationships, flexible working hours, project-based work, and piece-rate payments. Yet, for the reasons outlined above, gig work may prove to be beneficial or desirable for workers with specialised competencies, or for those who wish to earn supplemental income.

Practically, gig work adopts many of the most precarious characteristics and flexible features of existing types of contingent labour. Thus, gig work is both peripheral and perpetual: workers are onboarded quickly into flexible roles, without regard for their past employment, with no promise for future employment, legacy pay, or deferred compensation (Friedman, 2014). In this sense, gig work introduces a new type of hyper-flexibility to an economy that is already heavily populated with alternative working arrangements, ranging from long-term to short-term, and from formal to informal labour (Van Doorn, 2017). Further highlighting the peripheral nature of gig work, platform firms have adopted various monikers for worker classification in order to distance themselves from any legal employment responsibility (e.g. 'taskers' with TaskRabbit; 'riders' with Deliveroo). By hiring independent contractors rather than employees, platform firms can adjust working terms, conditions and payments in response to demand, essentially shifting much of the associated risks onto individual workers (Friedman, 2014). The independent worker classification has seen multiple cases being taken by gig workers, with the support of trade unions, challenging the legal status of their employment (McGaughey, 2018).

The Role & Influence of Technology

Our consideration of gig work as a hybrid of various forms of contingent labour signals towards the development of a highly transactional, economic type of working relationship. Building on this idea, perhaps the most novel, yet controversial component of gig work is its reliance on the digital, on-demand features that facilitate the execution of labour. The very nature of platform firms, and a critical distinguishing factor of the gig working relationship, is that these firms represent a new way of *digitally* organising work and offering services. In other words, platform firms function as online businesses that digitally facilitate commercial interactions between at least two parties: workers and customers (Gramano, 2019). Therefore, it is the digital platform firm that enables the meeting between the gig worker and customer, and, in doing so, mediates this relationship (Gandini, 2018). Specifically, in app-work, the scenario is similar: work activities in local markets are conducted through apps, and managed by intermediary digital platform firms that intervene in setting minimum quality standards of service and in the selection and management of individuals who perform the work. These management activities and practices are primarily implemented via algorithms – in other words, algorithmic management.

Defined as a system of control where self-learning algorithms are given the responsibility for making and executing decisions affecting labour, the use of algorithmic management in supervising and coordinating gig work heavily impacts upon and complicates the working relationship (Gandini, 2018). The technologies utilised provide access to an extremely scalable workforce, essentially eroding long-term relationships and commitment between parties, thereby granting a level of flexibility previously unheard of for the businesses involved (Harvey et al., 2017). Workers are provided "just-in-time" and usually compensated on a "pay-as-you-go" basis; in practice, they are only paid during the moments they actually work (De Stefano, 2016), a key distinction to most forms of labour. Likewise, almost all communications, instructions and interactions issued to workers only occur virtually, serving to significantly limit the level of human involvement and oversight of labour processes (Veen, Barratt, & Goods, 2020). In such instances, it can be argued that app-workers subsequently hold a relationship with the governing algorithms embedded on platforms, in place of a relationship with a human representative of the platform firm. This engagement and reliance on a non-human agent may contribute to the creation of a new cohort of 'invisible workers', operating in isolation or a geographically dispersed manner, under the instruction and guidance of technology-enabled mechanisms (Bankins & Formosa, 2020; De Stefano, 2016).

MAIN THEORETICAL PROBLEM

As established, the emergence of gig work (and app-work, more specifically) challenges our most basic understanding of the employment relationship (Meijerink & Keegan, 2019; Taylor, Marsh, Nicol, & Broadbent, 2017). With the increasingly central role of technology and the independent contractor status assigned to app-workers, the traditional concept of a legal employment relationship between an employer and employee is less applicable. The very basis of the gig economy is established upon platform firms supplying branded service offerings to customers, without actually employing the providers of these services or owning the assets used in the service provision (Sundararajan, 2014). Yet, although most app-workers are unlikely to ever actually meet their 'boss' (Barley et al., 2017), the speed at which the working relationship is created is strikingly unique. Typically, workers are onboarded almost instantly via an online application and rapid screening process. Upon commencing roles, workers are generally required to agree to some form of supplier agreement or terms and conditions (i.e. in place of a legal contract of employment). Within some platforms, workers are required to electronically accept the firm's terms each time they 'log-in' to pursue work opportunities or gigs (Tran & Sokas, 2017). App-work participants may therefore, over time, develop a working relationship with the platform firm, due to the agentic relationship being more transparent.

Furthermore, app-work complicates our understanding of the working relationship with the involvement of at least three parties in the exchange agreement: the platform firm, the app-worker, and the customer. Likewise, additional parties may also exist in the form of suppliers, who partner with platform firms in the working arrangement. Figure 1 illustrates the parties involved in app-working relationships. Interdependencies exist between each of these parties (Meijerink & Keegan, 2019), thereby forming a complex working relationship where the worker often holds the least power (Duggan et al., 2020). From the platform firm's perspective, advanced algorithms manage and control exchanges on platforms, ranging from the assignment of tasks, to price-setting, to performance management following the completion of tasks (Van Doorn, 2017). Customers also hold a significant role in the working relationship by generating service demand in the first instance, but also in a more crucial capacity by anonymously issuing performance ratings to individual workers (Meijerink &

Keegan, 2019). Accordingly, rather than simply partnering with platform firms to offer services, most app-workers are at the mercy of digital intermediaries, algorithmic mechanisms, and end-user customers.

INSERT FIGURE 1 HERE

The Digitalised, Multi-Party Working Relationship

Making sense of the multi-party working relationship that exists in app-work is a complex task. This is primarily because existing legal architecture, seemingly outdated in addressing the unique digital infrastructure inherent in the gig economy, has affected the provision of social and employment protections for app-workers. This means that standard employment definitions within these provisions typically exclude those engaged in gig working arrangements (Forde et al., 2017). Here, we adopt an alternative perspective used in understanding the employment relationship – *the psychological contract* – to help in developing a more cohesive understanding of the individualised nature of app-work (Conway & Briner, 2005). Defined as the 'individual beliefs, shaped by the organisation, regarding terms of an exchange agreement between individuals and their organisation', the psychological contract examines the mutual promise-based expectations that parties have of one another and how these implicit expectations impact behaviour (Rousseau, 1995: 9). It should be noted that the psychological contract differs from the legal contract of employment, as the psychological contract is largely informal, and implicitly rather than explicitly understood (Makin, Cooper, & Cox, 1996). For example, George (2009) notes that if one were to ask any group of employees what they expect to receive from their organisation and what their organisation expects from them, it is likely that they will have no trouble eliciting a list of terms which would not be found in a conventional contract of employment. By considering app-work from a psychological contract perspective, we seek to develop novel insights into the more tacit dimensions and intricacies of the arrangement. At this point in research on gig working, building knowledge on the process through which individuals establish a working relationship and how the labour arrangement functions can help us to understand how workers are likely to behave and interact with the other parties in the exchange. Relatedly, by expanding the boundary conditions attached to psychological contract theory through considering how a psychological contract may be created with a non-human agent such as an algorithm, we make the case that the theory itself has considerable explanatory power in understanding app-working relationships.

