Damion Jonathan Bunders

Gigs of their Own

can platform cooperatives become resilient?

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Eigen klussen:
kunnen platformcoöperaties veerkrachtig worden?

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To my parents
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1. Introducing the study of platform cooperatives

In May 2021, people in New York City got access to a new app to order a taxi much alike the already existing ride-hailing platforms of Uber and Lyft. While its service to consumers is practically the same, The Drivers Cooperative differs from incumbent firms by being owned and controlled by drivers themselves instead of outside investors. Their mission is ”to end exploitative conditions in the for-hire vehicle industry through system change– putting drivers in the driver’s seat of the platform economy” (The Drivers Cooperative, n.d.). Counting over 9000 worker-members as of 2023 (The Drivers Cooperative, 2023), this platform cooperative pays its drivers 8-10% more on each trip than Uber and Lyft do, returns all profits to drivers, provides drivers with democratic control over organisational decisions, and all of this while remaining competitively priced for consumers. On the other side of the Atlantic, in 2017-2018, a similar cooperatively owned ride-hailing platform called Faircab was under development in London (see also Chapter 3). It got momentum and held a successful crowdfunding campaign when Uber was (temporarily) banned by the regulator Transport for London. Nevertheless, Faircab failed to become operational and its organisers pulled the plug in early 2019. Beyond the successful example of The Drivers Cooperative and the failed example of Faircab, most platforms continue to be investor-owned and membership of a platform cooperative is rare. This suggests that there are substantial challenges of organising a platform cooperative and getting people to participate as members, but also that under certain conditions these challenges might be overcome. Therefore, the dissertation aims to understand the conditions for platform cooperatives to be successful.

Platform cooperatives are mostly discussed in response to the emergent gig economy (Scholz & Schneider, 2016; Schor, 2020). The gig economy provides paid project-based service jobs, often to solo self-employed workers, that are organised via labour market intermediaries, such as

platforms (Koutsimpogiorgos et al., 2020). Gig work is not restricted to one part of the labour market, but ranges from low-skilled logistics jobs to high-skilled knowledge work (Vallas & Schor, 2020). The gig economy includes both remote online services like web design and local on-site services such as food delivery (De Stefano, 2016). Currently it comprises a minor share of the overall economy, with 4.3% of the working age population in Europe performing gig work via a platform in the past year (Piasna et al., 2022). Still, the impact of the gig economy is substantial. In public debates, the gig economy is often portrayed as offering a glimpse at the future of work in which gig work will cover a much larger share of the economy (Kessler, 2018; Sundararajan, 2016). Viewed positively, the gig economy provides economic opportunities to (marginalised) workers that are more easily accessible than standard employment and greater flexibility in choosing when, where and how to work (Wood et al., 2019a). Following this perspective, the gig economy is driven by technological innovation that answers to changing preferences on both sides of supply and demand for labour. Viewed more negatively, the gig economy provides insecure working conditions and economic dependence of workers on platforms over which they have little to no control (Schor, 2020; van Doorn, 2017). Following this perspective, the gig economy is driven by political choices about labour market flexibilisation and permissiveness towards big platform companies.

Most investor-owned platforms frame themselves as digital marketplaces that merely allow individuals to engage in peer-to-peer transactions (Frenken & Fuenfschilling, 2020), which excludes those in charge from the responsibility of being an employer of gig workers, liability for user behaviour, and other obligations to stakeholders. This situation presents difficulties for traditional labour market institutions – commonly based on the existence of an employment relationship between supply and demand of labour – in regulating the gig economy. Being in (false) self-employment or other forms of non-standard employment, gig workers are usually excluded from labour protections in modern welfare states and collective representation in unions or employers' associations (Woodcock & Graham,

2020). In effect, by their control over data and algorithms and by setting the terms and conditions, platforms can be understood as corporations who act as private regulators on the digital markets that they create (Frenken & Fuenfschilling, 2020; Lehdonvirta, 2022). Positioning themselves outside the obligations of traditional employers, investor-owned platforms aim to maximise shareholder value without having to align with the interests of workers or other stakeholders. Yet, by doing so, these investor-owned platforms jeopardise their own sustainability in the long-term as governments may issue bans and unions may fight them in court (Stewart & Stanford, 2017; Thelen, 2018). For example, in the Netherlands unions have won court cases against Deliveroo and Helpling (Koutsimpogiorgos et al., 2023).

In response, platform cooperatives owned and governed by gig workers have emerged as an alternative form of organisation (Scholz & Schneider, 2016; Schor, 2020). For example, CoopCycle was founded as a cooperative alternative to investor-owned bicycle delivery platforms like Deliveroo (also see Chapters 2-3). A cooperative is "an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise" (International Cooperative Alliance, 1995b). Instead of having voting power based on the number of shares, cooperative members can participate indirectly (e.g. electing a board) or directly (e.g. during a general assembly) with one vote each in organisational decisions (Vieta et al., 2016). Members may also share in profits or have a say over how these are reinvested, but cooperatives do not usually aim to maximise profit by limiting dividends in their regulation. In recent years, cooperatives in which workers are members have experienced a sort of renaissance (Cheney et al., 2014). Whereas Zamagni described the 20th century as "no place for [worker] cooperatives" (2012, p. 31), the demand for these cooperatives arises during the 21st century from needs that are unfulfilled by retreating welfare states and declining unionisation (Jansen & Akkerman, 2014; Moulaert & Ailenei, 2005). New considerations for starting or participating in a worker cooperative may involve the desire to unite a secure livelihood with the

flexibility of gig work (Eum, 2019; Schneider, 2018). In addition, the gig economy is labour intensive and organised via platforms, which could lower barriers for worker cooperatives in terms of capital requirements and simplify their governance via digital means of participation (Belloc, 2019).

The goal of this dissertation is to understand success in platform cooperatives of gig workers, but there are various criteria for (not) being successful. On the one hand, it is unlikely that platform cooperatives will beat investor-owned platforms in the short-term or perhaps even ever, because this would require a David versus Goliath scenario. On the other hand, the fact that platform cooperatives exist and that gig workers join them could be viewed as concrete utopias that will inspire alternative futures. Cooperation requires people to keep participating and to generate value for participants, that is when it might be considered resilient (Hall & Lamont, 2013). Hence, I define success as the organisational resilience of platform cooperatives. Resilience refers here to the ”capacity of groups of people bound together in an organisation […] to sustain and advance their well-being in the face of challenges to it” (Hall & Lamont, 2013, p. 2). For instance, organisations are more resilient when they have the ability to bounce back in the face of shock. Success in terms of impact assessments or comparisons to other institutions trying to regulate the gig economy (e.g. governments, unions) both fall outside the dissertation’s scope. Therefore, this dissertation addresses the following overall research question:

Under what conditions can platform cooperatives of gig workers become resilient?

In what follows, I introduce the research topic, rationale, approaches, and core findings. First, I trace the origin of platform cooperatives in the history of worker cooperativism and the development of the internet. I then argue why it is at all relevant to study platform cooperatives of gig workers, considering they are still a small phenomenon. In the next section, I explicate the institutional perspective on collective action theory that is taken by this

dissertation. Subsequently, I explain the methodological approach of the empirical chapters. As a final point, I summarise each of the chapters in this dissertation.

1.1 On the origin of platform cooperatives

The concept of platform cooperatives was first introduced in the United States by academics who were critical of the gig economy and the control of platforms over the internet as a whole (Schneider, 2014; Scholz, 2014; Schor, 2014). Some platform cooperatives like Stocksy United, a marketplace for stock images owned by creators, already existed before the concept was introduced, but most were founded after 2014. Platform cooperatives did not emerge out of nowhere, but in the context of structural drivers. I situate platform cooperatives in the historical opportunities and demand for worker cooperatives as an alternative organisational form to the status quo, and in the historical modes of control over the internet.

Frenken (2017) suggests that researchers on platform cooperatives could leverage knowledge from the two centuries long history of cooperatives, for instance, by merging this history with the new cooperative developments in the gig economy. In this section I will attempt to do just that, focussing on the Global North. The first phase of worker cooperatives took hold in the late nineteenth century as a reaction against poverty and exploitation during the Industrial Revolution (Rothschild, 2009), but also in between the regulatory vacuum between the dawn of guilds (in Europe) and the rise of states as economic actors (Moulaert & Ailenei, 2005). That is, there was both demand and opportunity for worker cooperatives to emerge.

The second phase of worker cooperatives, since around the 1940s, took place in a Fordist economic context of deskilling and strict hierarchical control, while the Great Depression and pressure from labour movements ushered in a state-regulated capitalism. The opportunities for worker cooperatives decreased, because much of the demand for worker protections and welfare was already expressed in national politics and especially in Europe through

the labour movement (Moulaert & Ailenei, 2005). Nonetheless, it was also during this period that state support allowed new worker cooperatives to start and some of the largest worker cooperatives of all time were established (Rothschild, 2009), such as the famous Mondragón Cooperative in the Basque region of Spain. Different considerations for starting or joining a worker cooperative became important during the second phase. In contrast to the deskilling of work under Fordist production, education gained a prominent role in worker cooperatives. In addition, worker cooperatives provided a vehicle for political expression of social justice ideals (Baskaran, 2015). Reflecting the wider cultural shifts and social movements of the 1960s, empowerment through workers' collective ownership and democratic self-management became increasingly central to worker cooperatives (Gupta, 2014).

The current phase of worker cooperatives, starting near the end of the twentieth century, can be seen as a response to the retreating welfare state, declining unionisation, and flexibilisation of labour markets (Moulaert & Ailenei, 2005). Globalisation and the rise of service sectors triggered a decline of the standard employment relationship in favour of non-standard employment, including gig work since the gig economy is a product of those same historical forces (Stanford, 2017; Woodcock & Graham, 2020). Between 2008 and 2018, standard employment declined modestly from 60% to 59% in the European Union and United Kingdom overall, with stronger declines in countries such as the Netherlands and Estonia (Eurofound, 2020). Crucially, non-standard employment tends to exclude workers from labour and social rights precisely because these rights are so strongly connected to standard employment in most countries. While 12.3% of the global working population was a member of a union in 2008, union density decreased to 11.2% in 2019 (International Labour Organization, 2022). When looking at young people (aged 16-25) in high-income countries, union density even halved from 21% in 1995 to 11% in 2015 (International Labour Organization, 2022). Hence, there is an opportunity for worker cooperatives to fulfil the

demand by gig workers and others in non-standard employment for welfare and protections against insecurity (Eum, 2019).

The origin of platform cooperatives is also intertwined with the history of the internet, particularly who controls it. Spurred by the Soviet Union's satellite launch of Sputnik in 1957, the United States started a military-university collaboration in the form of the Advanced Research Projects Agency (ARPA). From the creation of ARPANET in 1969 and the Transmission Control Protocol in 1974, the internet was born. Under public ownership until the late 1980s, the internet developed as a universal language that allowed different computer networks to communicate with each other (Tarnoff, 2022). Despite growing beyond its initial user base, this early internet still had a steep learning curve and limited functionality.

Mass privatisation of the internet in the 1990s brought the World Wide Web to households around the world and opened it up for commercial use (Tarnoff, 2022). However, early internet marketplaces struggled with the problem of exchange: "should you or should you not trust the other party and send your goods or payment as agreed?" (Lehdonvirta, 2022, p. 21). As the number of internet users exploded, repeat interactions with the same person became less common, which disfavoured spontaneous cooperation based on reciprocity (Axelrod & Hamilton, 1981). Reputation systems, which allow buyers and sellers to rate each other visibly to all users, were first created by eBay in 1996 to secure trust between strangers online. Lehdonvirta (2022) describes how the weaknesses of reputation systems, such as reputation inflation due to the fear of retaliation, eventually led eBay to act as private regulator and enforce social order. After the burst of the dot-com bubble in 2000 and especially since the 2008 financial crisis, the platform model pioneered by eBay became the dominant one for the web (Helmond, 2015). Platforms function as technological infrastructures for others to develop products or services on, but also as two-sided markets whose indirect network effects make platforms who attract the most buyers also the most attractive ones for sellers and vice versa (Gawer, 2014). These characteristics

resulted in a small number of platforms coming to dominate the internet, both in scale, market value and control exercised over users (Muldoon, 2022; Srnicek, 2017).

The scale of and control by a handful of large platforms makes it increasingly difficult for platform companies to sustain the framing that they are merely intermediators (Frenken & Fuenfschilling, 2020; Lehdonvirta, 2022). Platforms govern through practices such as content moderation, terms of service, user dispute settlement, and design decisions about algorithms (Gorwa, 2019; van Dijck et al., 2018), which they are also expected to do under national and international laws for industry self-regulation. However, the current situation leaves platform governance up to the goodwill of platforms and therefore sparks concerns about democratic legitimacy (Haggart & Keller, 2021). The internet's democratic deficit provides an impetus for developing new top-down intervention by governments, but also prompts new bottom-up community organisations like platform cooperatives (Schor, 2020). One limitation of top-down interventions is that many platforms are transnational, which would limit public accountability to the countries where most platforms are headquartered (i.e. United States, China). Instead, bottom-up community organisations can in principle be controlled and held accountable by users across the world (Lehdonvirta, 2022). Various forms of community self-organisation have existed since the early days of the internet. For example, community-owned networks like the Rural Broadband Cooperative that bring fast internet connection to rural regions (Tarnoff, 2022) or forms of peer production in the free and open-source software movement such as Wikipedia and Linux (Benkler, 2002). Building on this rich tradition, cooperative models for platform governance respond to recent calls for a more democratic internet (Scholz & Schneider, 2016).

1.2 Rationale for studying platform cooperatives of gig workers

One might expect platform cooperatives to spread widely in the gig economy, based on the historical account of how they emerged. Proponents sometimes assume "that as the advantages of [platform] cooperatives become clear, they

will grow by a kind of cloning process (the better economic model thesis), finally reaching a critical mass that will transform society. History, however, does not favour this hypothesis" (Marszalek, 2017, p. 58). Worker cooperatives have always been the least common type of cooperative, especially when compared to consumer cooperatives in retail or producer cooperatives in agriculture (Zamagni, 2012). Although it is difficult to say exactly how many platform cooperatives there are or how many gig workers are a member of one, it is clearly a small phenomenon in the gig economy as a whole (Schor, 2020). That may or may not change in the future, but the vast resources and established position of investor-owned platforms make it an uphill battle. Therefore, one may wonder why it is at all relevant to study platform cooperatives of gig workers.

Since sociologists of work usually associate labour market flexibilisation with individualisation (Jansen & Akkerman, 2014), and gig work is highly flexible, individual attempts at improving work conditions would be expected in the gig economy. Gig workers are indeed atomised, by competition for short-term jobs and by geographical and social separation from co-workers, which would render them less effective in taking collective action owing to a lack of solidarity and places to self-organise (Lehdonvirta, 2016). Platforms often have a frequently changing workforce, with gig workers being variably dependent on the platform for earning their main or supplementing income (Schor et al., 2020). In turn, this complicates finding shared interests. Gig workers may fear their account being suspended by the platform if they join a protest (Bucher et al., 2021). As collective bargaining is closely tied to the standard employment relationship (Breman & van der Linden, 2014), gig workers are also excluded from this form of collectivism. All things considered, many would thus consider gig workers to be unorganisable.

Not only is there a gap in the literature on how collective action works in the gig economy, and a dearth of research on platform cooperatives specifically, its very existence challenges how collective action has been theorised

hitherto (Tassinari & Maccarrone, 2020). Against the odds, empirical observations suggest that multiple forms of collective action are undertaken in the gig economy, ranging from street protests against Uber to online community groups by workers of Amazon Mechanical Turk (Graham & Shaw, 2017; Johnston & Land-Kazlauskas, 2019; Lenaerts et al., 2018; Vandaele, 2018). Platform cooperatives are an extreme case of collective action, demanding a lot more from participants than collective actions like signing a petition. It is a form of collective action where gig workers control their own platform, outside of the established investor-owned platforms, that grants them access to working conditions and shared benefits they would otherwise not have. Despite collective action by gig workers seeming unlikely in theory, it does occur in practice and research suggests that gig workers are quite willing to self-organise (Newlands et al., 2018; Wood & Lehdonvirta, 2021). This dissertation addresses that puzzle by assessing the conditions under which platform cooperatives of gig workers can become resilient.

The study of platform cooperatives is relevant for society, because it provides insight into the potential and drawbacks of these organisations as an alternative to the controversial but dominant investor-owned platforms. Moreover, research on platform cooperatives sheds light on the possibilities of collective action in an increasingly uncertain world characterised by globalisation and individualisation (Hall & Lamont, 2013). Understanding how platform cooperatives can become resilient, thus sustain member participation and provide value to members, can help to inform policymakers about ways to support them and when to reject them. Similar to how functions of worker cooperatives have historically been taken over by different institutions like the welfare state or unions (Moulaert & Ailenei, 2005), the study of platform cooperatives may inform regulation of the gig economy more broadly too. Therefore, most proponents of platform cooperatives see them as complementing and not substituting other interventions (Muldoon, 2022; Scholz & Schneider, 2016; Schor, 2020; Tarnoff, 2022).

1.3 Institutional perspective

A central tenet of sociology is the question of social order, which focuses on how cooperation breaks down or is maintained (Ultee et al., 1996). In situations where people would be better off collaborating, they must deal with conflicting individual interests that might keep them from doing so. Otherwise, the outcome will be suboptimal to both group and individual. For example, food delivery riders involved in a protest for better working conditions need to invest time and face the risk of being banned by the platform while those not participating still benefit if the protesters' demands are met. Hence, all riders are less likely to join the protest and the working conditions stay the same. Social scientists describe these situations as social dilemmas or collective action problems (Corten, 2019; Olson, 1965). One would expect social dilemmas to feature heavily in platform cooperatives of gig workers, not least because the associated costs of starting or participating in a platform company that is run by its workers make free-riding behaviour highly attractive. For example, gig workers might join for the benefits but not participate in collective decision-making and continue taking jobs from investor-owned platforms.

In order to solve social dilemmas, theorists of collective action have studied motivational, strategic, and structural solutions (Kollock, 1998). Motivational solutions are based on other-regarding preferences (Fehr & Schmidt, 1999), implying that individuals are not purely egoistic but take the outcomes of others into account. Strategic solutions instead rely on recurring interactions (Axelrod & Hamilton, 1981), thereby allowing individuals to reciprocate the past cooperation or defection of others. Finally, structural solutions intervene in the social dilemma by changing the institutional 'rules of the game' that structure interaction (North, 1990). Since competition makes other-regarding preferences an unstable basis for cooperation in the gig economy and isolation limits recurring interactions among gig workers

(Corten, 2019), the focus here is on platform cooperatives as a structural solution.

The institutional literature is large and contains manifold definitions of what institutions are. Hall and Taylor (1996) distinguish rational choice, historical, and sociological institutionalism. Rational choice institutionalists conceptualise institutions as "humanly devised constrains that shape human interaction" (North, 1990, p. 3) and "equilibrium ways of doing things" (Shepsle, 2006, p. 26). Institutions are then instrumentally designed or negotiated by strategic individuals in order to optimise the realisation of their preferences. Historical institutionalists instead define institutions as formal rules and informal procedures "that shape how political actors define their interests and that structure their relations of power to other groups" (Steinmo et al., 1992, p. 2). Different from rational choice institutionalists, they see individual preferences and not just interaction itself as structured by institutions. Historical institutionalists also argue that institutions are historically contingent and can have unintended consequences, instead of being completely the product of purposeful action by individuals. Finally, sociological institutionalism refers to institutions as shared cognitions or cultural frames of reference "that constitute and constrain legitimate action" (Powell & DiMaggio, 2012, p. 10). Distinctive to sociological institutionalists is an understanding of institutions as the product of social interaction between individuals about what actions are considered legitimate.

The three schools of institutionalism each have their strengths and weaknesses, but they are not necessarily mutually exclusive. In this dissertation, I use an integrated perspective provided by the work of Elinor Ostrom: "institutions are enduring regularities of human action in situations structured by rules, norms, and shared strategies" (Crawford & Ostrom, 1995, p. 582). Crucially, this definition does not rest on institutions as mere constraints, nor does it assume a single way that institutions might emerge or change. Instead, the definition invites empirical research on institutions in all their diversity (Ostrom, 2005).

Like Ostrom's seminal work (1990), this dissertation focuses on a particular kind of institutions that differ from both the state and the market. Institutions for collective action are devised by groups of people that pool together natural and/or human-made resources in order to achieve common goals, following a set of collectively imposed regulations over a prolonged period of time (Ostrom, 1990). Ostrom disproved the idea that shared resources are inevitably overexploited by user-groups to the point of depletion. Until then, this had been the dominant way of thinking about common-pool resources (Hardin, 1968). Instead, she found that user-groups are in fact able to govern shared resources in a sustainable way, given that a number of conditions referred to as design principles are fulfilled. Institutions for collective action arose historically and sometimes existed for centuries in organisational forms such as commons and guilds (De Moor, 2008), while more modern forms include mutual insurances, trade unions and cooperatives (Moulaert & Ailenei, 2005).

To assess the conditions under which platform cooperatives of gig workers can become resilient, this dissertation builds on De Moor's (2021) Strategies of Institutions for Collective Action in Development (SICADE) framework. Following the SICADE-framework, institutions for collective action involve three elements: members, resources, and institutions (see Figure 1.1). In this dissertation, these elements are specified to worker-members, labour and capital resources, and cooperative institutions. First, worker-members are those actors who share the bundle of property and control rights of the organisation for which they work (Zamagni, 2012). Second, labour is the central resource that worker-members pool together, which yields them income and other benefits in return. Additionally, they may be required to invest some capital resources upon joining the cooperative. Profit is usually placed in a collective fund for reserves, reinvestment, and member-benefits (Dow, 2003). Third, institutions are stipulated by the cooperative to structure access, use and governance of shared resources. These institutions are formed on the basis of collective decision-making, either directly (e.g. by members

having one vote each in the general assembly) or indirectly (e.g. by members electing a board to take care of daily coordination) (Vieta et al., 2016). Fundamental rules and procedures are laid out in the bylaws, a kind of constitution for the cooperative, whereas other institutions are codified in different documents or can be found in the norms and shared strategies of members.

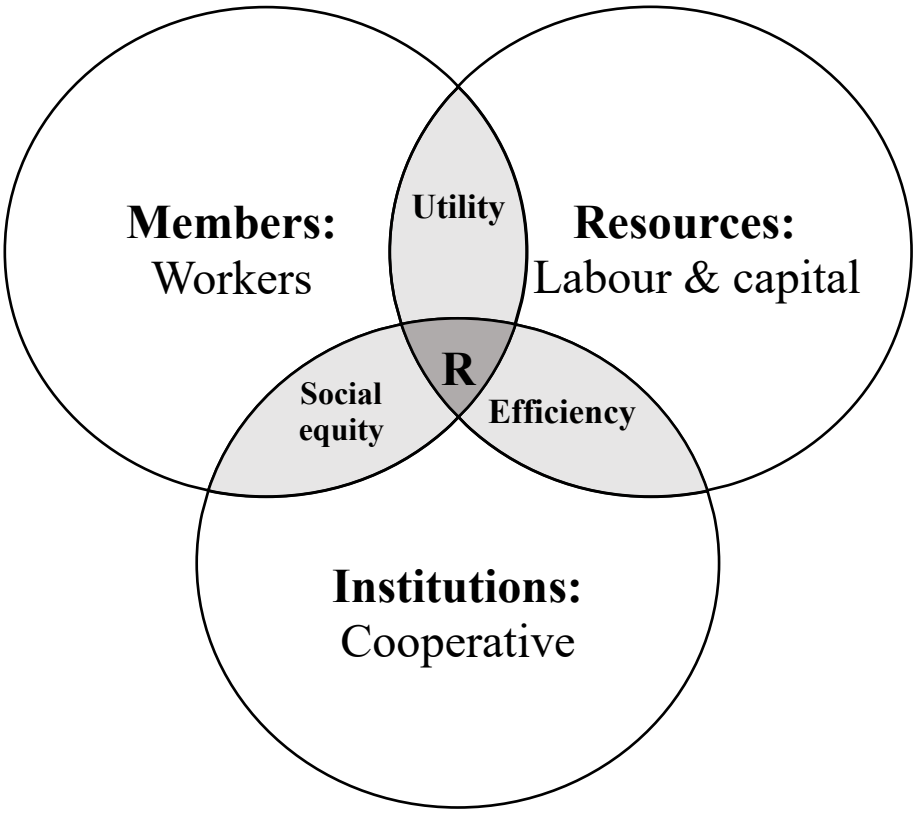

Figure 1.1 SICADE-framework applied to platform cooperatives of gig workers (adapted from: De Moor, 2021). Note: R = Resilience.

Cooperation can be resilient to a larger or smaller extent, depending on the capacity to sustain participation and the creation of value for participants in the face of challenges (Hall & Lamont, 2013). I use the SICADE-framework

to derive a set of challenges to the resilience of cooperation, based on the relationship between members, resources, and institutions. First, these three elements need to be combined to start a cooperation. The strength of the SICADE-framework is typically in analysing organisational longevity, but with platform cooperatives there can be challenges with initial feasibility too. Creating a platform cooperative likely involves tensions that the founding members must bear (Audebrand, 2017), while members who join later only reap the benefits. This social dilemma presents a challenge right from the start of a platform cooperative and may hinder their development. Since resilience presupposes initial feasibility of cooperation, I examine challenges during the development of platform cooperatives in Chapters 2 and 3.

Second, utility refers to the creation of value for members through collective resources. In particular, platform cooperatives may create value for gig workers by offering them preferred working conditions as members. However, if gig workers do not gain their preferred working conditions, then why would they stay on as committed members of a platform cooperative? As gig workers likely hold many different preferences, this presents another social dilemma of finding shared interests or risk facing high exit rates of members (Hansmann, 1996). I therefore examine challenges around utility in Chapter 4.

Third, social equity signals the degree that members participate in shaping the institutions. If only a handful of members makes all the decisions, for instance those on the board, then a cooperative starts to resemble a conventional firm and may cease to exist as a cooperative (Miyazaki, 1984). However, since each member's vote is unlikely to make a difference on its own, they might not make the effort to participate – presenting yet another social dilemma. In Chapter 5, I focus on challenges of social equity.

Fourth, efficiency relies on the capacity of institutions to sustain resources by preventing and keeping overuse in check. As the collective budget of platform cooperatives is subtractable, it is likely to deplete if gig workers can

freely use the benefits provided by platform cooperatives without restrictions (Hardin, 1968). For example, gig workers might join a platform cooperative but continue to accept gigs from investor-owned platforms (i.e. side-selling). Following Ostrom (1990), this 'tragedy of the commons' can only be prevented by design of institutional arrangements that regulate overuse and under-contribution. The challenge of efficiency is addressed in Chapter 6.

1.4 Methodological approach

It is difficult to study platform cooperatives of gig workers because there are few and they are a new form of organisation that is not tracked by national registers, which complicates empirical data collection. Others have evaded this difficulty by refraining from empirical study altogether and relying only on theoretical reasoning. Belloc (2019), for instance, models the per-capita earnings of gig workers in a platform cooperative compared to an investor-owned platform under various hypothetical conditions. He concludes that when capital costs are positive, investor-owned platforms are able to pay more and thereby attract workers at the expense of platform cooperatives. However, per-capita earnings may not be the only or even most important benefit that workers take into consideration as utility, and investor-owned platforms may not pay a wage premium in practice. Sandoval (2020) provides a critique of platform cooperatives based on a Marxist and Foucauldian perspective. Her core argument is that economic pressures of competition and resource dependence are likely to result in either business failure or mission drift. Nevertheless, economic pressures may still "leave cooperatives some choices to develop more democratic forms of management" (Cornforth, 1995, p. 490).

History teaches that pundits and scholars have often glorified or dismissed worker cooperatives on theoretical grounds (Dow, 2003), while empirical research disproves many of the long-held assumptions about them (Pérotin, 2013). In the same vein, dominant ideas about the supposed inefficiency of common-pool resource management were refuted by Ostrom (1990). Most of the existing literature on platform cooperatives currently focuses on

imaginaries of potential futures (Frenken, 2017; Schneider, 2018). Therefore, it is important to go beyond theorising on platform cooperatives by testing ideas and expectations against reality. Following Brenner and Theodore's (2002) approach to studying "actually existing neoliberalism", as an idea that often manifests differently in practice than in existing theories, this dissertation examines actually existing platform cooperatives.

Looking at actually existing platform cooperatives comes with a risk, namely selection bias. The platform cooperatives that exist might be exceptional cases that were able to become resilient organisations, despite all challenges, while many others failed or never made it past the drawing board. In Chapters 2 and 3, I explicitly confront this selection bias by including failed cases next to ones that are still operational. It is impossible to fully overcome selection bias, since initiatives never undertaken can also not be identified for research. It is therefore pertinent to look at active cases. Geographically, my scope is limited to the Global North, where up until now most platform cooperatives are located (Mannan & Pek, 2021).

The research design consists of two stages. Chapters 2 and 3 focus on the initial feasibility of platform cooperatives, as there can be no organisational resilience if the starting up fails already. In this exploratory stage of the research, I selected active and failed cases in a wide variety of sectors of the gig economy, from low to high skilled and both online and on-site tasks. By doing so, I was able to examine the breadth of platform cooperatives as a phenomenon and identify which platform cooperatives are likely to make it past initial feasibility to the more long-term challenges for organisational resilience. It also allowed for building rapport with founders of platform cooperatives and some of their stakeholders, which helped with asking questions that are relevant for practice and gaining access for data collection in the next stage of research. Furthermore, the qualitative methodology of Chapter 3 enabled openness to gaining new insights about the relatively understudied topic of cooperative development.

In Chapters 4-6, I selected cases in the professional service sector because, based on Chapter 2, the initial feasibility would be higher for that sector. This made it possible to study more long-term challenges to resilience: the creation of value for members (utility), participation of members in shaping the institutions (social equity), and design of institutions to curb opportunistic overuse or under-contribution to collective resources (efficiency). In this second stage of the research, a more quantitative approach was adopted by using established measurements and techniques. Doing so allows for the findings of this research to become more comparable to previous and future studies, thereby systematically contributing knowledge to the existing literature. Table 1.1 provides an overview of the sub-questions and methods covered by each chapter.

Table 1.1 Overview of methodologies in dissertation chapters

Chapter	Sub-question	Methodology
2	To what extent can the emergent platform cooperatives be a feasible alternative to investor-owned platforms currently operating in the gig economy?	Theoretical assessment on an inventory of platform cooperatives
3	What tensions do platform cooperatives face from competing demands during their formation, and how do founders manage these tensions?	Qualitative analysis of semi-structured interviews with founders and archival data
4	To what extent do preference deviation and social disembeddedness negatively affect gig workers' commitment as members of a cooperative?	OLS regression analysis on survey data of members
5	What explains the participation of worker-members in the decision-making of platform cooperatives?	Logistic regression analysis on survey data of members
6	How are regulative institutions used to curb members' opportunism in a	Content analysis on bylaws and other rule documents

1.5 Chapter overview

The feasibility of platform cooperatives in gig economy sectors

In Chapter 2, I assess the feasibility of emergent platform cooperatives across sectors of the gig economy. While the idea of platform cooperatives quickly gained traction among critics of the working conditions on investor-owned platforms, it is unclear what a cooperative enterprise in the gig economy entails. Based on an understanding of gig work as paid short-term service jobs, I develop a taxonomy of cooperative types along two dimensions: platform ownership and member employment status. This allows for a narrow definition of platform cooperatives (i.e. worker cooperatives that employ gig workers and own a matchmaking platform), but also for wider conceptualisations that include producer cooperatives with solo self-employed members or cooperatives that do not own a matchmaking platform but intermediate gig work differently. Platform cooperatives are then examined as worker-run matchmaking platforms for gigs, by analysing their challenges, highlighting the difficulties to raise capital, find shared interests, and dispute investor-owned platforms. On the basis of a feasibility analysis (23 active and 8 failed cases), I conclude that the identified challenges can most likely be overcome by platform cooperatives that organise taxi-rides and professional jobs, while it may prove much more difficult in food delivery, homecare, and online micro-tasks.

Managing tensions during the development of platform cooperatives

In Chapter 3, I examine the tensions that platform cooperatives face from competing demands during their development and how founders manage these tensions. I conducted semi-structured interviews with the founders of 15 platform cooperatives (11 active and 4 failed cases) across a variety of gig economy sectors and European countries. The analysis employs paradox theory to unveil how the management of tensions gives birth to and matures

platform cooperatives when done so successfully, but results in an untimely death of the organisation if one tensional pole remains dominant. Salient tensions in the gig economy, such as the one between worker and entrepreneur identities, motivate the development of platform cooperatives as a way of coping. However, since these paradoxical tensions are integrated by creating a platform cooperative, they continuously resurface during the development resulting in vicious cycles when one tensional pole remains dominant (e.g. either worker or entrepreneur identities) and virtuous cycles when both tensional poles are embraced (e.g. as worker-entrepreneurs). Therefore, this chapter concludes that paradoxical tensions are a double-edged sword for platform cooperatives: motivating their development, but also being a cause for failed market entry.

Member commitment to platform cooperatives

In Chapter 4, I study whether the fragmented nature of gig work stifles the commitment of gig workers to staying on as member of platform cooperatives. I gather and analyse survey data on the members of four platform cooperatives in Italy that consist of gig workers in the cultural, ICT and education sectors ($n = 425$). Based on the cooperative literature, I expect that members with preferences for working conditions that deviate more from what the cooperative provides them will have a lower commitment whereas members who are more socially embedded in relations with other members will have a higher commitment. Preference deviation and social disembeddedness both reflect an unsatisfying socioeconomic relationship between members and the cooperative as a whole, thereby inciting members to re-evaluate their commitment to the cooperative. Using OLS regression analyses, I find that members with more deviating preferences and less social embeddedness among fellow members indeed have a lower commitment towards their cooperative. These results suggest that shared preferences and social relations between peers are key for gig workers' commitment to platform cooperatives.

Member participation in the decision-making of platform cooperatives

In Chapter 5, I analyse the extent to which members participate in the decision-making of platform cooperatives. Using the same survey data as in Chapter 4, albeit with a slightly smaller analytic sample (n = 418), I particularly look at factors associated with participation in the decision-making of traditional worker cooperatives. Building on political sociology and the cooperative literature, I expect that members will be more likely to participate in decision-making when they are part of smaller memberships, more committed to staying in their cooperative, more embedded in social relations with peers, and more highly skilled. Based on logistic regression analyses, I show that members with higher affective commitment towards their cooperative and more social capital among other members are more likely to participate, but that there is no effect of cooperative membership size and human capital. These results are interpreted in light of the similarities and differences between platform cooperatives of gig workers and more traditional worker cooperatives.

Institutions for collective resource management in platform cooperatives

In Chapter 6, I investigate the design of institutions by platform cooperatives aimed at sustaining collective resources. Using the institutional grammar approach, I conduct a content analysis on the bylaws and other regulatory documents of a large and diverse cooperative of gig workers in Belgium covering the period before, during, and after the height of the COVID-19 pandemic (2017-2022). The literature on collective resource management offers no clarity on whether such cooperatives are able to design rules to address opportunism and whether rules evolve in the face of external shocks. Based on the analysis of 412 rules, I find that external shocks with sudden resource scarcity (COVID-19) do not necessarily motivate rule changes while external shocks without an effect on collective resources (new national legislation) can motivate rule changes. The study also provides support for the notion that cooperatives with a large and heterogeneous membership design rules to mitigate opportunism.

Wrap-up

In the final Chapter 7, I bring together all findings of this dissertation to draw conclusions about the overall research question. I then present the contributions to theorising on institutions for collective action and to the gig economy literature. Finally, I reflect on the main limitations of this dissertation and sketch an agenda for future research.

2. The feasibility of platform cooperatives in gig economy sectors

2.1 All talk and no action?

During the last decade, we have witnessed a proliferation of online platforms that match the supply and demand of flexible labour. Such online platforms mediating flexible labour are generally classed under the term "gig economy" (De Stefano, 2016), and are best-known through examples such as Uber (for taxi rides) and Deliveroo (for food delivery). The rise of these platforms created a lot of turmoil in political arenas, whereby unions, workers and digital activists have expressed their critical views of gig economy platforms as they exercise control over workers without employing them, use algorithms and reviews to assign gigs to workers or rank gigs to clients. Gig workers employed through such platforms are left in a precarious position regarding their wages and income security, while also at risk of discrimination (Schor, 2020).

In the face of political passivity regarding the protection of gig workers, stakeholders increasingly consider platform cooperatives as a solution to the precarity and economic dependence of gig workers (Johnston & Land-Kazlauskas, 2019; Schor, 2020). The idea of platform cooperatives , first introduced in the United States (Schneider, 2014; Scholz, 2014; Schor, 2014), resonated strongly with research critical of the platform economy (Acquier et al., 2017; Gruszka, 2017). Platform cooperatives combine the online infrastructure of a platform to mediate social and economic interaction (Kenney & Zysman, 2016) with the collective ownership and democratic governance of a cooperative enterprise (Zamagni, 2012). While applicable to all kinds of platforms, these platform cooperatives have been most strongly advocated for as an alternative to investor-owned gig platforms like Uber and Deliveroo (Scholz, 2016). As owners of a platform cooperative, gig workers can create the conditions for better pay and job security because they decide themselves over commission rates and surplus value. Legal issues

concerning their self-employed status could be solved as well because, in principle, gig workers can either continue to do their work as self-employed (in a producer cooperative) or as employee (in a worker cooperative), depending on the form of cooperative that is chosen. Either way, the issues that arose in the regular platform economy about employment conditions would be in the hands of the members of the platform cooperative.

The wide support for the idea of platform cooperatives begs the question why we see so few of them. There exist some promising examples (collected in directories of The Internet of Ownership (2016) and Platform Cooperativism Consortium (2021)), but the number of platform cooperatives remains very small and many are not operational yet. This observation resembles those made by economists over sixty years on the rarity of labour-managed firms (Dow, 2018). Explaining their rarity is not only interesting as an academic puzzle, but has serious implications if we want to consider platform cooperatives as serious alternatives to investor-owned gig platforms.

The question we pose in this chapter, is whether the emergent platform cooperatives can be a feasible alternative to investor-owned platforms currently operating in the gig economy. We will answer this question mainly theoretically rather than empirically given the very limited number of platform cooperatives that are, or have been, operational so far. Our goal is not to demotivate the imagination of cooperative entrepreneurs, but rather to theorise about cooperatives in the specific context of the gig economy and to raise awareness for specific challenges that platform cooperatives are likely to face in specific sectors. The next section discusses the potential of platform cooperatives for the gig economy. Section three evaluates whether classic explanations for the rarity of labour-managed firms also apply to the gig economy concept. We then develop a feasibility analysis from which (un)favourable conditions for platform cooperatives can be derived. Throughout the chapter, our frame of reference is the context of Europe and North-America.

2.2 Types of platform cooperatives

Cooperatives date back to the 19th century and can be defined as "an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise" (International Cooperative Alliance, 1995a). Online platforms, on the other hand, are much more recent, and no agreed-upon definition exists at the moment. For example, the European Commission's working definition was seen as too broad during a public consultation among a wide variety of stakeholders (Gawer, 2020). The definition suffices, however, for understanding platforms in the context of this study: "An undertaking operating in two (or multi)-sided markets, which uses the Internet to enable interactions between two or more distinct but interdependent groups of users so as to generate value for at least one of the groups" (European Commission, 2015, p. 5).

Platform cooperatives must be distinguished from other types of institutions for collective action (Ostrom, 1990) in the platform economy, such as efforts to unionise gig workers and online forums of gig workers (Johnston & Land-Kazlauskas, 2019; Vandaele, 2018). These are more strictly focused on bilateral negotiation with investor-owned platforms (e.g. grass-roots unions) or the pooling of knowledge about platforms and clients (i.e. online forums). And, while unions are generally supportive towards platform cooperatives (Bauwens & Niaros, 2017), the platform cooperative movement is organised quite separately from traditional labour unions. Similarly, existing associations of cooperatives in Europe are also supportive of the idea of platform cooperatives, like Febecoop in Belgium, but have also expressed some doubt whether platform cooperatives can develop a value proposition that is both competitive and sustainable in practice (Como et al., 2016).

Cooperatives may emerge in all parts of the digital economy, such as data cooperatives in which data subjects store and manage their data (Scholz & Calzada, 2021), but equally so they have gained importance as a way to facilitate the sharing of physical goods, such as car-sharing. It is noteworthy

that cooperative carsharing-platforms are shown to be quite successful in the German and Swiss context (Münzel et al., 2018). This particular movement, builds on consumers who co-invest in cars that can then be rented in the neighbourhood. In the discussion addressed here, however, platform cooperatives appear primarily as a solution to the labour conditions and earnings of gig workers (Schor, 2020) and non-standard employment more broadly (Eum, 2019). We use the term gig work here to refer to paid short-term service jobs, and will further specify the dimensions of platform intermediation and employment status below (Koutsimpogiorgos et al., 2020). Two problems stand out in debates on the gig economy: precarity and economic dependency. Precarity implies an externalisation of risks onto self-employed workers (Drahokoupil & Piasna, 2017), while economic dependency refers to the control that platform firms maintain over these workers through algorithmic management and their access to consumers (Schor, 2020). Given these problems, the cooperative model can then be made relevant to the gig economy in four different ways (see Table 2.1).

Table 2.1 Cooperative types by platform ownership and member employment status

	Members are self-employed	**Members are employed**
Cooperative does not own platform	Producer cooperative that does not provide gig workers with labour rights, and does not own a matchmaking platform (e.g. https://decooperatie.org/)	Worker cooperative that does provide gig workers with labour rights, but does not own a matchmaking platform (e.g. https://smartbe.be/)
Cooperative owns platform	Producer cooperative that does not provide gig workers with labour rights, but does own a matchmaking platform (e.g. https://taxiapp.uk.com/)	Worker cooperative that does provide gig workers with labour rights, and does own a matchmaking platform (e.g. https://www.upandgo.coop/)

The first row of the matrix includes cooperatives where gig workers continue to find jobs via an investor-owned platform or via their personal channels,

but gain something else through their membership. These are not platform cooperatives in the narrow sense, but they are closely related. A minimal version is that of gig workers who remain self-employed while also becoming a member of the cooperative to gain access to shared services like co-working spaces, financial advice or insurance. The Dutch producer cooperative of freelance journalists called “De Coöperatie” is an example of this model. In a more extensive variant, gig workers actually become employed by the cooperative to gain labour rights, but without being subjugated and effectively still working as freelancers who get their assignments via an investor-owned platform or via personal channels, also known as quasi-self-employment with functional equivalents to the protections in standard employment (Lorquet et al., 2018). This model has been pioneered by the Belgian worker cooperative Smart, initially intended for artists, but later opened up to all gig workers and expanded to other European countries too. As such, Smart allowed at some point -for example- Deliveroo-riders to join the cooperative as worker-members. While addressing the problem of precarity, these models may be unfit to resolve economic dependency on investor-owned platforms, as illustrated by Deliveroo pulling out of the agreement with Smart after only 18 months (Drahokoupil & Piasna, 2019).

The second row of the matrix consists of cooperatives that own a platform where gig workers can find jobs. These are considered as true platform cooperatives, and correspond to the category of platform cooperatives that manage labour exchange as identified by Calzada (2020). By setting up a platform themselves, gig workers are no longer dependent on unilateral decisions that can conflict with their interests (Schneider, 2018), such as increases in commission rate, selling of personal data, digital surveillance, or being denied access without the possibility to appeal. Instead, members of a platform cooperative can democratically determine (according to a one member-one vote principle) the amount of commission they pay as well as provisions concerning the algorithm, privacy, and access. Again, in a minimal version, gig workers would remain self-employed, but benefit from

their cooperative membership in terms of lower commission rates and a say in the algorithms' workings. This model can be illustrated by Taxiapp, a producer cooperative of black cab taxi drivers in London. While addressing the problem of economic dependency, precarity is left unresolved as most risks are still carried individually. In work settings where precarity is less of a problem, this may of course be well acceptable. The final and only variant that addresses both precarity and economic dependency is one where gig workers are employed by the cooperative and function as one single economic unit with fixed prices and instructions through their own platform. An example of this model is the worker cooperative for home cleaners called "Up&Go" in New York, United States. The present study focuses exclusively on these two latter categories. Thus, in the remainder of our study, the term platform cooperative strictly refers to worker or producer cooperatives that own a matchmaking platform for gigs.

2.3 Why labour-managed firms are so rare

Platform cooperatives, in the form of worker-run matchmaking platforms for gigs, are a subset of labour-managed firms. The observation that platform cooperatives are rare relative to investor-owned platforms mirrors the comparisons made between the prevalence of labour-managed firms and capital-managed firms in general (Dow, 2018). A standard explanation of the low presence of labour-managed firms goes back to Ward (1958) and Domar (1966), who theorised that such firms suffer from a "perverse supply response". This is based on the assumption that as profit increases, labour-managed firms would restrict the number of jobs to increase the income among fewer workers – leading to inefficiencies compared to capital-managed firms. Another early explanation was the horizon problem (Vanek, 1977). Here the argument is that labour-managed firms would underinvest because workers who expect to leave the firm are unwilling to sacrifice income when a return on investment comes only after their departure – leading to comparatively superior innovation in capital-managed firms. A third set of explanations focuses on inferior work incentives in labour-managed firms relative to capital-managed firms (Alchian & Demsetz,

1972). The argument holds that shirking behaviour in teamwork would only be avoidable by a central monitor who rewards workers based on individual productivity, while shirking behaviour by the central monitor needs to be avoided by making this person claim the difference between revenue and costs – resulting in a capital-managed firm.

Nevertheless, a first wave of empirical studies rejected the early explanations above (for an overview, see Bonin et al., 1993). And, more recent studies also show that, compared to capital-managed firms in the same industries, labour-managed firms prioritise employment levels over simply maximising individual member income, do not under-invest in the production process, and are both more productive and survive longer (for an overview, see Pérotin, 2013). Now, theorising has shifted its focus to problems of formation rather than survival as well as to contexts that are (un)conducive to labour-managed firms.

One direction that explanations for the rarity of labour-managed firms has taken is the capital conundrum, which points out that even if labour-managed firms would be more efficient than capital-managed firms, workers fail to finance them out of their own pockets or through external capital because they are too poor and risk averse (Bowles & Gintis, 1990). This burden is even higher when the asset specificity of physical capital is greater than that of human capital (Dow & Putterman, 2000). Empirical studies generally support this explanation, showing that capital requirements inhibit labour-managed firm creation (Monteiro & Stewart, 2015; Podivinsky & Stewart, 2012).

Others maintain that capital-managed firms are still more efficient than labour-managed firms, but with regard to transaction costs instead of productivity (Williamson, 1980). A major explanation for the rarity of labour-managed firms derived from this is the problem of collective choice (Hansmann, 1996). Assuming that preferences of workers with regard to wages and working conditions are more heterogeneous than those of

investors who simply prioritise profit, labour-managed firms would either fail to deliver a coherent set of instructions to managers and the board or suffer from high transaction costs involved with democratic deliberation and bargaining. There is at least some empirical support for this explanation, showing that worker heterogeneity is an obstacle to labour-managed firm formation (Belloc, 2017).

Another explanation is that the viability of labour-managed firms depends on the institutional environment, which means they are established when the benefits of labour-managed relative to capital-managed firms outweigh the costs (Ben-Ner, 1988). If these costs exceed the benefits in a particular context due to its economic, political or social conditions, we will likely observe a lack of labour-managed firm supply. Reversely, demand for labour-managed firms evolves when workers' needs are left unsatisfied by the private and public sector (Moulaert & Ailenei, 2005). Empirical findings show that labour-managed firms are indeed more prevalent, but also obtain greater support by states and unions, where and when capital-managed firms are more contested or market failures exist (Cornforth & Thomas, 1994; Jensen, 2013).

For the purposes of the present study, the analogous question to ask is why platform cooperatives are so rare. Given the scarcity of empirical research on platform cooperatives, it is no straightforward task to evaluate the relevance of these explanations in the gig economy context. We deem three explanations as theoretically relevant to platform cooperatives. First, even though the gig economy is predominantly labour intensive, the capital conundrum also holds for the formation of platform cooperatives (Belloc, 2019). Supply of investment capital is likely lacking when low-income gig workers are the main, or otherwise the initial, suppliers. One set of costs is the platform infrastructure itself, its maintenance, and further innovation (Lampinen et al., 2018). Another is related to starting a cooperative enterprise (Borkin, 2019). Second, despite the fact that digital tools may lower transaction costs by facilitating preference aggregation in large and

heterogeneous groups (Belloc, 2019), there is at least some evidence that collective choice problems persist in platform cooperatives (Martin et al., 2017). Even when day-to-day operational decisions are left to an elected board or management, relatively slow democratic deliberation over strategic and tactical decisions may inflict significant costs on the platform cooperative. Generally, it can be expected that the more socioeconomically and geographically diverse a group of gig workers are, the more difficult it will be to organise as a platform cooperative (Lehdonvirta, 2016). And third, while the platform economy transcends national borders and specific industries, it is still very much shaped by differences in institutional context (Thelen, 2018). Previous research already shows that platform cooperatives are susceptible to regulatory obstacles and support structures (Pentzien, 2020).

2.4 Feasibility analysis

From a theoretical point of view, the main challenges to set up platform cooperatives lie in raising capital, organising collective decision-making among heterogeneous workers, and finding a favourable institutional environment. This would imply that platform cooperatives are expected to be most feasible where capital requirements and worker heterogeneity are low, and institutional support is high. Feasibility is understood here as a relative concept: how easy or hard it is to start up and make a business operational. We therefore do not look at scale or turnover, nor at the mere existence of platform cooperatives, but at the relative numbers of operational versus failed platform cooperatives per sector. In particular, we look at seven such sectors in which private matchmaking platforms are particularly active: taxi, delivery, professional jobs, odd jobs, cleaning, homecare, and online micro-tasks. To perform a feasibility analysis, it is useful to further unpack capital requirements and worker heterogeneity, and also the institutional support that platform cooperatives may receive based on the gig economy literature.

Capital

Regarding capital requirements, we can distinguish between the need to raise capital to build the platform and the costs of the cooperative enterprise itself. The prime or at least initial source of capital are the workers who have to chip in as owners of the platform. The income they make from their work can thus be considered to be a factor. If workers make a good income, as it is the case for most professionals (e.g., software designers, consultants, artists) and specialized odd job workers (e.g. carpenters, plumbers, electricians), then it is more likely that participants can raise the capital required. Their hourly rate is generally well above minimum wage, reflecting the specialized knowledge and skills required for such jobs (Rözer et al., 2021). In most sectors, however, gig workers earn a low income, and in some cases, below minimum wage (Florisson & Mandl, 2018; Pesole et al., 2018). Hence, in sectors where workers earn a **low income**, the challenge to raise capital is accordingly higher.

Another factor that can come into play is whether we deal with a **start-up** cooperative or an already existing cooperative that transforms itself into a platform cooperative. In the taxi service, delivery, cleaning and homecare sectors, for example, many cooperatives are already active (Borowiak, 2019; Burks et al., 2009; Majee & Hoyt, 2009; Marshall, 2003). If they would develop a matchmaking platform to assign gigs to their members, they become platform cooperatives following our definition. For such cooperatives, the capital requirements are lower and available investment capital is higher than for start-ups, as the sole costs concern the development of software and previously generated profits can be reinvested. For a start-up, by contrast, the costs of establishing a platform cooperative also entails the recruitment of workers and clients, as well as the setting up of the organization (legal costs, deliberation costs). Hence, in sectors where cooperatives are already active, the platform cooperative model may turn out to be more feasible as existing cooperatives can relatively easily transform themselves into platform cooperatives (Como et al., 2016). Reversely, in

sectors where platform cooperatives have to be established as start-ups, the platform cooperative model will generally be less feasible.[1]

A final aspect that affects the capital requirements of setting up a platform cooperative is related to technology. Overall, the software to run a platform is becoming cheaper, and, in some cases, is freely available as an open source solution.[2] Such software allows a cooperative to list its members' profiles and availability in a searchable database, allowing clients to contact them for an appointment. Other modules, such as data storage and payment, can be further purchased as a service via plug-ins. However, platforms that organise a more sophisticated matchmaking process, will require more **complex** technology. In particular, time-critical transportation services like taxi and food delivery require complex software to make immediate matches between supply and demand (Duggan et al., 2020). For such services, the underlying algorithms need to be fast and accurate, and should be based on location data of worker and client to minimise waiting time. In food delivery service, a further complicating feature holds that every order involves four parties (client, worker, restaurant, platform) instead of the usual three parties (client, worker, platform). Concluding, one may expect that platform cooperatives are more feasible in sectors that require relatively simple matching logic, while setting up a platform cooperative in sectors with higher technological complexity may prove more challenging (Lampinen et al., 2018).

Heterogeneity

A robust finding from empirical reports on the gig economy holds that gig workers vary widely in the number of **hours** they work via a platform (for an extensive review, see Florisson & Mandl, 2018). While some only do gigs occasionally to supplement a main source of income, others do it as a regular

[1] Transforming an existing cooperative into a platform co-op might come with its own challenges, such as entrenched resistance to innovation and organisational change. Yet generally speaking we assume that these do not outweigh the disadvantages for platform co-op start-ups in terms of the capital conundrum.

[2] See for instance the software offered by Sharetribe: https://www.sharetribe.com/

part-time job next to study or another job. Only in some sectors, notably taxi and professional jobs (Florisson & Mandl, 2018), there are many full-time gig workers. In this light, it would be too simple to argue that all gig workers are precarious, even if they work for the same platform. Instead, as found by Schor et al. (2020), those who do gigs occasionally generally value platform work highly, stressing its flexibility and the autonomy to choose when to work and what gigs to accept. What is more, many do such gigs next to a job as an employee, thus benefitting from the social security provided via their regular job. By contrast, those who earn a full income via a platform experience dependency and precarity. They may have to accept more gigs, even if low paid or in remote locations. Given the heterogeneity among workers in terms of the hours worked via a platform, the experiences and needs of gig workers vary widely (Schor et al., 2020). For example, those who rely on the platform for their main income, may wish more job security and social contact compared to those who rarely do gigs for a platform. Generally speaking, gig workers will have more similar interests if their hours and total earnings are more similar (Höhler & Kühl, 2018; Schor et al., 2020). One can expect that workers who work fulltime for a platform have a much larger interest than part-time earners to develop and co-own an alternative platform based on the principles of a cooperative. Platform cooperatives with experienced members who commit themselves full-time and for longer periods may gain a competitive advantage over capitalistic platforms. Platform cooperatives can also gain a competitive edge by investing in training, whereas the self-employed nature of capitalistic platforms gives them less legal leeway. Concluding, one may expect that platform cooperatives will generally be more feasible in sectors where gig workers gain their main income through a single platform.

A second source of heterogeneity is geographical. Many gig platforms operate in local markets, with gig workers and users living in the same or neighbouring municipality. In local markets, it is relatively easy for a platform cooperative to enter the market, as the establishment of such a cooperative depends on mobilising gig workers in one local context. For a

cooperative to start up, it only needs to recruit locally as to have sufficient supply (and demand) on the platform. More specifically, gig workers can be recruited within local networks through targeted communication pointing out the advantages of a platform cooperative. In contrast, the market for online gig services will span a much larger geographical area, and in some cases even **global** (Lehdonvirta, 2016). Hence, it will be more difficult for a platform cooperative to successfully set up a platform that can effectively organise and align the interests of gig workers. One reason is related to the variance in real wages among workers executing the same gigs, as the price paid for a particular gig represents very different real wages in different countries. In this respect, workers from low-wage countries may have less incentives to organize into a cooperative as they may experience their earnings as quite high. By contrast, workers from high-wage countries may see their earnings drop due to increased competition from fellow workers in low-wage countries (Berg et al., 2018). A second reason may be that legal, language and cultural differences across countries may render collective decision-making much harder compared to locally operating platforms. And, practically, occasional face-to-face meetings among members of a cooperative are very costly, while online meetings may suffer from time-zone differences. All in all, as workers on online gig platforms are so heterogeneous, it may be difficult to establish a global platform cooperative.

Institutional support

Online gig platforms have also met a lot of criticisms of unions and other stakeholders. Most resistance against the platform economy is directed at a number of taxi and food delivery platforms, in particular Uber and Deliveroo (Cant, 2020; Schor, 2020; Thelen, 2018). It is mainly the controversial practices of these companies, like dynamic pricing, algorithmic matching, sudden raises in commissions and deactivating workers arbitrarily, that attract protests, lawsuits, union actions, and attempts at regulatory reform (Koutsimpogiorgos et al., 2023). It is often in response to these practices that stakeholders consider to set-up platform cooperatives and are willing to support them financially or politically (Pentzien, 2020). Hence, support for

platform cooperatives will likely be greatest in contexts where investor-owned platforms are most contested and smallest where investor-owned platforms are still relatively undisputed and considered legitimate.

Analysis

Table 2.2 presents our feasibility analysis. The feasibility aspects are taken from the theoretical discussion of the challenges that platform cooperatives need to overcome. Raising capital will be harder if workers earn lower income, if the cooperative needs to be started from scratch as a start-up, and if large sums of investment are needed for complex algorithms. Platform cooperatives are also considered more difficult to run if gig workers are heterogeneous in terms of the hours they work via the platform and the places in which they are located. Finally, platform cooperatives will have less chance to succeed in institutional contexts where investor-owned platforms are undisputed.

Table 2.2 Sectoral analysis

	CAPITAL			HETEROGENEITY		SUPPORT	STATUS	LOCATION	
	Low income	Start-up	Complex	Hours	Global	Undisputed		Origin	URL
Taxi									
Alberta Co-op Taxi	X		X				Active	Canada	co-optaxi.com
Alpha Taxis	X		X				Active	France	alphataxis.fr
Cotabo	X		X				Active	Italy	cotabo.it
Co-op Cabs	X		X				Active	Canada	co-opcabs.com
DRIVE Taxis Cardiff	X	X	X				Active	UK	drivetaxis.wales
Eva	X	X	X				Active	Canada	eva.coop
Faircab	X	X	X				Failed	UK	n.a.
Green Taxi Cooperative	X	X	X				Active	USA	greentaxico-op.com
People's Ride	X	X	X				Failed	USA	n.a.
Taxiapp UK	X	X	X				Active	UK	taxiapp.uk.com
The Drivers Cooperative	X	X	X				Active	USA	www.drivers.coop
Yamuv	X	X	X				Failed	UK	n.a.
Yellow Cab Cooperative	X		X				Active	USA	yellowcabsf.com
Delivery									
Applicolis	X		X	X			Active	France	www.applicolis.com
Blockfood	X	X	X	X			Failed	France	n.a.
CoopCycle	X		X	X			Active	France	coopcycle.org
Foodfairies	X	X	X	X			Failed	Germany	foodfairies.de
Radish	X	X	X	X			Active	Canada	radish.coop
Professional jobs									
Covivi		X				X	Failed	USA	pittsburgh.covivi.us
Lilith						X	Active	Finland	lilith.fi
Doc Servizi						X	Active	Italy	docservizi.retedoc.net
The Interpreting Collective		X				X	Active	UK	interpretingcollective.co.uk
Signalise		X				X	Active	UK	signalise.coop
Tribe Works		X				X	Active	USA	www.tribeworks.io
Odd jobs									
Core Staffing Cooperative		X		X		X	Active	USA	www.corestaffing.us
Loconomics		X		X		X	Failed	USA	n.a.
Pwiic		X		X		X	Active	Belgium	pwiic.com
Cleaning									
Up&Go	X			X		X	Active	USA	upandgo.coop
Healthcare									
Equal Care Co-op	X	X		X		X	Active	UK	equalcare.coop
Savvy	X	X		X		X	Active	USA	savvy.coop
Micro-tasking									
Daemo	X	X		X	X	X	Failed	USA	n.a.

The platform cooperatives included in this analysis are based on our specification as worker-run matchmaking platforms for gigs and are taken from two directories (Platform Cooperativism Consortium, 2021; The Internet of Ownership, 2016)[3] supplemented by five cases via manual search. The directories most likely do not list all platform cooperatives and especially lack information on the Global South, which is why we focus the analysis exclusively on Europe and North-America. Additional information

[3] We based our case selection on both databases, precisely because we also wanted to find "failed" and "deactivated" cases which are more likely to be included in the older / less maintained directory of The Internet of Ownership.

on the platform cooperatives is drawn from their websites and blog posts or news articles about them. In the table, we indicate for each of the platform cooperatives which obstacles can be expected stemming from difficulties (indicated by X) related to raising capital, managing heterogeneity in decision-making, and finding a favourable institutional environment. Only for start-up status we used the empirical information from each platform cooperative's website, all other obstacles were identified on a sectoral level based on the above literature review. We also list the development status of platform cooperatives as active or failed based on the availability of their website/app.

From our analysis, we can conclude that obstacles are most easily overcome for platform cooperatives organising taxi rides and professional jobs, facing only two out of the six challenges. The highest number of (active) cases for these two sectors also indicates the viability of platform cooperatives in those sectoral contexts. Next to that, we find that successful cases in other sectors have found solutions or ways to bypass the obstacles they face.

Regarding taxi platforms, gig workers work fulltime and in the same region, rendering the labour force quite homogeneous and thereby facilitating its organisation and collective decision-making. The current investor-owned taxi platforms like Uber and Lyft are highly disputed, which makes it easier for platform cooperatives to find support and achieve legitimacy with regulators and the wider public. What is more, cooperatives are already active in the taxi sector, which may find it easier to transform themselves into platform cooperatives (e.g. Cotabo). Indeed, the three failed cases of taxi platform cooperatives were all start-ups, which shows that converting from existing cooperatives is a more feasible strategy in the taxi sector. Raising capital can nevertheless be challenging in the taxi sector, because of low income among its members and the more complex technology required to match drivers and clients geographically and in real time.

Professionals also face few obstacles in operating a platform cooperative. Indeed, we find quite a number of examples, all with an active status except one. The membership sizes of Doc Servizi (6000+) and Lilith (400+) indicate that they face few problems to scale up. These cooperatives started in the late 1990s and have more recently developed their own platform. Workers are quite homogeneous with most working fulltime and in a local area, alleviating the challenge of finding shared interests. Furthermore, raising capital is less of a challenge for professionals as most earn decent incomes and the platform technology can be rather simple to be effective in matching. However, as few cooperatives are already active in this sector, the main challenge may lie in building a cooperative from scratch and without examples. And, finding institutional support might be less obvious for freelancers who are not necessarily in a precarious or economically dependent position.

Platform cooperatives for odd jobs and cleaning benefit from requiring only simple platform technology and the local character of their activities. Yet, they face other hurdles to form a platform cooperative. Platform cooperatives in the odd jobs sector are mostly start-ups and the cleaning sector is a relatively low income sector, creating specific capital obstacles. Both are impeded by heterogeneity in hours and the need to find institutional support. Consistent with this analysis, we only found a few examples of platform cooperatives in these sectors. Among the examples of active platform cooperatives, the Core Staffing Cooperative is a particularly interesting case as it did manage to attract institutional support, not because similar investor-owned platforms are contested as in the taxi and delivery sectors, but because their membership consists of previously incarcerated individuals. Pwiic is also noteworthy as it was founded as a start-up, but could grow by creating special groups on their platform for members of existing cooperatives like the case of Smart we discussed before. And Up&Go benefitted greatly from a collaboration between existing cleaners' cooperatives and supporting organisations. Next to that, many of the cleaners in Up&Go are women with

a migration background, making them a more homogenous community in other aspects than on the basis of working hours.

Based on our analysis, we can foresee the biggest challenges for platform cooperatives in the delivery, homecare and micro-tasking sectors. These contexts pose multiple challenges that need to be overcome at the same time. Workers tend to be heterogeneous in the number of hours they work for a platform -often considering their income from the indicated jobs as extra- and may thus have varying incentives and interests to join a cooperative and to participate in collective decision-making. What is more, the low pay of such jobs and the scarcity of cooperatives that may set an example will make it difficult to raise sufficient capital to start up as a platform cooperative. Two remarkable exceptions in this regard are Applicolis and CoopCycle, which were able to connect many small existing cooperatives of bicycle messengers in France. What is more, a food delivery platform cooperative such as Radish was able to bypass part of the capital conundrum by including restaurants as a member class, effectively becoming a multi-stakeholder cooperative. The same strategy of including multiple stakeholders was used by Equal Care Co-op and Savvy in the healthcare sector.

Micro-tasking is a specific type of sector in our analysis as it is the only sector where gig labour is sourced globally. The organisation of gig workers across countries will be particularly challenging as they will have to organize online and across national borders. Such platforms also differ in the hours worked and, as labour is sourced from many different countries, also in terms of the real wages earned per hour. Hence, the incentives to join a cooperative are not aligned. The only case observed in this sector, Daemo, has failed already.

2.5 Conclusion

At a time when the current gig economy platforms are claimed to be responsible for the exploitation of precarious groups of workers, the platform cooperative has emerged as an attractive alternative model. The costs of operating a cooperative, from a technical point of view, are reduced by

internet technologies that ease communication over long distances and with large numbers of people (Lupia & Sin, 2003). Platforms can also start relatively asset-light, which reduces the public good problem of upfront costs for workers that need to be pooled together (Norbutas & Corten, 2018; Stanford, 2017). And, regarding the governance of platform cooperatives, digital tools can support for more direct member involvement as well as simple voting schemes (Como et al., 2016; Mannan, 2018).

However, as theorised in this chapter, the challenges of raising capital, organising collective decision-making among heterogeneous workers, and finding institutional support can persist even for platform cooperatives. In fact, the investor-owned platforms have deeper pockets, are better able to deal with social and geographic heterogeneity of gig workers by relying on advanced contracting and nudging algorithms, and are not seen as equally problematic in each sector (Lehdonvirta, 2016; Schor et al., 2020). From our analysis, we conclude that, at present, platform cooperatives may be particularly feasible for taxi drivers and for professionals, while the platform cooperative model looks much more challenging in other sectoral contexts. That does not mean, however, that running a platform cooperative in those sectors is per definition impossible. We do find, however, that the few platform cooperatives that do remain operational in these sectors are particularly resourceful helping them to bypass the obstacles they face.

It is clear that the gig economy is quickly developing. The current wave of capitalist platforms is mostly driven by venture capital as to grow their market share by offering services under cost of sales. Virtually all players on the market are still in deficit (White, 2019). The ability of investor-owned platforms to leverage vast amounts of resources against the currently still embryonic platform cooperatives provides an additional challenge for platform coops in the gig economy. In particular, when it comes to start-up investments, it is more difficult to found platform coops than their investor-owned counterparts. Having said this, the long-run viability of for-profit platforms has also been questioned, given that many struggle to make

substantial profits (Schor, 2020). Moreover, regulations against precarity and economic dependence in the gig economy are currently in development at multiple levels of government (European Commission, 2021; Koutsimpogiorgos et al., 2020). Previous research has shown how public policies may support or restrain cooperatively-owned versus investor-owned firms in general (Spicer, 2022), and more attention for platform cooperatives can be expected from policymakers in the field of gig economy specifically (Pentzien, 2020). While it remains an open question whether this is the right moment for workers to take the (financial) risk to start a platform cooperative, the increasing public support and the availability of platform software will anyway raise the viability of platform cooperatives in the years to come.

3. Managing tensions during the development of platform cooperatives

3.1 Introduction

In May 2021, a new ride-hailing platform opened for business in New York City. Although its app is similar to that of Uber or Lyft, the organisation behind it is very different. The Drivers Cooperative is a worker-owned and worker-governed platform cooperative. Without outside investor control, a larger share of every transaction ends up with the driver while also consumers can be charged less (Conger, 2021). On its website, The Drivers Cooperative describes their mission as having an impact even beyond direct users: "For better pay in the short term, and a just, green transition of the industry in the long term" (The Drivers Cooperative, n.d.). The potential of platform cooperatives to improve working conditions is also recognised in Europe, for instance as a means of economic recovery, post-COVID-19 (Calzada, 2020). It is not just taxi services or food delivery either. We can see platform cooperatives emerging in sectors like social care (Equal Care Co-op), creative work (Doc Servizi), and interpreting services (The Interpreting Collective). This chapter provides an in-depth analysis of the reasons and mechanisms behind the formation of platform cooperatives and as such captures the dynamics behind an alternative future of work (Balliester & Elsheikhi, 2018).

While there exist many different types of platform cooperatives, such as those concerned with sharing idle assets between consumers (Münzel et al., 2018) or managing personal information of data-subjects (Blasimme et al., 2018), most attention in research and practice has been going to platform cooperatives in the gig economy (Eum, 2019; Schor, 2020). Gig platforms function as online labour market intermediaries for short-term services that are supplied, often by solo self-employed, either locally or remotely to paying clients (Koutsimpogiorgos et al., 2020). Large, investor-owned platforms in the gig economy face scrutiny for various reasons: using self-

employed workers to dodge employer's responsibilities around social safety-net benefits and rights of collective representation (Kalleberg & Dunn, 2016), retaining a level of control over workers that is normally reserved only for employers through algorithmic control and gatekeeping the market (Schor et al., 2020), extracting value from platform labour by high commission rates and data valorisation (van Doorn & Badger, 2020; West, 2019), and surviving only by large investments that drive aggressive market expansion. All of this while operating at a loss (Srnicek, 2017). In response to these concerns about investor-owned platforms, platform cooperatives engage in business model innovation to redefine "the purpose of the firm and the value creating logic, and rethinking perceptions of value" (Bocken et al., 2014, p. 43).

Investor-owned platforms that promise to be the Uber-for-X are started regularly and while not each of these proves to be viable over time, the relative rarity of platform cooperatives may be related to more severe difficulties with market entry. Like any cooperative, platform cooperatives constitute both a democratic association and a business enterprise (Zamagni, 2012). That means their activities are coordinated by self-governance and market mechanisms, with decision and property rights shared among members. Because of this, platform cooperatives face tensions "between politics and enterprise, democracy and the market, commons and commercialisation, activism and entrepreneurship" (Sandoval, 2020, p. 812). While Sandoval (2020) argues that platform cooperatives need to resist the coexistence of opposing elements by moving in a more political direction, using a paradox perspective may help to redefine such elements not as mutually exclusive, but as competing demands that need to be embraced simultaneously (Smith & Besharov, 2019; van Bommel, 2018).

Paradoxes then become a useful heuristic approach to discover tensions without claiming they should be resolved through trade-offs, as is illustrated by paradox scholarship on social enterprises (Child, 2020; Mason & Doherty, 2016; Smith et al., 2013) and ambidextrous organisations (Andriopoulos &

Lewis, 2010; Papachroni et al., 2015). Previous studies on platform cooperatives argue either that they are well positioned to advance the Sustainable Development Goals (Zhu & Marjanovic, 2020), but also that their ecological and social impact for non-members would not necessarily be any different from investor-owned platforms (Frenken, 2017). This suggests that platform cooperatives likely face ambiguities, complex goals, and conflicting stakeholder interests.

The study therefore sets out to answer the following research question: What tensions do platform cooperatives face from competing demands during their formation, and how do founders manage these tensions? Our scope is limited to Europe, where criticism on the gig economy has arguably been stronger than in parts of the world with fewer labour protections (Forde et al., 2017). In our study, we draw on desk research on 48 platform cooperatives and 16 business biographical interviews with founders of platform cooperatives. The analysis uses a paradox perspective to unveil how the management of tensions gives birth to and matures platform cooperatives when done so successfully, but results in an untimely death of the organisation if one tensional pole remains dominant. We conclude that paradoxical tensions are a double-edged sword for platform cooperatives: motivating their development, but also being a cause for failed market entry.

The contributions of this study are twofold. First, it contributes to the burgeoning literature on platform cooperatives (Fuster Morell & Espelt, 2019; Lampinen et al., 2018; Sandoval, 2020). There has been very little empirical research on platform cooperatives so far (Belloc, 2019), especially studies that go beyond description (Philipp et al., 2021). The present study contributes by empirically studying platform cooperatives in the European gig economy context, and by introducing paradox theory to help understand the mixed expectations about platform cooperatives' ability to do better than investor-owned platforms (Frenken, 2017; Zhu & Marjanovic, 2020). It shows how paradoxical tensions in the gig economy motivate the creation of

platform cooperatives, but once accommodated can result in a successful or failed development depending on how these tensions are managed.

Second, this chapter contributes to a growing field of paradox scholarship (Miron-Spektor et al., 2018; Schad et al., 2016). Existing paradox research focuses a lot on typologies of paradoxes or ways of coping with them and rarely on how the organisational context matters for how paradoxes emerge and are coped with (Jarzabkowski et al., 2019; Keller et al., 2020). There is a counter-intuitiveness to the establishment of organisations imbued with paradoxical tensions (Cameron & Quinn, 1988), because why would founders start such an organisation if their goals can be achieved in ways that involve fewer to no competing demands? Moving beyond recent studies on interorganisational paradox (Jarzabkowski et al., 2019; Schrage & Rasche, 2022), we develop a new multi-level approach to identify systemic tensions in the gig economy that motivate coping strategies of integration into platform cooperatives (van Bommel, 2018). Once integrated, these paradoxes interact and co-evolve both within and across different levels (Jarzabkowski et al., 2013, 2022), resulting in vicious cycles when one tensional pole remains dominant or virtuous cycles when both tensional poles are embraced.

3.2 Theory

Business Model Innovation: From Investor-Owned to Worker-Owned Platforms

Platform cooperatives have received substantial attention by researchers and practitioners that are critical of the emerging gig economy (Borkin, 2019; Eum, 2019; Frenken, 2017; Johnston & Land-Kazlauskas, 2019; Scholz & Schneider, 2016; Schor, 2020). Following Schor et al. (2020), we can categorise the gig economy literature in the following manner: 'precarity'-studies on insecure working conditions and employment misclassification, 'efficiency'-studies on the autonomy of working as a micro-entrepreneur and related lower barriers to access labour markets for marginalised groups, and 'algorithmic control'-studies on data commodification and digital tools that

exert control over workers. Interestingly, Schor et al. (2020) find more positive outcomes when workers use platforms to supplement their income and more negative outcomes when workers are dependent on platforms for their main income. They interpret this as free-riding behaviour of platform businesses on conventional employers. A similar argument on parasitic behaviour is that many investor-owned platforms survive only by attracting continuous streams of capital investment without actually turning a profit (Srnicek, 2017). A fourth branch of the gig economy literature could therefore be labelled 'parasitic business model'-studies (Fleming et al., 2019; Healy et al., 2017).

The potential of platform cooperatives in addressing shortcomings of the gig economy can be illustrated based on these four branches of literature. To address precarity, workers could decide to become employed by the cooperative or stay self-employed but have the cooperative provide them with functional equivalents to the social safety-net benefits in standard employment (Eum, 2019; Lorquet et al., 2018). Secondly, efficiency could be driven by mimicking the online matching technologies of investor-owned platforms and even adopting digital tools to scale collective decision-making (Frenken, 2017). Next, algorithmic control can be appropriated by workers through collective ownership and governance of the platform (Fernandez, 2006; Lampinen et al., 2018). And lastly, platform cooperatives may strive to build more sustainable business models by balancing growth with a distinctive identity (Karanovic et al., 2020), breaking monopolies (Vaheesan & Schneider, 2019), and creating not just economic but also social and environmental value (Fuster Morell & Espelt, 2019; Zhu & Marjanovic, 2020).