While the legal employment contract somewhat shapes the psychological contract (Coyle-Shapiro & Kessler, 2000), we argue that the fact many app-workers are currently afforded minimal legal protection is somewhat inconsequential. This is because most researchers agree that the psychological contract is entirely subjective, with belief in the existence of an employment relationship at its core (Griep, Vantilborgh, & Jones, 2018; Rousseau, 1989). While psychological contract theory has traditionally been used to help explain the bilateral working agreement between employees and organisations (Rousseau, 1995), recent research calls for a 'multi-foci' perspective to better understand the contemporary workplace, where dependencies exist across multiple parties (Alcover, Rico, Turnley, & Bolino, 2017). This 'new' psychological contract is symbolic of many workplace trends discussed earlier in the chapter, such as the rise of alternative arrangements and fragmented work (Bankins, Griep, & Hansen, 2020); the growth of online labour platforms (Wood et al., 2019); and the development of employment relationships connecting multiple parties (Alcover et al., 2017). Assessing this new, emerging psychological contract will assist theorisation on gig working, but may also assist all contributing parties in addressing the enduring challenge of maintaining effective working relationships beyond purely transactional terms.

Traditionally, when a psychological contract is perceived to exist between an individual and an organisation, the individual implicitly holds expectations of what their employer is obliged to provide to them and what they must contribute in return. These obligations are referred to as the 'content' of the psychological contract (Herriot, Manning, & Kidd, 1997; Rousseau & Tijoriwala, 1999). In comparison to a legal employment contract, there are potentially an infinite number of content dimensions in a psychological contract, given its idiosyncratic nature. Many studies categorise these content dimensions into: 1) *Relational*, reflecting a more open-ended, broader employment relationship such as developmental opportunities, extra-role behaviours, and loyalty; and 2) *Transactional*, reflecting a more closed-ended, narrow, economic employment relationship such as over-time pay, benefits, and working hours (Lam & de Campos, 2015; Sherman & Morley, 2018). While the app-working relationship is established on heavily transactional terms, emerging research intimates that work in this space may be more idiosyncratic than simply the opportunity to earn an income quickly (Graham et al., 2017; Petriglieri, Ashford, & Wrzesniewski, 2018). The value of a psychological contract lens is that it provides insight into the more textured underpinnings of work, particularly in labour arrangements that may, on the surface at least, be largely transactional and routine in focus. In addition, working relationships in the gig economy are notably dynamic, meaning we can expect these to evolve over time with pressures being applied by trade unions, legal challenges, and so forth.

Psychological contract fulfilment generally creates feelings of being valued, increases trust, and leads to positive outcomes at an individual and organisational level (Schurer, Edwards, & Cable, 2003). However, arising from the subjectivity of the psychological contract, breaches and subsequent feelings of violation are common and have serious implications for all parties, including increased exit and decreased loyalty (Turnley & Feldman, 1999). Arising when one party perceives a discrepancy between what was received versus what was promised, the psychological contract often becomes truly important only when it is broken in some way, due to the potentially detrimental consequences that accompany breaches (i.e. reduced job satisfaction; increased turnover) (Conway & Briner, 2005). In the gig economy, the successful functioning of the working arrangement is dependent on the active contribution of multiple parties, all impacting on the relationship in different ways. As a result, psychological contract fulfilment or breach can stem from multiple parties (Alcover et al., 2017). This distributed arrangement, seen as disruptive to the traditional dyadic measures of the theory, further strengthen the argument for a 'new' psychological contract to fully capture the nuances of contemporary labour arrangements (Baruch & Rousseau, 2019).

Making Sense of Multi-Party App-Working Relationships

With multiple, unique sources of dependence across at least three parties, app-work constitutes a working relationship in which platform firms and customers simultaneously generate dependence and determine the rules that shape, afford, and limit worker agency (Wood & Lehdonvirta, 2019). The concept of agency suggests that individuals express independence through self-assertion and control over environments, work processes or outcomes (Marshall, 1989). In psychological contract research, the 'agency issue' has been a point of long-standing debate (Bankins, 2015; Schein, 1980), with discussion centred on how individuals may perceive multiple agents as influencing or impacting on roles. Recently, Baruch and Rousseau (2019) identified the presence of multiple contract makers as a key principle of psychological contracts. Put simply, the psychological contract of any individual worker is shaped by multiple information sources, such as, top management, human resource representatives, career agents, and a worker's immediate supervisor. This poses additional challenges for the psychological contract in app-work, where multiple parties shape the arrangement, but where platform firms typically lack human agents. Thus, with whom does an app-worker hold a psychological contract, and what will be the nature of such a complex arrangement?

We now consider the role of each party in the working arrangement – the app-worker, the platform firm, and the customer – to build understanding and unpack the multi-party relationship that exists in app-work. In doing so, we explore how each party is likely to shape the working relationship for individual app-workers through the formation of various interdependencies and power asymmetries.

The App-Worker

The psychological contract emerges when one party believes that a promise of future return has been made (e.g. pay for performance), a contribution has been given (e.g. some form of exchange), and thus, an obligation has been created to provide future benefits (Robinson & Rousseau, 1994; Sturges, Conway, Guest, & Liefooghe, 2005). While agency is low for app-workers compared to those in traditional employment, we propose that app-work participants may still develop a working relationship (and subsequently, a psychological contract) with platform firms due to an agentic relationship being transparent. This is because, in addition to the agreement to terms, workers are required to carry out synchronous work tasks for a local, visible client and remuneration is typically predetermined (Kuhn & Maleki, 2017).

Moreover, while app-work relationships are generally not rooted in traditional employee–employer dyads, the involvement of multiple parties interacting and contributing to the dynamic exchange agreement further complicates this (Healy, Nicholson, & Pekarek, 2017). Trilateral, and sometimes polyadic, relations exist in app-working arrangements. For example, we consider the case of food-delivery app-work and how agency may be attributed to each party in this arrangement. Across platforms such as UberEats, Deliveroo and Foodora, workers are faced with a triangular working arrangement whereby they serve multiple agents: they act on behalf of the *platform firm*, but also on behalf of the food outlet or *restaurant* for whom they are delivering orders (Cochrane & McKeown, 2015). Likewise, these workers are also the only party with direct engagement with the *customer* who ordered the food, who then has the opportunity to anonymously rate the worker's performance and / or their overall satisfaction with the service.

In this way, app-workers are unlikely to identify one clear 'agent' in the working relationship. This multi-dependency indicates that psychological contracts are not simply based on an agreement between two parties, but derived from the multiple actors in the employment network. If, in the above example, the restaurant supplied the worker with the incorrect order, they would be confronted with an unhappy customer upon delivery. The individual worker may perceive this error and subsequent aggravation from the customer as a violation of their psychological contract. Likewise, the worker's performance metrics, generated via algorithmic processes, may be unjustly impacted if this incident results in a delay or complaint, potentially resulting in the untimely exit of a worker. Given the interdependencies between the multiple parties, there are various examples of how such a breach may occur. Thus, the agency issue is fundamental to understanding the perceptions of each party and how the terms of the working arrangement may differ significantly through each individual's 'eyes' (Rousseau, 1995).