Coping with Tensions in Cooperatives

Notwithstanding the potential of platform cooperatives, the gig economy context may also exacerbate tensions that cooperative enterprises face from dynamics of cooperation and competition (Audebrand, 2017; Smith & Lewis, 2011). For instance, there is always a tension in cooperatives between

achieving social goals like fair pay and economic goals such as a competitive market position (Sandoval, 2020). Within the gig economy, market pressures of investor-owned competitors with established network effects and vast resources may force worker-owned platforms to also lower their pay (Cant, 2020; Srnicek, 2017). Likewise, cooperatives face tensions between the member-community as a whole and the individual expectations of members (Puusa et al., 2016). Yet, gig workers are highly heterogeneous and compete with each other for assignments (Schor et al., 2020), which might undermine both collective decision-making and sense of belonging to a platform cooperative. Another common tension in cooperatives exists between democracy and hierarchy (Hernandez, 2006). Considering that the management of platforms requires advanced technical skills and gig workers are geographically dispersed, it is easier if executives make all decisions but that also undermines the democratic accountability to members. Moreover, cooperatives are confronted with tensions between strategies of staying alternative and growing mainstream (Audebrand, 2017). As the dominant strategy for investor-owned gig platforms is to capture network effects by growing rapidly and underpricing their services to consumers, it will be quite difficult for platform cooperatives to deviate from this established pattern (Karanovic et al., 2020).

When ignored, organisational tensions result in inertia and frustrate human desire for consistency (Smith & Lewis, 2011). Pulling towards one pole of a tension or making trade-offs between opposing poles, however, hurts the organisation over time (Chowdhury et al., 2021; Schad et al., 2016). For example, a platform cooperative that focuses all of its resources on improving the working conditions of its members without a solid value proposition will not survive, whereas a platform cooperative that prioritises economic performance likely drifts away from its social mission and will lose its members. The paradox perspective redefines such tensions as inherent to the cooperative model with opposing elements that are contradictory yet also interrelated and persistent (Audebrand, 2017; Cornforth, 2004; Hernandez, 2006). In turn, this implies that competing demands cannot be resolved but

require constant management to be satisfied simultaneously (Lewis, 2000; Smith & Lewis, 2011). Organisational tensions are therefore not necessarily problematic, but can be navigated in order to benefit an organisation too (Schad et al., 2016).

In response to calls for paradox scholarship that takes into account multiple levels (Jarzabkowski et al., 2013; Keller et al., 2020), we follow Audebrand's (2017) suggestions to use a paradox lens to study platform cooperatives and look at different levels of analysis instead of assuming a specific set of tensions from the outset. Zoomed into the experience of specific actors (Jarzabkowski et al., 2019), microlevel paradoxes refer to tensions within and between founders of the cooperative, particularly when different roles or identities clash. Zooming out to the organizational level (Jarzabkowski et al., 2019), mesolevel paradoxes originate from tensions inherent to the dual nature of cooperatives as both democratic associations and business enterprises. Zooming out even more to interdependence at the boundaries of organizations (Jarzabkowski et al., 2019), macrolevel paradoxes manifest as tensions between cooperatives and the specific institutional environment in which they are embedded. Moreover, we examine the potential interactions both within and between levels of analysis as these may amplify or attenuate tensions (Jarzabkowski et al., 2022; Sheep et al., 2017).

Multi-Level Approach to Paradoxes of Platform Cooperatives

While not explicitly using a paradox perspective, Sandoval (2020) does stress two types of tensions in platform cooperatives. To begin with, she presents a critique of platform cooperatives' relation to entrepreneurship which may either be interpreted as a radical political project or as reproducing a neoliberal emphasis on individual responsibility and self-help. Micro-level paradoxes could similarly be used to study tensions between contradictory yet interrelated roles, identities or values that exist within and among founders (Miron-Spektor et al., 2018). For example, tensions between the identities of worker and entrepreneur (Mannan, 2022b).

Moreover, Sandoval (2020) argues that platform cooperatives are likely to fail either their political ambitions or economic survival. Instead of viewing these opposing elements as part of a dichotomy, meso-level paradoxes similarly focus on tensions resulting from the dual nature of cooperatives as democratic associations and business enterprises (Audebrand, 2017). Some of these tensions result from the scaling strategies pursued by platform cooperatives, which previous research suggests are often torn between building a distinctive identity based on local ethical consumption and achieving cost advantages through size (Belloc, 2019; Karanovic et al., 2020). A case study finds that slowness of democratic decision-making risks lowering income generation for platform cooperatives but also prevents economic goals from becoming dominant over social goals (Martin et al., 2017). Lampinen et al. (2018) discuss digital technology as a site of tension for cooperatives, who often settle for a good-enough-option instead of the preferred tools due to scarce resources.

Another issue involves tensions between platform cooperatives and their specific institutional environments. To explain these tensions more precisely, we turn to macro-level paradoxes. Lynch (2020) describes the technology sovereignty movement in Barcelona, Spain, where dozens of decentralised initiatives related to digital development have emerged in the form of cooperatives, community groups and associations. Reflected in this unique example is a tension between the autonomy of cooperatives and dependence on their institutional environment, which enables a cooperative innovation cluster in Barcelona that also may be vulnerable if the political climate becomes less favourable. A detailed case study of Smart Belgium, which is also one of the cases in the current research, finds that practices of alleviating precarity of gig workers must be complemented by activities to gain legitimacy in an already highly institutionalised labour market in order to be accepted by external stakeholders (Xhauflair et al., 2018). However, these legitimacy-building activities may also distract from the cooperative's mission.

To recap: we explained the potential of platform cooperatives in the gig economy while also acknowledging that the gig economy will likely exacerbate tensions in the cooperative model. The paradox perspective redefines such tensions as opposing elements that are contradictory yet interrelated and persistent, suggesting vicious cycles that hinder platform cooperative formation if one pole of a tension is too dominant and virtuous cycles that help platform cooperative formation if both poles are embraced. By looking at different levels of analysis, our adaptation of paradox theory moves beyond the traditional focus on organisation-level tensions (Child, 2020; Papachroni et al., 2015) and the recent attention for interorganisational tensions (Jarzabkowski et al., 2019; Schrage & Rasche, 2022). In addition, we examine how tensions within and between different levels might amplify or attenuate each other. These insights are taken as sensitising concepts in our analysis.

3.3 Methodology

The study employed an explorative research design to investigate the tensions that platform cooperatives face from competing demands during their formation, and how founders manage these tensions. Getting a grip on the overall population of platform cooperatives is difficult because there is no official registration. Moreover, some cases may still fly under the radar during their formation, some never reached the stage of legal formalisation and others have already disappeared off the radar because they failed. An initial list of platform cooperatives, specifically worker-owned gig platforms, was drawn from the Platform Co-op Directory (The Internet of Ownership, 2016). Additional platform cooperatives were discovered through snowballing with the help of early participants in the study. Positioned in different development phases, some platform cooperatives were just starting up while others had existed for quite some years or had already failed market entry. Yet overall, we might expect our sample to be more successful in managing tensions than the cases we could not find. The most important selection criteria were that an organisation presents itself as a platform cooperative, functions as a labour market intermediary for gig work, and is

based in a European country. This means that not all platform cooperatives included in this study are also legally registered as a cooperative, nor do they fulfil the exact same intermediary functions: e.g. Pwiic helps gig providers and requesters to find each other while Smart intermediates the legal and financial aspects of transacting. This exercise of mapping the overall population of European platform cooperatives resulted in Figure 3.1.

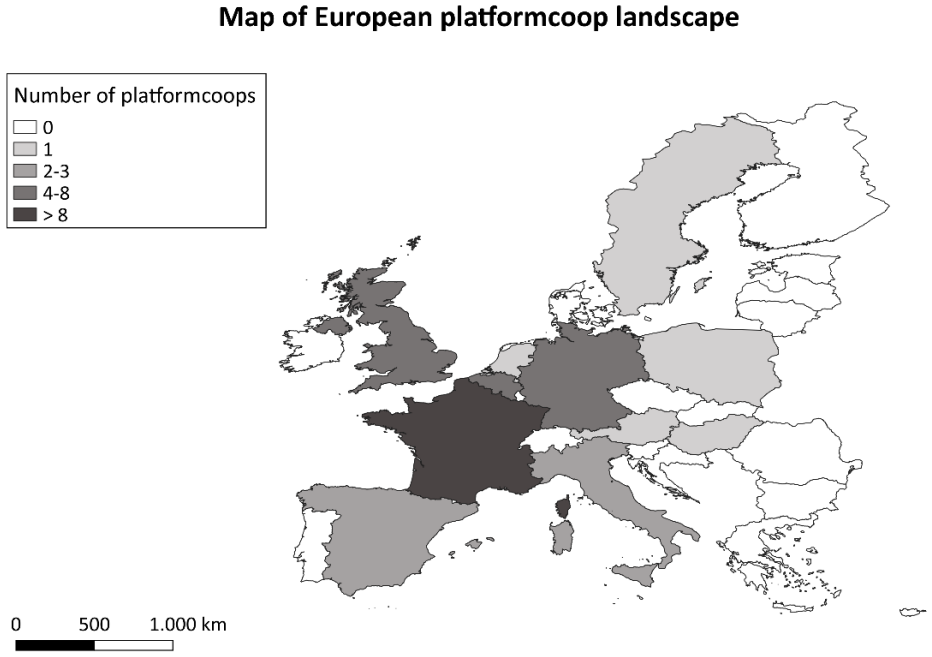

Figure 3.1 Platform cooperative landscape of European gig economy (based on list in Appendix A1, 12 June 2020)

Most European Union member states are reforming their highly institutionalised labour markets in order to promote 'flexicurity' (Charmettant et al., 2016). However, there are significant differences between them in how flexibility and security are treated. To take into account influences from different institutional environments, we invited all platform cooperatives that had contact information available for an interview.

Ultimately 15 out of 48 cases accepted an interview. Non-response was mostly caused by time constraints of platform cooperative founders. Nevertheless, sufficient variation in interviewees was obtained by cases from multiple European countries, different economic sectors, and various stages of development including four failed cases. Some of the selected platform cooperatives use a federative structure to scale through independent but connected instances, e.g. Smart and CoopCycle. We identified one or two founders in each platform cooperative.

Data collection, which took place from December 2019 until the end of March 2020, was based on archival data from the available websites, social media posts, online articles, and information flyers of all 48 platform cooperatives, and semi-structured interviews with the founders of 15 platform cooperatives (see Appendix A1). Archival data provided information on the mission of the platform cooperatives, organisational structure and activity, contributions from and benefits for members, technology use, and development processes. In total, 16 interviews were conducted either face-to-face or via Skype/Zoom. Since Smart Belgium was converted to a cooperative legal entity in 2016 and merged with Smart France in 2018, both its original founder and its leader during these recent changes were interviewed. Their citations are distinguished. Each interview took on average one hour and was recorded to be transcribed verbatim. We used a topic list to question participants about their motivations to start a platform cooperative, what alternatives they considered before choosing for the cooperative model, and how development of the platform cooperative actually took place with specific attention for important milestones and crises during start-up (see Appendix A2). Instead of directly asking about tensions already categorised by earlier paradox research (Smith & Lewis, 2011), we let respondents voice their reasons for starting a platform cooperative and tell the story of its development in their own words. Applying such a business biography technique allowed us to retrieve tensions in the development of platform cooperatives and how they are managed relating to individual founders, organisational features, or the institutional environment. Approval

for the research design was obtained from our university's Internal Review Board. Informed consent was obtained before each interview and we guaranteed participants pseudonymity by only reporting organisation-names instead of their personal names.

Qualitative content analysis was guided by the research aim and our multi-level approach to paradox research. Following Mason and Doherty's (2016) analysis of paradoxes in fair-trade social enterprises, priority was given to the meaning of stories instead of their historical accuracy while also contextualising the interviews with complementary data collected during desk research. In this way we could corroborate or nuance some of the findings, for example by checking the uniqueness of tensions or placing statements from the interviews in an organisation's timeline. The study followed an iterative process of data collection and data analysis, which means that the analysis of later interviews could be compared to initial findings to help interpretation and the phrasing of interview questions. This process continued until thematic saturation was established based on a stabilized number of codes that stayed close to the participants' phrasing. Analysis was computer-aided by NVivo 12 to code interview transcripts, by seeking similarities and differences. Drawing on existing paradox literature wherever possible for labelling the categories, we then theorised the data along micro-level, meso-level, and macro-level into nine paradoxical tensions. It became clear to us that the same paradoxical tensions that played up during the development phase had initially also motivated founders to 'choose' starting a platform cooperative in the first place. As such, we were able to document how platform cooperatives are founded to accommodate paradoxical tensions in the gig economy by creating a new organisational form (van Bommel, 2018) and then have to continuously manage these tensions during actual development. We labelled these as motivation phase and development phase, thereby creating a two-by-nine matrix with the multi-level paradoxes to structure our findings (also see Table 3.1). To enhance quality and minimise researcher bias, participants were solicited for feedback on the findings.

3.4 Findings

Motivation phase: Platform Cooperatives as a Strategy of Coping with Paradoxical Tensions

If platform cooperatives are permeated with paradoxical tensions, there logically is a counter-intuitiveness to their formation similar to what Cameron and Quinn (1988) described as the paradoxical nature of paradox. In other words, why start a platform cooperative if other means to achieve the same ends might involve fewer competing demands? We find that it is rarely a founder's first choice, but platform cooperatives are ultimately considered as a tentative resolution of tensions already salient in the gig economy. Altogether, the reason for founders to start a platform cooperative can best be explained as "an experience of serendipity" (Smart BE/FR original founder). Similar to synthesis strategies of coping with paradox (van Bommel, 2018), platform cooperatives accommodate competing demands by creating a new organisational form.

On a micro-level, personal interest in founding a platform cooperative stems from the desire to learn new skills like coding or starting an enterprise, while also contributing existing skills to a cause that founders find important. Most founders had a limited knowledge about cooperatives before starting, but having experience with managing associations (Smart NL), worker organising via Facebook (The Interpreting Collective), or as a union leader (Signalise), for example, encourages them to put their existing knowledge to yet another form of collective action. One founder explicitly compared staying in an investor-owned platform to starting a platform cooperative: "you just listen to an algorithm and obey its orders, and so you do not develop any personal knowledge. While now, through doing this, I have learned a huge amount through creating this company, and even if it stopped tomorrow, maybe because of coronavirus, if it never took off again, at least I would have learned so much that it would help me in the future" (La Poit' à vélo). Here we notice how an exploitation-exploration paradox with too much emphasis on disciplined exploitation of current skills is brought into

harmony with passion for exploring new approaches by forming a platform cooperative (Andriopoulos & Lewis, 2010).

Likewise, founders describe cooperativism as reconciling conflicting identities in the gig economy, particularly those of worker and entrepreneur: "Most of us did not consider other options like striking or appealing to politicians, because we also see ourselves as kind of entrepreneurs" (FoodFairies). This observation matches previous research on how the role of 'cooperative member' can integrate the contradictory but interrelated roles of worker and entrepreneur through either becoming employed by the cooperative or staying self-employed but have the cooperative provide functional equivalents to the social safety-net benefits in standard employment (Mannan, 2022b).

Founders also see platform cooperatives as a novel institution that can bring back a sense of belonging to gig workers: "They were accustomed to having cultural and social activities associated with companies and unions. A, shall we say, collective socialization, which surrounds one's job. And when an individual lost their job, when they created their own individual company, I noticed that many people expressed a lack of collectivity" (Smart BE/FR leader during conversion). Here we recognise how a belonging paradox with a dominant individuality pole is rebalanced towards the communality pole by founding a platform cooperative (Audebrand, 2017).

On a meso-level, the mutual interest of founding a platform cooperative is based on cutting out the middlemen so that a larger share of every transaction ends up directly with the gig worker who provides services to a client while the remaining share is used for the platform's upkeep and providing members with benefits either through employment or in the form of services to self-employed members: "So we wanted to specifically have a type of company that is non-extractive. So capitalism cannot extract money easily out of a platform cooperative. That is part of the design, part of the genius of it. We want something that rewards drivers fairly" (FairCab). What is happening

here is that founding a platform cooperative involves the integration of social and economic goals in a performing paradox (Smith & Lewis, 2011).

By cutting out the middlemen, the development of a platform cooperative also rebalances an organising paradox from a dominant hierarchical pole with algorithmic management towards a democratic pole of collective decision-making (Audebrand, 2017; Hernandez, 2006): “I was also really interested into giving power back to the users of the platforms, because the workers are completely powerless in front of the platform” (CoopCycle).

Founders understand the cost advantages and attractiveness for clients that come with network effects achieved by big platforms and agencies, but also want to compete with a strategy of local embeddedness and distinctive identity: ”Basically, the government wants to save money by giving contracts to larger companies. A lot of those companies were very large spoken language agencies that said to the government that they could provide sign language, even though they had no connection to the deaf community. They didn't know anything about sign language” (Signalise). In line with previous research (Karanovic et al., 2020), we can identify here how the formation of platform cooperatives involves the embracing of an identity-size or learning paradox as it is also called in the literature (Smith & Lewis, 2011).

On a macro level, platform cooperative founders see a broader societal interest of taking matters into their own hands by building alternatives instead of continuing to rely on existing market players: “Because the system as it is now, it is not only us interpreters who are suffering because of how the whole system works, it is also the people who need interpreters. Because what they get is incompetent bilingual speakers who are sent in place of professional qualified interpreters because the agency is not able to provide one” (The Interpreting Collective). Platform cooperatives still have to be competitive and abide by market conditions of course, but they claim at least some self-determination to do better than investor-owned competitors with respect to ecological footprint, quality of service provision to clients, paying

taxes, and enduring relations with local partners. As a result, we can see how platform cooperatives aim to work through an autonomy-dependence paradox (Wilson et al., 2013).

Founders also perceive platform cooperatives as providing faster results than political advocacy for government regulation, without claiming that platform cooperatives are a substitute for new labour market regulations: “I think if you want to improve the position of self-employed via the political process, by the time you get result it probably takes you 10 years plus. At the same time, I think this is a very good idea, but this does not exclude each other” (Smart Hungary). Again we can see how the development of platform cooperatives involves a shift from dependence, this time on the (lack of) policies established by governments, towards at least somewhat more autonomy based on self-governance.

And finally, founders of platform cooperatives aim to integrate the public enthusiasm for gig platforms with making true on some of the idealistic promises made about the gig economy: ”Getting rid of Uber didn’t mean getting rid of the technology or getting rid of this amazing service that had been delivered, but it should be about getting rid of this company which wasn’t providing drivers with a good livelihood” (Faircab). By using the perspective of a legitimacy paradox (Haack & Rasche, 2021), it becomes clear that founding a platform cooperative integrates the dominant justification for the gig economy of inevitable diffusion across countries and sectors with a thus far contested justification of having impact by creating decent work.

Development phase: Paradoxical Tensions within Platform Cooperatives

In line with the paradox perspective, the findings show that while platform cooperatives accommodate paradoxical tensions by consolidating the pole that was weaker in the gig economy overall, these tensions do not go away but re-emerge during the cooperatives’ development (see Table 3.1). Four of

the cases that are included in the interviews even failed to launch or had to make a restart (i.e. Faircab, FoodFairies, Smart Hungary, and Smart NL), and two more in the total list of European platform cooperatives disbanded as well (i.e. Yamuv, Traboulotte). The distribution of platform cooperatives over Europe is also not evenly spread (as shown before in Figure 3.1). There exist concentrations in France, Belgium, the United Kingdom, Germany, and to a lesser extent also in Spain and Italy.

Table 3.1 Overview of paradoxical tensions during development of platform cooperatives

Paradoxes (first mentioned is the pole that platform cooperatives consolidate)	**Illustrating quote**
Micro-level paradoxes (within and between founders)	
Passionate vs. disciplined	It is quite stressful and challenging, especially when you have a day job. You work in two jobs essentially, but one of them, which is much closer to your heart and much more important to you, is not paid actually. (The Interpreting Collective)
Worker vs. entrepreneur	Now we especially need, and that's something we want to keep in the future, people that do not only want to do bicycle delivery work, but also all the other work that comes with it. (FoodFairies)
Communality vs. individuality	The problem is if you have a big company like Deliveroo, the good thing is you are in the situation to let a lot of people that would not be able to work together kind of work together. Because it is unpersonal. To build up a cooperative or a collective, you have to understand each other. And this is much harder, you know? (KHORA).
Meso-level paradoxes (dual nature of the cooperative organisation)	

Social vs. economic performance	At the start, we had a huge amount of requests. […] But we did not have the time to handle everything and a lot of people came with interesting needs but could not afford joining. So this is the problem of an economically viable model. (Smart BE/FR original founder)
Democracy vs. hierarchy	It is, to be honest, like probably the classical form of leading is more efficient, you know. And cooperatives are also complicated because you are losing a lot of time for the internal and external communication. But I do not want to have it differently. (Smart Germany)
Local identity vs. growing mainstream	For example, Smart Belgium always told us we don't have to do any promotion; it goes mouth-to-mouth. […] But all the Smarts who don't grow very fast, and we are one of the more slowly growing ones, started to do marketing and that's what we do as well. (Smart Austria)
Macro-level paradoxes (cooperatives in institutional environment)	
Autonomy in the market vs. dependence on market conditions	The capitalist platforms have big amounts of money injected, so they can lower the prices artificially because they don't need to be profitable. So it's really hard to follow the price, you have to ask a higher price. (CoopCycle)
Autonomy in policy context vs. dependence on policy conditions	At the same time, the cost of being socially protected via an employment contract is always assessed by members compared to the social benefits they can get, and in this sense the social benefits that are available in Hungary are to a certain extent weaker than those in Belgium. (Smart Hungary)
Legitimacy by impact vs. legitimacy by diffusion	I think the 24 people that we've got are the people that just get it, they understand what

> we're doing and the importance of it, how it could solve a lot of problems, how it could be the only solution to the problems that are out there. […] Whereas maybe the other 26 are a bit more cautious about it, don't quite know what they're getting into, or want to know a bit more about the business process or the membership processes first before they sign up. (Signalise)

On the micro-level, we first find paradoxical tensions between passion and discipline as creative fuels driving the development of platform cooperatives. Passion entails an intrinsic motivation and belief that platform cooperatives are the solution to fixing the gig economy, but discipline is also needed to bring this idea to fruition in particular considering that founders need to invest a lot of unpaid time to start a cooperative. Passion alone breeds unfinished projects, while too much discipline can drain founders of their energy and inspiration. Next, founders experience tensions between their identities as worker-organisers and the need to gain an entrepreneurial mindset and knowhow such as the ability to strategize risks and opportunities. If they only identify as worker, founders lack direction as there is no boss telling them what to do. But if founders identify too much as entrepreneur, they lose touch with their social activism and the gig work itself. Moreover, we observe tensions between the group of founding members as a communality versus their distinctive individualities. Without a communal sense of group identity and solidarity, internal conflict easily drives the founders of a platform cooperative apart. Yet without their personal motivations and individual skills brought to the table, a platform cooperative could never start up.

On a meso-level, we then find competing demands between making progress on the social mission of platform cooperatives and remaining economically viable. Loosening their stance against extractive financing, for example, harms the social mission of platform cooperatives by making profit for

investors instead of investing in the working conditions of their members. But at the same time this restricts the options that platform cooperatives have available for funding, thereby harming their economic viability. What is more, founders perceive tensions between democratic and hierarchical decision-making. Full and equal participation of members without any differentiated roles slows down collective decision-making, resulting in an inefficient organisation. Yet, leaving all decision-making to professional managers undermines democratic accountability and can hurt the interests of cooperative members. Likewise, founders feel divided between a business strategy of local embeddedness and distinctive identity versus a more mainstream business strategy of growth and scale advantages. Only staying small, local and alternative restricts the social impact of platform cooperatives to progressive metropolitan areas with a critical mass of ethical consumers. Only growing big, global and mainstream, on the other hand, removes their distinctiveness from investor-owned platforms and opportunities to cater to specific local demands.

On the macro-level, we observe a tension between the autonomy claimed by platform cooperatives and their dependence on market conditions. When founders of platform cooperatives make decisions as if they are not at all constrained by consumer demand and their market position, the organisation will simply not survive. But if founders make decisions completely depending on their awe and fear for large competitors, they become paralysed and leave their organisation to the whims of the market. Furthermore, tensions exist between the autonomy of platform cooperatives and their dependence on the policy context. If the founders of platform cooperatives make decisions without considering differences in government regulation, they are taken aback by compliance challenges and miss out on supporting policies. But when founders of platform cooperatives make decisions completely depending on the regulatory constraints, they also become paralysed and fail to create novel institutions for gig workers outside of the system as it is. On top of that, platform cooperatives face competing demands of gaining legitimacy through impact on the working lives of members versus

gaining legitimacy through diffusion of awareness and building good public relations. Legitimacy by impact alone is not enough to win over support from potential partners like unions or to remove suspicion and locally-specific negative stereotypes about cooperatives in the minds of potential members. However, legitimacy by diffusion alone moves effort and resources from the social mission of platform cooperatives towards enhancing public relations.

Vicious Cycles that Hinder Platform Cooperative Development

To illustrate how treating tensional poles with an either/or approach ends up hurting platform cooperatives, we discuss two failed cases in a bit more detail: Faircab and Smart NL. In particular, we show how a dominant pole on one paradoxical tension amplifies imbalance on other paradoxical tensions so that a vicious cycle emerges that ultimately results in a failed development.

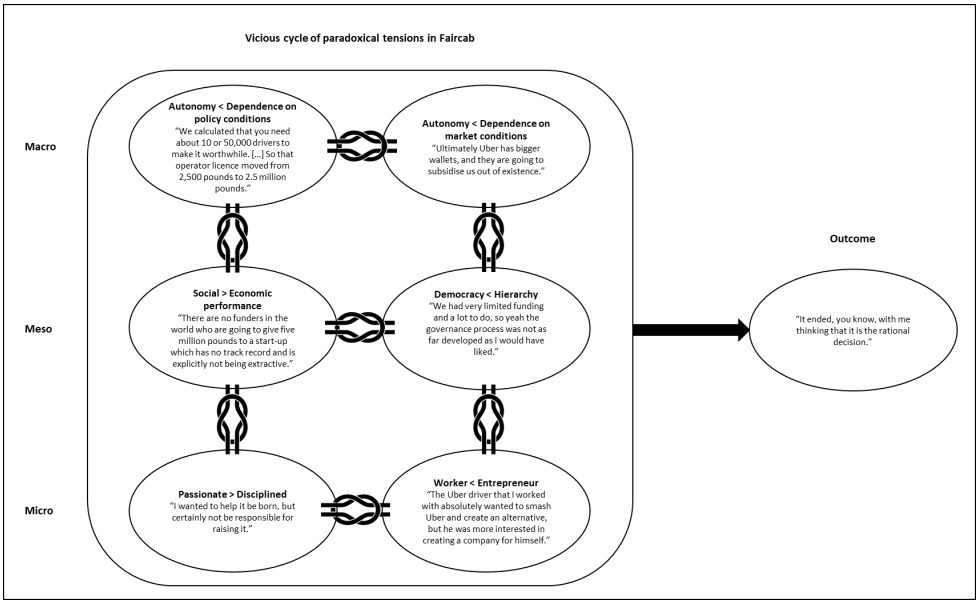

Figure 3.2 Vicious cycle of paradoxical tensions in Faircab

Faircab (see Figure 3.2) was a platform cooperative for ride hailing started by the London-based thinktank New Economics Foundation, which did several other projects at the time and intended to hand over control to the taxi drivers. Passionate about the vision for Faircab, but without the drive to completely develop the organisation, the initial founder looked for a co-founder among London's Uber drivers. Finding one who also had experience with starting tech-businesses seemed like a perfect match at first, but his identity as entrepreneur proved much stronger than his ties to the gig work itself. Faircab's founder perceived the need for substantial start-up capital as impossible to achieve while staying true to their social mission of being a non-extractive business. With limited funding and a co-founder that saw more in a traditional business than a cooperative, Faircab also failed to involve and use the knowledge of prospective members in decision-making. Its founder felt taken aback by the regulatory decision of Transport for London to raise operator licensing costs in response to Uber's disruption of the existing minicab market, which minimised the prospect of organisational autonomy. While the development of Faircab was first started when Uber temporarily left London after new regulations were introduced (similar to CoopCycle with Take Eat Easy that left France and Belgium in 2016, or FoodFairies and KHORA with Deliveroo that left Berlin in 2019), the fear of Uber coming back into London and engaging in unfair competition by underpricing services paralysed any further cooperative development. As a result, Faircab's founder explained that ceasing its development was the rational choice.

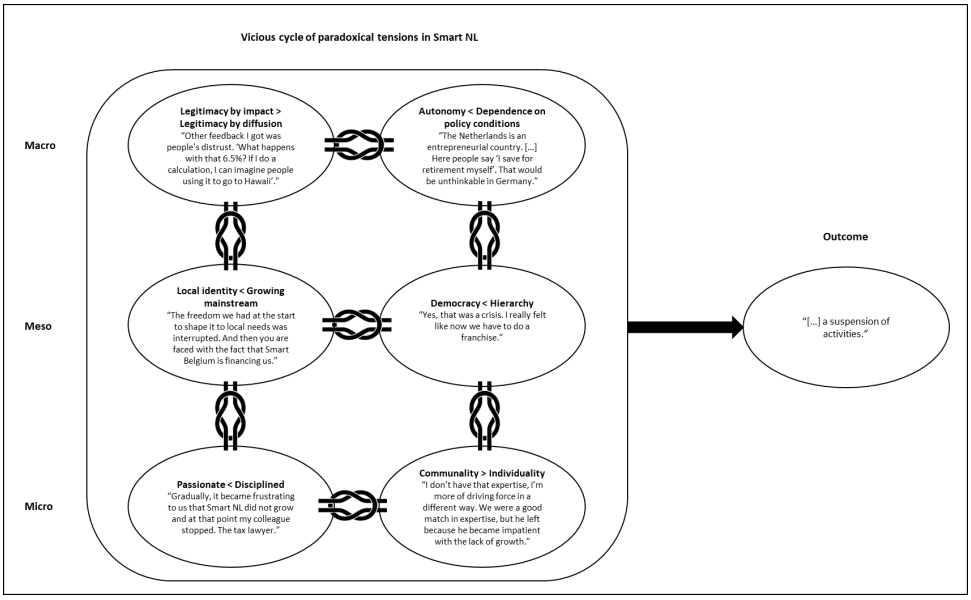

Figure 3.3 Vicious cycle of paradoxical tensions in Smart NL

Smart NL (see Figure 3.3) still exists today as a platform cooperative for creative and professional freelancers, but it has seriously downscaled after a temporary suspension of all activities. Its founder described how initial successes in improving the working lives of members (i.e. legitimacy by impact) did not translate to a growing membership, because they failed to convey awareness and trust for this new organisational model among Dutch freelancers (i.e. legitimacy by diffusion). A lack of trust and being open to an organisation like Smart NL was also tied to the policy context of the Netherlands, where labour market flexibilization has been more far-reaching than in other European countries. Claiming autonomy outside of the system as it is, the founder claimed, was very unlikely here because of the normalisation of solo self-employment. The organisation therefore experienced slower growth than other instances of Smart in Europe, which frustrated one of the founding members who put in a lot of work but was ultimately drained of his passionate belief in the project. With different individual expectations and the main founder focused more on building

community, Smart NL lost a co-founder who brought useful skills to the table. To incite growth, the founder of Smart NL then felt pressured by Smart Belgium, who finances the federative growth of their model over Europe, to open up their membership to all professional freelancers instead of just creative freelancers. In line with Schad et al. (2019), we notice here how power relations can turn one pole (i.e. growing mainstream) more status enhancing. Smart NL's founder experienced this situation as a threat to the organisation's local identity and, in turn, also as a governance crisis where democratic member control was interrupted by a top-down decision. The organisation disbanded and only later restarted at an even smaller scale.

Virtuous Cycles that Help Platform Cooperative Development

To illustrate how treating tensional poles with a both/and approach ends up helping platform cooperatives, we discuss two successful cases in a bit more detail: Signalise and Smart Germany. In particular, we show how embracing both poles on one paradoxical tension attenuates other paradoxical tensions so that a virtuous cycle emerges that ultimately results in a successful formation process.

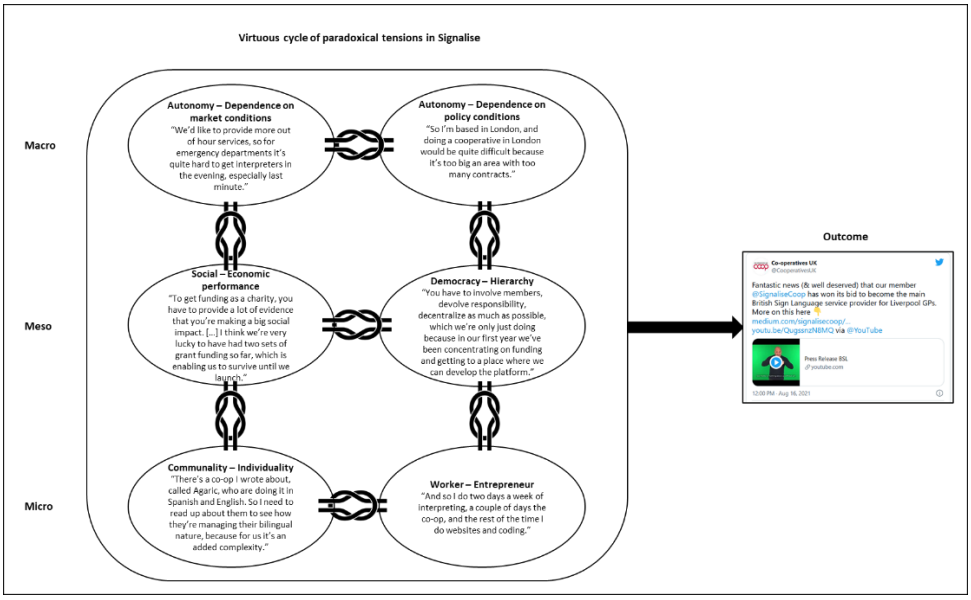

Figure 3.4 Virtuous cycle of paradoxical tensions in Signalise

Signalise (see Figure 3.4) is a platform cooperative for sign language interpreting in the Merseyside region of the United Kingdom. The cooperative has both sign language interpreters and deaf individuals as members. Its founder explained that learning from another bilingual cooperative would help to forge a community with two quite different individual groups that both need to feel included. This insight stems from dividing their time between developing the platform cooperative and working as a sign language interpreter, which also enables the founder of Signalise to balance the identities of worker and entrepreneur. Previous research likewise identifies a temporal separation of competing demands as a strategy of coping with paradox (van Bommel, 2018). Because the founder continues to work as a sign language interpreter out of necessity, it compelled a larger participation of members by taking up responsibilities and making decisions after some groundwork was established in a more hierarchical manner in the first year. Gaining enough start-up capital to be economically viable takes up much time and effort, but by having a social impact on both

the sign language interpreters and deaf members Signalise qualified for and was awarded two grants. To then affirm this initial viability, Signalise copes with macro-level paradoxes by finding pockets of autonomy within the larger market and policy context. Some other platform cooperatives follow a similar strategy, such as KHORA and La Poit' à vélo who diversified their activities to food delivery to businesses because these are recurring services that yield more stable income than food delivery to individual consumers. By doing market research and gaining detailed regulatory knowledge of the sector, Signalise was ultimately able to win a bid for the new framework agreement by the National Health Service's Liverpool Clinical Commissioning Group.

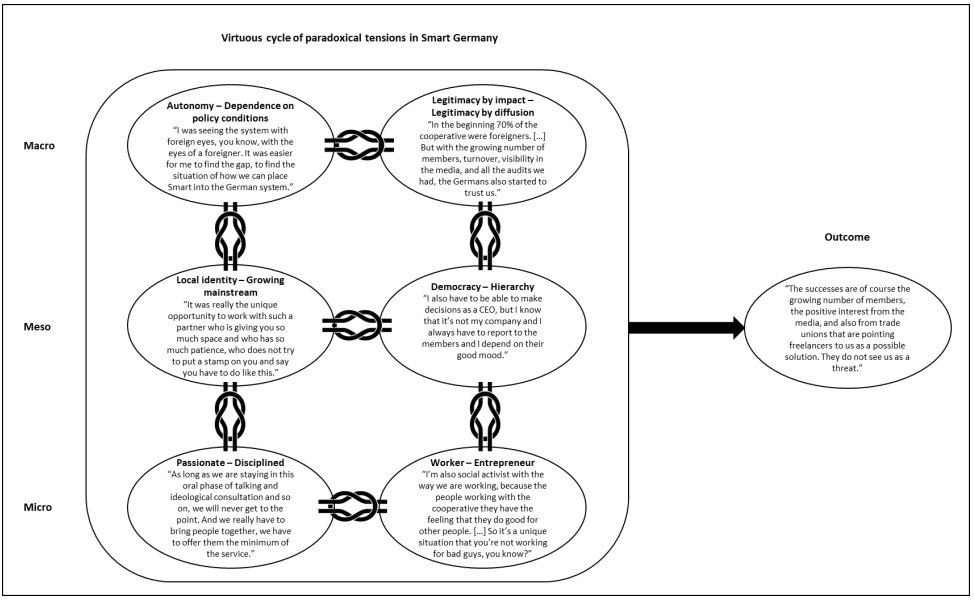

Figure 3.5 Virtuous cycle of paradoxical tensions in Smart Germany

Smart Germany (see Figure 3.5) follows the same organisational model as the other Smart instances in Europe, but interestingly enough its development was much more successful than Smart NL. The founder of Smart Germany stressed the need to combine a passionate belief in the idea of platform cooperatives with the disciplined actions to bring this idea to fruition. Self-

identification as a social entrepreneur helps Smart Germany's founder to retain a connection to their social activism and the gig work itself, while also understanding the necessity of obtaining entrepreneurial skills that they did not have before. Creating an overarching category, like social entrepreneur, is a well-known coping strategy in the paradox literature (van Bommel, 2018). By extension, the founder of Smart Germany creates another overarching category to cope with the paradoxical tensions between democracy and hierarchy: cooperative leadership. Founders of other platform cooperatives described cooperative leadership in similar terms: "to have faith and trust in the collective intelligence" (Smart Italy) and "be prepared that other people might […] have a completely different idea about how things should be run" (The Interpreting Collective). In contrast to Smart NL, the founder of Smart Germany experienced their relationship with mother-cooperative Smart Belgium very positively. As there was no outsider interference in decision-making, the strategy of growing mainstream while retaining a local identity in each country by means of a federative structure worked out much better in this situation. Having a migrant background, like many other platform cooperative founders do as well, helps Smart Germany's founder to find pockets of autonomy within the larger policy context as they do not take the system as it is for granted. The early membership of Smart Germany also consisted largely of freelancers with a migrant background, which allowed the organisation to demonstrate legitimacy by impact that could then be used in public relations activities to also convince the native population. As a result, Smart Germany not only expanded their membership but also gained the support of unions.

3.5 Discussion

Most gig platforms are investor-owned, managed on their behalf, and prioritise perhaps not an immediate profit but certainly market share and company value (van Doorn & Badger, 2020). They are also surrounded by controversy due to precarity among workers, practices of algorithmic control, and parasitic business models (Schor et al., 2020). Platform cooperatives present themselves as challengers of this logic through ownership and

governance by gig workers themselves (Scholz & Schneider, 2016). However, their relative rarity seems to indicate more severe difficulties with market entry and expectations on platform cooperatives' ability to do better than investor-owned platforms are mixed (Frenken, 2017; Zhu & Marjanovic, 2020). Through desk research on 48 platform cooperatives in the European gig economy and interviews with 16 founders, this study provides insight into the tensions that platform cooperatives face from competing demands during their development and how founders manage these tensions.

Overall, we conclude that paradoxical tensions are a double-edged sword for platform cooperatives: driving their development, but also being a cause for failed market entry. Systemic tensions in the gig economy, such as the one between worker and entrepreneur, motivate business model innovation with platform cooperatives as a new organisational form. Initially consolidating the weaker tensional pole, paradoxical tensions resurface during the actual development of platform cooperatives and interact on multiple levels. We document how platform cooperatives end up in vicious cycles when one tensional pole remains dominant, and virtuous cycles when both tensional poles are embraced. We thereby contribute to an increased understanding of platform cooperatives at a moment these organisations are increasingly gaining attention from researchers and policymakers (Borkin, 2019; Eum, 2019; Frenken, 2017; Johnston & Land-Kazlauskas, 2019; Karanovic et al., 2020; Scholz & Schneider, 2016; Schor, 2020).

Whereas Sandoval (Sandoval, 2020) critiqued the coexistence of opposing elements in platform cooperatives, such as social and economic goals, we adopt a paradox perspective to show why and how competing demands need to be embraced simultaneously instead of being treated as mutually exclusive (Audebrand, 2017). To become a realistic alternative for the future of work (Balliester & Elsheikhi, 2018) or even contribute to the Sustainable Development Goals (Zhu & Marjanovic, 2020), but also truly do better than investor-owned platforms in the gig economy (Frenken, 2017), platform

cooperatives are dependent on how well they navigate competing demands. Neglecting either side of these paradoxical tensions risks failure, which helps to explain the relative rarity of platform cooperatives so far.

Moving paradox scholarship beyond the identification of ever new typologies of tensions and coping strategies, we develop a multi-level approach that helps to identify systemic tensions (in this case in the gig economy) which motivate business model innovation of new organisational forms (in this case platform cooperatives) and in turn may result in failed market entry during development. Thus, we respond to calls for explaining how context matters for how paradox emerges and is coped with (Jarzabkowski et al., 2019; Keller et al., 2020). Building on paradox scholarship that examines multiple levels (Jarzabkowski et al., 2013, 2019; Keller et al., 2020), we find that the gig economy context triggers salience of paradox which through the development of platform cooperatives becomes a latent but also persistent characteristic of this new organisational form (Hahn & Knight, 2021). An advantage of this multilevel approach is that the interorganisational system is fully considered, expanding on previous research on tensional knots that usually consider just two levels of analysis (Jarzabkowski et al., 2022; Sheep et al., 2017). Instead of emphasising the uniqueness of platform cooperatives, we argue that the multi-level approach can be applied in paradox research on other forms of cooperatives or social enterprises too since these are likely also motivated by systemic tensions. Doing so might also open up more connections between paradox and system perspectives (Schad & Bansal, 2018), like grand challenges and wicked problems.

As any research, this study also has its limitations. First, there is a danger of selection bias because failed cases are harder to identify and potentially many more platform cooperatives never make it past the drawing board. This may imply an underestimation of the competing demands that complicate the development of platform cooperatives. Future research should therefore track platform cooperatives over longer periods of time, ideally in comparison to

the development of investor-owned platforms. Second, the study focused on platform cooperatives in the beginning phase of their organisational lifecycle and is therefore less informative about how they can become resilient in the long run. Coping with paradox likely looks different in different stages of organisational development (Chowdhury et al., 2021). Although outside the scope of this chapter, these are important subjects for further research.

Notwithstanding such limitations, our research sheds light on the value of platform cooperatives compared to other strategies for decent work in the gig economy like government regulation or union campaigns (Lenaerts et al., 2018). Rather than being a substitute, the findings demonstrate that platform cooperatives are almost never the first strategy considered by their founders but that they help to cope with ambiguities, complex goals, and conflicting stakeholder interests that pre-exist in the gig economy. Although paradoxical tensions complicate the formation of platform cooperatives, our research may also offer inspiration and confidence to practitioners who want to start a platform cooperative that embracing these tensions ultimately helps the development of their organisation.

4. Member commitment to platform cooperatives

4.1 Introduction

Since the late 1970s, European labour markets experienced an increase in flexible types of work that depart from the standard employment relationship (Kalleberg, 2000). 'Gig work' is only the latest iteration of this much longer trend, which concerns short-term services that are typically organised through labour market intermediaries (Koutsimpogiorgos et al., 2020). The gig economy is not limited to a particular sector, but ranges from low-skilled logistics jobs to knowledge and creative freelance work. Because they are commonly self-employed, gig workers fall outside the scope of traditional unions and labour laws in modern welfare states, while often also lacking the capability or desire of becoming full-flung entrepreneurs (Woodcock & Graham, 2020). This raises their risks of precarity and dependence on labour market intermediaries (Vallas & Schor, 2020). In other words: gig workers fall through the cracks of existing labour market institutions.

Recently, the search to fill these institutional cracks around gig work turned to the potential of worker cooperatives (Cheney et al., 2014; Eum, 2019; Schor, 2020). A worker cooperative is defined as a business enterprise that is collectively owned and democratically governed by its worker-members to serve their mutual benefit (Vieta et al., 2016). Applied to gig work, cooperatives might provide protections against precarity and operate as a shared enterprise in which individual economic activities can be pursued (Koene & Pichault, 2021). In particular, these cooperatives may offer members salaried employment with associated labour rights, while practically letting them continue to do their work as autonomously as independent freelancers (Bajard, 2020). How this works is that members obtain a non-permanent employment contract, which allows them to accept or decline gigs that clients request from the cooperative while also finding gigs outside of the cooperative. As such, these new worker cooperatives operate much like other labour market intermediaries but with the key

difference being that collective ownership allows for organising protections against precarity and removing dependence on outside owners (Koene & Pichault, 2021).

To be viable and remain resilient, it is known that worker cooperatives require a high commitment for continued membership (Hidalgo-Fernández et al., 2020; Jussila, Byrne, et al., 2012; Oliver, 1984). One reason for this is because in these organisations workers are not only contributing with their labour, but often also provide some capital input and have a role in decision-making (Vieta et al., 2016). In contrast to less institutionalised forms of collective action, worker cooperatives therefore demand a long-term commitment of members. Research also shows that having a lower commitment results in workers to exit their cooperative more often than using voice as a strategy to address grievances (Hoffmann, 2006). Worker cooperatives may incentivise their members through fulfilling material needs, but also by addressing idealistic or social motives (Rothschild-Whitt, 1979). Nevertheless, it remains unclear whether cooperatives can generate enough commitment among gig workers to survive. The apparent tension between gig work as highly individualist and cooperatives as highly collectivist requires attention in particular.

The fragmented nature of non-standard types of employment is typically regarded as an obstacle to collective action for two reasons (Kalleberg, 2000; Vereycken et al., 2021). First of all, gig workers engage in various jobs, work different hours, may fall under dissimilar legal regulations, and do not always intend to continue working in the gig economy, which makes it difficult to find shared interests with respect to working conditions. It is well recognised in the literature on cooperatives that such heterogeneity could undermine member commitment for individuals with more deviating preferences from the collective choice (Belloc, 2017; Höhler & Kühl, 2018), but empirical research is still lacking. Secondly, gig workers also usually work on their own, geographically dispersed, and in competition with each other. This stands in stark contrast to the social embeddedness that is at least traditionally

central to the functioning of cooperatives as member communities (Levi & Pellegrin-Rescia, 1997). Social embeddedness refers to the social relations between members as a form of social capital that functions as an important pillar for member commitment to worker cooperatives (Kanter, 1968). Both preference deviation and social disembeddedness reflect an unsatisfying socioeconomic relationship between individual members and the cooperative as a whole, thereby inciting members to re-evaluate their commitment to the cooperative. Our study thus sets out to answer the following research question:

To what extent do preference deviation and social disembeddedness negatively affect gig workers' commitment as members of a cooperative?

The remainder of this chapter is structured as follows. Section two elaborates on member commitment as a challenge for cooperatives of gig workers, and hypothesises how preference deviation and social disembeddedness negatively affect commitment. Next, we report on the survey data collection as it was carried out within four interconnected cooperatives of gig workers, and set out our statistical models. The results support our expectations that worker-members with more deviating preferences and less social embeddedness have a lower commitment towards their cooperative. These findings are not only relevant to advance scholarship on the gig economy and worker cooperatives, but also have implications for policymakers looking to implement employee ownership and participation to increase security in flexible labour markets. We reflect on this in the concluding section.

4.2 Theory

Employee ownership and participation in decision-making increasingly gain attention in the literature for their anticipated favourable outcomes on both individual workers and organisational performance (O'Boyle et al., 2016; Weber et al., 2020). The reasoning is that more profits are then in some form returned to the workers or reinvested into the enterprise. This holds for worker cooperatives, but also for less extensive versions of employee

ownership and participation such as employee stock ownership plans and work councils. Interest in ownership and participation by workers is also grouped under the concept of workplace democracy (Landemore & Ferreras, 2016), which is best reflected in most worker cooperatives by the principle of 'one member, one vote'. Nevertheless, the same literature demonstrates that workers' attitudes and behaviour are not automatically affected by co-owning a firm or participating in its decision-making (Basterretxea & Storey, 2018). Instead, the anticipated effects on individual workers and organisational performance would depend on the workforce and its management (Meyers, 2011). It is therefore not possible to assume that member commitment to worker cooperatives is of a high level by default.

There are various perspectives on what commitment to an organisation means (Kanter, 1968; Meyer et al., 2002). In this chapter, we define member commitment as the desire for continued membership because of an emotional attachment and long-term dedication to the cooperative. Such affective commitment has been identified as the most important form of commitment to conventional firms for a wide range of performance indicators such as productivity and employee turnover (Meyer et al., 2002). This definition also most closely resembles the bond of devotion as expressed by Hirschman's concept of loyalty, which relates to greater member participation in decision-making of worker cooperatives and lower indifference or exit (Hoffmann, 2006).

Preference deviation

The challenging nature of preference deviation for cooperatives of gig workers can be illustrated through the problem of collective choice (Dow & Skillman, 2007; Hansmann, 1996). Building on transaction cost theory (Williamson, 1980), this problem starts from the premise that any firm with multiple owners incurs costs to aggregate their preferences into organisational priorities. One type of these costs is related to the decision-making process itself (Hansmann, 2012), such as the time and effort of negotiation between owners. The other type of costs originates from

legitimacy problems in the resulting decision, since the preferences of a pivotal voter do not necessarily reflect those of the entire membership (Hart & Moore, 1996). In turn, the argument goes, both costs increase the more heterogeneous the preferences are among owners. The result of this are relatively higher costs for worker cooperatives than for conventional firms. That is because capital-suppliers have a shared interest in profit maximisation regardless of their background, while labour-suppliers have a plethora of different interests depending on their background (Dow, 2018). Naturally, preference heterogeneity occurs frequently in cooperative enterprises (Belloc, 2017; Höhler & Kühl, 2018) and common-pool resource management more generally (Van Klingeren & De Graaf, 2021). As such, the collective choice problem is often posited as an explanation for the relative rarity of worker cooperatives compared to conventional firms (Dow & Putterman, 2000), especially in sectors with a heterogeneous workforce.

At the start of a cooperative's lifecycle, however, the costs of collective choice would likely be lower when its membership is still small and relatively homogenous. Some cooperatives even choose to stay small and homogenous by design, or become active in sectors where these conditions are normal for businesses. Yet, the larger and more heterogeneous a membership becomes, the harder it will be to agree on the utility of working together in a cooperative (Benham & Keefer, 1991; Gupta, 2014). For example, younger workers might prioritise flexibility and learning opportunities while older workers attach more value to job security and protection against illness. Not all differences in background necessarily result in more heterogeneous preferences (Cook, 2018), but finding shared interests in a highly fragmented context such as the gig economy is expected to be more difficult (Dunn, 2020; Friedman, 2014). In other words, the costs of collective choice will likely put pressure on the viability of worker cooperatives in the gig economy.

In reality it may well be possible to reduce the costs of negotiation with good design of governance (Iliopoulos & Valentinov, 2017). However, worker-

members whose preferences are inadequately reflected in the cooperative's organisational priorities will likely still lose commitment (Apparao et al., 2019). Minimising negotiation costs, for example by leaving most decisions to an elected board, could also increase legitimacy costs if decisions poorly reflect the preferences of the membership as a whole (Ng & Ng, 2009). Even mass involvement in decision-making may result in greater legitimacy costs if decisions are taken against the interests of a small number of highly successful members (Burdín, 2016). Whatever method of aggregating preferences into organisational priorities is adopted by a cooperative, some members' preferences will deviate more than for others. Research on national elections similarly shows that the more voters' positions deviate from actual policies, the lower is their satisfaction with the democratic system (Kim, 2009). This leads us to the following expectation:

H1: The more members' preferences deviate from organisational priorities, the lower their commitment will be towards the cooperative of gig workers.

Social disembeddedness

Individual preferences are certainly an important motivator for cooperative members (Jussila, Goel, et al., 2012a), but commitment might also originate from the will to work for and as part of a community (Rothschild-Whitt, 1979). Experimental research shows that a substantial share of people would still want to be a cooperative member, even when not being a member yields better monetary outcomes for them individually (Abraham et al., 2020). Next to their formal organisational structure, cooperatives need to be understood as communities based on social relations, trust, and solidarity between members (Puusa et al., 2016). When absent or neglected, community itself can become a challenge for cooperatives.

The challenging nature of this community role for cooperatives of gig workers can best be explained through the notion of social embeddedness. Based on the work of Karl Polanyi, social embeddedness refers to the degree to which economic activity "is linked to or depends on action or institutions

that are non-economic" (Granovetter, 2005, p. 35). For example, working conditions are not only shaped by markets, but also by political choices, social relations, and cultural norms. A gig worker is often less embedded than regular employees in two ways: isolation from other workers (Ashford et al., 2007) and commodification of labour (Wood et al., 2019b). First, isolation refers not just to working alone instead of in a team, but also to geographical distance between gig workers who share no common work location. Algorithmic management, as applied by digital labour platforms, further restricts the opportunities for meaningful contact between gig workers (Heiland, 2021). Next, commodification occurs by labour market reforms that promote competition between gig workers (Greer, 2016). As competitors, they are less likely to mingle with their peers and become part of a collective (Wood et al., 2018).

Cooperatives are traditionally seen as highly embedded, because their activities are subordinate first to the members' interests and only second to outside market forces (Dufays et al., 2020; Levi & Pellegrin-Rescia, 1997). Embeddedness in cooperatives is also based on the exchange of help and support between members via informal social ties as a distinct form of social capital (Jussila, Goel, et al., 2012b). We expect that members who are socially embedded gain a 'we-feeling' that generates commitment to the cooperative (Kanter, 1968). If members lack social embeddedness, on the other hand, they will likely lose commitment as their emotional attachment to the cooperative is eroded (Puusa et al., 2016). Workers in a situation of social disembeddedness, which as we argued is the case for gig workers, will therefore more likely treat cooperative membership as purely instrumental and easily disposable. Cooperatives might try to counteract the disembeddedness of gig workers, and to the extent they succeed, we hypothesise:

H2: The more members are socially embedded, the higher their commitment will be towards the cooperative of gig workers.

Building on the notion of embeddedness, Zelizer (2012) suggests that social considerations are also actively weighed in economic relations. This means that if cooperatives of gig workers succeed in creating a vibrant community, their members will likely weigh not just their own preferences with respect to organisational priorities, but also those of other members (Puusa et al., 2016). Despite having deviating preferences, members who are more socially embedded then settle for a compromise without large legitimacy costs because they perceive it as a socially just distribution of organisational resources. It is therefore expected that social embeddedness compensates for preference deviation at least to some extent:

H3: Social embeddedness decreases the negative relationship between preference deviation and member commitment.

4.3 Context of the study

We tested our hypotheses on survey data from a network of cooperatives in Italy. The context of this study deserves special attention for three reasons. First, gig work is widespread in the Italian economy. Relatively late, but more so than other European countries, Italy reformed its labour market since the late 1990s - early 2000s in order to increase flexibility by removing regulatory constraints for non-standard employment (Berton & Richiardi, 2012). Unionisation declined from 50% to 35% between 1980 and 2010, which was not offset by an increasing union presence in the service sector or by traditional confederations creating new unions and self-help associations for non-standard workers (Regalia, 2012). In the aftermath of the 2008 financial crisis, a new Jobs Act was adopted by the Italian government that further increased atypical contracts and self-employment (Fana et al., 2016). In response to these institutional changes, new worker cooperatives and other alternative organisations were set up to provide gig workers with labour rights and a shared setting to pursue their individual economic activities (Mondon-Navazo et al., 2022).

Second, as Italy leads the world in numbers of worker cooperatives (Pérotin, 2013), suitable cases are more prevalent. Its cooperative movement has a long history and 7.4% of total employment in Italy can be found within cooperatives (Navarra, 2016). New forms, including cooperatives of gig workers, might take root more easily in this institutional context. A specific characteristic of Italian worker cooperatives is that most profits go in a collective fund that cannot be appropriated by members as residual claimants, but that is used for reinvestment in the firm (Navarra, 2016). How the fund is used, is subject to collective decision-making and therefore to members' preferences with respect to their work conditions. Recently, the reputation of worker cooperatives in Italy has become blemished by so-called 'false cooperatives' set up by employers as a legal shell to outsource labour while eluding legal compliance and taking advantage of favourable cooperative legislation (Iannuzzi & Sacchetto, 2022). At the same time, there is relatively strong institutional support for worker cooperatives in Italy as a policy strategy to save jobs during crisis and stimulate decent work conditions. For example, the Marcora Law created a general fund for new cooperatives and also allows unemployed workers to obtain start-up capital (at the value of unemployment benefits they would otherwise receive) to convert companies in crisis into cooperatives (Vieta, 2019).

Third, Italy was one of the hardest hit countries by the COVID-19 pandemic and the following socioeconomic crisis (Alesina & Giavazzi, 2020). Since data was collected during this period, we must take into account with regard to external validity that participants likely re-evaluated their cooperative membership which made their responses (either positively or negatively) more pronounced. Two other cooperatives of gig workers that were asked to participate in this research rejected because they feared it would put too much stress on their members during these circumstances. At the same time, new worker cooperatives could play a key role in economic recovery post-COVID-19 (Billiet et al., 2021a), in particular by providing precarious gig workers with access to labour rights and economic opportunities.

4.4 Methodology

Data

To test our expectations about member commitment, we gathered cross-sectional survey data from an Italian network of four cooperatives that consists of gig workers in the cultural, ICT and education sectors. In contrast to cooperatives of single occupational groups sharing an office (e.g. dentists, lawyers) or social cooperatives that help unemployed people engage in entrepreneurship, these cooperatives of gig workers respond to the challenges of non-standard employment faced by diverse project-based service providers (Koene & Pichault, 2021). Some examples of members' occupations include sound technicians, photographers, web developers, and piano teachers. This unique case was selected because of its relatively large size, which is only matched by three other cooperatives of gig workers in Europe (Eum, 2019), so that we could collect a sufficiently sized sample of gig workers and observe potential detrimental effects of preference deviation. The network of worker cooperatives specialises in providing professionals a work environment that lets them autonomously develop their economic activities with shifting clients, while at the same time giving them access to labour rights through on-call or smart worker contracts. Each of the four cooperatives further organises specific services for their members such as training, administration, and legal support. Members pay an annual contribution and a certain percentage on every transaction with a client via the cooperative. Clients gain access and are matched to gig workers by the cooperative functioning as a single supplier. While the network of four cooperatives has physical offices all over Italy, many of its activities are in fact organised through a digital platform. This includes the services to members, member participation in cooperative decision-making, and matchmaking between worker-members and their clients. For that reason, it also self-describes as a platform cooperative (Scholz & Schneider, 2016). Next to these shared physical and digital infrastructures, each of the four cooperatives has an annual general assembly as its sovereign body that operates under the principle of one-member one-vote to decide on important matters and elects a board of directors to carry out daily management.

Our contact person of the cooperatives provided useful feedback to make sure that survey questions would fit the particular setting. Our data collection was then approved by the ethics review board of the first author's university in December 2020. The survey was distributed among members of the cooperatives through an online questionnaire, which was made available in Italian and English. As a non-monetary incentive, some items on the questionnaire were used to display a work preference profile at full completion that, resembling the outcome of a personality quiz, provides insight into what they find most important in the workplace. Of the total membership, far fewer were actively working through their cooperative. This can partly be explained by the irregular nature of gig work, especially in the cultural sector, but there also seems to be a significant share of ghost-members. Between late January and mid-March 2021, n = 643 members responded to the questionnaire. This corresponds to a response rate of approximately 7.5% on total membership and 71.8% if considering active members only. The final sample of usable and completed responses consisted of n = 425, distributed over the four cooperatives as follows:

- XL cooperative = 6861 total members (active in past months: 448), with n = 304
- L cooperative = 1085 total members (active in past months: 367) with n = 56
- M cooperative = 507 total members (active in past months: 78) with n = 55
- S cooperative = 68 total members (active in past months: 2) with n = 10

Measures

Our dependent variable **member commitment** was operationalised using the eight-item Affective Commitment Scale of Allen and Meyer (1990), but rephrased to cooperatives. An example of an item is "I would be happy to spend the rest of my career with my cooperative" (see Appendix B1 for a detailed list of all items). Five-point Likert scales were used to measure

participants' agreement with the statements (1 = totally disagree, 5 = totally agree), and the reliability of these items was high (Cronbach's α = .88). Benchmarked against affective commitment among employees of regular Italian firms (*M* = 3.17, *SD* = 0.85) (Odoardi et al., 2019), the average commitment in our study of gig workers as cooperative members was slightly higher (*M* = 3.20, *SD* = 0.80) (see Table 4.1). However, it is lower compared to the commitment among employees of cooperatives in a recent Ecuadorian study (*M* = 3.89, *SD* = 0.47) (Hidalgo-Fernández et al., 2020).

The first independent variable **preference deviation** was measured by calculating discrepancy scores between individual preferences and organisational priorities concerning work conditions. Respondents were first asked to rate on a five-point Likert scale how important a list of thirteen items was to them with regard to work (1 = not at all important, 5 = extremely important), and second to what extent their cooperative provides them with each of these thirteen items (1 = strongly disagree, 5 = strongly agree). The items were selected based on their relevance to this study from Ros et al. (1999) and Lyons (2003). We then calculated the discrepancy scores by subtracting organisational priorities from individual work preferences (Cennamo & Gardner, 2008), so that a positive difference reflects under-provision on member preferences and a negative difference indicates over-provision. For our main analyses, we took the mean over these discrepancy scores as a formative construct. On average there is a small positive difference (M = 0.40, *SD* = 0.76), which implies that preferences more often deviated from organisational priorities in a way that reflects under-provision than over-provision. Additionally, we conducted an exploratory factor analysis on the underlying work preference dimensions and used the resulting factors to further disentangle the effect of preference deviation on extrinsic, prestige, social, and intrinsic work preferences.

Social embeddedness was measured as a form of social capital among members through a resource generator instrument (Van Der Gaag & Snijders, 2005). We asked respondents if they knew another worker who could give

them access to eleven work and organisation related resources (see Appendix B3 for a detailed list), and counted those resources for which they indicated there was another member of their cooperative. These eleven items were adjusted from Van Der Gaag et al. (2010) to the specific target group of gig workers, for example someone "who can take over some of your tasks temporarily" or "with whom you can informally chat about what is currently happening in the cooperative". Participants reported on average close to five out of eleven resources that a fellow member could provide them with (M = 4.65, SD = 3.25).

Control variables included **age** (in years) and **gender** (male, female, and non-binary/non-disclosed) as demographic characteristics. We also controlled for three membership properties: **cooperative size**, **working hours via cooperative**, and **membership length**. Categorising the four cooperatives by size allowed us to distinguish whether participants were member of the smallest S), medium (M), large (L) or extra-large XL) cooperative. Working hours via the cooperative were measured per week and membership length was measured in years.

Analytic approach

First, we report the correlation matrix including bivariate and point-biserial correlation coefficients. To analyse the independent effects, we estimated ordinary least square (OLS) regression models since all Gauss–Markov assumptions were satisfied. After the main analyses, we conducted an exploratory factor analysis on the items in our preference deviation scale to distinguish between deviating preferences on extrinsic, prestige, social and intrinsic work preferences. The extracted factor scores were used in a final regression model to analyse which types of preference deviation matter most for explaining member commitment.

4.5 Results

Table 4.1 presents the descriptive statistics and correlation matrix. As expected, we find a relatively strong negative correlation between preference

deviation and member commitment (r = -0.50, p < .001), and a moderate positive correlation between social embeddedness and member commitment (r = 0.41, p < .001). A few other significant correlations are interesting to point out. For example, participants with more deviating preferences are also less socially embedded (r = -0.22). Members older in age report a higher member commitment than younger members (r = 0.12). We also find that men are more socially embedded among fellow members (r_{pb} = 0.12). Members of the XL-cooperative experience a lower commitment (r_{pb} = -0.14) and more deviating preferences (r_{pb} = 0.12) than members of the smaller cooperatives. In addition, members with more working hours via the cooperative are more socially embedded (r = 0.16), whereas respondents with a longer membership tenure report more deviating preferences (r = 0.20).

Table 4.1 Descriptive statistics of variables in analyses

Variable	*M* / %	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Member commitment	3.2	0.8	—												
2. Preference deviation	0.4	0.8	-.50***	—											
3. Social embeddedness	4.7	3.2	.41***	-.22***	—										
4. Age	42.9	10.4	.12*	-.06	-.05	—									
5. Male	72.2%		.01	.05	.12**	.03	—								
6. Female	26.1%		-.00	-.04	-.12*	-.04		—							
7. Non-binary / undisclosed	1.6%		-.03	-.02	-.03	.04			—						
8. Cooperative XL	71.5%		-.14**	.12*	.06	-.07				—					
9. Cooperative L	13.2%		.08	-.12*	-.05	.05					—				
10. Cooperative M	12.9%		.09	-.03	-.04	.05						—			
11. Cooperative S	2.4%		.03	-.03	.03	-.04							—		
12. Working hours via cooperative	22.6	18.8	.08	.04	.16**	-.00	.03	-.05	.06	.07	-.07	-.05	.03	—	
13. Membership length	5.1	4.1	-.03	.20***	.00	.28***	.08	-.10*	.06	.20***	-.07	-.19**	-.03	.08	—

Note. $n = 425$.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

To test our hypotheses, we estimate three OLS regression models on member commitment (see Table 4.2). Model 1 only includes the control variables, which explains just 2.5% of the variance in member commitment: $F(8, 416) = 2.35$, $p = .017$. Model 2 adds the independent variables, which increases the explained variance up to 36.2%: $F(10, 414) = 25.09$, $p < .001$. We find a significant negative effect of preference deviation on member commitment ($b = -0.46$, $p < .001$), thus supporting H1. This means that, keeping all else constant, members with an average preference deviation of 1 (implying under-provision) have a 0.46 lower commitment towards their cooperative on a five-point scale. H2 is also supported, since social embeddedness has a significant positive effect on member commitment ($b = 0.08$, $p < .001$). This means that for every extra resource that members can access via social ties with other members, their commitment towards the cooperative is 0.08 higher. Or reversely, members who are less socially embedded have a lower commitment towards their cooperative. The same control variables as in Model 1 are also significant in Model 2. Age has a positive effect on member commitment ($b = 0.01$, $p = .036$), meaning that a member who is one year older than another member would score 0.01 higher on member commitment. Moreover, members of the medium-sized cooperative held a higher commitment than members of the XL-cooperative ($b = 0.28$, $p = .004$). While not significant, the coefficient of the L-sized cooperative is also positive yet smaller ($b = 0.14$, $p = .147$). For the smallest cooperative ($n = 10$) we could likely not detect a significant effect because of a lack of power. Model 3 then adds the interaction term, which has the same explained variance as Model 2 at 36.2%: $F(11, 413) = 22.89$, $p < .001$. We find no support for H3, because social embeddedness does not significantly moderate the relationship between preference deviation and member commitment ($b = 0.01$, $p = .331$).

Table 4.2 Main OLS regression analyses on member commitment

	Model 1		Model 2		Model 3	
	b	*SE*	*b*	*SE*	*b*	*SE*
Preference deviation			-0.46***	0.04	-0.51***	0.06
Social embeddedness			0.08***	0.01	0.07***	0.01
Preference deviation * Social embeddedness					0.01	0.01
Age	0.01*	0.00	0.01*	0.00	0.01*	0.00
Female (male = ref)	-0.05	0.09	0.02	0.07	0.02	0.07
Non-binary / undisclosed (male = ref)	-0.30	0.31	-0.32	0.25	-0.31	0.25
Cooperative L (XL = ref)	0.23	0.12	0.14	0.10	0.14	0.10
Cooperative M (XL = ref)	0.25*	0.12	0.28**	0.10	0.28**	0.10
Cooperative S (XL = ref)	0.24	0.26	0.15	0.21	0.16	0.21
Working hours via cooperative	0.00	0.00	0.00	0.00	0.00	0.00
Membership length	-0.01	0.01	0.01	0.01	0.01	0.01
Intercept	2.69***	0.17	2.56***	0.15	2.58***	0.15
Adjusted R^2	.02		.36		.36	

Note. n = 425.
*p < .05. **p < .01. ***p < .001.

To decompose the effect of preference deviation, we use an exploratory factor analysis with maximum likelihood estimator and varimax rotation on its underlying items. We find a four factor-solution gives the best fit and represents deviating preferences on extrinsic (Cronbach's α = .82), prestige (Cronbach's α = .75), social (Cronbach's α = .73), and intrinsic (Cronbach's α = .74) work preferences (see Table 4.3). One item loaded slightly higher on the prestige factor than the intuitively more logical intrinsic factor. Yet overall the four factors were clearly interpretable. Table 4.4 presents an additional regression model with the four extracted factor scores as predictors of member commitment. This model explains 26.3% of the variance in member commitment: $F(4, 420) = 38.80$ $p < .001$. Considering that factor scores are standardised, we find that deviating preferences on extrinsic work conditions have by far the largest negative effect on member commitment (b = -0.33). Deviating preferences on social (b = -0.18), intrinsic (b = -0.17), and prestige (b = -0.15) also have a significant negative effect on member commitment, albeit smaller. This gives further meaning to the

influence of preference deviation, which we will discuss in the following section.

Table 4.3 Factor analysis on preference deviation types

	Loadings			
	Factor 1: Extrinsic Work Conditions	Factor 2: Prestige Work Conditions	Factor 3: Social Work Conditions	Factor 4: Intrinsic Work Conditions
Doing work that makes a helpful CONTRIBUTION to society; making a difference			.46	
Working with agreeable and friendly CO-WORKERS with whom you could form friendships			.61	
Having the ability to WORK WITH PEOPLE			.75	
Doing work that affords you a good SALARY	.64			
Having the assurance of JOB SECURITY	.69			
Having PROTECTIONS against loss of income due to unemployment, sickness or accidents	.64			
Having the AUTHORITY to organize and direct the work of others		.58		
Doing work that is PRESTIGIOUS and regarded highly by others		.63		
Having the ability to INFLUENCE organizational outcomes		.67		
Doing work that provides change and VARIETY in work activities		.48		.43
Having the AUTONOMY to make decisions about how you do your work and spend your time				.46
Having the opportunity to CONTINUOUSLY LEARN and develop new knowledge or skills				.75
Having the opportunity for ADVANCEMENT in your career	.60			
Eigenvalue	2.11	1.96	1.52	1.41

Note. Loadings < .4 are suppressed

Table 4.4 Additional OLS regression analysis of preference deviation types on member commitment

	b	*SE*
Preference deviation on…		
Extrinsic work conditions	-0.33***	0.04
Prestige work conditions	-0.15***	0.04
Social work conditions	-0.18***	0.04
Intrinsic work conditions	-0.17***	0.04
Intercept	3.20***	0.03
Adjusted R^2	.26	

Note. $n = 425$.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

4.6 Conclusions and discussion

Coming back to our research question, that is whether heterogeneous preferences and social disembeddedness negatively affect gig workers' commitment as members of a cooperative, the findings show that members with more deviating preferences and less social embeddedness among fellow members do in fact have a lower commitment towards their cooperative. However, in contrast to what was expected, social embeddedness did not compensate for the negative influence of deviating preferences on member commitment. The analyses also demonstrated that preference deviation from organisational priorities matters most on extrinsic work conditions for explaining member commitment. Taken together, our findings shed light on the challenges of creating resilient worker cooperatives in the gig economy.

In line with literature on the collective choice problem in worker cooperatives (Dow & Skillman, 2007; Hansmann, 1996), the current study finds that if a member's preferences deviate more from perceived organisational priorities, their commitment towards the cooperative is lower. This means that in a context of high preference heterogeneity, as is the case for the gig economy (Dunn, 2020), the legitimacy costs of aggregating all

members' preferences to a satisfactory whole will be quite substantial for worker cooperatives (Belloc, 2017; Hart & Moore, 1996). The analyses also showed that preference deviation is a more prominent problem in the largest of the four cooperatives in our study, which supports the idea of a cooperative lifecycle with different challenges at each stage of growth (Cook, 2018). Interestingly, although we had no prior expectations on this, additional analyses showed that deviating preferences matter most for member commitment concerning extrinsic work conditions. This could reflect an instrumental motivation of gig workers for organising in a worker cooperative, especially for professionals in individually-oriented and competitive sectors, or that basic material needs are simply most pressing for workers in general. The economic crisis during the COVID-19 pandemic might also have elevated the importance of this type of motivation as many gig workers (especially in the cultural sector) could not generate an income from work and thus had greater needs in this area. Further research is needed to determine which motivators are the most important for gig workers as members of a cooperative.

Our finding that members with more social embeddedness among fellow members also have higher levels of commitment towards their cooperative, supports the notion that members who are socially embedded gain a 'we-feeling' that generates commitment to the cooperative (Kanter, 1968). When workers are less embedded because of isolation and competition, as can be assumed for many gig workers, they will find it relatively difficult or even unnecessary to form an emotional attachment to the cooperative (Puusa et al., 2016). While social embeddedness in the member community helps to form a commitment to the cooperative, we do not find evidence that social embeddedness negates the negative impact of preference deviation on member commitment. Social considerations about the preferences of other members do not make up for a difference between individual preferences and organisational priorities (Zelizer, 2012). A limitation of this study is that we cannot establish causality empirically, which means that the effect of social embeddedness could also be due to selection processes: more committed

members likely also become more socially embedded as they meet peers via their involvement in the cooperative. Future research could further disentangle the direction of this association, or whether we are dealing with a two-way relation, through longitudinal analysis.

At first sight, our research results seem to paint a rather bleak picture for worker cooperatives in the gig economy given that we know deviating preferences and social disembeddedness are more likely to occur among gig workers than regular employees. Yet the average level of member commitment in the studied cooperatives is similar to the commitment of employees in regular Italian firms (Odoardi et al., 2019), and somewhat lower than the commitment among employees in a study of cooperatives in Ecuador (Hidalgo-Fernández et al., 2020). Still, the least committed members likely did not respond to our survey at all. If that is the case, we missed responses of the least committed members and overrepresented the more committed members. Considering this selection bias, reality is likely even more pessimistic than our results suggest. Despite in-depth qualitative research on the subject (Sobering, 2021), there is currently a lack of statistics on worker cooperatives that go beyond simple efficiency measures, making it difficult to evaluate when member commitment becomes too low. Further research is needed that compares new worker cooperatives in the gig economy with more traditional worker cooperatives. Especially of interest is the tipping point at which member commitment becomes 'too low' and thus results in an indifferent or even declining membership (Hoffmann, 2006).

Worker cooperatives are increasingly suggested as a remedy for problems with precarity and economic dependence that plague the gig economy (Cheney et al., 2014; Eum, 2019; Schor, 2020). Nevertheless, the current study shows that the cards are stacked against these worker cooperatives and it takes more than just a different ownership and governance structure of labour market intermediaries to gain commitment of gig workers. We can derive a few practical implications. The ability of worker cooperatives to address problems in non-standard forms of employment should not be

overestimated: on their own, they are unlikely to fill the institutional cracks left by retreating welfare states and declining unions. Still, these worker cooperatives strengthen the position of gig workers who otherwise fall through the cracks of existing labour market institutions. One way to limit problems of preference deviation could be stricter selection processes, membership criteria, or restriction to one or a few similar occupations. Another option could be to create a federation of worker cooperatives in the gig economy, with a maximum membership size and more homogeneous preferences in each individual cooperative. Gig workers in low-skilled, local tasks like food delivery or ride hailing might be more socially embedded than the more entrepreneurial professionals surveyed in this research. This calls for further investigation of worker cooperatives in different sectors of the gig economy.