It also becomes apparent that the typical dimensions of employment characteristics, such as negotiation and trust, do not seem to apply in the gig economy (Makoff, 2017). This aligns with recent research suggesting that the realities experienced by many gig workers are significantly different to what was advertised (Harris, 2017, Wood et al., 2019). A key feature of the psychological contract is that the individual voluntarily assents to make and accept certain promises as they understand them. This means that it is what the individual *believes* that they have agreed to which makes the contract, rather than what may have been intended (Rousseau, 1995). For example, recent studies illustrate the dissatisfaction and unmet expectations felt by gig workers in relation to power asymmetries, autonomous working, and compensation levels (Möhlmann & Zalmanson, 2017; Shapiro, 2018).

Yet, as the app-worker may perceive dissatisfaction and unmet expectations from different agents (i.e., perhaps from the platform firm at one instance and from the restaurant at another), this raises the possibility of multiple psychological contracts existing within a single working relationship (Wiechers, Coyle-Shapiro, Lub, & Ten Have, 2019) . To add to this complexity, we must also consider whether the app-worker may encounter a heavily transactional relationship with one party, while simultaneously holding a more relational arrangement with another. With the norm of reciprocity being unclear in complex multi-party arrangements, this can be problematic if one party feels that a breach has taken place (Baruch & Rousseau, 2019). In other words, we should not assume that all app-working arrangements are entirely transactional, simply because the relationship has been established as such by the platform firm.

The Platform Firm

One of the most challenging aspects of app-working relationships is that one of the parties in the arrangement is the 'app' itself, which, as explained, is controlled by the platform firm and utilises algorithmic management. Platform firms both maintain and distance themselves from responsibility over their markets: on the one hand, they retain control over the allocation of work, conditions, and minimum performance standards; but, on the other hand, they deny many responsibilities by identifying only as ‘technological companies’ who serve to provide a medium of exchange (Healy et al., 2017). A key feature of app-work is the automatic coordination and matching of the transaction through a set of advanced algorithms, creating a space where supply and demand integrate through automatic management and enforced mechanisms (Lehdonvirta, 2018). In other words, platform firms use algorithms to match supply-and-demand in the market, while also mediating and closely monitoring the work performed (Gandini, 2018). Because of this, when discussing the role of the platform firm, we most commonly refer to either the app or the algorithmic management function.

As a technology-enabled monitoring tool, algorithmic management eliminates the more interpersonal and empathetic aspects of people management. By automating management practice, algorithms exert control over workforces and facilitate asymmetrical information in the working relationship. In app-work, this takes many forms, including: controlling the supply of labour; targeting workers with incentives; removing workers from platforms; and mediating disputes at its own discretion (Duggan et al., 2020). Likewise, many platform firms fully exploit the possibility to minutely monitor the activities of app-workers in real time, rendering them heavily at the mercy of the platform’s expectations and demands (Kuhn & Maleki, 2017). This ‘always-on’ form of control is seen as unfair by some app-workers, particularly given their legal employment classification (Gandini, 2018). Without a human agent advocating their needs on behalf of the platform firm to deliver a more balanced working relationship (Gilbert, De Winne, & Sels, 2011), app-workers may lose trust and confidence, resulting in a reduced sense of well-being.

Yet, research tells us that firms cannot hold psychological contracts, but rather they provide context for the creation of the psychological contract and may instead be represented by human agents of the organisation (i.e. managerial representatives) (Guest, 1998; Rousseau, 1989). With the lack of human organisational representatives in app-work, the agency question becomes especially apposite. Is it possible that an app, governed by algorithmic management mechanisms, be considered a ‘party’ in the development of a psychological contract? In its role as intermediary, the platform firm is the only party with full access to and control over the data, processes, and rules of the platform (Jabagi, Croteau, Audebrand, & Marsan, 2019). Likewise, Ravenelle (2019) argues that the capricious nature of apps may impact workers’ experiences of psychological contract violation or fulfilment. As noted by Jago (2019), people believe that technological agents lack the same level of moral authenticity as human agents. This arms-length approach to managing workers, characterised by data-driven performance statistics and metrics, signals towards the development of a heavily transactional psychological contract. However, recent research by Bankins and Formosa (2020) argues that through increasing sophistication, artificially-intelligent technologies are now moving away from being viewed as a simple ‘tool’ used by organisations towards being seen as ‘partners’ of and within organisations. Findings like this support the argument that the app-worker, in part at least, may develop more relational expectations of the app itself, even if the platform firm rejects this notion.

The Customer

The third party in app-working relationships is the customer. Although ostensibly the most passive party in the working relationship, customers potentially play an influential role in shaping the psychological contracts of app-workers. This is because many platform firms utilise customer ratings of workers via anonymous systems as a means of performance evaluation. Before being shared with app-workers, assessments are forwarded to platform firms, who have the opportunity to verify – albeit indirectly – the quality and punctuality of the service rendered (Gramano, 2019). These data, along with customer ratings and reviews, may then be used to identify the best performing workers and to alter the algorithm that assigns tasks to workers. Due to this, most app-workers are subject to tight levels of control, where the customer evaluation is often critical (Healy et al., 2017), and without recourse to question or refute performance scores. In some instances, the rating issued by the customer may not solely reflect the individual worker's performance, but the overall service delivery. This can potentially be detrimental for workers. Again, in the case of food-delivery app-work, although customer orders and requests are sent to restaurants via the platform firm, the app-worker is the only party with direct, human interaction with the customer. As a result, the worker, through the receipt of performance ratings, is at most risk of being penalised for errors potentially made by other parties in the working arrangement (Duggan et al., 2020; Goods, Veen, & Barratt, 2019). This arguably results in a generally one-sided process (Flanagan, 2018), which intimates a further shift in power away from the app-worker.

As app-workers are potentially rated after the completion of each individual task, the combined roles of the customer and the platform firm essentially exercise penetrating control over all aspects of the service delivery. In this sense, the worker can be described as being in a situation comparable to a permanent probationary period, again signalling towards a more transactional arrangement (Gramano, 2019). Yet, given the fundamental role of customer ratings, in that workers in receipt of low ratings are potentially subjected to being deactivated (Tran & Sokas, 2017), concerns are raised around the inherent weaknesses in simplistic and entirely quantitative measures of performance (McDonnell, Gunnigle, & Murphy, 2019). For example, in some cities, Uber drivers with an average rating, calculated by an algorithm, of lower than 4.6 out of a possible 5 are at risk of disbarment from the platform (Kuhn & Maleki, 2017). Likewise, considering the customer's role, another risk is that app-work is supplied entirely through IT channels, be them online platforms or apps, potentially distorting the perceptions customers may have of these workers and significantly contributing to a perceived dehumanisation of their activity (De Stefano, 2016).

CONSEQUENCES OF THE SOCIAL / PRACTICAL PROBLEM

While it is important, in the context of the psychological contract, to understand the role of each party in app-work arrangements in isolation, it is more pressing from a practical perspective to explore the interplay and exchanges between each party. It is the dynamic interchange between parties through which the psychological contract develops (Conway & Briner, 2005). For instance, Sherman and Morley (2020) suggest that for app-workers, the psychological contract held with one party impinges on the contract created with the other party, resulting in complications that arise owing to multiple dependence. Specifically, they found that app-workers in food-delivery arrangements expressed frustration that restaurant delays impact upon their relationship with the customer. Findings like this indicate a sense of the emotional resources that an app-worker has to expend to fulfil an obligation. This is a significant issue in multi-party working arrangements as there may be consequences for other parties if an individual has depleted resources after expending a lot of energy in trying to fulfil an obligation for one particular party (Deng, Coyle-Shapiro, & Yang, 2018; Sherman & Morley, 2020). Additionally, the nature of multi-party working relationships may mean that breach of the psychological contract with one party can be triggered by the relationship with another, and perhaps, that the fulfilment of one agreement may come at the expense of another (Wiechers et al., 2019). These studies illustrate the complexities at the heart of multi-party working arrangements, and raise questions about how these relationships can be effectively managed.