5. Member participation in the decision-making of platform cooperatives

5.1 Introduction

Platform cooperatives bring together the digital tools of platforms to intermediate economic or social interaction with the ownership and governance structure of cooperatives (Foramitti et al., 2020; Scholz & Schneider, 2016). The idea of platform cooperatives resonates most strongly in the gig economy, where workers perform short-term paid services through labour market intermediaries (Koutsimpogiorgos et al., 2020), which includes both low-skilled odd jobs and high-skilled jobs in professional services (Vallas & Schor, 2020). A key criticism of the gig economy is the lack of influence that workers usually have on platforms' organisational decision-making, while depending on them to a large degree (Schor, 2020; Wood & Lehdonvirta, 2021). This extends beyond the issue of classifying gig workers as employees or self-employed, but also includes unilateral decisions to change the matchmaking algorithm, working conditions set by the platform, or the commission fee charged on transactions. Aiming to provide an alternative to investor-owned gig platforms, platform cooperatives are owned and governed by gig workers themselves. As such, members of platform cooperatives could participate in collective decision-making on matters such as employment status, working conditions, use of algorithms, etc. Platform cooperatives were originally heralded as a silver bullet solution to improve gig workers' influence on organisational decision-making (Scholz & Schneider, 2016). However, considering that issues of governance are historically regarded as a potential pitfall for cooperatives (Langmead, 2016; Spear, 2004), problems of participation in collective-decision making could help explain why investor-owned gig platforms currently remain dominant over platform cooperatives. Patterns of participation in platform cooperatives are then a crucial indicator for understanding their future chances and their legitimacy as democratic membership organisations. In this chapter, I study the participation in

collective decision-making of platform cooperatives that employ gig workers, and therefore should be understood as a new form of worker cooperatives.

Worker cooperatives differ from other types of enterprises by their distinct combination of employee ownership and participation in collective decision-making. In contrast to conventional firms where stock ownership determines a shareholder's voting power, worker cooperatives are employee-owned and function under the principle of one-member, one-vote (Hernandez, 2006). While worker cooperatives are far less common than consumer or producer cooperatives, it is estimated that globally over 11 million individuals are worker-members to a cooperative (Eum, 2017). The main purpose of collective decision-making in cooperatives is to ensure that the organisation is aligned with the membership's needs and goals (Spear, 2004), so that the will of the members ultimately rules. Members of worker cooperatives can participate indirectly, such as by electing a board of directors or voicing their opinion on strategic matters to leaders, but also directly, for example by taking part in budgetary decisions during the general assembly or standing for election to the board themselves (Vieta et al., 2016). Advocates of this form of workplace democracy refer to economic arguments like increased productivity (Foley & Polanyi, 2006; Mellizo et al., 2014), citizenship arguments about spillover effects on wider political participation (Frega et al., 2019; Pateman, 1970), and ethical arguments that claim workers should have the inalienable right to be involved in their organisation's decision-making (Dahl, 1985; Landemore & Ferreras, 2016).

Actually getting members to participate in decision-making is not self-evident, because participation involves democratic transaction costs – that is the costs of reaching and enforcing agreements (Pozzobon et al., 2012). Some workers come to every general assembly and may even stand for election themselves, thus forming a participation elite, whereas others refrain from participating at all (Lees & Volkers, 1996). As cooperatives grow and face pressures for greater efficiency, such inequalities in member participation

often increase and in turn their workplace democracy degenerates (Spear, 2004). For this reason, some classical theories even assert that self-governance by employees is inevitably transient (Michels, 1911/1966): either worker cooperatives would fail their business or revert to the dominant model of top-down managerial control (Cornforth, 1995).

Previous research on the drivers of member participation focuses mostly on agricultural cooperatives (Cechin et al., 2013; Morfi et al., 2021), with much less attention for the variations in participation of members in worker cooperatives (Jaumier, 2017; Romero & Pérez, 2003). Some authors stress external conditions, such as competitive pressures for greater efficiency, that would restrict worker cooperatives from running things differently in comparison with conventional firms (Sandoval, 2016). Yet market constraints "do leave cooperatives some choices to develop more democratic forms of management" (Cornforth, 1995, p. 490). Given that opportunities for participation in decision-making are available in worker cooperatives, external conditions alone cannot explain why some members would participate actively and others barely at all. Shifting attention to internal factors, Langmead (2016) discusses how informal hierarchies may arise based on leadership qualities, making participation easier and more attractive for members who are highly skilled (Summers & Chillas, 2021), well-connected to other members (Hernandez, 2006), and committed to staying in the cooperative (Hoffmann, 2006). Moreover, Ng and Ng (2009) show that when worker cooperatives grow in membership their workplace democracy is often threatened by efficiency pressures since it becomes more time-consuming and difficult for all members to have their voices heard. Class, gender and racial inequalities also do not simply disappear in worker cooperatives, but are reproduced unless specific policies are adopted to foster inclusion and representativeness in decision-making (Meyers & Vallas, 2016; Sobering, 2016).

The recent rise of platform cooperatives is often considered as enabling workplace democracy in the gig economy (Davis, 2016; Mannan, 2018),

which is also recognised as an important potential by the wider cooperative movement in Europe (Como et al., 2016). This raises the question whether platform cooperatives of gig workers also face unequal participation patterns, or whether they successfully facilitate collective decision-making on larger scales, for less committed members, in more loose-knit groups, and among members of diverse skill levels (Martin et al., 2017; Rothschild, 2016). Previous research suggests that while gig workers may be supportive of the ideals of platform cooperatives, they are more sceptical about issues of governance (Wood & Lehdonvirta, 2022).

By examining member participation in four platform cooperatives of gig workers from Italy, this study sets out to answer the following research question: *What explains the participation of worker-members in the decision-making of platform cooperatives?* It thereby contributes to scholarship on risks of degeneration for worker cooperatives (Bretos et al., 2020; Pek, 2021; Storey et al., 2014), in particular by assessing participation patterns of members in a new form of worker cooperativism. The study also contributes to a burgeoning literature on platform cooperatives (Mannan, 2018; Rothschild, 2016), specifically by analysing how they might (fail to) foster gig workers' participation in organisational decision-making. Furthermore, the findings have implications for policymakers and practitioners who want to strengthen workplace democracy (Landemore & Ferreras, 2016).

5.2 Facing challenges of degeneration in worker cooperatives

The challenge of sustaining democracy within organisations is a classic subject in political sociology. Starting from the research of Robert Michels (1911/1966) and his iron law of oligarchy, there has been much attention for tendencies of power concentration in organisations that start from democratic principles (Hartmann, 1979; Lipset et al., 1956; Voss & Sherman, 2000). Michels theorized that when democratic organisations increase in membership size, a division of labour is required with specialized leaders like managers or elected representatives. These specialized leaders would then become socially isolated and form a power elite which makes decisions

that are uncontrolled by their constituents (Diefenbach, 2019). In the literature on worker cooperatives, this tendency is better known as the 'degeneration thesis', which holds that "cooperatives will gradually become dominated by a managerial elite who will effectively take decisions in the cooperative and so undermine democracy and the influence that other workers can exert" (Cornforth, 1995, p. 488). Degeneration would often be activated by competitive pressures towards efficiency (Malleson, 2014), forcing cooperatives to limit their workplace democracy or be outcompeted on the market. However, previous research shows that it is not necessarily the case that economic success leads to the degeneration of worker cooperatives (Dean, 2019). Therefore, more attention is required for explanations based on internal factors of worker cooperatives. The concept of degeneration also suggests a normative dimension, with others even using the term 'colonisation' (Dufays et al., 2020), thus framing a transition of democratic processes to more hierarchical processes as problematic and a source of failure for worker cooperatives.

Even though Michels' theory holds true in many organisations, including some worker cooperatives (Hernandez, 2006; Varman & Chakrabarti, 2004), recent studies show that degeneration of internal democratic processes is neither a universal nor an irreversible process (Diefenbach, 2019; Langmead, 2016). Cooperatives are capable of resisting degeneration, for example by adopting policies against the employment of non-members who lack voting power (Storey et al., 2014). They can also revitalize a weakened workplace democracy through strategies of regeneration, for instance by stimulating member participation with cooperative education (Bretos et al., 2020). Some scholars suggest that greater direct democracy could prevent power concentration in worker cooperatives, by means of consensus decision-making or delegating power to member committees (Leach, 2016). Others propose alternative methods for selecting representatives, like sortition instead of elections, to make boards more representative (Pek, 2021). Meyers and Vallas (2016) do not suggest different democratic structures, but identify diversity regimes that foster the inclusion of marginalized groups in

governing worker cooperatives. The literature makes no mention of compulsory participation in the decision-making of worker cooperatives, as is customary for voters in some national elections.

Stated in terms of a social dilemma, while full participation would best reflect the preferences of a cooperative's membership as a whole, each member is incentivized to remain inactive in collective decision-making because their individual vote is unlikely to make a pivotal difference and democratic transaction costs are typically non-zero (Wippler, 1986). In other words, participation requires time and effort while individual members have little influence on their preferred decision outcomes. If all of the members would follow such reasoning, workplace democracy collapses. However, in reality it is more often the case that some members participate actively and others barely at all (Lees & Volkers, 1996). Hence, rather than assuming that degeneration is inevitable or starts with corruption at the top, it makes more sense to study to what extent members of worker cooperatives are willing and able to participate in decision-making so that they can influence outcomes and hold leaders accountable. As said by the founder of renowned worker cooperative Mondragón in Basque Country, Spain: "Our beloved democracy can degenerate into a dictatorship through the abuse of power by those at the top – but also through the failure of those at the bottom to use the power they have" (Erdal, 2011, p. 196).

Despite the aim of platform cooperatives to foster gig workers' participation in organisational decision-making (Scholz & Schneider, 2016), they could still fall in the same participation inequality trap. A pioneering case study by Martin et al. (2017) on platform cooperative Freegle, which allows users to gift unwanted consumer goods to each other, concludes with 'cautious optimism' on the ability of its members to influence decision-making. Yet, as these scholars point out as well, this finding cannot simply be generalized to worker-owned platform cooperatives. In the next section, I therefore hypothesize participation patterns for platform worker cooperatives based on

theory and empirical findings of participation inequality in more traditional worker cooperatives.

5.3 Hypotheses on member participation

Taking Olson's (1965) logic of collective action as a starting point, it can be supposed that members will be less incentivised to participate in decision-making the larger a worker cooperative is in terms of its membership. That is because the probability of decisive influence on desired outcomes is lower with larger membership size, which helps explain why inactivity of members in decision-making is more commonly found for larger cooperatives where it is possible to free ride on the participation of other members (Ng & Ng, 2009; Spear, 2004). Moreover, democratic transaction costs will also be higher with increasing cooperative size as deliberation in meetings takes longer and the complexity of operations makes it more difficult for members to understand (Nilsson et al., 2009). This is also in line with Michels (1911/1966) who theorized that with greater organisational size and complexity, a small group of members would specialize in leadership. A tipping point occurs when democratic transaction costs are higher than the probability of decisive influence. It is hard to determine what constitutes a large enough worker cooperative for this tipping point to occur, but Pérotin (2013) shows that in France and Uruguay only about 0.1% of all worker cooperatives have over 1000 employees. Hence, I expect that:

H1: The larger a worker cooperative is, the less likely its members will participate in decision-making.

In contrast, incentives to participate in decision-making are greater for members with an intention to stay part of their cooperative because for them the decision outcomes cast a longer 'shadow of the future' (Axelrod, 1984). In particular, with the intention of continued membership, the value of exercising influence on desired outcomes (or the risk of not exercising that influence) can become greater than the benefit of shirking participation in decision-making. In their research on agricultural producer cooperatives in

Brazil, Cechin et al. (2013) find that preferences for continued membership relate positively to participation in general assemblies but not to more active forms of participation in boards or committees. Hoffmann's (2006) comparative research on worker cooperatives and conventional firms shows that employees more often voice their opinion in worker cooperatives because of affective commitment towards the organisation. Affective commitment is defined as the intention to stay part of an organisation on one's own volition due to emotional attachment (Allen & Meyer, 1990), which can be contrasted with the intention to stay part of an organisation because of leaving costs (continuance commitment) or feelings of obligation (normative commitment). Members with more affective commitment would thus have a greater interest to participate in decision-making, since the decision outcomes will affect them for longer than if they would just as easily leave the cooperative for another organisation. For this reason, I hypothesize that:

H2: The higher a member's affective commitment is towards their worker cooperative, the more likely they will participate in decision-making.

Groups of members are more likely to have a decisive influence than individuals and the presence of social sanctions may incentivize participation in decision-making (Wippler, 1986). It can thus be anticipated that those members that have more informal social relations with other members -as a form of social capital- will be more likely to participate in decision-making processes. Well-connected members could form coalitions, voting blocks, or simply concentrate their voices to increase the probability of decisive influence, which makes participation more attractive compared to inactivity (Spear, 2004). Moreover, democratic transaction costs would also likely be lower for members with more social capital among other members, because it is easier for them to gather information about decision options through informal communication (Deth et al., 2016). Social capital of members can also facilitate social sanctions that incentivize participation in decision-making (Diefenbach, 2019), such as peer pressure and social control against

non-participation versus peer support and social approval for participative behaviour. Qualitative research indeed suggests that worker cooperatives mobilise friendship relations between members to resist tendencies of degeneration (Wiksell & Henriksson, 2022). Therefore, I expect that:

H3: The more a member possesses social capital among other members of their worker cooperative, the more likely they will participate in decision-making.

If their knowledge on decision-options and possible consequences is more extensive, members of worker cooperatives can be more confident that they are making the right decision to obtain desired outcomes (Wippler, 1986). Conversely, less informed members will lack confidence in making the right decision and therefore be more likely to sit on the fence. A large part of Michels' (1911/1966) argument similarly revolves around the specialized knowledge and skills of elites, that is human capital, by which they are able to exert influence in the decision-making of organisations (Diefenbach, 2019). Summers and Chillas (2021) find economic democracy skills to affect member participation in collective decision-making, including skills obtained through education and skills that are acquired through longer experience in worker cooperatives. Similarly, Romero and Pérez (2003) find that lower-educated members are least likely to participate in the decision-making of worker cooperatives and that more experience as a cooperative member fuels the socialization of democratic skills and values. For platform worker cooperatives specifically, persistent digital divides in IT competences may additionally inhibit some members from participating (Barros & Michaud, 2020). This leads me to the final hypothesis:

H4: The more a member possesses human capital (H4a: education level, H4b: membership length, H4c: digital skills), the more likely they will participate in decision-making.

5.4 Methodology

To test for inequalities in the member participation of platform cooperatives, I used survey data ($n = 418$) from the membership of a network of four Italian platform cooperatives of gig workers in the cultural (e.g. stage technicians), education (e.g. coaches), and IT sectors (e.g. programmers). This network is part of a wider movement of new worker cooperatives which aim to improve working conditions in non-standard employment (Eum, 2019) and also self-identifies as a platform cooperative (Scholz & Schneider, 2016). Its members gain access to labour rights through salaried employment by the cooperative while continuing to work autonomously with a frequently shifting client base which are allocated to them via the cooperative's platform (i.e. clients can set out tenders on the platform and get suggested matches from worker profiles) or acquired on their own. Offering professional services, these gig workers are part of the high-skilled gig economy (Vallas & Schor, 2020) that involves project-based freelance work. Although the four cooperatives have offices in all major Italian cities, they are primarily organised through their own digital platform. As mandated by Italian law, the highest decision-making body of the cooperatives is their annual general assembly where all members can participate with one vote each to elect a board of directors and decide on strategic and budgetary matters. Moreover, a majority of the board must be elected from ordinary members and boards remain in office for 3 years. In the four cooperatives, general assembly meetings are held via videoconferencing software. Members are also frequently consulted for their opinion on tactical and operational matters through online polling. In these ways, members can participate to have an influence on rules that affect their search of jobs and working conditions. In addition, data were collected during the COVID-19 pandemic, which further restricted face-to-face communication between members of the cooperatives. As there is no conflation with other attempts to resist degeneration (e.g. greater direct democracy, selecting representatives by sortition), this case presents ideal conditions to examine participation patterns of platform worker cooperatives.

Management of the four cooperatives provided feedback on the suitability of questions and helped in distributing the online survey, available in Italian and

English, among all of their members via email. A limitation is that those responding to the survey are probably also more likely to participate in collective decision-making. This selection bias was confined by giving all members an equal chance to respond to the survey, which resulted in sufficient variation on all key variables of interest. Demographics in the sample are also roughly similar as in the four cooperatives overall in terms of age (42.9 on average in sample versus 41.5 on average overall), female-identifying persons (26.6% in sample versus 27.6% overall), and migration background (9.3% in sample versus 5.2% overall). The review board of the author's university approved data collection in December 2020, and cooperative members could respond to the survey between late January and mid-March 2021. The total sample of completed responses consisted of n = 425, but including respondents with a nonbinary or nondisclosed gender identity (n = 7) created model convergence problems due to limited variance. As such, the analytic sample comprised n = 418 with the following distribution over the four cooperatives as compared to the total membership and number of members who were actively working for the cooperative in the last couple of months (these two numbers diverge consistently in the cooperatives due to the irregular nature of gig work):

- XL cooperative = 6861 total members (active in past months: 448), with n = 300
- L cooperative = 1085 total members (active in past months: 367) with n = 56
- M cooperative = 507 total members (active in past months: 78) with n = 52
- S cooperative = 68 total members (active in past months: 2) with n = 10

As dependent variables, I measured member participation in decision-making using the De Facto Participation Power scale (Weber et al., 2009). Specifically developed to study workplace democracy, this scale allows worker-members to report their perceived involvement in strategic, tactical and operational decisions of the cooperative. Respondents were asked in

which areas of decision-making they participate within their cooperative. Strategic decisions are long-term decisions that concern the whole organisation and the context in which it operates; 4 items were used, e.g. “Changes in cooperative governance or mission statement, charter, statutes etc.”. Next, tactical decisions refer to medium-term decisions that involve parts of the organisation or a more practical execution of the general strategy; 4 items were used, e.g. “Establishment of criteria and procedures for admission and dismissal of members”. Finally, operational decisions pertain to short-term decisions which directly affect workers and daily business; 4 items were used, e.g. “Development of new health and safety procedures”. A full list of variables and underlying items is given in Appendix C1-4. Answering categories included 1 = I am not involved at all, 2 = I am informed about the matter beforehand, 3 = I give my opinion, 4 = My opinion is taken into account, 5 = I take part in the decision-making with equal right. Since only 4 and 5 constitute a direct influence on cooperative governance (Weber et al., 2009), the four dependent variables were coded as a binary to distinguish between participating (scored 4 or 5 on at least one of the items) and non-participating members (did not score 4 or 5 on any of the items) in any, strategic, tactical, or operational decisions.

The first independent variable, cooperative size, is operationalized by categorizing the four worker cooperatives based on their total membership size as XL, L, M and S. Although even the medium-sized cooperative in this sample would be considered a large organisation by most standards, the numbers of members actively working for these cooperatives are roughly in line with size categorizations for worker cooperatives in previous research (Pérotin, 2013).

Affective commitment is measured with an eight-item scale following Allen and Meyer (1990). Respondents could indicate their agreement with the statements on a five-point Likert scale (1 = totally disagree, 5 = totally agree), e.g. ”I would be happy to spend the rest of my career with my cooperative”.

After recoding reversed items, reliability of the affective commitment scale was high (Cronbach's $\alpha = .88$).

For the operationalization of social capital among members, I used a resource generator instrument (Van Der Gaag & Snijders, 2005). This instrument reflects a functional approach to social relations as they are expected to facilitate member participation. Respondents were asked if they know another member of their cooperative who can provide them with access to eleven organisation and work related resources, e.g. someone "with whom you can informally chat about what is currently happening in the cooperative". By counting those resources that a fellow member could provide, a measurement for social capital was constructed ranging between zero and eleven.

Human capital is measured as education level, membership length, and self-reported digital skills. To categorize respondents' highest level of completed education, I used the International Standard Classification of Education (ISCED) from 2011: less than primary education (0), primary education (1), lower secondary education (2), upper secondary education (3), post-secondary non-tertiary education (4), short-cycle tertiary education (5), bachelor's or equivalent level (6), master's or equivalent level (7), and lastly doctoral or equivalent level (8). After merging levels with <10 responses, the following four categories were identified in the data: ISCED level 2 or lower, ISCED level 3, ISCED level 4-6, and ISCED level 7 or higher. Membership length was measured in years. Respondents' self-reported digital skills were assessed using eight items from Van Laar et al. (2019), e.g. "I can teach myself the things I need to know about internet applications". A five-point Likert scale allowed respondents to indicate their agreement (1 = totally disagree, 5 = totally agree). Reliability of the resulting scale was high (Cronbach's $\alpha = .83$).

Finally, I controlled for age (measured in years), gender (categorized as male or female), and migration background (operationalized as being born outside

of Italy or having at least one parent who is born outside of Italy) since previous research shows that worker cooperatives are not immune to the tenacity of informal hierarchies based on personal characteristics (Meyers & Vallas, 2016; Sobering, 2016).

Because the dependent variables are binary, I used logistic regression analyses to test the hypotheses. Four models are estimated to explain member participation 1) in any type of decisions, 2) strategic decisions, 3) tactical decisions, and 4) operational decisions. Per model, I report the average marginal effects (the average change in probability for every one-unit increase in the independent variable), standard errors, significance level, AIC value, and Nagelkerke R^2.

5.5 Results

The descriptive statistics of the variables of interest are reported in Table 5.1. In total, 19.1% of respondents participate in making at least one type of decision for their cooperative (compared to 80.9% who do not participate). On strategic decisions, 15.3% are participating members. When looking at tactical decisions, 12.2% of respondents are participating. The lowest level of member participation concerns operational decisions, with only 7.7% participating members. These differences in participation rates are not so surprising, considering that most members are not part of the board and the opportunities to participate in tactical or operational decisions are less numerous than for strategic decisions. It also becomes clear that respondents from the four cooperatives are most often male-identifying, Italian natives, upper secondary education graduates (*scuola superiore*), and on average 43 years old.

Table 5.1 Descriptive statistics of the variables of interest

Variable	Range	*M* / %	SD
Participation in any decisions	0 – 1	19.1%	
Participation in strategic decisions	0 – 1	15.3%	

Participation in tactical decisions	0 – 1	12.2%	
Participation in operational decisions	0 – 1	7.7%	
Cooperative size			
- XL cooperative	0 – 1	71.8%	
- L cooperative	0 – 1	13.4%	
- M cooperative	0 – 1	12.4%	
- S cooperative	0 – 1	2.4%	
Aff. commitment	1 – 5	3.2	0.8
Social capital	0 – 11	4.7	3.3
Education			
- ISCED level 0-2	0 – 1	7.4%	
- ISCED level 3	0 – 1	49.5%	
- ISCED level 4-6	0 – 1	18.9%	
- ISCED level 7-8	0 – 1	24.2%	
Membership length	0 – 24	5.0	4.1
Digital skills	2.4 – 5	4.3	0.6
Age	19 – 74	42.9	10.4
Gender			
- Male	0 – 1	73.4%	
- Female	0 – 1	26.6%	
Migration background	0 – 1	9.3%	

Note. $n = 418$.

Table 5.2 presents the results of the logistic regression analyses. First, Model 1 tests the hypothesized effects on the probability that members participate in any type of decisions, $\chi^2(13) = 68.6$, $p < .001$. It explains 24% of the variance in member participation concerning any decisions. H1 is not supported, as there is no significant effect of cooperative size. Yet there is a significant positive effect of affective commitment (AME = .13, $p < .001$), thereby supporting H2. Scoring one unit higher on the five-point affective commitment scale increases the participation rate in any type of decisions by

13 percentage points. The probability of participation for someone scoring 1 on the five-point affective commitment scale is 2.2 per cent, compared with 50 per cent for someone scoring 5 (see Figure 5.1). I also find a significant positive effect of social capital (AME = .02, $p < .001$), thus supporting H3. Having access to one extra resource of social capital increases the participation rate in any type of decisions by 2 percentage points. The probability of participation for someone having no social capital is 9.6 per cent, compared with 33.3 per cent for someone with the maximum of eleven social capital resources (see Figure 5.2). However, I find no significant effects of education level, membership length, digital skills, or any of the control variables. For that reason, H4 is not supported.

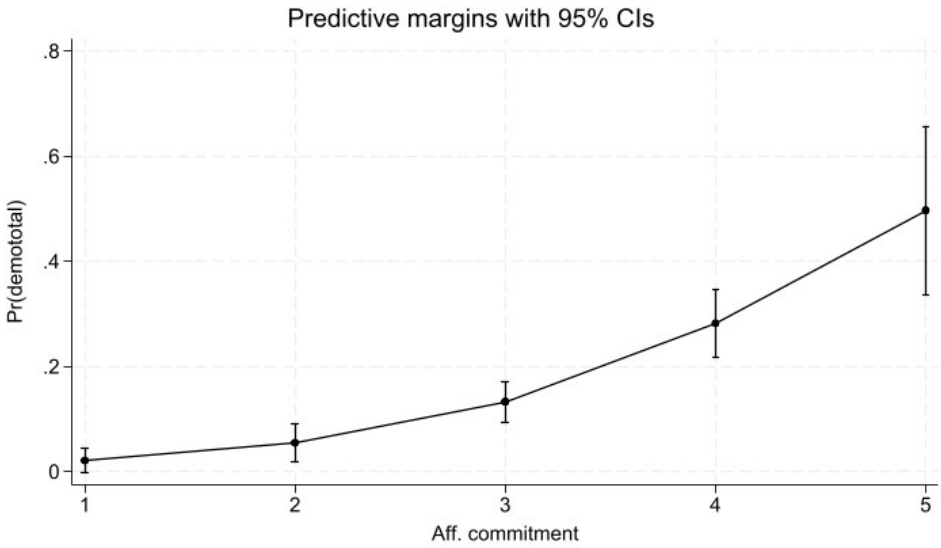

Figure 5.1. Plot of margins for affective commitment in Model 1.

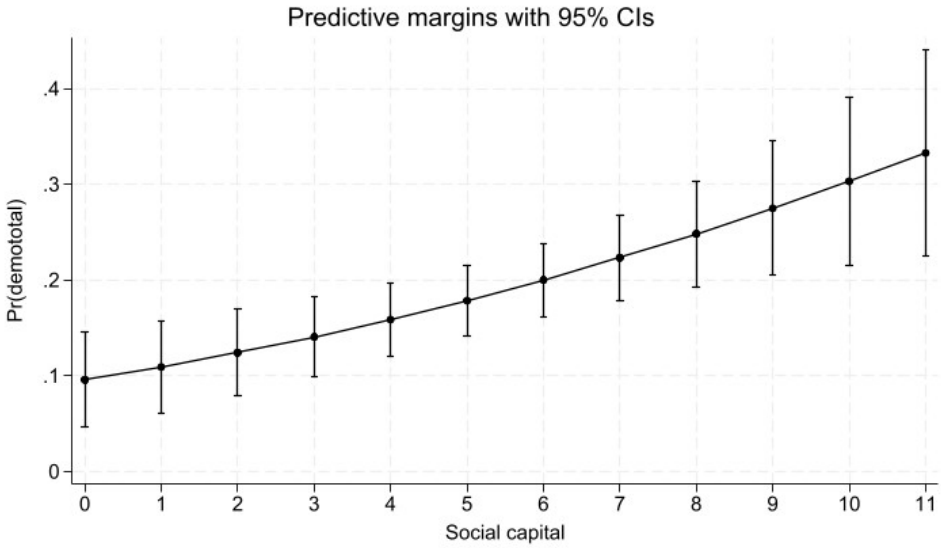

Figure 5.2. Plot of margins for social capital in Model 1.

Furthermore, these findings also hold up when looking at member participation in strategic, tactical or operational decisions separately. Model 2 assesses the effects on the probability that members participate in strategic decisions, $\chi^2(13) = 62.0$, $p < .001$. It explains 24% of the variance in member participation concerning strategic decisions. Model 3 analyses the effects on the probability that members participate in tactical decisions, $\chi^2(13) = 56.3$, $p < .001$. It explains 24% of the variance in member participation concerning tactical decisions. Finally, Model 4 tests the effects on the probability that members participate in operational decisions, $\chi^2(13) = 48.1$, $p < .001$. It explains 26% of the variance in member participation concerning operational decisions. The only substantive difference with Model 1 is that the positive effect of affective commitment is smaller for strategic (AME = .10, $p < .001$), tactical (AME = .09, $p < .001$), and operational decisions (AME = .06, $p = .001$).

Table 5.2 Logistic regression analyses on member participation

	Model 1: Any decisions		Model 2: Strategic decisions		Model 3: Tactical decisions		Model 4: Operational decisions	
	AME	SE	AME	SE	AME	SE	AME	SE
L cooperative (ref = XL)	.03	.06	.02	.05	.00	.05	-.01	.04
M cooperative (ref = XL)	-.00	.05	-.03	.05	-.01	.05	.02	.04
S cooperative (ref = XL)	.07	.12	.11	.12	.06	.11	.12	.11
Aff. commitment	.13 ***	.03	.10 ***	.02	.09 ***	.02	.06 **	.02
Social capital	.02 ***	.01	.02 ***	.01	.02 ***	.01	.02 ***	.00
ISCED level 3 (ref = 0-2)	.03	.06	.01	.06	.02	.05	-.06	.06
ISED level 4-6 (ref = 0-2)	.08	.08	.08	.07	.05	.06	-.04	.06
ISCED level 7-8 (ref = 0-2)	.05	.07	.02	.06	.05	.06	-.07	.06
Membership length	.01	.00	.00	.00	.00	.00	.00	.00
Digital skills	.01	.03	.01	.03	-.03	.03	-.02	.02
Age	.00	.00	.00	.00	.00	.00	.00	.00
Female (ref = male)	-.02	.04	.03	.04	-.05	.03	.01	.03
Migration background	-.02	.06	-.02	.06	.06	.06	-.02	.04
AIC	375.5		331.9		289.8		213.9	
Nagelkerke R^2 (%)	24%		24%		24%		26%	

Note. $n = 418$.
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$; two-tailed test

5.6 Conclusions and discussion

In this study, I used the case of four platform worker cooperatives from Italy to investigate what explains worker-members' participation in collective decision-making. The results point to a number of important conclusions. First, the results show that members with higher affective commitment towards their cooperative and more social capital among other members are more likely to participate in decision-making. In contrast, I find no effect of cooperative size and human capital. In addition, these results hold up when considering participation in strategic, tactical, and operational decisions separately. Overall, the study demonstrates that organizing workplace democracy remains challenging also for platform worker cooperatives.

In line with the notion of degeneration of internal democratic processes (Cornforth, 1995; Diefenbach, 2019; Langmead, 2016), the study finds that members are less likely to participate in decision-making when they have lower affective commitment towards their worker cooperative and possess less social capital among other members. The effect of affective commitment

could be explained by a longer 'shadow of the future' for members who are committed to staying part of their cooperative (Axelrod, 1984). Because decision outcomes will affect them for longer, the value of participation (or risk of non-participation) increases for members with more affective commitment, thus incentivizing participation. The effect of social capital may be explained by a reduction in the democratic transaction costs for members that are well-connected and who can thus gather information on decision options more easily than members without such connections (Deth et al., 2016). In addition, the probability of decisive influence and the presence of social sanctions are greater for members with more social capital (Diefenbach, 2019; Spear, 2004). While these findings follow what is known about participation patterns in traditional worker cooperatives (Hoffmann, 2006; Wiksell & Henriksson, 2022), the relatively strong effects might suggest that affective commitment and social capital are even more important mechanisms for member participation in platform worker cooperatives. For example, because affective commitment and social capital are possibly more difficult to manipulate by cooperatives in online than offline settings, thus making differences between individuals more pronounced. Alternatively, the effect of affective commitment and social capital on member participation could be a result of reversed causality: meaning that members who participate more in decision-making also gain affective commitment towards their cooperative and obtain social relations to other members. Future longitudinal research is necessary to establish the direction and strength of these effects, or whether they are bi-directional. It is likely that if inequalities in member participation endure over time, affective commitment and social capital strengthen workplace oligarchy instead of democracy, which may ultimately result in dissolution of the platform worker cooperative.

Diverging from theories and empirical studies on traditional worker cooperatives, the study finds no evidence for lower participation among members of larger platform cooperatives and members with less human capital. While the probability of decisive influence is extremely low for members of large cooperatives, the lack of an effect could possibly be

explained by digital mediation of collective decision-making lowering democratic transaction costs closer to zero (Davis, 2016; Rothschild, 2016). Collective decision-making in larger cooperatives would then be similarly time-consuming and complex as in smaller cooperatives, which differs from previous research findings on traditional worker cooperatives (Ng & Ng, 2009; Spear, 2004). Digital mediation could enhance both direct and representative democratic structures by increasing the efficiency of information gathering, negotiating, voting, and monitoring (Lupia & Sin, 2003). For example, when platform cooperatives use IT to inform, consult, or empower members in decision-making (Como et al., 2016) and in situations where members mobilize online to resist a perceived decline in democratic processes (Barros & Michaud, 2020). Alternatively, the effect might not have been detectable since the research included only four cooperatives of varying sizes.

The lack of a human capital effect on member participation could also be explained by lower democratic transaction costs for platform cooperatives (Davis, 2016; Rothschild, 2016). IT would then increase the available information on decision options and consequences for everyone, resulting in similar levels of confidence that they are making the right decisions among members with lower human capital as members with higher human capital (Wippler, 1986). Again, the same cannot be said for traditional worker cooperatives where studies show that members with higher levels of education and longer membership tenure are more likely to participate in decision-making (Romero & Pérez, 2003; Summers & Chillas, 2021). While there was substantial variation in the sample on education level and membership length, the lack of a digital skills effect could be explained by high tech-savviness of the members. It is possible that gig workers with high digital skills self-select into platform cooperatives. A methodological limitation is also that members who do not participate in decision-making and have lower digital skills are likely also the least inclined to respond to email-distributed surveys, resulting in a selection bias that is hard to overcome.

In addition, no evidence could be found for effects of age, gender or migration background, which may also be explained by a lack of variation on these characteristics in the predominantly middle-aged, male, native membership of the four cooperatives. Another possible explanation is that these personal characteristics are less visible in an online setting and therefore do not reproduce the same informal hierarchies as are often found in traditional worker cooperatives (Meyers & Vallas, 2016; Sobering, 2016).

Of course, the study has its limitations. By focusing on patterns of participation across members of platform worker cooperatives, differences in overall levels of participation with traditional worker cooperatives are outside the scope of this study. Future research might therefore directly compare traditional versus platform worker cooperatives, or even run a field experiment by offering digital participation opportunities to a sub-set of members in an otherwise traditional worker cooperative. While I would not go as far as the former Secretary General of Co-operatives UK who said that "when you have seen one co-op, you have seen one co-op" (Mayo, 2016), caution is warranted when generalising findings of this study beyond the setting of Italian platform worker cooperatives in the professional service sector. Nevertheless, insights drawn from this study may still inform future research on platform worker cooperatives in other countries and sectors, platform cooperatives based on consumer/producer members, and the use of digital technology for workplace democracy or democratic organisations more broadly.

All in all, the study identifies a participation elite of highly committed and well-connected members in platform worker cooperatives, while other inequalities in member participation commonly found in traditional worker cooperatives are alleviated. The study thereby provides nuance to the claimed potential of platform cooperatives to expand workplace democracy in the economy (Davis, 2016; Mannan, 2018) and their ability to increase gig workers' influence on organisational decision-making (Schor, 2020). On the

one hand, platform worker cooperatives seem to have more equal patterns of member participation than traditional worker cooperatives. On the other hand, platform worker cooperatives fail to fully overcome degeneration and realise their ideal of workplace democracy. Particularly relevant for policymakers and practitioners, therefore, are intelligent combinations of technological innovation with social innovations. For example, platform worker cooperatives with policies that foster inclusion (Meyers & Vallas, 2016), greater direct democracy (Leach, 2016), selection of representatives through sortition instead of elections (Pek, 2021), and education about cooperative ideals (Bretos et al., 2020).

6. Institutions for collective resource management in platform cooperatives

6.1 Introduction

The gig economy, defined as short-term service jobs organised through intermediaries (Stanford, 2017), challenges established labour market institutions in the Global North. As a form of non-standard employment, gig work lacks the protections that modern welfare states guarantee for regular employees and is often excluded from collective representation by unions (Woodcock & Graham, 2020). This leaves many gig workers dependent on corporate intermediaries such as digital labour platforms, whilst also facing insecurity in matters of income, employment, working hours, social security, skill development, and occupational health and safety (Koene & Pichault, 2021; Lorquet et al., 2018). In response, bottom-up organisations in the form of worker-owned cooperatives have developed and are gaining traction in recent years (Eum, 2019; Martinelli, 2021; Mondon-Navazo et al., 2022). Cooperatives of gig workers resemble other labour market intermediaries but "with the key difference being that collective ownership allows for organising protections against precarity and removing dependence on outside owners" (Bunders & Akkerman, 2022, p. 2). For instance, members can become employed by the cooperative and gain access to labour rights while continuing to work on a project basis with shifting clients that are allocated by the cooperative or have been acquired themselves. These worker cooperatives can thus be regarded as a form of collective entrepreneurial action which aims to produce a collective good for its members in the form of more secure working conditions (Navarra, 2015). In this study, we examine the regulations set up by one such cooperative in order to manage, preserve and protect the collective resources it creates.