A heavily transactional relationship appears to be at the heart of app-work, with workers paid for the quantity of work undertaken rather than the time spent working. The seemingly non-existent focus on the development of mutual trust and commitment in the working relationship further solidifies the transactional nature of this exchange. For example, at the recruitment stage, most roles are advertised on the basis that app-workers have the autonomy to work when they wish with considerable independence, indicating that there are little or no expectations of a long-term relationship (Jabagi et al., 2019). Likewise, workers are typically onboarded quickly, via a prompt screening process, ensuring a readily accessible source of labour for the platform firm (Kuhn & Maleki, 2017). While this approach to onboarding workers certainly reduces costs by eliminating many of the labour and time costs involved (Healy et al., 2017), it may prove problematic when looking beyond short-term, transactional cost benefits towards recruiting motivated workers who are likely to succeed in roles.

While the transactional aspect of app-work is clearly evident, we argue that this conceptualisation may under-appreciate the inherently nuanced structure of the arrangement, which forms a working relationship with a minimum of three parties involved (Wood & Lehdonvirta, 2019). For example, emerging evidence signals that app-workers are seeking a more co-determined and relational work arrangement, populated by opportunities to develop new skills useful in furthering their careers, in addition to craving social interaction and networking opportunities (Maffie, 2020; Petriglieri et al., 2018). Seeking greater voice in the working relationship and opportunities for professional growth are typical content dimensions of a relational psychological contract (Conway & Briner, 2005). So, from this perspective, there appears to be more to app-work than simply remuneration and flexibility. It seems that, at once, app-work and its use of algorithmic management both enables and contorts the interactions between each party in the arrangement.

Consequently, psychological contract theory may be useful in this context, as the perception of each party is of critical importance and the terms may differ significantly based on these perceptions (Rousseau, 1995). This theory appreciates that one party can perceive a particular relationship and expectations that the other does not recognise. Thus, while a legal employment contract may be denied by the platform firm, it is feasible that psychological contracts exist and develop, at least from the worker's perspective. The idea that app-workers only seek to work for financial gain appears at odds with recent research and wider scholarship on the sociology of work, around the relevance of relational arrangements (Woodcock & Johnson, 2018; Wood & Lehdonvirta, 2019).

SOLUTIONS TO THE SOCIAL / PRACTICAL PROBLEM

The complexities of app-work, combined with the subjective nature of the psychological contract, make it difficult to propose solutions as to how this fragmented working relationship can be effectively managed. Perhaps the most obvious and widely-discussed path to resolving the issues inherent in gig work is a legal one – in other words, revising or updating existing employment legislation to effectively govern the gig economy. It is unsurprising, then, that much scholarly literature and broader discourse on gig work has considered, at least to some extent, potential remedies to 'fix' legal and policy architectures in this domain (Bonet, Cappelli & Hamori, 2013; Tran & Sokas, 2017). These discussions have focused on issues such as labour exploitation, taxation, and worker classification (Prassl, 2018; Schiek & Gideon, 2018). A commonly explored solution is the proposal to create a special employment status for gig workers, acknowledging that the characteristics of these individuals do not fully comply with either the definition of employee or the self-employed (Maselli, Lenaerts, & Beblavy, 2016). The rationale is the creation of 'flexicurity' for workers, signalling a type of intermediate classification that acknowledges the flexibility of gig work, while also providing some limited form of labour protection (De Stefano, 2016). Ostensibly, the benefits brought about by such a change may well be widespread – at once, this solution potentially fills the regulatory gap affecting the gig economy, while also managing expectations by more clearly defining the specific nature of the working relationship.

However, the process of actually implementing a solution of this nature is far from straightforward. For example, recent years have seen a multitude of different rulings on the same issues regarding gig workers, with similar types of app-workers being determined as employees or independent contractors across different jurisdictions (Johnston & Land-Kazlauskas, 2018; McGaughey, 2018). At the time of writing this chapter, the saga is ongoing, with the latest developments on California's Assembly Bill #5 (AB5), which, since being passed in 2019, extends employee classification to gig workers (Schor, Attwood-Charles, Cansoy, Ladegaard, & Wengronowitz, 2020). However, California's gig economy is fighting back with Proposition 22 – the "App-Based Drivers as Contractors and Labour Policies Initiative" – which essentially seeks to grant platform firms an exemption from AB5, freeing them from complying with California's labour laws (Farrell, 2020). It is becoming increasingly apparent that many larger platform firms will persist in contesting efforts to regulate the gig economy, making it unlikely that a universal solution of this nature will be accomplished with any ease.

Because of this, in the interim, we propose that it is beneficial to concentrate elsewhere by seeking to resolve the specific issues that arise between parties in app-work. As illustrated throughout this chapter, the relationships between the multiple parties in the working arrangement potentially result in the formation of several psychological contracts, all of which vary in nature and depth. Identifying and addressing the most pertinent imbalances in each of these relationships is likely to provide a useful foundation in the formation of a functional working arrangement. Although empirical research is required to definitively uncover these issues and imbalances, we briefly consider areas where issues seem likely to arise from the app-worker's perspective.

The social and relational aspects of app-work are heavily shaped by technology and digitalised management tools (Duggan et al., 2020). Although the use of algorithmic management allows for increased efficiency and innovation, the lack of human representation and engagement on behalf of the platform firm weakens social ties and forms perhaps the largest obstacle for individuals seeking to craft a relational working arrangement (Wang, Liu, & Parker, 2020). Yet, for those seeking a more casual arrangement, characterised by increased flexibility and liberation from the confines of a traditional office environment, the heavily digitalised nature of the app-working relationship may be more desirable. Thus, as is the subjective nature of the psychological contract, issues are most likely to occur based on an individual app-worker's expectations of the role, and whether these expectations are aligned with what is offered by the platform firm (Sherman & Morley, 2020). While this may be the case in any role, the blurring of lines in app-work highlights such issues. Accordingly, a key starting-point in solving this issue lies in effective, accurate communications to appropriately manage the expectations of app-workers at the recruitment and onboarding stages, making clear what the working relationship entails, and importantly, what it does *not* entail.

Relatedly, beyond the core relationship between the app-worker and the platform firm, issues may also arise from workers' engagements with other parties in the arrangement. For example, the role of customers in app-work is complex and warrants consideration. For food-delivery app-workers, the relationship formed with customers is likely to be fleeting and heavily transactional, relying almost entirely on the timely delivery of an order (Duggan et al., 2020). In contrast, a rideshare app-worker's relationship with customers is likely to be significantly more nuanced, lasting for the entire duration of the journey, and heavily shaped by each customer's preferences for interpersonal engagement and interaction (Rosenblat, 2018). Because of this, perhaps a potential solution for app-workers may be to move towards informally negotiating their performances with customers, thereby developing more relational strategies within this relationship (Vallas & Schor, 2020).