Collectively managed resources may deplete due to endogenous threats, like opportunistic member behaviour, or exogenous shocks, such as economic crises or political interference (Dehkordi et al., 2021). Although opportunism

can occur in any exchange relationship (Williamson, 1985), the atomised and competitive nature of gig work may further evoke it (Hart & Moore, 1996). Opportunistic behaviour could also go undetected more easily when the tasks are variable and performance is difficult to evaluate (Bhardwaj & Sergeeva, 2022), as is the case with diverse and dispersed forms of work in the gig economy. Adverse selection occurs when cooperatives attract more high-risk gig workers as members and high-performance gig workers choose not to join, whereas moral hazard arises when members behave more risky than non-members and thus put a larger burden on collective resources (Vriens & De Moor, 2020). Opportunism might then manifest in various forms. For instance, free-riding happens when members transact outside of the cooperative while still making use of their collective provisions (i.e. side-selling), thereby reaping the benefits but not bearing the costs of this collective good (Olson, 1965).

External shocks like the COVID-19 pandemic put pressure on collective resources by increasing needs and decreasing income streams, even if cooperatives are found to be more resilient to shocks than conventional firms (Billiet et al., 2021b; Carini & Carpita, 2014). Worker cooperatives typically respond to economic crises with pay cuts rather than layoffs as to secure stable employment (Cristini et al., 2022). They may even start as worker buy-outs by saving conventional firms from bankruptcy (Mirabel, 2021). Still, financial losses of worker cooperatives are typically similar or even higher than those suffered by conventional firms during economic downturn (Cristini et al., 2022; Prushinskaya et al., 2021). With fewer resources available, competition between members becomes more likely, thereby widening the gap between individual and group interests, which could limit cooperation (Kramer, 1989). Some studies on collective resource management indeed find that members act more opportunistically when resources are scarce by fending for themselves first (Gatiso et al., 2015), while others find no evidence for an increase in opportunism following a disaster (Conte, 2022). In any case, cooperatives of gig workers will likely

need to carry a heavy burden to provide security for members while bearing decreased income streams during an external shock.

Cooperatives can set up institutional rules of the game aimed at preserving and protecting their collective resources (Sacchetti & Tortia, 2015). Institutions are defined here as formally codified or informally understood "prescriptions that humans use to organize all forms of repetitive and structured interactions" (Ostrom, 2005, p. 3). Previous research on a cooperative of freelance photographers emphasizes the importance of trust, screening of new members based on shared values, and limitations on membership size to mitigate opportunism (Bhardwaj & Sergeeva, 2022). Soetens and Huybrechts (2022) demonstrate that the trade-offs of such an approach include sacrificing individual aspirations, excluding members who hold different values, and thus reaching a more limited and homogenous group. In many cases it might not be possible or desirable to maintain a small and homogeneous membership, especially in the gig economy where intermediaries benefit from network effects and there is high socioeconomic diversity among workers (Vallas & Schor, 2020). Recent literature suggests that the design of rules might help to create shared expectations on cooperation in large heterogeneous groups, which would arise more naturally in small homogenous groups (Geary et al., 2019; Van Klingeren, 2022).

When collective resources are affected by an external shock, cooperatives may need to change their rules in order to rebalance what members use and contribute. Dehkordi et al. (2021) theorise that institutional response to external shocks depends on whether the shock introduces sudden resource scarcity or an increase in fixed costs, with only the latter invoking a change in rules. Others find institutional change in response to sudden resource abundance (Tschopp et al., 2018). However, one could also argue that if the rules to prevent opportunism are set up well initially, there is no need to change them in the event of an external shock. It may further be questioned if changing the rules is even helpful at all when collective resources diminish as a direct result of the external shock instead of increasing member

opportunism. Modifying or tinkering the rules are not always a solution (Cook, 2018). Thus, it remains unclear in what ways regulative institutions address opportunistic behaviour in heterogeneous groups and whether they evolve in the face of external shocks. This knowledge is crucial for a better understanding of what makes collective resource management resilient when faced with both internal and external impediments.

We formulate the following research question: How are regulative institutions used to curb members' opportunism in a heterogeneous cooperative of gig workers whilst faced with an external shock? We investigate this question using an explorative case study of Société Mutuelle pour artistes (Smart), which was founded in Belgium as a non-profit association in 1998 to provide freelance artists an employment status with associated labour rights. At present, Smart is a worker cooperative with all kinds of gig workers as its members (Murgia & de Heusch, 2020). Our analysis covers the period from 2017–when Smart officially became a cooperative–to 2022, when the Belgian economy had recovered from the COVID-19 pandemic as an external shock. Whereas previous institutional analysis of Smart Belgium focuses on how the organisation evolved until 2016 to strengthen their legitimacy as perceived by external stakeholders (Xhauflair et al., 2018), the current study examines the regulations set up by Smart itself to manage their collective resources after being converted to a cooperative. Focusing on the design and adaptation of Smart's regulative institutions, we build on the institutional grammar approach to systematically analyse its rules (Frantz & Siddiki, 2021).

6.2 Background on the institutional analysis of collective resource management

There has been substantial attention in the literature for managing common-pool natural resources, like pastures and fisheries, but far less research addresses the human-made collective resources of worker cooperatives (Tortia, 2018). Use of their worker protections and welfare provisions is rivalrous and non-excludable among members, as they need to be funded

from collective budgets. As such, some researchers describe worker cooperatives as labour commons (Peuter & Dyer-Witheford, 2010). Others do not go so far and rather point to the similarities of cooperatives and commons as governance regimes, but with the latter not engaged in capital accumulation (De Moor, 2008, 2015; Guttmann, 2021). For the purpose of this research, it is appropriate to view worker cooperatives as a distinct governance form.

From the starting point of their legal basis, worker cooperatives design specific rules to manage their collective resources. In contrast to classic theories on resource depletion as a result of uncoordinated actions of users overexploiting the resource (Hardin, 1968; Olson, 1965), Ostrom's seminal work posits that self-governance of collective resources by user groups can in fact be sustainable under certain conditions (Ostrom, 1990). Key to her research is the ability of user groups to create a set of tailored institutional rules that help to coordinate collective action and thereby make it robust. To achieve this, user groups engage in institutional work: "the purposive action of individuals and organizations aimed at creating, maintaining and disrupting institutions" (Lawrence & Suddaby, 2006, p. 214). The design of institutions forms a second-order social dilemma as every user benefits from reduced first-order social dilemmas, by regulating opportunism, regardless of their contribution in the institutional work (Kollock, 1998). However, scholarship on collective resource management has only sparingly paid attention to how these institutions emerge and whether they evolve in response to external shocks (De Moor, 2008, 2015; Ensminger, 1996; Landolt & Haller, 2015; Tschopp et al., 2018). One reason for this may be that specific methodologies for studying the content of institutions lacked in applicability (De Moor et al., 2016; Frantz & Siddiki, 2021).

Introduced by Crawford and Ostrom (1995), the institutional grammar is a form of content analysis that allows for systematic inquiry of how institutions intend, succeed, or fail to structure behaviour. The development of an institutional grammar was driven by their assessment that approaches

hitherto used to study institutions were not mutually exclusive, and that in fact all institutions signal information on behavioural directives. Since the institutional grammar initially lacked applicability, it only started to be used after two pioneering studies (Basurto et al., 2010; Siddiki et al., 2011) and the more recent revision into an institutional grammar 2.0 (Frantz & Siddiki, 2021). The institutional grammar allows analysts to dissect any set of institutions into statements, which can either be constitutive (i.e. x counts as y) or regulative (i.e. if x do y), and then deconstruct these statements into components according to a standardised syntax. As the current study focuses on the regulation of collective resources, we use the regulative syntax that describes the structure of regulative statements. There are six components in this syntax, which are often abbreviated as ADIBCO (see Table 6.1).

Table 6.1 Example of an institutional statement: *Members shall not spread confidential information during and after the execution of a contract or the cooperative may claim a compensation*.

Syntactic component	**Definition of component**	**Coding of example statement**
Attribute	The actor to whom the statement applies	*Members*
Deontic	The modal verb that defines if an action or outcome is permitted, obliged or forbidden	*Shall not*
aIm	The action or outcome specified in the statement	*Spread*
oBject	The animate or inanimate receiver of the action or outcome	*Confidential information*
Context	The circumstances that are prerequisites or restrictions for the action or outcome	*During and after the execution of a contract*
Or else	The incentive linked to the action or outcome	*The cooperative may claim a compensation*

Institutional statements can take the form of strategies, norms or rules. Crawford and Ostrom (1995) originally distinguished these by the presence or absence of syntactic components: AIC for strategies, ADIC for norms, and ADICO for rules (the oBject was only later introduced as an optional component, in: Siddiki et al., 2011). However, Schlüter and Theesfeld (2010) argued that all three forms can have an Or else, but of a different nature. In a situation where actors are interdependent, shared strategies emerge as equilibria to coordinate collective action by conveying information on efficient behaviour. Since deviating from a shared strategy is inefficient, its sanction is automatic in nature. For example, when one avoids jay-walking due to the risk of getting hit by cars. Norms are shared perceptions of what actions are right or wrong in a certain situation, thus motivating actors by internally or externally imposed emotional sanctions like feelings of morality or a damaged reputation. Most studies using the institutional grammar define rules as behavioural prescriptions that get enforced through tangible sanctions for (non)compliance, such as a fine (Basurto et al., 2010; Geary et al., 2019). Nevertheless, rules do not always specify a sanction and even if they do, the sanction can be specified separate from the initial rule (De Moor, 2015). What then distinguishes rules is that these are formal institutions, not because they are commonly written down in legal documents, but since they are designed and (actively or passively) monitored by an actor that is officially appointed in a legitimized process (Frantz & Siddiki, 2021). In the current study, we focus on regulative institutions in the form of rules set up by the cooperative.

Most of the existing institutional grammar research focuses on institutional structure over meaning, which makes sense for a grammatical approach but it also limits explanatory power (Dunlop et al., 2019). For example, how much can we infer from the modal Attribute or the percentage of institutional statements that specify an Or else? There is also a strong computational orientation in recent developments of the institutional grammar, making it machine-readable (Frantz & Siddiki, 2021), automatically encodable via machine learning (Rice et al., 2021), and using it for agent-based modelling

or network analysis (Abebe et al., 2019; Mesdaghi et al., 2022). Although these are important advancements, it reinforces the existing focus on institutional structure. For instance, by analysing concepts like polycentricity in terms of network relations between Attributes and oBjects (Weible et al., 2020). To better capture institutional meaning, some authors have suggested to only make use of statement-level classifications (Dunlop et al., 2019). Attempts at classifying institutional meaning on the component-level have so far been fragmented and focused on a limited number of components (De Moor et al., 2016; Frantz & Siddiki, 2021).

6.3 Methodology

To better understand collective resource management in a heterogenous group facing external shock, we conducted an explorative case study on 412 rules of Smart Belgium for the period 2017-2022. We selected this case for three reasons. First of all, Smart is based on self-governance of collective resources (Ostrom, 1990), with the members and their representatives being responsible for designing regulative institutions. All ordinary members can exert influence by voting for board candidates, standing for election themselves, voting on major decisions during the general assembly, but also by participating more deliberative in rulemaking as part of the "Smart in progress"-committees. Additionally, there is an ethics committee for monitoring the alignment between Smart's values and practices, which consists for a majority of ordinary members that are selected randomly. Smart's board is elected by and largely from its own membership, which in turn delegates one or more chief executive officers that are supported by the executive staff (referred to together as "executive team"). The cooperative's bylaws are its constitution, which can only be changed by a supermajority vote at the general assembly. Other regulations are more flexibly changed, and specified in various documents and on Smart's website. Smart is also tied to broader regulatory frameworks, such as the Belgian cooperative and labour laws, but our main interest here is in the rules designed by Smart itself (see Figure 6.1).

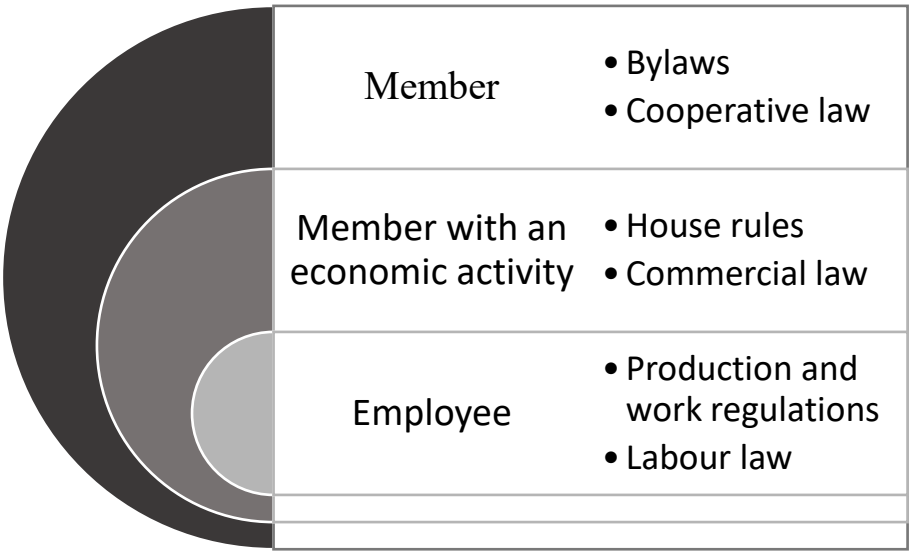

Figure 6.1 Rules designed by Smart and the respective national laws as they relate to the various roles that members have (adapted from: Smart, 2019)

Second, Smart forms an ideal case since it is a worker cooperative that provides employment status with associated labour rights to a heterogeneous group of gig workers. Smart operates as federated but independent entities in eight European countries (Murgia & de Heusch, 2020). We limit our scope to Smart Belgium, as it has existed for long enough to track institutional change and is by far the largest and most diverse. While Smart Belgium was originally founded in 1998 as a non-profit association with only artists and creative workers, between 2008 and 2016 the organisation expanded its role of employer to all kinds of gig workers (Xhauflair et al., 2018). At the end of 2016, Smart began its legal conversion to a cooperative. In contrast to traditional worker cooperatives, Smart does not direct its members to produce a certain product or service but instead functions as an intermediary for its members who "each produce their own product or service that they

sell independently" (Murgia & de Heusch, 2020, p. 216). The collective resources of Smart, consist of its services and benefits for members (e.g. training, legal advice, access to social security). These are primarily created by means of a 6.5% commission on all transactions that members conduct via the cooperative.

Third, Smart's development from 2017 to 2022 is selected to include the period preceding, during, and following the height of the COVID-19 pandemic and related economic crisis in Belgium as an external shock event. It also covers the time since Smart first operated as a worker cooperative in 2017, and the recovery of the Belgian economy after a massive vaccination campaign in the second half of 2021 until 2022. The first wave of COVID-19 and restricitons to contain its spread in Belgium started from March 2020, "with increasingly more severe policies implemented as case numbers began to spike" (Desson et al., 2020, p. 438). It is important to note that, during the height of this pandemic, the Belgian federal and regional governments mitigated a significant share of the negative economic effects through a wide range of support measures. Nevertheless, 55% of all Belgian enterprises suffered a loss of turnover during the height of the pandemic between April 2020 and March 2021 compared to 45% one year earlier (Dhyne & Duprez, 2021). To put this into context, 50% of all Belgian enterprises saw a decrease in turnover during the 2008 financial crisis (Dhyne & Duprez, 2021). Many of Smart's members work in the hardest hit sectors, such as personal services and arts and entertainment, which were restricted most severely and could not generate income for the longest.

Data on Smart's rules was collected from relevant documents and webpages of the cooperative (see Table 6.2). The data reflect Smart's institutions-in-form instead of their institutions-in-use, which limits our insight into actual compliance with rules but is appropriate considering our interest in the cooperative's design of regulative institutions. Coding of the data followed the institutional grammar's regulative syntax (Crawford & Ostrom, 1995; Frantz & Siddiki, 2021), by parsing the documents into institutional

statements and dissecting their syntactic components (i.e. ADIBCO). A dataset was generated with 412 institutional rule statements as the unit of analysis across rows, and syntactic components as variables with semantic classifications as values across columns (also see Appendix D1). For each statement, we also registered its source document and the year it was introduced and, if applicable, discarded.

Table 6.2 Overview of archival data

Type	Versions	Total number of pages
Bylaws	January 2017, June 2020	53
House rules	June 2017, December 2017, June 2020, May 2022	28
Production and work regulations	September 2015*, November 2020, March 2022	121

* Since a version of the production and work regulations from Smart's early years as a cooperative (2017-2019) could not be retrieved, we used a version from 2015 to identify which rules from the November 2020 version are in fact older. However, we did not code rules only appearing in the September 2015 version, since it is unclear when these have been discarded exactly. Hence, we minimise the overestimation of institutional rule changes in 2020.

For our operationalisation, we developed the institutional grammar's ability to measure institutional meaning at the component-level by integrating various semantic classifications (De Moor et al., 2016; Frantz & Siddiki, 2021; Ostrom, 2005). The syntactic components (i.e. ADIBCO) then function as categorical variables, while semantic classifications are used to specify the possible values. For the Attribute, we adapted five rule parties from De Moor et al. (2016): ordinary members, general assembly, officials, non-members, cooperative as a whole, and other. In the current study, we are particularly interested in regulations directed at ordinary members of Smart and how these stand out from regulations directed at other rule parties.

To classify oBjects, we used the same rule parties except for the addition of an inanimate category that is of special interest to the current study: collective resources. This is a specification of the animacy taxonomy by Frantz and Siddiki (2021), which allows for comparing rules that do relate to collective resources with those that do not.

The Deontic is measured similarly as in the institutional grammar 2.0 (Frantz & Siddiki, 2021) and in De Moor et al. (2016), using the following three modal verbs: permission, obligation, and prohibition. These modals express the relative stringency or discretion by which a certain rule is applied, which says something about how consistently a rule should be followed.

We used Ostrom's (2005) rule typology to classify the actions or outcomes in the aIm (see Figure 6.2). Position rules concern the positions of actors, while an actor's eligibility to enter or exit a position is regulated by boundary rules. If an aIm sets the actions for a position, it is a choice rule. Aggregation rules relate to joint control over an action and determine how decisions are made when more than one actor is involved. The exchange of information between actors is defined by information rules. Scope rules specify the outcomes to be affected by actions. Hence, choice and scope statements capture any action or outcome respectively that does not fit under one of the other types. Finally, payoff statements assign costs and benefits to an action or outcome.

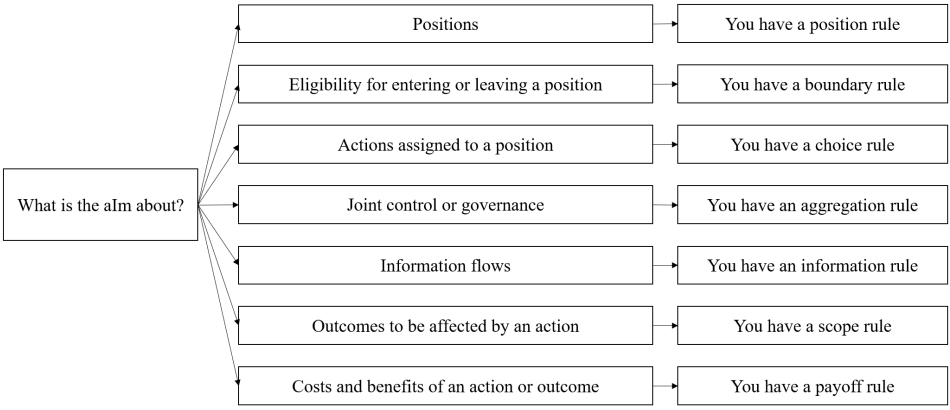

Figure 6.2 Decision tree to classify the aIm (adapted from: Watkins & Westphal, 2016), used for coding.

The institutional grammar 2.0 (Frantz & Siddiki, 2021) provides a detailed Context taxonomy to specify whether activation conditions and execution constraints relate to: (1) temporality like a point in time, time frames, or frequencies; (2) spatiality such as locations, directions, or paths; (3) domain of activity, topic or existence; (4) order of procedure; (5) method like manners or instruments; (6) purpose; (7) state of affairs; and (8) event occurrences. Because institutional statements often provide multiple Context specifications, we classify separately for activation conditions and execution constraints if or if not the taxonomy's categories apply. The Context specificity of each rule is measured by counting the number of activation conditions and execution constraints, each ranging between 0 and 8.

For the Or else component, we used a simplified version of the sanction typology in De Moor et al. (2016) while also adding non-punitive incentives: (1) exclusion from membership; (2) exclusion from assembly; (3) lose official appointment; (4) gain official appointment; (5) lose right to use collective resources; (6) gain right to use collective resources; (7) monetary fine; (8) monetary bonus; (9) exposure of compliance; (10) exposure of violation; (11) legal action; and (12) other.

Our analytic approach consists of three steps. First, we provided a performance overview of Smart Belgium based on its annual reports between 2017-2022 to identify if and when pressure on collective resources has increased. This overview is based on data provided by Smart about their total number of members and the cooperative's turnover. Second, we compared the extent of institutional change during the height of the COVID-19 pandemic to the preceding and following periods. This comparison is based on the number and kind of rules added or removed in each year, as well as Smart's accompanying rationale for rule changes. Third, we further examined what kind of rules are used to mitigate members' opportunism. We did so by analysing the characteristics of rules that apply to ordinary members (Attribute) and have to do with collective resources (oBject), since these rules regulate how members use and contribute to collective resources. In particular, we compare these rules to all other rules on stringency (Deontic), type (aIm), activation conditions and execution constraints (Context), and incentives (Or else).

6.4 Findings

Since becoming a cooperative in 2017, Smart has grown steadily and more than doubled the number of members to almost 35,000 in 2022 (see Figure 6.3). The height of the COVID-19 pandemic, 2020-2021, shows little to no deviation from this pattern. Hence, while membership increased during this external shock event, it did not do so more strongly than before or after the height of the COVID-19 pandemic. The total number of members does not show how many members left the cooperative in a given year, but it is clear that the influx of new members was continuously greater than the outflux of members.

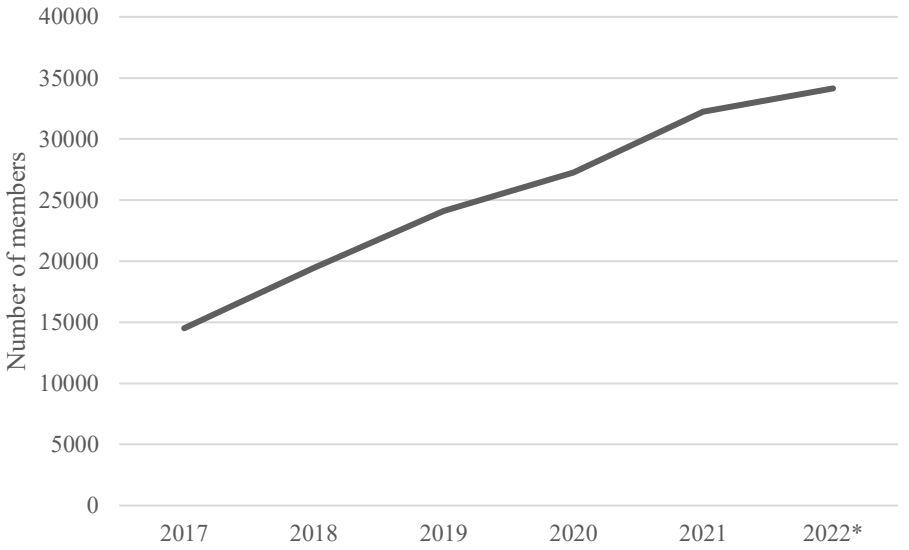

Figure 6.3 Number of members in Smart Belgium since 2017 (* 2022 is a provisional number)

A clearer impact of COVID-19 as an external shock can be observed in Smart's financial performance, which is shown in Figure 6.4. Smart experienced a negative net result of over five million euros in 2020, which also resulted in a 20.5 percentage point loss in equity compared to 2018. In their annual report of 2020, Smart Belgium explains this poor performance as a direct result of members being unable to work due to lockdowns during the pandemic. Nevertheless, it becomes clear that Smart was already making a recovery in 2021, reporting a positive net result of more than 300,000 euros and only a 15.3 percentage point loss in equity compared to 2018. Hence, if Smart adapted its regulative institutions in response to sudden resource scarcity caused by the pandemic, we should be able to find it in 2020.

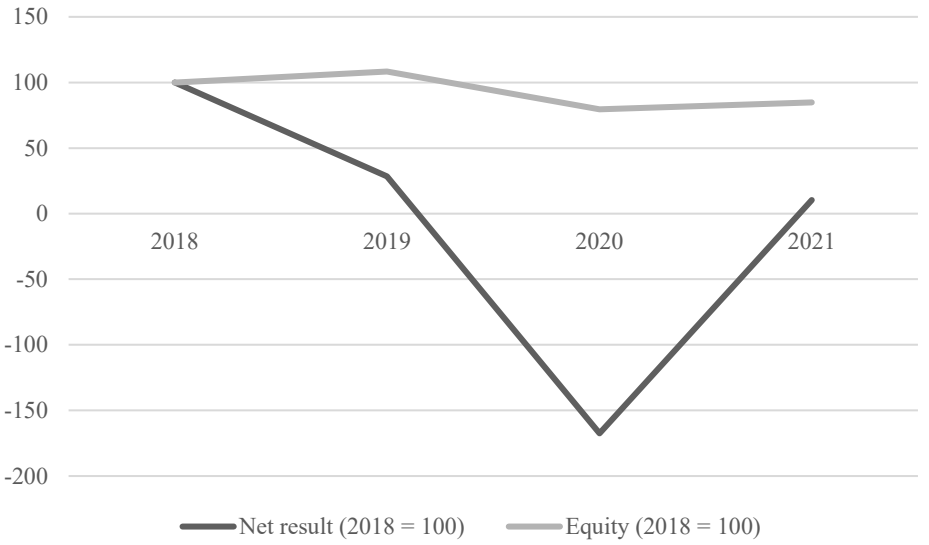

Figure 6.4 Indexed financial performance of Smart since 2018, in net result and equity

Figure 6.5 shows the institutional change per year. After being formed as a cooperative in 2017, we observe 108 rules added and 28 rules removed in 2020 at the height of the pandemic. Then two years later, in 2022, we find only 16 rules added and 11 rules removed. Smart does not refer to the pandemic as direct reason for its revised rules (Smart, 2020). Instead, they point to Belgium's new cooperative law issued on 23 March 2019, which became applicable for already existing cooperatives in 2020 and will be binding by 1 January 2024. Thus, while resource scarcity due to the pandemic is not mentioned as cause for the institutional change in 2020, an external shock of a different nature is: national legislation. While the new cooperative law only required minor changes in terminology and technical specifications, in its motivation for the rule changes of 2020, the cooperative calls it "a good occasion to repeat or specify certain principles or concepts". In other words, more rules were changed than required by the new cooperative law.

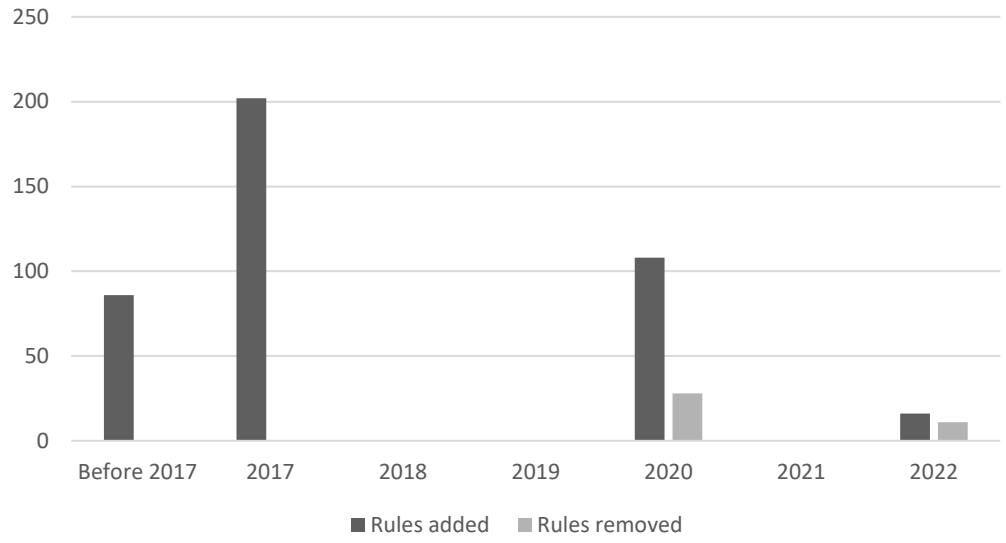

Figure 6.5. Number of rules added and removed each year in Smart between 2017-2022

More specifically, in 2020 Smart changed their membership categories to more clearly distinguish members on the executive staff from members that are external partners and set additional eligibility requirements for running in a board election. Indeed, if we compare the aIm of rules that changed in 2020 versus rules that did not change in 2020 (see Table 6.3), we find significantly more position and boundary rules but fewer choice and scope rules: $\chi^2(6, 412) = 15.40$, $p = 0.02$. In addition, we find that rules which changed in 2020 had significantly more execution constraints: $r_{pb} = 0.14$, $p = .004$. There is no evidence for significant differences in the other rule components. Hence, also when looking at the nature of institutional change in 2020, there is no indication that sudden resource scarcity due to the pandemic is a causal factor.

Table 6.3 Relative frequencies of the aIm in rules that changed in 2020 versus rules that did not change in 2020 (change = added or removed)

	Rules that did not change in 2020	**Rules that changed in 2020**
aIm = position	4.35%	7.35%
aIm = boundary	6.88%	17.65%
aIm = choice	25.72%	19.12%
aIm = aggregation	19.93%	18.38%
aIm = information	19.93%	20.59%
aIm = scope	10.51%	6.62%
aIm = payoff	12.68%	10.29%
Total	276 (100%)	136 (100%)

Next, we analyse what kind of rules are used to mitigate opportunistic member behaviour in Smart. A few patterns can be observed. First of all, compared to all other rules, the Deontics of rules against opportunism are significantly more stringent (see Table 6.4): $\chi^2(3, 412) = 12.34$, $p = .01$. In particular, by obligating contributions to collective resources and to a lesser extent also by prohibiting overuse. Second, we find significant differences in the aIm of rules against opportunism compared to all other rules (see Table 6.5): $\chi^2(6, 412) = 22.97$, $p = .001$. Opportunistic member behaviour is especially regulated by boundary, choice, scope and payoff rules. Third, we find that rules against opportunism had significantly more execution constraints that specify its application: $r_{pb} = 0.17$, $p = .001$. Finally, there is no evidence for significant differences in the other rule components. It is particularly striking that most rules did not specify a sanction in the Or else, regardless of whether these were rules against opportunism (96.97% Or else = none) or other rules (94.20% Or else = none).

Table 6.4 Relative frequencies of the Deontic in rules against opportunism (Attribute = ordinary members, oBject = collective resources) compared to all other rules

	Other rules	**Opportunism rules**
Deontic = none	45.12%	18.18%
Deontic = permission	26.39%	27.27%
Deontic = obligation	22.16%	45.45%
Deontic = prohibition	6.33%	9.09%
Total	379 (100%)	33 (100%)

Table 6.5 Relative frequencies of the aIm in rules against opportunism (Attribute = ordinary members, oBject = collective resources) compared to all other rules

	Other rules	**Opportunism rules**
aIm = position	5.80%	0.00%
aIm = boundary	10.03%	15.15%
aIm = choice	22.16%	39.39%
aIm = aggregation	21.11%	0.00%
aIm = information	21.37%	6.06%
aIm = scope	8.71%	15.15%
aIm = payoff	10.82%	24.24%
Total	379 (100%)	33 (100%)

6.5 Discussion

Returning to our research question on how rules are used to curb members' opportunism in a heterogeneous cooperative of gig workers whilst faced with an external shock, the findings show no evidence that the COVID-19 pandemic resulted in institutional rule changes. Instead, we find that new national legislation motivated Smart to change their rules as an external shock in 2020. At the same time, many rule changes have no relation to an external shock at all. Moreover, the findings demonstrate what kind of rules

are used against opportunistic behaviour in a heterogenous membership. In particular, these are rules that obligate contributions to collective resources or prohibit overuse but without necessarily specifying any sanctions for non-compliance. Rules against opportunism mainly deal with members' actions (choice rules) or outcomes to be affected by members' actions (scope rules) with respect to collective resources. These rules often also specify entry or exit requirements to the cooperative (boundary rules) and assign costs or benefits to members (payoff rules). The cooperative does not apply rules against members' opportunistic behaviour without any restraint, they in fact contain more execution constraints than other rules do. Taken together, these findings illustrate how a cooperative designs regulative institutions in order to preserve and protect collective resources when faced with internal and external impediments.

This explorative study makes three important contributions. First, it further develops the institutional grammar's ability to measure institutional meaning whereas most of the existing institutional grammar research focuses on institutional structure (Dunlop et al., 2019). Attempts at classifying institutional meaning on the component-level have long been fragmented and included only a limited number of components (De Moor et al., 2016; Frantz & Siddiki, 2021), which are now integrated in the current study. The resulting data structure contains institutional statements as the unit of analysis across rows, and syntactic components as variables with semantic classifications as values across columns. Such an adaptation of the institutional grammar methodology can also be used to study the rules, norms and strategies of other types of cooperatives or different types of organisations. Future research could, for example, use it to compare rules, norms and strategies across policy documents, organisations, or contexts. A limitation is that component-level classifications are typically context-specific. For example, the rule parties taken from De Moor (2016) to operationalize the Attribute component work well for community-based organizations but would be less applicable for the analysis of public policies. In addition, some component-level classifications would likely benefit from greater detail. While the rule

typology by Ostrom (2005) is commonly used in institutional grammar research, future research would likely benefit from unpacking the "container categories" of choice and scope rules into a more meaningful classification for the aIm.

Second, the results show that external shocks with sudden resource scarcity (COVID-19) do not necessarily motivate rule changes while external shocks without an effect on collective resources (new national legislation) can motivate rule changes. Despite the pandemic's negative effect on Smart's financial performance, rule change was not motivated by efficiency pressures but by institutional pressures of conforming to new standards and thereby gaining legitimacy (DiMaggio & Powell, 1983). A clear implication of this finding for theorising how collective resource management adapts to external shocks is that a wider variety of external shock types needs to be taken into account. There are at least two dimensions that can help advance the study of external shocks, presented in Figure 6.6. The vertical axis entails the impact on collective resources, which ranges from external shocks that result in resource scarcity to relatively understudied external shocks that have no impact on collective resources at all or that generate resource abundance (Tschopp et al., 2018). The horizontal axis describes whether external shocks are sudden but temporary or more slowly developing and long-lasting (Dehkordi et al., 2021; van Bavel et al., 2020). While most literature focuses on how collective resource management changes its rules in response to an external shock that creates resource scarcity (on the vertical axis), more attention is needed for institutional change as a result of rapid and slow onset external shocks (on the horizontal axis). Some pioneering research shows that external shocks with a slow onset present most difficulties for collective resource management as members then perceive a lower individual agency (Cerutti & Schlüter, 2019). Future research should examine if these external shocks are also the most conducive to institutional change.

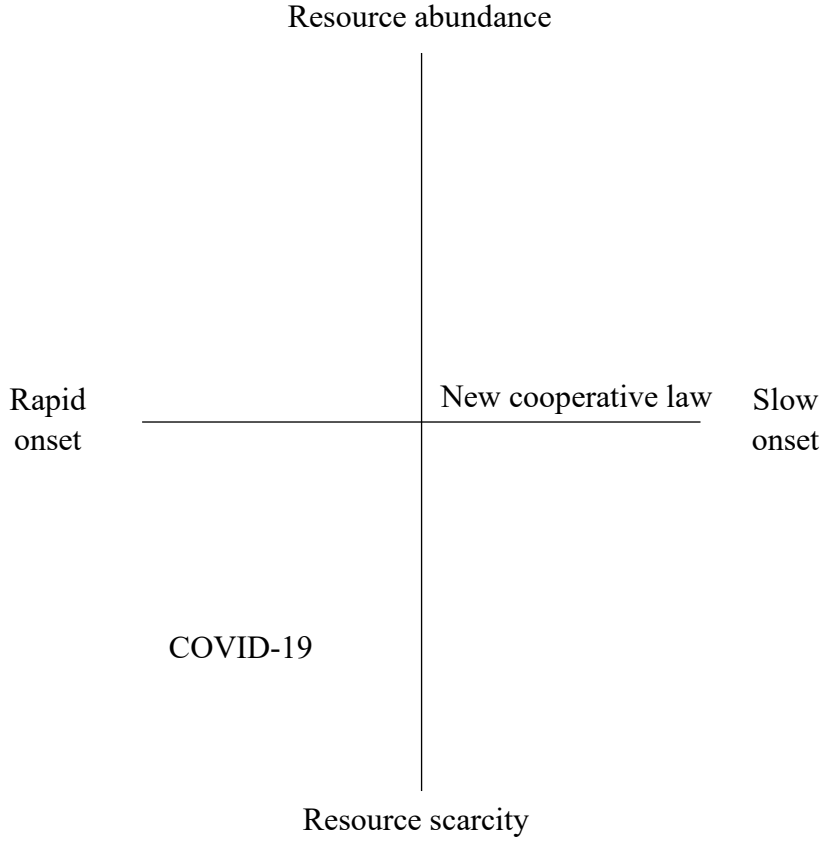

Figure 6.6 A taxonomy of external shocks in collective resource management, illustrated with external shocks from the current study

Third, the study provides support for the notion that cooperatives with a heterogeneous membership design rules to prevent members from overusing or under-contributing to collective resources (Geary et al., 2019; Van Klingeren, 2022). In particular, by obligating them to do their part, restricting access to membership, or assigning costs and benefits. It is also striking how rules against opportunism are applied with restraint, since they have more execution constraints and similarly little sanctions as other rules. This is in line with recent research that questions the importance of sanctioning for preventing opportunism in collective resource management (De Moor et al.,

2021). While the effectiveness of certain rules in mitigating opportunistic member behaviour requires further assessment, for instance by observing compliance behaviour, their design shows that cooperation in heterogeneous groups is not necessarily destined to fail (Bhardwaj & Sergeeva, 2022; Soetens & Huybrechts, 2022).

As worker cooperatives have emerged as collective good producers in the gig economy (Navarra, 2015), by providing their members with more secure working conditions, it is timely to examine how such cooperatives design regulative institutions in order to preserve and protect this collective good. Especially since the vast majority of research on collective resource management still focuses on natural resources and has neglected the human-made resources of worker cooperatives (Tortia, 2018). Bottom-up organising in cooperatives provides gig workers with protections against various kinds of insecurity (Koene & Pichault, 2021; Lorquet et al., 2018), while at the same time giving them influence in shaping the institutional rules of the game (Eum, 2019; Martinelli, 2021; Mondon-Navazo et al., 2022). Our analysis emphasises the importance of regulative institutions for resilience in cooperatives of gig workers.

7. Wrap-up

Owned and controlled by gig workers themselves, platform cooperatives have emerged as an alternative form of organisation to the investor-owned platforms that are dominant in the gig economy (Scholz & Schneider, 2016; Schor, 2020). They are presented by proponents as allowing workers to have a say in the organisational decisions that affect their livelihoods, while also using profits to benefit workers or re-invest in the platform cooperative as a whole. The appeal of platform cooperatives is to increase flexibility and decrease transaction costs like in investor-owned platforms, but also to provide more secure working conditions and democratic control (Schneider, 2018). They would thus be able to create genuine flexicurity (Charmettant et al., 2016) and also be democratically-efficient (Belloc, 2019). The appeal of platform cooperatives might also be seen in the context of retreating welfare states and declining unionisation (Moulaert & Ailenei, 2005), or amidst calls for more democratic accountability of big platform companies (Haggart & Keller, 2021; Tarnoff, 2022).

One would not expect such collective action to be successful in the gig economy, based on existing theories about collective action in the labour market (Jansen & Akkerman, 2014). Due to the nature of gig work and digital platforms, it is harder for gig workers to unite and overcome social dilemmas (Lehdonvirta, 2016). This holds for low to moderate effort forms of collective action, such as signing a petition or joining a protest, but is even more the case for higher effort forms of collective action, like starting or participating in a platform cooperative. In practice, both successful and failed platform cooperatives can be observed. It is also clear that most platforms continue to be investor-owned and membership of a platform cooperative is relatively rare in the overall population of gig workers. Apparently, there are substantial challenges involved in organising a platform cooperative and getting gig workers to participate as members. However, under certain

conditions these challenges can be overcome and platform cooperatives can become resilient (Hall & Lamont, 2013).

In line with the above reasoning, this dissertation set out to answer the overall research question: Under what conditions can platform cooperatives of gig workers become resilient? It thereby provides insights into the initial feasibility and more long-term challenges of platform cooperatives as one institutional approach to organise work differently in the gig economy. Based on the Strategies of Institutions for Collective Action in Development (SICADE) framework (De Moor, 2021), the dissertation addresses the challenges in starting a platform cooperative (Chapters 2-3), maintaining member commitment by creating value for members (Chapter 4), facilitating member participation in shaping the institutions (Chapter 5), and designing institutions to curb overuse and under-contribution to collective resources (Chapter 6).

In this final chapter, I evaluate the conditions under which platform cooperatives of gig workers can become resilient organisations. The first section provides an overview of the main findings of each chapter and explains what lessons are learned considering the dissertation's overall research question. I then discuss the contributions that this dissertation makes to the literature on institutions for collective action and to the literature on the gig economy. Lastly, I reflect on the methodological and substantive limitations of this dissertation and suggest directions for future research.

7.1 Main findings

In Chapter 2, I begin with providing a taxonomy of how the cooperative model can be made relevant for the gig economy based on the employment status of members and the ownership of a matchmaking platform. The employment status determines if it is a worker cooperative, with members being employed by the cooperative, or a producer cooperative, with members being self-employed. Platform ownership determines if the cooperative has a platform that members can use to find clients, making it a platform

cooperative in the narrow sense, or if members find their clients elsewhere. In Chapter 2, I look at both worker and producer cooperatives that own a platform. In a feasibility analysis, I evaluate the obstacles of raising capital, finding shared interests, and disputing investor-owned platforms. The findings show that the most active and least failed cases concentrate in those sectors that face the fewest obstacles, while the few exceptions in other sectors show great ingenuity in overcoming obstacles. I conclude that the feasibility of starting platform cooperatives is greatest in the taxi and professional service sectors, while it is much more difficult in food delivery, homecare, and online micro-tasks.

Chapter 3 examines the tensions that platform cooperatives face from competing demands while starting up, and how their founders manage these tensions. I find that these tensions function as a double-edged sword for platform cooperatives. On the one hand, salient tensions in the gig economy, like the one between worker and entrepreneur identities, motivate the development of platform cooperatives as a coping mechanism. On the other hand, as these tensions are integrated within platform cooperatives, they continuously resurface during the development. This results in vicious cycles when one tensional pole remains dominant (e.g. either worker or entrepreneur identities) and virtuous cycles when both tensional poles are embraced (e.g. as worker-entrepreneurs). I conclude that salient tensions in the gig economy provide the generative conditions for platform cooperatives to develop, while these tensions can also be a source of failed market entry for platform cooperatives.

Chapter 4 then analyses the difficulty of maintaining member commitment for platform cooperatives, given the usual heterogeneity and social isolation of gig workers. I find that members with more deviating preferences regarding working conditions from the perceived priorities of their cooperative have a lower commitment to remaining a member. Especially having deviating preferences on extrinsic working conditions, which represent tangible needs like job security, strongly relate to lower member

commitment. Moreover, I demonstrate that members who are more socially embedded in relations to other members have a higher commitment. Surprisingly, the findings show no evidence that social embeddedness in relations to other members compensates for the loss in commitment of having deviating preferences. Overall, this chapter concludes that relatively homogenous preferences and strong social relations between members are conditions for high member commitment in platform cooperatives.

In Chapter 5, I study what explains the participation of members in collective decision-making. Stated as a social dilemma, while full participation would best reflect the preferences of a cooperative's membership as a whole, members often do not make the effort to participate since an individual vote is unlikely to make a difference in achieving desired outcomes. However, this social dilemma does not weigh equally as heavy on all members – thus resulting in unequal participation patterns. I first find that members with a higher commitment to maintain their membership, thus casting a longer 'shadow of the future' over decision outcomes, participate more in decision-making. The findings also show that members with more social relations to other members, thus being able to coalesce individual votes and sanction non-participation, participate more in decision-making. In contrast to what is known for traditional worker cooperatives, the chapter finds no evidence that members participate more in smaller cooperatives and when they have more human capital. These findings hold up for member participation in any decisions, strategic decisions, tactical decisions, and operational decisions.

Finally, Chapter 6 assesses how a cooperative of gig workers designs rules to curb member opportunism and whether the rules evolved in response to the COVID-19 crisis. Literature on collective resource management suggests that setting up rules against opportunism is especially important in heterogeneous groups, such as gig workers, where shared norms for cooperation do not naturally emerge (Geary et al., 2019; Van Klingeren, 2022). Moreover, the question of whether and when rules change in response to external shocks is hotly debated in this literature (Dehkordi et al., 2021). I

find that an external shock with sudden resource scarcity, COVID-19, did not initiate rule changes whereas an external shock without any effect on collective resources, new national legislation, did cause the cooperative to change its rules. Furthermore, I find support for the notion that cooperatives with a heterogeneous membership design rules to curb opportunism. These rules against opportunism obligate members to do their part, restrict access to membership, or assign costs and benefits. Interestingly, there is restraint in the rules' design as rules against opportunism have more execution constraints and similarly little sanctions as other rules.

The chapters teach us several things about the conditions under which platform cooperatives of gig workers can become resilient. First of all, it becomes possible to distinguish which of the four challenges derived from the SICADE-framework (De Moor, 2021) are more or less pressing. The most challenging are starting a platform cooperative (initial feasibility) and maintaining member commitment by creating value (utility). Structural features of the gig economy intensify these challenges, like the heterogeneity of gig workers making it difficult to find shared interests or tensions from competing demands resulting in failed market entry. Conversely, the challenges with facilitating member participation in decision-making (social equity) and protecting collective resources from member opportunism (efficiency) are more readily overcome. Despite the gig economy being more inviting of opportunistic member behaviour, platform cooperatives design rules to curb such behaviour, and there are relatively few differences between members' participation in the decision-making of platform cooperatives. This initial conclusion nuances some of the optimistic expectations by proponents of platform cooperatives as a solution to all problems of the gig economy (Scholz & Schneider, 2016), but also nuances the more pessimistic expectations of critics that there is no chance at all for platform cooperatives to become resilient (Belloc, 2019; Marszalek, 2017; Sandoval, 2020).

Second, I identify conditions for resilience that platform cooperatives may seek out in parts of the gig economy to find a workable niche. These include

low external capital requirements, high publicity for disputes around investor-owned platforms, and a workforce that is relatively stable, homogenous and socially interconnected. On the one hand, low external capital requirements and high publicity for disputes around investor-owned platforms are quite common in the gig economy. Most sectors and jobs in the gig economy are labour intensive instead of capital intensive (Belloc, 2019). External capital requirements can also be low as cooperatives already exist in some sectors and then only need to adopt a platform (Borowiak, 2019). Furthermore, simple technologies often suffice (Lampinen et al., 2018). Although public scrutiny still focuses most strongly on investor-owned platforms for taxi rides and food delivery, particularly Uber (Thelen, 2018), disputes around less visible types of gig work like microtasking are slowly gaining attention (Morgan et al., 2023). On the other hand, far less common in the gig economy is having a workforce that is stable, homogeneous and socially interconnected. These conditions are clearly more available in locally-tethered than in digitally-transferable gig work (Vallas & Schor, 2020), which helps explain why all of the active platform cooperatives studied in this dissertation organise locally-tethered gig work. While a stable, homogenous and socially interconnected workforce is atypical in the gig economy, these conditions might be more common among workers that are most dependent on gig work for obtaining their main income instead of supplementary income. Previous research has likewise suggested that this sub-group of gig workers is most willing to participate in collective action (Newlands et al., 2018; Schor et al., 2020). Platform cooperatives could then specialise in attracting members who are most dependent on gig work.

Third, I ascertain the conditions that platform cooperatives need to act on or actively create as good governance practices to become resilient. These include the management of competing demands by embracing both tensional poles and the design of rules against opportunistic member behaviour. Founders of platform cooperatives should realise that coping with salient tensions in the gig economy might be their initial motivation to start, but that these tensions also become an integral part of platform cooperatives and can

result in failed market entry when one tensional pole remains dominant. For instance, platform cooperatives may successfully combine worker and entrepreneur identities in the overarching category of member (Mannan, 2022b). Alternatively, they might fail in attracting people with the necessary entrepreneurial mindset or with a crucial connection to the gig work itself. The gig economy context is likely to exacerbate member opportunism, but platform cooperatives are not defenceless against it. In fact, they actively design rules to curb opportunistic behaviour and thereby protect collective resources.

Fourth, given that platform cooperatives of gig workers require the aforementioned conditions to become resilient, a deficiency in these conditions could explain why most platforms continue to be investor-owned and membership of platform cooperatives is relatively rare. If deemed desirable and showing promise of meeting the required conditions, platform cooperatives can best be supported in their development stage by achieving initial feasibility and with maintaining member commitment by providing utility. However, as long as investor-owned platforms remain dominant, other interventions than platform cooperatives will likely have a larger impact on working conditions in the gig economy overall. Nevertheless, platform cooperatives may inform new regulations for the gig economy, similar to how functions of worker cooperatives have historically been taken over by institutions like the welfare state and trade unions (Moulaert & Ailenei, 2005). Figure 7.1 summarises the four lessons learned in a schematic overview.

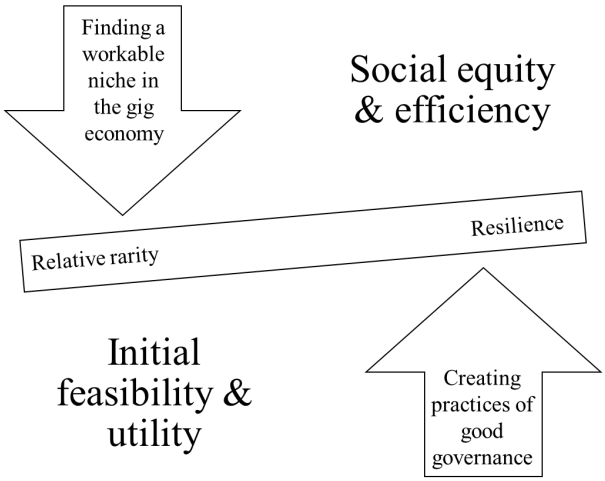

Figure 7.1. Overview of lessons learned

7.2 Contributions to the literature on institutions for collective action

As posited in the introduction, collective action by gig workers, and platform cooperatives in particular, are puzzling phenomena in light of existing theorising about collective action (Jansen & Akkerman, 2014; Lehdonvirta, 2016; Tassinari & Maccarrone, 2020). Hence, lessons can be learned from the gig economy context about the potential of collective action in an increasingly uncertain world characterised by globalisation and individualisation. The dissertation makes three contributions in this direction.

First, while the gig economy epitomises individualised labour (Mondon-Navazo et al., 2022), this dissertation demonstrates the capacity of institutions to enable collective action where it would not be expected. In terms of the SICADE-framework (De Moor, 2021), it highlights the potential of new types of cooperatives finding ways to achieve social equity and efficiency. Chapter 5 shows that some patterns of member participation in the decision-making of platform cooperatives cannot be explained based on tendencies of degeneration in traditional worker cooperatives (Cornforth,

1995; Langmead, 2016) or the iron law of oligarchy in organisations more generally (Diefenbach, 2019; Michels, 1911/1966). A possible explanation is that platforms not only lower transaction costs for market interactions (Davis, 2016), but also for collective decision-making (Lupia & Sin, 2003). Chapter 6 provides the clarification that although member opportunism is more likely in the gig economy (Bhardwaj & Sergeeva, 2022), platform cooperatives design rules against such behaviour to protect collective resources. This supports the idea that formal institutions are used in situations with a lack of shared norms on cooperation that emerge naturally in more homogeneous groups (Geary et al., 2019; Van Klingeren, 2022). What is more, the same chapter reconceptualizes how external shocks affect institutional change in collective resource management. It further shifts the thinking about external shocks from a matter of sudden resource scarcity or abundance (Dehkordi et al., 2021; Tschopp et al., 2018), towards external shocks as slow but long-lasting or rapid but temporary events.

Second, even in the presence of new institutions created by platform cooperatives, this dissertation shows the complexity of bringing together certain groups for a collective action. Building on the SICADE-framework (De Moor, 2021), the dissertation highlights how new types of cooperatives struggle with achieving initial feasibility and providing utility to members. Typically used for studying long-term challenges to cooperation, this dissertation therefore shows that the SICADE-framework is also relevant for studying challenges to initial feasibility of cooperation. In the past, cooperatives recruited their members from small, stable and relatively homogeneous communities with strong social ties and shared interests (Moulaert & Ailenei, 2005). Platform cooperatives of gig workers reach far beyond these traditional groups, but thereby also approach the limits of collective action (Olson, 1965; Ostrom, 1990). These features present difficulties in starting up (Chapter 2), maintaining member commitment (Chapter 4), and facilitating participation in decision-making (Chapter 5). Of course, platform cooperatives can try to shape their own membership by emphasising shared interests, making it attractive to stay long-term, and

building community. To the extent they succeed, the members of platform cooperatives are perhaps more alike regular employees than other gig workers. However, the complexity of bringing gig workers together for new forms of collective action also highlights the relevance of more established institutions in regulating the gig economy, such as those of the welfare state and social partnership.

The third contribution is to reaffirm that if a number of conditions are fulfilled, institutions for collective action in organisational forms such as platform cooperatives can become resilient. This is important to emphasize, given that the historical pattern is that every time institutions for collective action take on a new organisational form, they become glorified by some and immediately dismissed by others (De Moor, 2021). Again and again, empirical research is needed to correct the assumptions made about commons (De Moor, 2015; Ostrom, 1990), traditional worker cooperatives (Bonin et al., 1993; Pérotin, 2013), and thus also platform cooperatives. Scholars should therefore not only focus on the tensions from competing demands within cooperatives (Audebrand, 2017), but also shift their attention to how systemic tensions are motivating new cooperatives to start (Chapter 3). Going beyond mere theorising on platform cooperatives in previous literature (Belloc, 2019; Sandoval, 2020), this dissertation contributes to an understanding of actually existing platform cooperatives in practice.

7.3 Contributions to the gig economy literature

Coined and popularized since 2014 (Schneider, 2014; Scholz, 2014; Schor, 2014), the concept of platform cooperatives now receives substantial attention in literature about the gig economy (Christiaens, 2022) and dominant investor-owned platforms (Muldoon, 2022; Tarnoff, 2022). However, when I started the research for this dissertation in 2018, there was also confusion about the concept itself and its relevance to the gig economy (Como et al., 2016). In Chapter 2, I therefore developed a taxonomy of how the cooperative model can be made relevant for the gig economy based on the employment status of members and the ownership of a matchmaking

platform. This taxonomy allows for a more narrow definition of platform cooperatives of gig workers, while also showing that cooperatives may improve working conditions in the gig economy without necessarily employing gig workers or owning a platform. It further illustrates how platform cooperatives address the two main criticisms on the gig economy, namely insecure working conditions and economic dependence (Schor et al., 2020).

Second, whereas investor-owned platforms act as private regulators by creating their own institutional infrastructure (Frenken & Fuenfschilling, 2020; Lehdonvirta, 2022; Van Slageren, 2023), this dissertation shows that such institutional infrastructures are not set in stone and that alternatives are possible which do not prioritise shareholder value above all else. Whenever the gig economy is depicted as the inevitable future of work (Kessler, 2018; Sundararajan, 2016), either positively or negatively, it is typically in the form of self-employed workers who are dependent on investor-owned platforms. However, as demonstrated by the chapters of this dissertation, platform cooperatives represent an alternative future of work that can become resilient given the right conditions (Frenken, 2017). Having this alternative vision is important, as it may also provide credibility to calls for better working conditions and democratic accountability of investor-owned platforms (Haggart & Keller, 2021; van Doorn, 2017). If these are possible in platform cooperatives and they can become resilient, why not demand the same of dominant investor-owned platforms? Similar inspiration was taken from worker cooperatives to regulate capitalism in the 20th century (Moulaert & Ailenei, 2005), which may be repeated to regulate platform capitalism in the 21st century.

7.4 Limitations

Notwithstanding these contributions, the dissertation has a number of limitations that need to be considered. A first limitation is the risk of a selection bias (Cader & Leatherman, 2011). Although Chapters 2 and 3 deliberately included failed cases of platform cooperatives, most of this

dissertation focuses on cases that are relatively successful or at least remain operational. It is possible that the latter are exceptional cases which have become resilient despite challenges that are otherwise insurmountable. How many unknown platform cooperatives have failed and how many potential founders of a platform cooperative never made it past their initial idea? What is more, knowledge and awareness of the cooperative model are often lacking to begin with (Kalmi, 2007). Obviously, it is easier to identify relatively successful platform cooperatives for research because they are able to attract more public attention and are often already on the radar of researchers. Yet, doing so may underestimate the difficulty of overcoming challenges and not find the necessary conditions that failed platform cooperatives missed out on. Future research and scholarly initiatives that try to map platform cooperatives, like the Platform Co-op Directory (Platform Cooperativism Consortium, 2021), would therefore do well to collect and update data on the operational status of cases and make an effort to identify failed cases too. This would allow analysts to go beyond identifying the most likely conditions for platform cooperatives to become resilient, as in this dissertation, and further distinguish between necessary and sufficient conditions.

Second, there are other limitations to the sampling of platform cooperatives in this dissertation. Its geographical scope is limited to a number of countries in Europe and parts of North-America (in Chapter 2), which is the case for most research on platform cooperatives so far (Karanovic et al., 2020; Pentzien, 2020). What is problematic about this is that contextual conditions outside of these regions that may affect the resilience of platform cooperatives are not considered. Future research should especially look at platform cooperatives in the Global South (Mannan & Pek, 2021), since the gig economy is often perceived more positively there than in the Global North (Anwar & Graham, 2021). Examining country-level differences seems like a fruitful direction, as recent research suggests that national characteristics are associated with the size of cooperatives in those countries (Spicer, 2022). In addition, most empirical chapters of this dissertation (4-6)

focus on platform cooperatives of gig workers in the professional service sector with most of them performing tasks locally instead of delivering digitally transferable services. While initial feasibility was expected to be higher in this sector (Chapter 2), making it possible to study more long-term challenges, this choice still limits the generalisability of the conclusions drawn here. Future research should therefore examine platform cooperatives over the full spectrum of the gig economy: high-skill but also low-skill, and locally-tethered but also digitally-transferable work (Vallas & Schor, 2020). Even in sectors where initial feasibility is expected to be lower, there might be factors that help platform cooperatives past their development stage. Likewise, most empirical chapters of the dissertation (4-6) focus on platform cooperatives as a new form of worker cooperatives that employ gig workers. As discussed in Chapter 2, platform cooperatives may also take the form of producer cooperatives where members remain independent contractors. In those cases, gig workers are likely even more calculative about their member commitment, participation in decision-making, and handling of collective resources, because they are their own business. More research is needed to confirm if the conclusions of this dissertation indeed hold more strongly for platform cooperatives in the form of producer cooperatives.

Third, another limitation is that the data underlying this dissertation are mostly of a cross-sectional nature, which do not provide insight into resilience in the long-run. While the concept of resilience here refers primarily to the ability of platform cooperatives to cope with specific challenges (Hall & Lamont, 2013), one could argue that genuine resilience can only be demonstrated by the test of time (De Moor, 2021). The gig economy overall is still a novel phenomenon, and platform cooperatives as an alternative to investor-owned platforms are an even more recent invention. Future research should therefore track platform cooperatives of gig workers over an extended period of time to examine their longevity and long-term performance. In addition, longitudinal data will allow for mitigating the issue of reversed causality in Chapters 4 and 5.

Finally, this dissertation reaches only a limited understanding of resilience. It does not provide insight on how platform cooperatives perform compared to investor-owned platforms or other organisational forms in the gig economy. Even though they can become resilient under certain conditions, are platform cooperatives truly resilient if other organisational forms can achieve resilience under far fewer or less stringent conditions? There is certainly more institutional diversity in the gig economy with the emergence of platform cooperatives (Frenken, 2017; Ostrom, 2005). However, competitive (dis)advantages may ultimately drive out one organisational form over the other (Williamson, 1980) or different kinds of organisations will start to converge towards one particular form (DiMaggio & Powell, 1983). Hence, comparative research between different organisational forms could offer insights into the most resilient future paths for the gig economy. Critics also claim that the concept of resilience is often used to pressure people into adaptive behaviour despite experiencing distress, thereby following a neoliberal ideology that prioritises individual responsibility (Joseph, 2013). It would then justify a retreating welfare state and stimulate community self-reliance. Platform cooperatives might elicit the same criticism, since they potentially shift the responsibility of providing decent work from government and social partnership onto gig workers themselves. Comparative research is therefore needed to test decent work standards between members of platform cooperatives and gig workers in other organisational forms, for instance by including platform cooperatives in the assessment and ranking of platforms made by the Fairwork Foundation (Graham et al., 2020). Only then it will be possible to tell if platform cooperatives actually strengthen the position of gig workers.

7.5 Directions for future research

The dissertation raises several new questions for future research. I will outline three directions. First of all, there are more ways of looking at the success or failure of platform cooperatives than as a matter of resilient collective action. Based on the SICADE-framework (De Moor, 2021), I derived a set of four specific challenges for platform cooperatives of gig

workers: starting a platform cooperative (or failing to), maintaining member commitment by the creation of value (or risk losing members), facilitating member participation in collective decision-making (or risk degenerating to a conventional top-down structure), and designing institutional rules to protect collective resources from member opportunism (or risk going bankrupt). Beyond resilient collective action, there are clearly other definitions possible for the success or failure of platform cooperatives which deserve scholarly attention. An important one is scaling (Bauwens et al., 2020), which includes the growth of a platform cooperative (scale-up), replication in a larger number of platform cooperatives (scale-across), enhancement of impact generated for a platform cooperative's stakeholders (scale-deep), and diversification in novel services provided by a platform cooperative (scale-out). Initial research on scaling-up platform cooperatives is already undertaken (Karanovic et al., 2020), but other forms of scaling, obstacles to scaling, and conditions that allow for scaling remain largely unknown. This is an interesting direction for future research, because there is relatively little knowledge on the mechanisms for large-scale collective action (Jagers et al., 2020) and the use of information technologies potentially facilitates large-scale collective action (Lupia & Sin, 2003).

Another, related question of success for platform cooperatives is their degree of inclusion. If they succeed in scaling, but only for an exclusive group of relatively advantaged gig workers, platform cooperatives might actually worsen inequality in the gig economy. Research on traditional worker cooperatives warns to not think of inclusion as an inevitable by-product of the cooperative model (Meyers, 2022). Some economic historians even suggest that institutions for collective action, as in organisational forms like guilds, only became resilient by serving elite groups instead of functioning efficiently (Ogilvie, 2014). In Chapter 5, I demonstrated that not all members participate as likely in the decision-making of platform cooperatives. To assess which groups (fail to) access the membership of platform cooperatives, comparative research is needed on the composition of investor-owned and cooperatively-owned platforms. While there is already research

taking a feminist perspective on platform cooperatives (Salvagni et al., 2022), other forms of diversity and inclusion than those based on gender should be examined as well.

Gig workers may be the only type of members in some platform cooperatives or be one of several types of members in multi-stakeholder platform cooperatives (Vidal, 2022), but one stakeholder should always be crucial to the success of platform cooperatives: buyers. Whether these buyers are individual consumers or businesses, all platforms need to attract both sides of supply and demand, capture network effects, and gain a sufficient market share (Gawer, 2014). Nevertheless, the consumer perspective has received barely any attention in the burgeoning literature on platform cooperatives. Is there an interest in hiring gig workers from platform cooperatives and are clients perhaps even willing to pay more if the platform is controlled by its worker-members? And if not, does that undermine the chances for success of platform cooperatives? One could take inspiration from choice experiments on the preferences and willingness-to-pay of consumers for energy cooperatives (Sagebiel et al., 2014). Alternatively, future research may compare the appeal of platform cooperatives among ethical consumers versus more mainstream consumers (Papaoikonomou et al., 2016).

The question of success in platform cooperatives should also be raised regarding innovation. Although the gig economy faces many criticisms (Koutsimpogiorgos et al., 2020; Schor, 2020; Woodcock & Graham, 2020), attempts to regulate it have been slow-moving and contentious (Stewart & Stanford, 2017). One of the reasons for this is the belief, frequently put forward by investor-owned platforms, that regulation will impede innovation in this new market. Platform cooperatives, which aim to improve working conditions in the gig economy, have emerged as an alternative organisational form (Scholz & Schneider, 2016). However, it is debatable whether they also promote innovation. The question then is, can platform cooperatives achieve the best of both worlds? Vanek (1977) theorised that cooperatives owned by workers would suffer from a horizon problem, meaning that they rather

invest in short-term benefits such as higher wages than in uncertain long-term benefits like the returns of innovation. This horizon problem might play a role for platform cooperatives of gig workers in particular, as the gig economy typically has a frequently shifting workforce that would miss out on the benefits from long-term returns on investment. Future research is necessary to test such hypotheses.

While the focus of this dissertation is on gig workers organising themselves in platform cooperatives, these efforts are not an isolated phenomenon. A wide variety of collective actions are actually undertaken in the gig economy and by workers in non-standard employment more broadly (Graham & Shaw, 2017; Johnston & Land-Kazlauskas, 2019; Koene & Pichault, 2021; Lenaerts et al., 2018; Mondon-Navazo et al., 2022; Vriens & De Moor, 2020). Examples include new mutuals, quasi-unions, professional associations, online support groups, strikes and street protests. Some of the conclusions in this dissertation may extend to those forms of collective action, especially when it concerns more institutionalised forms, whereas other conclusions do not. Collective action may not be collapsing in the emerging gig economy (Jansen & Akkerman, 2014), but further research is needed to fully grasp the mechanisms of collective action in labour markets that are increasingly flexible and mediated by digital platforms.

Platform cooperatives are also not restricted to the gig economy, but are relevant to other parts of the digital economy as well (Scholz & Schneider, 2016). Take for instance the sharing economy, where consumers provide each other with temporary (paid) access to idle goods (Frenken & Schor, 2019). Fairbnb is a cooperative sharing platform for holiday accommodation that, as the name suggests, aims to be an alternative to investor-owned platform Airbnb. Some of the motives for Fairbnb are similar as for platform cooperatives of gig workers, like gaining independence from investor-owned platforms, but other motives have more to do with negative externalities, in this case of mass tourism (Foramitti et al., 2020). Such differences are likely

to affect the dynamics of collective action, which suggests that comparative research is in order among different types of platform cooperatives.

Proponents of platform cooperatives do not advocate for substituting, but for complementing government intervention in the gig economy (Christiaens, 2022; Schor, 2020). While there already is political science and legal research that outlines how public policy may obstruct or facilitate platform cooperatives (Mannan, 2022a; Pentzien, 2020; Scholz et al., 2021), the proposed complementary role of platform cooperatives to government intervention is still largely unclear. It is debatable if the spike in attention for platform cooperatives will persist once new regulations at the national and supranational level are implemented. Future research should therefore assess the complementary functions of platform cooperatives to government regulation of the gig economy.

A final direction that future research should take is to examine the opportunities and risks of digitalisation for institutions of collective action and for democratic innovations. While there already is wide scholarly attention for the usage of digital media in contentious forms of collective action (Bennett & Segerberg, 2012; Bimber et al., 2005; Parsloe & Holton, 2018), such as protests and boycotts, the same cannot be said for institutionalised forms of collective action, like cooperatives and unions. Likewise, there is increasing research about offline democratic innovations that complement representative democracy on the local or national level, such as citizens' assemblies and referendums (Binnema & Michels, 2022; Jacobs et al., 2018; Van Dijk & Lefevere, 2023), but less so on online democratic innovations, like e-participatory budgets (Coleman & Cardoso Sampaio, 2017). On the one hand, digitalisation has the potential to reduce participation costs (Davis, 2016). On the other hand, necessary trust might be harder to establish between online participants (De Filippi et al., 2020). To investigate the opportunities and risks of digitalisation, future research could run experiments on online and offline modes of participation in decision-making. Another route is to conduct historical case studies that

compare institutionalised forms of collective action or democratic innovations from before the internet was born to now. More practical, design-oriented research is also needed to distinguish what technologies work well and are desirable from those that are not. It is likely that these are not the same as for pure corporate actors like investor-owned platforms.

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Appendices

Appendix A

Table A1. Total list of known platform cooperatives in European gig economy regardless of development status. Last updated on 12 June 2020; bold = interviewed.

Country	Platform cooperatives in gig economy
Austria	**Smart Austria**
Belgium	**Smart BE/FR**, Pwiic, CoopCycle (Molenbike, Dioxyde de Gambettes, Coursiers wallons, RAYON9)
France	**Smart BE/FR**, **CoopCycle** (Régie de quartier de Stains, CoinCide, Olvo, CourCyclette, Lille.bike, Feel à Vélo, Les Coursiers Nantais, **La Poit' à vélo**, Les Coursiers Bordelais, Tout En Vélo Grenoble, S!cklo, ColisCyclette, Les Coursiers Montpelliérains, Traboulotte), Alpha Taxis
Germany	**Smart Germany**, **FoodFairies Berlin**, CoopCycle (Tricargo, CCCC, Fulmo, **KHORA**)
Hungary	**Smart Hungary**
Italy	**Smart Italy**, Doc Servizi, Cotabo
Netherlands	**Smart NL**
Poland	CoopCycle (Zentrale)
Spain	Smart Spain, CoopCycle(**La Pájara**), Mensakas
Sweden	**Smart Sweden**
United Kingdom	**The Interpreting Collective**, **Signalise**, Equal Care Co-op, Taxiapp UK London, **Faircab**, DRIVE Taxis Cardiff, CoopCycle (York Collective), Yamuv

List A2. Interview guidelines for founders of platform cooperatives

- **Introduction**
  - Could you please introduce yourself a bit more? (sketch a profile, background story, involvement in other projects)

- **Initial motivation**
  - What was your motivation to start [name platform cooperative]?
  - What specific goals did you have in mind when founding [name platform cooperative]?
  - What did you intend for members to gain by working through [name platform cooperative]?

- **Considered alternatives**
  - How did you become aware of the cooperative model? How much did you know?
  - What other options did you consider before choosing to start [name platform cooperative]? And why?
    - Possible alternative organizational forms?
    - Other means to achieve the same goals? (lawsuits, campaigns, etc.)
  - What were your cost-benefit considerations between the different alternatives?
  - Why did you choose for [name platform cooperative] in the end?

- **The development process**
  - Could you tell me the story of how [name platform cooperative] developed, from start-up until present day?
    - Milestones/successes? (people, technology, finance, rules)
    - Crises/challenges? (people, technology, finance, rules)
    - Role of context? (advantages/constraints in social, economic, political, legal or cultural factors)
    - How do you see your role as founder? (opportunities/challenges in combining different roles/identities?)

- What would you say is the most important lesson that you have learned during the development of [name platform cooperative]?
- What is your perspective on the future of [name platform cooperative]? (opportunities/threats)

- **Ending**
  - Is there something you still like to discuss? Or do you have any questions for me?

Appendix B

Table B1. Items of member commitment

Item	*M*	*SD*
I would be happy to spend the rest of my career with my cooperative	3.4	1.0
I enjoy discussing my cooperative with people outside it	3.6	1.1
I really feel as if my cooperative's problems are my own	3.2	1.0
I think that I could easily become as attached to another organization as I am to my cooperative (R)	3.0	1.0
I do not feel like 'part of the family' at my cooperative (R)	3.2	1.1
I do not feel 'emotionally attached' to my cooperative (R)	3.1	1.2
My cooperative has a great deal of personal meaning for me	2.8	1.1
I do not feel a strong sense of belonging to my cooperative (R)	3.2	1.2

Note. $n = 425$.

Table B2. Items of preference deviation (individual preferences – perceived organisational priorities)

Item	*M*	*SD*
Doing work that makes a helpful CONTRIBUTION to society; making a difference	0.3	1.0
Working with agreeable and friendly CO-WORKERS with whom you could form friendships	0.4	1.0
Having the ability to WORK WITH PEOPLE	0.4	1.0
Doing work that affords you a good SALARY	0.6	1.2
Having the assurance of JOB SECURITY	0.5	1.4
Having PROTECTIONS against loss of income due to unemployment, sickness or accidents	0.7	1.4
Having the AUTHORITY to organize and direct the work of others	-0.0	1.2
Doing work that is PRESTIGIOUS and regarded highly by others	-0.0	1.1

Having the ability to INFLUENCE organizational outcomes	0.3	1.2
Doing work that provides change and VARIETY in work activities	0.3	1.1
Having the AUTONOMY to make decisions about how you do your work and spend your time	0.4	1.1
Having the opportunity to CONTINUOUSLY LEARN and develop new knowledge or skills	0.6	1.1
Having the opportunity for ADVANCEMENT in your career	0.7	1.2

Note. $n = 425$.

Table B3. Items of social embeddedness: Do you know anyone in the same line of work as you... (answered with: another member of my cooperative)

Item	*% Yes*
… who can give you information about customers and competitors?	38.4
… who is knowledgeable about budgeting, subsidies and other work related financial matters?	44.7
… who can give you a good reference?	39.3
… who makes you get good ideas whenever you talk to them?	33.6
… who can help you find your way on the digital platform of your cooperative?	75.1
… that is a member of a union, or is active in a union?	19.3
… with whom you can informally chat about what is currently happening in your cooperative?	59.3
… who can take over some of your tasks temporarily?	33.4
… who is knowledgeable about all kinds of governmental, official arrangements (legislation, etc.)?	52.7
… who has a location, machine, or equipment you can use for work once in a while?	22.6
… who can give you advice concerning a conflict at work?	46.8

Note. $n = 425$.

Appendix C

Table C1. Items of member participation in decision-making: In which of the following areas of decision-making do you participate within your cooperative? (answered with 4 = My opinion is taken into account or 5 = I take part in the decision-making with equal right)

Item	%
Strategic decisions	
- Changes in cooperative governance or mission statement, charter, statutes etc.	7.7
- Financial and budget decisions (including extent of shares, investment in new services, sale of parts of the organisation, contributions of capital by the members, profit distribution)	7.2
- Major changes in the way one or more services are organized in the cooperative (such as design of a new training program)	6.2
- Election of chief executive(s) or members of the managing board	11.5
Tactical decisions	
- Innovations (e.g. development of extensive improvements of technology, work organization, product or service)	5.0
- Purchasing of new operating resources, operating media, equipment (e.g. machinery and tools, PC)	3.1
- Election or delegation of members into a participating/representative board or commission of the cooperative	10.5
- Establishment of criteria and procedures for admission and dismissal of members	3.3
Operational decisions	
- Standards for ethical work / work quality	6.0
- Activities within the cooperative designed to save costs	3.4
- Standards for the amount of work that has to be done	4.3
- Development of new health and safety procedures	3.4

Note. $n = 418$.

Table C2. Items of affective commitment: To what extent do you agree with the following statements?