Finally, we are also concerned with emerging evidence that app-workers seek to develop competencies useful in furthering their careers, and the potential lack of such opportunities within existing arrangements (Maffie, 2020; Petriglieri et al., 2018). Thus, the issue to be addressed in this regard lies in striking the balance between flexibility, sustainability, and opportunity for app-workers. Some platform firms have already engaged in this debate by offering potential solutions. For example, Uber recently launched 'Uber Works', a new extension of its service that connects casual workers with businesses offering short-term roles in various sectors, allowing individuals to compare pay rates and sign-up for shifts that suit their schedules (Uber, 2019). Likewise, the Deliveroo Rider Academy offers workers access to online learning courses, apprenticeships, and mentoring opportunities to develop their careers. However, although these initiatives are an encouraging starting point, the broader issue regarding the potential unsustainability of app-work remains (Ashford, Caza, & Reid, 2018).

DIRECTIONS FOR FUTURE RESEARCH

The discourse around the rise of the gig economy has grown exponentially during the last decade. The gig economy provides challenges to established thought regarding the nature of work and the employment relationship. Despite recognising that the gig economy is disruptive to our understanding of employment relationships, specific details surrounding this are lacking, as is an understanding of the subsequent implications as these relationships evolve. In this chapter, we have explored the nature of multi-party working relationships in the gig economy. By focusing explicitly on app-work, we utilised a psychological contract perspective to consider the more tacit, idiosyncratic dimensions of the exchange agreement that exists between the parties in the arrangement. Most platform firms deny the existence of an employment relationship, but the strict levels of control enforced raise noteworthy contradictions that warrant developed empirical consideration (Kuhn & Maleki, 2017). Utilising psychological contract theory potentially uncovers new depths to the relationship between app-workers, the platform firms for whom they work, and the end-user customers who generate demand. Accordingly, conflict between workers and firms on issues surrounding control, dependency, and working conditions, for example, would suggest that there is more to the working relationship than simply remuneration and flexibility.

Thus, app-work disrupts the contours of our traditional understanding of the employment relationship by introducing changes in *where, how and what* work is completed for firms (Bankins, Griep, & Hansen, 2020). The very nature of this work results in many fundamental aspects of a more traditional, transparent employment relationship being enabled and delivered exclusively via digital platforms (Kuhn & Maleki, 2017). Due to this, the evidence of an agentic relationship between the multiple parties participating in app-work suggests that workers may still develop a psychological contract with the platform firms for whom they work. This challenges the long-held belief in psychological contract research that only humans can serve as contract-makers (Griep et al., 2019; Sherman & Morley, 2020). Certainly, the spatial and temporal boundaries of app-work lend further weight to the argument that working relationships in the gig economy are atypical in the business landscape, in that they can both can restrict and facilitate the interaction between the multiple parties in the working arrangement. Indeed, that app-work relationships are generally not rooted in traditional employee-employer dyads, but rather involve multiple parties contributing to the dynamic exchange agreement, presents challenges to how the working relationship can be managed effectively.

Thus, empirical research is warranted to thoroughly understand the impact of these relatively novel and alternative digitalised management practices for workers, and indeed, for the people management function as the workplace continues to change (Bankins & Formosa, 2020). More broadly, perhaps, this is particularly relevant at the current moment as the world grapples with and emerges from the Covid-19 pandemic. The societal implications of this global crisis pose significant and unprecedented challenges for the future of work and workplace design, especially where the need for increased remote working has come to the fore. Likewise, gig workers across various industries have, in many cases, been central to the delivery of key services during the pandemic, while simultaneously being one of the most at-risk groups and receiving little by way of social and employment benefits and protections (Griswold, 2020).

Shared understandings and reciprocal contributions for mutual benefit are at the core of traditional, functional exchange relationships between workers and organisations (Dabos & Rousseau, 2004). From the app-worker's perspective, having no say in how work is assigned and how performance is assessed means that the working relationship is less representative of one that has been mutually co-determined, and could instead be perceived as a working arrangement of subjugation (Harvey et al., 2017). Likewise, the fragmented nature of app-work, through its reliance on technology via digital platforms and governing algorithms, may erode the reciprocity found in traditional employment relationships. The unique, alternative working arrangements found on the majority of app-work platforms present significant and novel challenges for scholars and practitioners alike regarding how to effectively manage the employment relationship in this domain. Therefore, we believe that future research pursuing the lines of enquiry outlined in this chapter hold the prospect of providing important insight into this understudied, dynamic area.

REFERENCES

Alcover, C.M., Rico, R., Turnley, W.H. & Bolino, M.C. (2017). Multi-Dependence in the Formation of the Distributed Psychological Contract. *European Journal of Work and Organisational Psychology*, *26*(1), 16–29.

Ashford, S.J., Caza, B.B. & Reid, E.M. (2018). From Surviving to Thriving in the Gig Economy: A Research Agenda for Individuals in the New World of Work. *Research in Organizational Behaviour*, 38, 23-41.

Bankins, S. (2015). A Process Perspective on Psychological Contract Change: Making Sense of, and Repairing, Psychological Contract Breach and Violation Through Employee Coping Actions. *Journal of Organisational Behaviour*, 36 (8), 1071-95.

Bankins, S., & Formosa, P. (2020). When AI Meets PC: Exploring the Implications of Workplace Social Robots and a Human-Robot Psychological Contract. *European Journal of Work and Organizational Psychology,* 29(2), 215-229.

Bankins, S., Griep, Y., & Hansen, S.D. (2020). Charting Directions for a New Research Era: Addressing Gaps and Advancing Scholarship in the Study of Psychological Contracts. *European Journal of Work and Organizational Psychology,* 29(2), 159-163.

Barley, S.R., Bechky, B.A. & Milliken, F.J. (2017). The Changing Nature of Work: Careers, Identities, and Work Lives in the 21st Century. *Academy of Management Discoveries*, *3*(2), 111–115.

Baruch, Y., & Rousseau, D.M. (2019). Integrating Psychological Contracts and Ecosystems in Career Studies and Management. *Academy of Management Annals*, *13*(1), 84–111.

Bergman, M.E., & Jean, V.A. (2016). ‘Where Have All the ‘Workers’ Gone? A Critical Analysis of the Unrepresentativeness of Our Samples Relative to the Labour Market in the Industrial-Organisational Psychology Literature. *Industrial and Organisational Psychology*, 9 (1), 84-113.

Bonet, R., Cappelli, P., & Hamori, M. (2013). Labour Market Intermediaries and the New Paradigm for Human Resources. *The Academy of Management Annals*, *7*(1), 341–392.

Cappelli, P., & Keller, J.R. (2013). Classifying Work in the New Economy. *Academy of Management Review*, *38*(4), 575–596.

Carr, C.T., Hall, R.D., Mason, A.J., & Varney, E.J. (2017). Cueing Employability in the Gig Economy: Effects of Task-Relevant and Task-Irrelevant Information on Fiverr. *Management Communication Quarterly*, *31*(3), 409–428.

Cochrane, R., & McKeown, T. (2015). Vulnerability and Agency Work: From the Workers' Perspectives. *International Journal of Manpower*, 36 (6), 947-965.

Collier, R.B., Dubal, V.B. & Carter, C. (2017). Labour Platforms and Gig Work: The Failure to Regulate. *Institute for Research on Labour and Employment: Working Paper 106–17*.

Conway, N. & Briner, R.B. (2005). *Understanding Psychological Contracts at Work: A Critical Evaluation of Theory and Research*. New York: Oxford University Press.

Coyle-Shapiro, J., & Kessler, I. (2000). Consequences of the Psychological Contract for the Employment Relationship: A Large-Scale Survey. *Journal of Management Studies*, 37 (7), 903–930.

Dabos, G.E., & Rousseau, D.M. (2004). Mutuality and Reciprocity in the Psychological Contracts of Employees and Employers. *Journal of Applied Psychology*, *89*(1), 52–72.

De Stefano, V. (2016). The Rise of the 'Just-In-Time' Workforce: On-Demand Work, Crowdwork and Labour Protection in the Gig Economy. *International Labour Office: Conditions of Work and Employment Series, 71*.

Deng, H., Coyle-Shapiro, J., & Yang, Q. (2018). Beyond Reciprocity: A Conservation of Resources View on the Effects of Psychological Contract Violation on Third Parties. *Journal of applied psychology*, 103(5), 561-77.

Duggan, J., Sherman, U., Carbery, R., & McDonnell, A. (2020). Algorithmic Management and App-Work in the Gig Economy: A Research Agenda for Employment Relations and HRM. *Human Resource Management Journal*, 30(1), 114-132.

Fabo, B., Karanovic, J. & Dukova, K. (2017). In Search of an Adequate European Policy to the Platform Economy. *Transfer: European Review of Labour and Research*, *23*(2), 163–175.

Farrell, H. (2020, August 21). Uber Wants to Limit its Drivers' Rights in California. User Loyalty is its Secret Political Weapon. *The Washington Post*. Retrieved from: https://www.washingtonpost.com/politics/2020/08/21/uber-wants-limit-its-drivers-rights-california-user-loyalty-is-its-secret-political-weapon.

Flanagan, F. (2018). Theorising the Gig Economy and Home-based Service Work. *Journal of Industrial Relations*, *61*(1), 57–78.

Forde, C., Stuart, M., Joyce, S., Oliver, L., Valizade, D., Alberti, G., Hardy, K., Trappmann, V., Imney, C., & Carson, C. (2017). The Social Protection of Workers in the Platform Economy. *Policy Department A: Economic and Scientific Policy*. Available:

http://www.europarl.europa.eu/RegData/etudes/STUD/2017/614184/IPOL_STU(2017)614184_EN.pdf.

Friedman, G. (2014). Workers Without Employers: Shadow Corporations and the Rise of the Gig Economy. *Review of Keynesian Economics*, *2*(2), 171–188.

Gandini, A. (2018). Labour Process Theory and the Gig Economy. *Human Relations*, 1–18.

George, C. (2009). *The Psychological Contract: Managing and Developing Professional Groups*. Berkshire: Open University Press.

Gilbert, C., De Winne, S., & Sels, L. (2011). The Influence of Line Managers and HR Department on Employees' Affective Commitment. *International Journal of Human Resource Management*, *22*(8), 1618–1637.

Goods, C., Veen, A., & Barratt, T. (2019). "Is Your Gig Any Good?" Analysing Job Quality in the Australian Platform-Based Food-Delivery Sector. *Journal of Industrial Relations*, 61(4), 502-527.

Graham, M., Hjorth, I. & Lehdonvirta, V. (2017). Digital Labour and Development: Impacts of Global Digital Labour Platforms and the Gig Economy on Worker Livelihoods. *Transfer: European Review of Labour and Research*, *23*(2), 135–162.

Gramano, E. (2019). Digitalisation and Work: Challenges from the Platform Economy. *Contemporary Social Science*.

Griep, Y., Cooper, C., Robinson, S., Rousseau, D., Hansen, S.D.,… Linde, B.J. (2019). Psychological Contracts: Back to the Future. In Y. Griep & C. Cooper (Eds.), *Handbook of Research on the Psychological Contract at Work* (pp. 397–414). Cheltenham, UK: Edward Elgar.

Griep, Y., Vantilborgh, T., & Jones, S.K. (2018). The Relationship Between Psychological Contract Breach and Counterproductive Work Behaviour in Social Enterprises: Do

Paid Employees and Volunteers Differ? *Economic and Industrial Democracy*, 41(3), 727-745.

Griswold, A. (2020, April 19). The Month the Entire World Signed up for Delivery. *Quartz*. Retrieved from: https://qz.com/1838349/how-coronavirus-will-change-the-online-delivery-business/.

Guest, D.E. (1998). Is the Psychological Contract Worth Taking Seriously? *Journal of Organisational Behaviour*, 19, 649-664.

Harris, B. (2017). Uber, Lyft, and Regulating the Sharing Economy. *Seattle University Law Review*, *41*(1), 269–285.

Harvey, G., Rhodes, C., Vachhani, S.J., & Williams, K. (2017). Neo-Villeiny and the Service Sector: The Case of Hyper Flexible and Precarious Work in Fitness Centres. *Work, Employment and Society*, *31*(1), 19–35.

Healy, J., Nicholson, D., & Pekarek, A. (2017). Should We Take the Gig Economy Seriously? *Labour and Industry: A Journal of the Social and Economic Relations of Work*, *27*(3), 232–248.

Herriot, P., Manning, W.E.G., & Kidd, J.M. (1997). The Content of the Psychological Contract. *British Journal of Management*, 8, 151-162.

Jabagi, N., Croteau, A.M., Audebrand, L.K., & Marsan, J. (2019). Gig Workers' Motivation: Thinking Beyond Carrots and Sticks. *Journal of Managerial Psychology*, 34(4), 192-213.

Jago, A.S. (2019). Algorithms and Authenticity. *Academy of Management Discoveries*, *5*(1), 38–56.

Johnston, H. & Land-Kazlauskas, C. (2018). Organising On-Demand: Representation, Voice, and Collective Bargaining in the Gig Economy. *Conditions of Work and Employment Series No 94*. International Labour Office: Geneva. Retrieved from:

https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_624286.pdf.

Kuhn, K.M., & Maleki, A. (2017). Micro-Entrepreneurs, Dependent Contractors, and Instaserfs: Understanding Online Labour Platform Workforces. *Academy of Management Perspectives*, *31*(3), 183–200.

Lam, A., & de Campos, A. (2015). 'Content to be Sad' or 'Runaway Apprentice'? The Psychological Contract and Career Agency of Young Scientists in the Entrepreneurial University. *Human Relations*, 68(5), 811-841.

Lehdonvirta, V. (2018). Flexibility in the Gig Economy: Managing Time on Three Online Piecework Platforms. *New Technology, Work and Employment*, *33*(1), 13–29.

Lemmon, G., Wilson, M.S., Posig, M., & Glibkowski, B.C. (2016). Psychological Contract Development, Distributive Justice, and Performance of Independent Contractors: The Role of Negotiation Behaviours and the Fulfilment of Resources. *Journal of Leadership and Organisational Studies*, 23(4), 424-439.

Maffie, M.D. (2020). The Role of Digital Communities in Organising Gig Workers. *Industrial Relations: A Journal of Economy and Society*, 59(1), 123-149.

Makin, P.J., Cooper, C.L., & Cox, C.J. (1996). *Organisations and the Psychological Contract: Managing People at Work*. Leicester, UK: Wiley-Blackwell.

Makoff, A. (2017, April 27). Nearly Eight Million People Thinking About Joining Gig Economy, Study Reveals. *CIPD: People Management*. Retrieved from: https://www.peoplemanagement.co.uk/news/articles/eight-million-people-thinking-joining-gig-economy.

Marshall, J. (1989). Re-Visioning Career Concepts: A Feminist Invitation. In M.B. Arthur, D.T. Hall, & B.S. Lawrence (Eds.), *Handbook of Career Theory*, 275-91. New York: Cambridge University Press.

Maselli, I., Lenaerts, K., & Beblavy, M. (2016). Five Things We Need to Know About the On-Demand Economy. *Centre for European Policy Studies*, 21.

McDonnell, A., Gunnigle, P., & Murphy, K. R. (2019). Performance Management. In. D.G. Collings, G. Wood & L. Samosi (Eds), *Human Resource Management: A Critical Approach*. London, UK: Routledge.

McGaughey, E. (2018). Taylorooism: When Network Technology Meets Corporate Power. *Industrial Relations Journal*, 49(5/6), 459-472.

Meijerink, J. & Keegan, A. (2019). Conceptualizing Human Resource Management in the Gig Economy: Toward a Platform Ecosystem Perspective. *Journal of Managerial Psychology*, 34(4), 214-232.

Möhlmann, M., & Zalmanson, L. (2017). Hands on the Wheel: Navigating Algorithmic Management and Uber Drivers' Autonomy', in *Proceedings of the International Conference on Information Systems (ICIS)*, Seoul South Korea, 10–13 December.

O'Sullivan, M., Turner, T., McMahon, J., Ryan, L., Lavelle, J., Murphy, C., O'Brien, M., & Gunnigle, P. (2015). A Study on the Prevalence of Zero Hours Contracts Among Irish Employers and Their Impact on Employees. *Kemmy Business School, University of Limerick.* Retrieved from: https://dbei.gov.ie/en/Publications/Publication-files/Study-on-the-Prevalence-of-Zero-Hours-Contracts.pdf.

Petriglieri, G., Ashford, S.J., & Wrzesniewski, A. (2018). Agony and Ecstasy in the Gig Economy: Cultivating Holding Environments for Precarious and Personalised Work Identities. *Administrative Science Quarterly*, 64(1), 124-170.

Prassl, J. (2018). *Humans as a Service.* Oxford, UK: Oxford University Press.

Ravenelle, A.J. (2019). "We're Not Uber:" Control, Autonomy, and Entrepreneurship in the Gig Economy. *Journal of Managerial Psychology*, 34(4), 269-285.

Robinson, S.L., & Rousseau, D.M. (1994). Violating the Psychological Contract: Not the Exception but the Norm. *Journal of Organisational Behaviour*, 15(3), 245-259.

Rosenblat, A. (2018). *Uberland: How Algorithms Are Rewriting the Rules of Work.* Oakland, California: University of California Press.

Rousseau, D.M., & Tijoriwala, S. (1999). Assessing Psychological Contracts: Issues, Alternatives and Measures. *Journal of Organisational Behaviour*, 19, 679-696.

Rousseau, D.M. (1989). Psychological Contract and Implied Contracts in Organisations. *Employee Responsibilities and Rights Journal*, 2(2), 121-139.

Rousseau, D.M. (1995). *Psychological Contracts in Organisations: Understanding Written and Unwritten Agreements*. London, UK: SAGE Publications.

Schein, E.H. (1980). *Organisational Psychology*. Englewood Cliffs, NJ: Prentice Hall.

Schiek, D., & Gideon, A. (2018). Outsmarting the Gig Economy Through Collective Bargaining – EU Competition Law as a Barrier to Smart Cities. *International Review of Law, Computers & Technology,* 32(2/3), 275-294.

Schmidt, F.A. (2017). Digital Labour Markets in the Platform Economy: Mapping the Political Challenges of Crowd Work and Gig Work. *Friedrich-Ebert-Stiftung*.

Schor, J.B., Attwood-Charles, W., Cansoy, M., Ladegaard, I., & Wengronowitz, R. (2020). Dependence and precarity in the platform economy. *Theory and Society,* forthcoming.

Schurer, L.L., Edwards, J.R., & Cable, D.M. (2003). Breach and Fulfilment of the Psychological Contract: A Comparison on Traditional and Expanded Views. *Personnel Psychology*, 56, 895-934.

Shapiro, A. (2018). Between Autonomy and Control: Strategies of Arbitrage in the On-Demand economy. *New Media & Society*, 20(8), 2954-71.

Sherman, U.P., & Morley, M.J. (2018). Organizational Inputs to the Formation of the Expatriate Psychological Contract: Towards an Episodic Understanding. *International Journal of Human Resource Management*, 29(8), 1513-1536.

Sherman, U.P., & Morley, M.J. (2020). What Do We Measure and How Do We Elicit It? The Case for the Use of Repertory Grid Techniques in Multi-Party Psychological Contract Research. *European Journal of Work and Organizational Psychology*, 29(2), 230-242.

Stewart, A., & Stanford, J. (2017). Regulating Work in the Gig Economy: What Are the Options? *The Economic and Labour Relations Review*, *28*(3), 420–437.

Sturges, J., Conway, N., Guest, D., & Liefooghe, A. (2005). Managing the Career Deal: The Psychological Contract as a Framework for Understanding Career Management, Organisational Commitment and Work Behaviour. *Journal of Organisational Behaviour*, 26, 821-838.

Sundararajan, A. (2014, November 27). What Airbnb Gets About Culture that Uber Doesn't. *Harvard Business Review*. Retrieved from: https://hbr.org/2014/11/what-airbnb-gets-about-culture-that-uber-doesn't.

Taylor, M., Marsh, G., Nicol, D., & Broadbent, P. (2017). *Good Work: The Taylor Review of Modern Working Practices*. London, UK: Department of Business, Energy & Industrial Strategy.

Todolí-Signes, A. (2017). The Gig Economy: Employee, Self-Employed or the Need for a Special Employment Regulation? *Transfer: European Review of Labour and Research*, *23*(2), 193–205.

Tran, M., & Sokas, R.K. (2017). The Gig Economy and Contingent Work: An Occupational Health Assessment. *Journal of Occupational and Environmental Medicine*, *59*(4), 63–66.

Turnley, W.H., & Feldman, D.C. (1999). The Impact of Psychological Contract Violations on Exit, Voice, Loyalty, and Neglect. *Human Relations*, 52(7): 895-922.

Uber (2019, October 2). Uber Works Officially Launched in Chicago. Retrieved from: https://www.uber.com/blog/chicago/uberworks/.

Van Doorn, N. (2017). Platform Labour: On the Gendered and Racialised Exploitation of Low-Income Service Work in the 'On-Demand' Economy. *Information, Communication & Society*, *20*(6), 898–914.

Vallas, S., & Schor, J.B. (2020). What Do Platforms Do? Understanding the Gig Economy. *Annual Review of Sociology,* 46.

Veen, A., Barratt, T., & Goods, C. (2020). Platform-Capital's 'App-etite' for Control: A Labour Process Analysis of Food-Delivery Work in Australia. *Work, Employment and Society*, *34*(3), 388-406.

Wang, B., Liu, Y., & Parker, S.K. (2020). How Does the Use of Information Communication Technology Affect Individuals: A Work Design Perspective. *Academy of Management Annals,* forthcoming.

Ward, K., Grimshaw, D., Rubery, J., & Beynon, H. (2001). Dilemmas in the Management of Temporary Work Agency Staff. *Human Resource Management Journal*, *11*(4), 3–21.

Weil, D. (2017, March 24). How to Make Employment Fair in an Age of Contracting and Temp Work. *Harvard Business Review*. Retrieved from: https://hbr.org/2017/03/making-employment-a-fair-deal-in-the-age-of-contracting-subcontracting-and-temp-work.

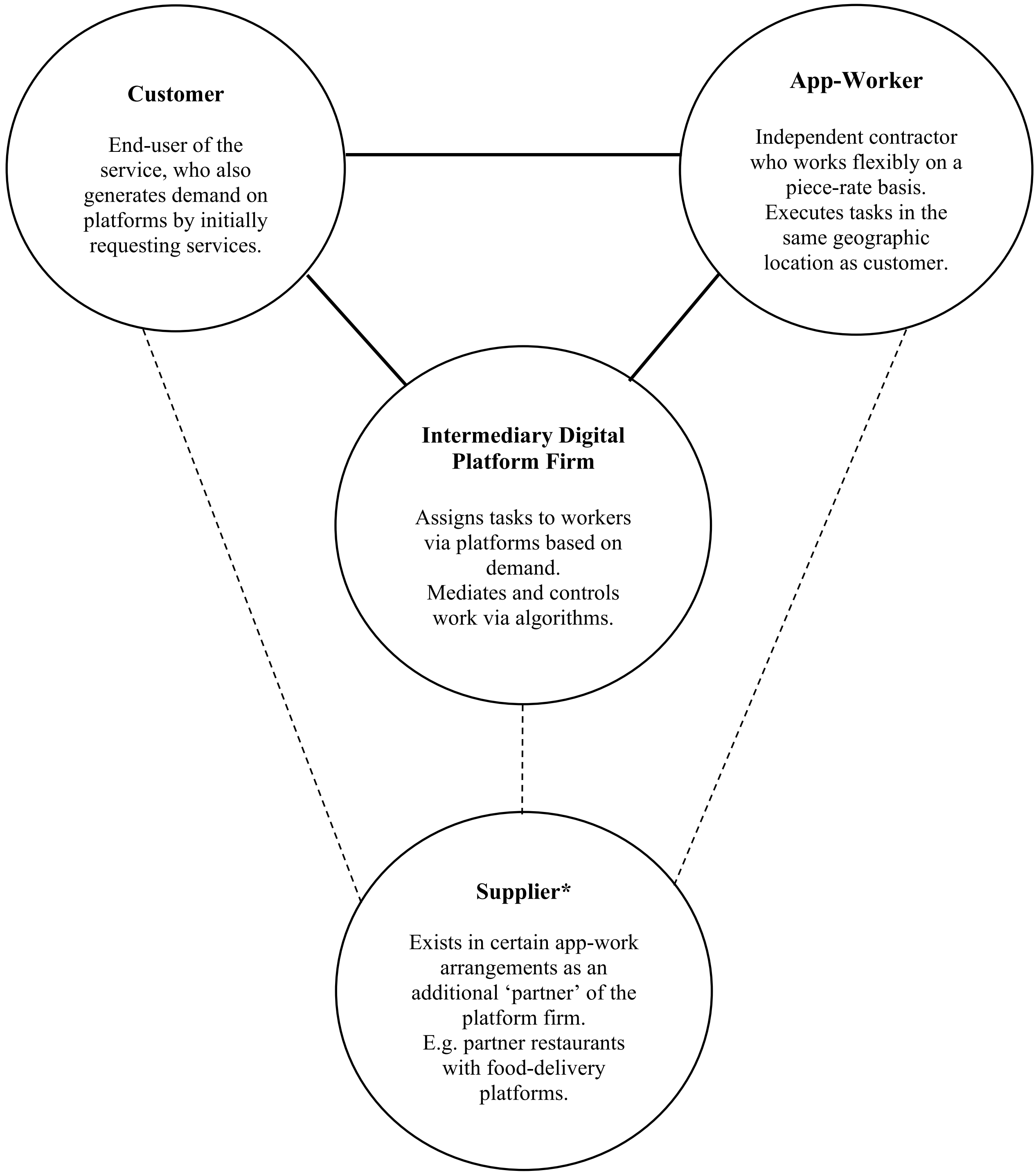
Wiechers, H., Coyle-Shapiro, J.A., Lub, X.D., & Ten Have, S. (2019). Triggering Psychological Contract Breach. In: Y. Griep, & C. Cooper (Eds.), *Handbook of Research on the Psychological Contract at Work* (pp. 272-291). Cheltenham, UK: Edward Elgar.

Woodcock, J., & Johnson, M.R. (2018). Gamification: What It Is, and How to Fight It. *The Sociological Review*, *66*(3), 542–558.

Wood, A.J., & Lehdonvirta, V. (2019, March 5). *Platform Labour and Structured Antagonism: Understanding the Origins of Protest in the Gig Economy*. Paper presented at the Oxford Internet Institute Platform Economy Seminar Series.

Wood, A.J., Graham, M., Lehdonvirta, V., & Hjorth, I. (2019). Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy. *Work, Employment and Society*, *33*(1), 56-75.

Figure 1: Parties involved in App-Work (cited from Duggan et al., 2020)



**A broken line connects the supplier to other parties to indicate that the supplier only exists in certain app-working arrangements.*

Author Details:

James Duggan is a PhD Scholar in Management at the Cork University Business School, University College Cork, Ireland.

Email: jamesduggan@umail.ucc.ie

ORCID: https://orcid.org/0000-0002-1928-4723

Ultan Sherman is a Lecturer in Management and Organisational Behaviour at the Cork University Business School, University College Cork, Ireland.

Email: ultan.sherman@ucc.ie

ORCID: https://orcid.org/0000-0002-2639-746X

Ronan Carbery is a Senior Lecturer in Management and Co-Director of the Human Resource Research Centre at the Cork University Business School, University College Cork, Ireland.

Email: ronan.carbery@ucc.ie

ORCID: https://orcid.org/0000-0001-8836-2038

Anthony McDonnell is Professor of Management and Co-Director of the Human Resource Research Centre at the Cork University Business School, University College Cork, Ireland.

Email: anthony.mcdonnell@ucc.ie

ORCID: https://orcid.org/0000-0002-9127-2452

Overview of Key Concepts for Index:

Algorithmic management

A system of control where self-learning, digital algorithms are given the responsibility for making and executing decisions affecting labour.

App-work

A specific variant of gig work, which is driven by customer demand and executed exclusively in local markets via an intermediary digital platform firm.

Multi-party working relationship

A working relationship involving multiple parties. In gig work, this typically includes at least three distinctive parties: the worker, the platform firm, and the customer.

Psychological contract

An alternative perspective on the employment relationship which examines the mutual promise-based expectations that parties have of one another and how these implicit expectations impact behaviour.