Item	*M*	*SD*
I would be happy to spend the rest of my career with my cooperative	3.4	1.0
I enjoy discussing my cooperative with people outside it	3.6	1.1
I really feel as if my cooperative's problems are my own	3.2	1.0
I think that I could easily become as attached to another organization as I am to my cooperative (R)	3.0	1.0
I do not feel like 'part of the family' at my cooperative (R)	3.2	1.1
I do not feel 'emotionally attached' to my cooperative (R)	3.1	1.2
My cooperative has a great deal of personal meaning for me	2.8	1.1
I do not feel a strong sense of belonging to my cooperative (R)	3.2	1.2

Note. $n = 418$.

Table C3. Items of social capital: Do you know anyone in the same line of work as you... (answered with: another member of my cooperative)

Item	*% Yes*
… who can give you information about customers and competitors?	38.3
… who is knowledgeable about budgeting, subsidies and other work related financial matters?	45.0
… who can give you a good reference?	39.7
… who makes you get good ideas whenever you talk to them?	34.0
… who can help you find your way on the digital platform of your cooperative?	75.4
… that is a member of a union, or is active in a union?	19.4
… with whom you can informally chat about what is currently happening in your cooperative?	59.1
… who can take over some of your tasks temporarily?	33.0
… who is knowledgeable about all kinds of governmental, official arrangements (legislation, etc.)?	53.1

… who has a location, machine, or equipment you can use for work once in a while?	22.7
… who can give you advice concerning a conflict at work?	46.9

Note. $n = 418$.

Table C4. Digital skills: How would you rate your own digital skills?

Item	*M*	*SD*
The use of the internet is easy for me	4.77	0.47
I can teach myself the things I need to know about internet applications	4.43	0.88
If I get problems using the internet, I can usually solve them by myself	4.42	0.86
I can manage myself when using the internet	4.55	0.66
I feel comfortable using the internet	4.55	0.57
I cannot take part into a conversation about internet applications (R)	4.10	1.01
I am hesitant to try new internet applications (R)	4.12	1.02
I cannot keep pace with the developments of internet applications (R)	4.10	1.00

Note. $n = 418$.

Appendix D

Table D1. Codebook of Institutional Grammar coded database on Smart's rules

Variable	Measurement	Values
ID	Unique identification number for each institutional rule statement	1 to n
Source	Source label	Source name and version number
Year_added	Year that rule was added	Year
Year_removed	Year that rule was removed	Year
A	Literal coding of Attribute	Text fragment from source document
A_party	Classification of Attribute	Ordinary members (1), general assembly (2), officials (3), non-members (4), cooperative as a whole (5), other (6)
D	Literal coding of Deontic	Text fragment from source document
D_modal	Classification of Deontic	Permission (1), obligation (2), prohibition (3)
I	Literal coding of aIm	Text fragment from source document
I_type	Classification of aIm	Position (1), boundary (2), choice (3), aggregation (4), information (5), scope (6), payoff (7)
B	Literal coding of oBject	Text fragment from source document
B_party	Classification of oBject	Ordinary members (1), general assembly (2), officials (3), non-members (4), cooperative as a whole (5), collective resources (6), other (7)
Cac	Literal coding of Context activation condition	Text fragment from source document

AC_temp	Activation condition refers to temporality like a point in time, time frames, or frequencies	No (0), yes (1)
AC_spat	Activation condition refers to spatiality such as locations, directions, or paths	No (0), yes (1)
AC_dom	Activation condition refers to domain of activity, topic or existence	No (0), yes (1)
AC_ord	Activation condition refers to order of procedure	No (0), yes (1)
AC_meth	Activation condition refers to method like manners or instruments	No (0), yes (1)
AC_purp	Activation condition refers to purpose	No (0), yes (1)
AC_state	Activation condition refers to state of affairs	No (0), yes (1)
AC_event	Activation condition refers to event occurrences	No (0), yes (1)
Cec	Literal coding of Context execution constraint	Text fragment from source document
EC_temp	Execution constraint refers to temporality like a point in time, time frames, or frequencies	No (0), yes (1)
EC_spat	Execution constraint refers to spatiality such as locations, directions, or paths	No (0), yes (1)
EC_dom	Execution constraint refers to domain of activity, topic or existence	No (0), yes (1)
EC_ord	Execution constraint refers to order of procedure	No (0), yes (1)
EC_meth	Execution constraint refers to method like manners or instruments	No (0), yes (1)

EC_purp	Execution constraint refers to purpose	No (0), yes (1)
EC_state	Execution constraint refers to state of affairs	No (0), yes (1)
EC_event	Execution constraint refers to event occurrences	No (0), yes (1)
O	Literal coding of Or else	Text fragment from source document
O_type	Classification of Or else	Exclusion from membership (1), exclusion from assembly (2), lose official appointment (3), gain official appointment (4), lose right to use collective resources (5), gain right to use collective resources (6), monetary fine (7), monetary bonus (8), exposure of compliance (9), exposure of violation (10), legal action (11), other (12)

Summary

The gig economy, where mostly self-employed workers perform short-term service jobs intermediated by platforms, is often portrayed as offering a glimpse at the future of work. Currently dominant platforms are owned by investors and have framed themselves as digital marketplaces that merely allow individuals to engage in peer-to-peer transactions, thereby excluding them from responsibility and accountability to other stakeholders. Platform cooperatives that are owned and controlled by gig workers themselves have emerged as an alternative form of organisation to these investor-owned platforms. The appeal of platform cooperatives is to increase flexibility and decrease barriers to accessing work like in investor-owned platforms, but also to provide more secure working conditions and democratic control over the platform.

Based on existing theories about collective action in the labour market, one would not expect the highly individualised gig workers to be successful in such collective action. Due to the nature of gig work and digital platforms, it is harder for gig workers to unite and overcome social dilemmas. In practice, there are both successful and failed platform cooperatives. This suggests that there are substantial challenges of organising a platform cooperative and getting gig workers to participate as members, but also that under certain conditions these challenges might be overcome and that platform cooperatives can become resilient. Hence, this dissertation provides insights into the question: “Under what conditions can platform cooperatives of gig workers become resilient?”

The dissertation draws on the SICADE-framework to study four challenges in particular: starting a platform cooperative (Chapters 2-3), maintaining member commitment by creating value (Chapter 4), facilitating member participation in collective decision-making (Chapter 5), and protecting collective resources from member opportunism (Chapter 6). While pundits

and scholars often praise or criticise platform cooperatives on theoretical grounds, the dissertation examines actually existing platform cooperatives to unveil conditions under which they can or cannot become resilient. The geographic scope is limited to the Global North, where most platform cooperatives have been located up until now.

In Chapter 2, I provide a taxonomy of how the cooperative model can be made relevant for the gig economy based on the employment status of members and the ownership of a platform. The employment status determines if it is a worker cooperative, with members being employed by the cooperative, or a producer cooperative, with members being self-employed. Platform ownership determines if the cooperative has their own platform that members can use to find clients, making it a platform cooperative in the narrow sense, or if members find their clients elsewhere. Examining both worker and producer cooperatives that own a platform, I evaluate the obstacles for gig workers wanting to start a platform cooperative of raising capital, finding shared interests, and disputing investor-owned platforms. A feasibility analysis shows that most active and least failed cases indeed concentrate in those sectors which face the fewest of these obstacles, while the few exceptions in other sectors show great ingenuity in overcoming the obstacles. I conclude that platform cooperatives are most feasible to start in the taxi and professional service sectors, while it is much more difficult in food delivery, homecare and online micro-tasks.

Chapter 3 examines the tensions that platform cooperatives face from competing demands while starting up, and how their founders manage these tensions. Based on interviews with the founders of both active and failed platform cooperatives in Europe, I find that these tensions function as a double-edged sword for platform cooperatives. On the one hand, salient tensions in the gig economy, like the one between worker and entrepreneur identities, motivate the development of platform cooperatives as a coping mechanism. On the other hand, as these tensions become accommodated in platform cooperatives, they continuously return during the development

resulting in vicious cycles when one tensional pole remains dominant (e.g. either worker or entrepreneur identities) and virtuous cycles when both tensional poles are embraced (e.g. as worker-entrepreneurs). I conclude that salient tensions in the gig economy as a whole provide the generative conditions for platform cooperatives to develop, while these tensions can also be a source of failed market entry for platform cooperatives.

Chapter 4 investigates the difficulties of maintaining member commitment for platform cooperatives, given the usual heterogeneity and social isolation of gig workers. Using survey data on the members of four platform cooperatives in Italy that consist of gig workers in the cultural, ICT and education sectors, I find that members with more deviating preferences and less social embeddedness among fellow members indeed have a lower commitment towards their cooperative. These results suggest that shared preferences and social relations between peers are key for gig workers' commitment to platform cooperatives.

In Chapter 5, I study what explains the participation of platform cooperative members in collective decision-making. While full participation would best reflect the preferences of a cooperative's membership as a whole, members might not make the effort to participate as their individual vote is unlikely to make a difference in achieving desired outcomes. Yet, this social dilemma is expected to not weigh equally as heavy on all members – thus resulting in unequal participation patterns. Using the same survey data as in Chapter 4, I find that members with higher commitment towards their cooperative and more social capital among other members are more likely to participate, but that there is no effect of cooperative size and human capital. Therefore, some patterns of member participation in the decision-making of platform cooperatives cannot be explained based on well-known tendencies of degeneration in traditional worker cooperatives.

Finally, Chapter 6 assesses how a cooperative of gig workers designs rules to curb member opportunism and whether their rules evolve in response to

the COVID-19 crisis. Using the institutional grammar approach, I conduct a content analysis on the bylaws and other regulatory documents of a cooperative of gig workers in Belgium covering the period before, during, and after the height of the COVID-19 pandemic. I find that external shocks with sudden resource scarcity (COVID-19) do not necessarily motivate rule changes while external shocks without an effect on collective resources (new national legislation) can motivate rule changes. The study also provides support for the notion that cooperatives with a large and heterogeneous membership design rules to mitigate opportunism.

When combined, these chapters provide an answer as to the conditions under which platform cooperatives of gig workers are likely or unlikely to become resilient. On the one hand, I identify conditions for resilience that platform cooperatives may seek out as workable niches in parts of the gig economy. These include low external capital requirements, high publicity for disputes around investor-owned platforms, and a workforce that is relatively stable, homogenous and socially connected to each other. On the other hand, I ascertain the conditions that platform cooperatives need to actively create as good governance practices in order to become resilient. These include the management of competing demands by embracing both tensional poles and the design of rules against opportunistic member behaviour.

Overall, this dissertation contributes to the literature on institutions for collective action by demonstrating the capacity of institutions to enable collective action in a highly individualised context where one would not expect it. However, despite the presence of these new institutions, the dissertation also shows the complexity of bringing together certain groups for collective action. Likewise, the dissertation contributes to the gig economy literature by showing that the institutional infrastructures created by investor-owned platforms are not the only ones possible and that platform cooperatives represent an alternative future of work that can become resilient given the right conditions.

Samenvatting

De kluseconomie, waarin voornamelijk zelfstandigen kortdurende diensten verlenen die worden bemiddeld door platforms, wordt vaak gezien als een glimp van de toekomst van werk. Op dit moment zijn de dominante platforms eigendom van investeerders en hebben ze zichzelf afgeschilderd als digitale marktplaatsen die individuen enkel in staat stellen om peer-to-peer transacties uit te voeren, waardoor ze geen verantwoordelijkheid dragen en geen verantwoording hoeven af te leggen aan andere stakeholders. Platformcoöperaties, die eigendom zijn van en gecontroleerd worden door kluswerkers zelf, zijn ontstaan als een alternatieve organisatievorm voor deze platforms die in handen zijn van investeerders. De aantrekkingskracht van platformcoöperaties bestaat uit het vergroten van de flexibiliteit en het verlagen van de drempels voor toegang tot werk zoals bij platforms die eigendom zijn van investeerders, maar ook het bieden van meer zekerheid in arbeidsomstandigheden en democratische controle over het platform.

Op basis van bestaande theorieën over collectieve actie op de arbeidsmarkt, zou je niet verwachten dat de sterk geïndividualiseerde kluswerkers succesvol zullen zijn in dergelijke collectieve actie. Door de aard van kluswerk en digitale platforms is het moeilijker voor kluswerkers om zich te verenigen en sociale dilemma's te overwinnen. In de praktijk zijn er zowel succesvolle als mislukte platformcoöperaties. Dit suggereert dat het organiseren van een platformcoöperatie en het deelnemen van kluswerkers als leden aanzienlijke uitdagingen met zich meebrengt, maar ook dat deze uitdagingen onder bepaalde omstandigheden overwonnen kunnen worden en dat platformcoöperaties veerkrachtig kunnen worden. Vandaar dat dit proefschrift inzicht geeft in de vraag: "Onder welke voorwaarden kunnen platformcoöperaties van kluswerkers veerkrachtig worden?".

Het proefschrift maakt gebruik van het SICADE-model om vier uitdagingen in het bijzonder te bestuderen: het starten van een platformcoöperatie

(hoofdstuk 2-3), het behouden van ledenbinding door waarde te creëren (hoofdstuk 4), het faciliteren van ledenparticipatie in collectieve besluitvorming (hoofdstuk 5) en het beschermen van collectieve middelen tegen opportunistisch gedrag van leden (hoofdstuk 6). Terwijl deskundigen platformcoöperaties vaak prijzen of bekritiseren op theoretische gronden, onderzoekt het proefschrift feitelijk bestaande platformcoöperaties om de voorwaarden bloot te leggen waaronder ze wel of niet veerkrachtig kunnen worden. De geografische reikwijdte is beperkt tot het Mondiale Noorden, waar de meeste platformcoöperaties tot nu toe gevestigd zijn.

In hoofdstuk 2 geef ik een taxonomie van hoe het coöperatieve model relevant kan worden gemaakt voor de kluseconomie op basis van de arbeidsstatus van leden en het eigendom van een platform. De arbeidsstatus bepaalt of het een werknemerscoöperatie is, met leden in dienst van de coöperatie, of een producentencoöperatie, met leden als zelfstandigen. Het platformeigendom bepaalt of de coöperatie een eigen platform heeft dat leden kunnen gebruiken om klanten te vinden, waardoor het een platformcoöperatie in enge zin is, of dat leden hun klanten elders vinden. Ik bestudeer zowel werknemers- als producentencoöperaties die eigenaar zijn van een platform, en evalueer de obstakels voor kluswerkers die een platformcoöperatie willen beginnen, zoals het aantrekken van kapitaal, het vinden van gedeelde belangen, en het betwisten van platforms die eigendom zijn van investeerders. Een haalbaarheidsanalyse laat zien dat de meest actieve en minst mislukte gevallen zich inderdaad concentreren in die sectoren die de minste van deze obstakels ondervinden, terwijl de weinige uitzonderingen in andere sectoren grote vindingrijkheid tonen in het overwinnen van de obstakels. Ik concludeer dat platformcoöperaties het meest haalbaar zijn om te starten in de taxi- en professionele dienstensector, terwijl het veel moeilijker is in voedselbezorging, thuiszorg en online microtaken.

Hoofdstuk 3 onderzoekt de spanningen die platformcoöperaties ondervinden door tegengestelde eisen tijdens het opstarten, en hoe hun oprichters met deze

spanningen omgaan. Op basis van interviews met de oprichters van zowel actieve als mislukte platformcoöperaties in Europa, ontdek ik dat deze spanningen werken als een tweesnijdend zwaard voor platformcoöperaties. Enerzijds motiveren spanningen in de kluseconomie, zoals die tussen de identiteit van werknemer en ondernemer, de ontwikkeling van platformcoöperaties als een mechanisme om die spanningen het hoofd te bieden. Aan de andere kant, als deze spanningen worden ondergebracht in platformcoöperaties, keren ze voortdurend terug tijdens de ontwikkeling, wat resulteert in vicieuze cycli wanneer één spanningspool dominant blijft (bijv. als werknemer of ondernemer) en virtuoze cycli wanneer beide spanningspolen worden omarmd (bijv. als werknemer-ondernemer). Ik concludeer dat spanningen in de kluseconomie als geheel de voorwaarden scheppen waaronder platformcoöperaties zich kunnen ontwikkelen, terwijl deze spanningen ook een bron kunnen zijn van mislukte markttoetreding voor platformcoöperaties.

Hoofdstuk 4 onderzoekt hoe moeilijk het is om ledenbinding te behouden voor platformcoöperaties, gezien de veelvoorkomende heterogeniteit en sociale isolatie onder kluswerkers. Met behulp van enquêtegegevens over de leden van vier platformcoöperaties in Italië die bestaan uit kluswerkers in de culturele, ICT- en onderwijssector, vind ik dat leden met meer afwijkende voorkeuren en minder sociale inbedding onder medeleden inderdaad een lagere binding hebben met hun coöperatie. Deze resultaten suggereren dat gedeelde voorkeuren en sociale relaties tussen collega's bepalend zijn voor de ledenbinding van kluswerkers bij platformcoöperaties.

In hoofdstuk 5 onderzoek ik wat de deelname van leden van platformcoöperaties aan collectieve besluitvorming verklaart. Hoewel volledige deelname het beste de voorkeuren van de leden van een coöperatie als geheel zou weerspiegelen, nemen leden mogelijk niet de moeite om te participeren omdat het onwaarschijnlijk is dat hun individuele stem een verschil zou maken bij het bereiken van de voor hen gewenste resultaten. Toch wordt verwacht dat dit sociale dilemma niet voor alle leden even zwaar

weegt - en dus resulteert in ongelijke participatiepatronen. Door gebruik te maken van dezelfde enquêtegegevens als in hoofdstuk 4, vind ik dat leden met een grotere binding met hun coöperatie en meer sociaal kapitaal onder andere leden meer geneigd zijn om te participeren, maar dat er geen effect is van coöperatiegrootte en menselijk kapitaal. Daarom kunnen sommige patronen van ledenparticipatie in de besluitvorming van platformcoöperaties niet worden verklaard op basis van bekende tendensen van degeneratie in traditionele werknemerscoöperaties.

Tot slot onderzoekt hoofdstuk 6 hoe een coöperatie van kluswerkers regels ontwerpt om het opportunisme van de leden te beteugelen en in hoeverre hun regels evolueren in reactie op de COVID-19 pandemie. Met behulp van de institutionele grammaticabenadering voer ik een inhoudsanalyse uit op de statuten en andere regelgevende documenten van een coöperatie van kluswerkers in België over de periode voor, tijdens en na het hoogtepunt van de COVID-19 pandemie. Ik ontdek dat externe schokken met een plotselinge schaarste aan middelen (COVID-19) niet noodzakelijkerwijs aanleiding geven tot regelwijzigingen, terwijl externe schokken zonder effect op collectieve middelen (nieuwe nationale wetgeving) wel aanleiding kunnen geven tot regelwijzigingen. Het onderzoek biedt ook ondersteuning voor het idee dat coöperaties met een groot en heterogeen ledenbestand regels ontwerpen om opportunisme te beperken.

In combinatie geven deze hoofdstukken een antwoord op de voorwaarden waaronder platformcoöperaties van kluswerkers waarschijnlijk wel of niet veerkrachtig zullen worden. Aan de ene kant identificeer ik voorwaarden voor veerkracht die platformcoöperaties kunnen opzoeken als werkbare niches in delen van de kluseconomie. Dit zijn onder andere lage externe kapitaalvereisten, veel publiciteit voor geschillen rond platforms die eigendom zijn van investeerders, en een personeelsbestand dat relatief stabiel, homogeen en sociaal met elkaar verbonden is. Aan de andere kant stel ik vast welke voorwaarden platformcoöperaties actief moeten creëren als goede bestuurspraktijken om veerkrachtig te worden. Deze omvatten het

management van tegengestelde eisen door het omarmen van beide spanningspolen en het ontwerpen van regels tegen opportunistisch gedrag van leden.

Over het geheel genomen draagt dit proefschrift bij aan de literatuur over instituties voor collectieve actie door het vermogen van instituties aan te tonen om collectieve actie mogelijk te maken in een sterk geïndividualiseerde context waar men dit niet zou verwachten. Ondanks de aanwezigheid van deze nieuwe instituties laat het proefschrift echter ook de complexiteit zien van het samenbrengen van bepaalde groepen voor collectieve actie. Evenzo draagt het proefschrift bij aan de kluseconomieliteratuur door te laten zien dat de institutionele infrastructuren die zijn gecreëerd door platforms die eigendom zijn van investeerders niet de enige mogelijke zijn en dat platformcoöperaties een alternatieve toekomst van werk vertegenwoordigen die veerkrachtig kan worden onder de juiste omstandigheden.

About the author

Damion Jonathan Bunders was born in Diemen, the Netherlands, on August 7, 1993. He completed his Bachelor in Sociology, Master in Sociology, and Master in Human Geography (all cum laude) at Utrecht University. Before starting his PhD project, Damion worked for over a year as junior-lecturer at the department of Human Geography and Spatial Planning (UU).

In November 2018, Damion started his PhD project as part of the NWO-funded SCOOP gravitation programme at the department of Economic and Social History, Utrecht University, under the supervision of prof. dr. Tine De Moor and prof. dr. Agnes Akkerman. In December 2020, he moved with prof. dr. Tine De Moor – who got a new chair – to the Business-Society Management department at Erasmus University Rotterdam. Prof. dr. Pearl Dykstra then also joined the supervision team. During his PhD project, Damion produced key insights on institutions for collective action in a context where collective action would not be expected: the gig economy. He presented his work at international conferences and seminars, including multiple editions of the ICA-CCR European Research Conference and the International Workshop on the Sharing Economy. Moreover, research from his PhD has been published in Socio-Economic Review and Journal of Management Inquiry and in Economic and Industrial Democracy.

Damion is currently Assistant Professor Governance of Urban Digitalisation at the department of Human Geography and Spatial Planning and the School of Governance at Utrecht University. His research there is focused on how workers in the digital economy might improve their own working conditions and how digital tools may enhance citizen participation.

Portfolio

Submitted articles

Bunders, D. J., & De Moor, T. Using the institutional grammar to understand collective resource management in a heterogenous group facing external shock: The case of gig worker cooperative Smart and COVID-19

Peer-reviewed articles

Bunders, D. J. (2023). Silicon law of oligarchy: patterns of member participation in the decision-making of platform cooperatives. *Socio-Economic Review*, mwad058.

Bunders, D. J., & De Moor, T. (2023). Paradoxical Tensions as a Double-Edged Sword: Analysing the Development of Platform Cooperatives in the European Gig Economy. *Journal of Management Inquiry*, 10564926231202422.

Bunders, D. J., & Akkerman, A. (2022). Commitment issues? Analysing the effect of preference deviation and social embeddedness on member commitment to worker cooperatives in the gig economy. *Economic and Industrial Democracy*, 0143831X221101425.

Bunders, D. J., Arets, M., Frenken, K., & De Moor, T. (2022). The feasibility of platform cooperatives in the gig economy. *Journal of Co-operative Organization and Management, 10*(1), 100167.

Bunders, D. J., & Weerman, F. M. (2020). Social Media and Delinquency: Exploring the Relation between Online and Offline Interaction with Friends and Online and Offline Delinquency. *Kriminologie-Das Online-Journal, 2*(2), 283-309.

Varró, K., & Bunders, D. J. (2020). Bringing back the national to the study of globally circulating policy ideas: 'Actually existing smart urbanism' in Hungary and the Netherlands. *European Urban and Regional Studies, 27*(3), 209-226.

Bunders, D. J., & Varró, K. (2019). Problematizing data-driven urban practices: Insights from five Dutch 'smart cities'. *Cities, 93*, 145-152.

Book contributions

Bunders, D. J. (2021). Gigs of their own: reinventing worker cooperativism in the platform economy and its implications for collective action. In V. Daskalova, G. Jansen, & J. Meijerink (Eds.), *Platform Economy Puzzles: A Multidisciplinary Perspective on Gig Work*. Cheltenham, UK, Northampton, MA, USA: Edward Elgar Publishing.

Teaching qualifications

Basic Teaching Qualification, Faculty of Geosciences, Utrecht University (February 13, 2019)

Courses taught at master-level

2022 – 2023

- Master thesis Global Business & Sustainability (semester 2)

2021 – 2022

- Master thesis Global Business & Sustainability (semester 2)

2020 – 2021

- Master thesis Global Business & Sustainability (semester 2)

Courses taught at bachelor-level

2019 – 2020

- Big Questions, Big Data: Societies in Transition (period 4)

2018 – 2019

- Introduction Human Geography (period 1)
- Qualitative Research Methods (period 1)
- Tutorship (period 1)
- Bachelorthesis Human Geography and Spatial Planning (period 1)
- The City in Historical and Comparative Perspective (period 4)

2017 – 2018

- Introduction Human Geography (period 1)
- Qualitative Research Methods (period 1 & 2)
- Creative City (period 2)
- Regions in a Global Perspective (period 2)
- Urban Geography I: Use of the City (period 3)
- Scientific Learning Research (period 3 & 4)
- Spatial Questions Europe (period 4)
- Living in the City (period 4)
- Bachelorthesis Human Geography and Spatial Planning (period 1-4)
- Tutorship (period 1-4)

Guest lectures

2022

- Invited speaker on feasibility of platform cooperatives in the gig economy in master course 'Introduction Organizational Dynamics in the Digital Society', Erasmus University Rotterdam (25 October)
- Invited speaker on collective action by gig workers in master course 'AI and social design', Erasmus University Rotterdam (3 March)
- Invited speaker on collective action by gig workers in master course 'Changing Organisations and Technology', Erasmus University Rotterdam (4 February)

2021

- Invited speaker on collective action by gig workers in master course 'Work in the 21st Century', Radboud University Nijmegen (22 October)

2020

- Invited speaker on platform cooperatives in master course 'Changing Organisations and Technology', Erasmus University Rotterdam (23 November)
- Invited speaker on platform cooperatives in master course 'Work in the 21st Century', Radboud University Nijmegen (13 October)

Public events

2023

- Invited speaker for panel ‘Democratise our work!’ at Pakhuis de Zwijger, Amsterdam (February 15)

2022

- Invited speaker at launch of ‘CollectieveKracht’ knowledge platform for citizen collectives at Erasmus University Rotterdam (February 11)

2021

- Invited keynote speaker on ‘Platform cooperativism’ at the second inspiration session of Anseelefonds, Ghent, Belgium (March, 27)

2019

- Invited speaker on ‘The Promise of Platform co-ops’ at Platform Economy Puzzles Public Symposium, University of Twente, Enschede (November 19)

2018

- Invited speaker on ‘Smart Cities’ at InScience Nijmegen Nemo City Lab (November 10)
- Invited speaker on ‘Digitalisation of Society’ for the city council of Zeist (February 8)

Press

- “The innovativeness of platform cooperatives”, essay for The Future of Work project by Re-Public and Friedrich-Ebert-Stiftung Athens (October 17)
- “The cooperative as alternative for the future of work”, article for magazine De Coöperatie (Number 652, September)
- “The future of work demands cooperation”, blog for Kenniscentrum voor Coöperatief Ondernemen, KU Leuven (March 14)

Organisation of conferences, workshops, seminars, etc.

2022

- Young Scholars Network on Platform cooperatives (co-organiser), online seminars (March 31, May 11, June 23, September 15, November 22, December 15)
- Panel discussion 'Navigating work in the platform economy' (co-organiser and moderator), Erasmus University Rotterdam (Rotterdam, The Netherlands, November 22)
- #DemocratizingWork Dutch Chapter, two online webinars (April 4 & May 10)

2020-2021

- Young Scholars Network on Platform cooperatives (organiser), monthly online presentations

2019

- Young Scholars Workshop on Platform cooperatives (co-organiser), Utrecht University (Utrecht, The Netherlands, December 9)

Presentations at conferences, workshops, seminars, etc.

2023

- Paper presentation 'Using the institutional grammar to understand collective resource management in a heterogenous group facing external shock: The case of gig worker cooperative Smart and COVID-19', XIX Biennial IASC Conference (Nairobi, Kenia, 19-24 June)
- Paper presentation 'Silicon law of oligarchy or democratic disruptor? Patterns of member participation in the decision-making of platform cooperatives', Oxford Platform Economy Seminar (Online, February 21)
- Paper presentation 'Silicon law of oligarchy or democratic disruptor? Patterns of member participation in the decision-making of platform cooperatives', Platform Economy Workshop (Utrecht, The Netherlands, January 12)

2022

- Paper presentation 'Silicon law of oligarchy or democratic disruptor? Patterns of member participation in the decision-making of digitally organised worker cooperatives', Reshaping Work conference 2022 (Amsterdam, The Netherlands, October 14)
- Paper presentation 'Silicon law of oligarchy or democratic disruptor? Measuring member participation in the decision-making of worker cooperatives gone digital', ICA-CCR European Research Conference (Athens, Greece, July 13-15)

2021

- Paper presentation 'Member participation in digital cooperatives: Silicon law of oligarchy or democratic disruptor?' The Future of the Platform Economy and Platform Work PhD Symposium (Online, October 28)
- Paper presentation 'Commitment issues? The (im)possibility of worker cooperatives in the gig economy', Global Forum on #Democratizingwork (Online, October 6)
- Paper presentation 'Commitment issues? The (im)possibility of worker cooperatives in the gig economy', RGS-IBG Annual Conference (Online / London, UK, September 3
- Paper presentation 'The platform as social enterprise? An analysis of cooperative formation in the European gig economy', 7th International Workshop on the Sharing Economy (Online / Barcelona, Spain, February 26)

2020

- Paper accepted for 7th International Workshop on the Sharing Economy, event was postponed due to COVID-19 pandemic

2019

- Paper presentation 'Gigs of their own: Reinventing worker cooperativism in the platform economy and its implications for collective action', ICA-CCR European Research Conference (Berlin, Germany, August 23)
- Paper presentation 'Gigs of their own: Reinventing worker cooperativism in the platform economy and its implications for collective action', 6th

International Workshop on the Sharing Economy (Utrecht, The Netherlands, June 28)

Refereeing

- Journal of Responsible Innovation
- Journal of Political Sociology
- Journal of Co-operative Organization and Management
- Economic and Industrial Democracy
- Technological Forecasting and Social Change
- Sustainable Cities and Society

Research visits

- AIAS-HIS, University of Amsterdam (October-November, 2021)

PhD courses and certificates

- Applied econometrics (ERIM)
- Open Science & Scientific Integrity (ERIM)
- Introduction to R (ERIM)
- Academic Professionalism (Graduate School Humanities UU)
- Basic Training (N.W. Posthumus Institute)
- Transdisciplinary PhD Programme (SCOOP)
- Institutional Grammar Summer Course (IGRI)
- Specialization Seminar Research on Digital Innovation (Amsterdam Business Research Institute)

The ERIM PhD Series

The ERIM PhD Series contains PhD dissertations in the field of Research in Management defended at Erasmus University Rotterdam and supervised by senior researchers affiliated to the Erasmus Research Institute of Management (ERIM). Dissertations in the ERIM PhD Series are available in full text through: https://pure.eur.nl
ERIM is the joint research institute of the Rotterdam School of Management (RSM) and the Erasmus School of Economics (ESE) at the Erasmus University Rotterdam (EUR).

Dissertations in the last four years

Abdelwahed, A., *Optimizing Sustainable Transit Bus Networks in Smart Cities*, Supervisors: Prof. W. Ketter, Dr P. van den Berg & Dr T. Brandt, EPS-2022-549-LIS

Ahmadi, S., *A motivational perspective to decision-making and behavior in organizations*, Supervisors: Prof. J.J.P. Jansen & Dr T.J.M. Mom, EPS-2019-477-S&E

Albuquerque de Sousa, J.A., *International stock markets: Essays on the determinants and consequences of financial market development*, Supervisors: Prof. M.A. van Dijk & Prof. P.A.G. van Bergeijk, EPS-2019-465-F&A

Alkema, J., *READY, SET, GO(AL)! New Directions in Goal-Setting Research*, Supervisors: Prof. H.G.H. van Dierendonck & Prof. S.R. Giessner, ESP-2022-555-ORG

Alves, R.A.T.R.M, *Information Transmission in Finance: Essays on Commodity Markets, Sustainable Investing, and Social Networks*, Supervisors: Prof. M.A. van Dijk & Dr M. Szymanowska, EPS-2021-532-LIS

Anantavrasilp, S., *Essays on Ownership Structures, Corporate Finance Policies and Financial Reporting Decisions*, Supervisors: Prof. A. de Jong & Prof. P.G.J. Roosenboom, EPS-2021-516-F&E

Ansarin, M., *The Economic Consequences of Electricity Pricing in the Renewable Energy Era*, Supervisors: Prof. W. Ketter & Dr Y. Ghiassi-Farrokhfal, EPS-2021-528-LIS

Arslan, A.M., *Operational Strategies for On-demand Delivery Services*, Supervisors: Prof. R.A. Zuidwijk & Dr N.A. H. Agatz, EPS-2019-481-LIS

Aydin Gökgöz, Z. *Mobile Consumers and Applications: Essays on Mobile Marketing*, Supervisors: Prof. G.H. van Bruggen & Dr B. Ataman, EPS-2021-519-MKT

Azadeh, K., *Robotized Warehouses: Design and Performance Analysis*, Supervisors: Prof. M.B.M. de Koster & Prof. D. Roy, EPS-2021-515-LIS,

Badenhausen, K., *IoT – Inducing Organizational Transformation?* Supervisors: Prof. R.A. Zuidwijk & Dr M. Stevens, ESP-2022-559-LIS

Balen, T.H. van, *Challenges of Early-Stage Entrepreneurs: The Roles of Vision Communication and Team Membership Change*, Supervisors: Prof. J.C.M. van den Ende & Dr M. Tarakci, EPS-2019-468-LIS

Bansraj, S.C., *The Principles of Private Equity: Ownership and Acquisitions*, Supervisors: Prof. J.T.J Smit & Dr V. Volosovych, EPS-2020-507-F&A

Bavato, D., *With New Eyes: The recognition of novelty and novel ideas*, Supervisors: Prof. D.A. Stam & Dr S. Tasselli, EPS-2020-500-LIS,

Blagoeva, R.R., *The Hard Power of Soft Power: A behavioral strategy perspective on how power, reputation, and status affect firms*, Supervisors: Prof. J.J.P. Jansen & Prof. T.J.M. Mom, EPS-2020-495-S&E

Breet, S., *A Network Perspective on Corporate Entrepreneurship: How workplace relationships influence entrepreneurial behavior*, Supervisors: Prof. J.J.P. Jansen, Prof. J. Dul & Dr L. Glaser, EPS-2022-545-S&E

Breugem, T., *Crew Planning at Netherlands Railways: Improving Fairness, Attractiveness, and Efficiency*, Supervisors: Prof. D. Huisman & Dr T.A.B. Dollevoet, EPS-2020-494-LIS

Chan, H.Y., *Decoding the consumer's brain: Neural representations of consumer experience*, Supervisors: Prof. A. Smidts & Dr M.A.S. Boksem, EPS-2019-493-MKT

Chung, Y.S., *Valorizing Innovation through Imaginativeness in Business Venturing*, Supervisors: Prof. PH.B.F. Franses & Prof. H.P.G. Pennings, EPS-2022-561-MKT

Couwenberg, L., *Context dependent valuation: A neuroscientific perspective on consumer decision-making*, Supervisors: Prof. A. Smit, Prof. A.G. Sanfrey & Dr M.A.S. Boksem, EPS-2020-505-MKT

Dalmeijer, K., *Time Window Assignment in Distribution Networks*, Supervisors: Prof. A.P.M. Wagelmans & Dr R. Spliet, EPS-2019-486-LIS

Dijkstra, N., *Statistical Modeling Approaches for Behavioral and Medical Sciences*, Supervisors: Prof. P.J.F Groenen, Prof. H. Tiemeier & Prof. A.R Thurik, EPS-2022-539-S&E

Dolgova, E., *On Getting Along and Getting Ahead: How Personality Affects Social Network Dynamics,* Supervisors: Prof. P.P.M.A.R Heugens & Prof. M.C. Schippers, EPS-2019-455-S&E

Eijlers, E., *Emotional Experience and Advertising Effectiveness: on the use of EEG in marketing*, Supervisors: Prof. A. Smidts & Dr M.A.S. Boksem, EPS-2019-487-MKT

Fasaei, H., *Changing the Narrative: The Behavioral Effects of Social Evaluations on the Decision Making of Organizations*, Supervisors: Prof.

J.J.P. Jansen, Prof. T.J.M. Mom & Dr M.P. Tempelaar, EPS-2020-492-S&E

Fu, G., *Agency Problems in the Mutual Fund Industry*, Supervisors: Prof. M.J.C.M. Verbeek & Dr E. Genc, EPS-2022-526-F&A

Gai, J., *Contextualized Consumers: Theories and Evidence on Consumer Ethics, Product Recommendations, and Self-Control*, Supervisors: Prof. S. Puntoni & Prof. S.T.L. Sweldens, EPS-2020-498-MKT

Geradts, T. *Moving Beyond the Why and What Question: How Corporations Achieve Sustainable Development*, Supervisors: Prof. J.J.P. Jansen, Prof. J.P. Cornelissen & Prof. A. Nijhof, EPS-2021-521-S&E

Ghazizadeh, P. *Empirical Studies on the Role of Financial Information in Asset and Capital Markets,* Supervisors: Prof. A. de Jong & Prof. E. Peek, EPS-2019-470-F&A

Giessen, M. van der, *Co-creating Safety and Security: Essays on bridging disparate needs and requirements to foster safety and security*, Supervisors: Prof. G. Jacobs, Prof. J.P. Cornelissen & Prof. P.S. Bayerl, EPS-2022-542-ORG

Giudici, A., *Cooperation, Reliability, and Matching in Inland Freight Transport*, Supervisors: Prof. R.A. Zuidwijk, Prof. C. Thielen & Dr T. Lu, EPS-2022-533-LIS

Gunadi, M.P., *Essays on Consumers and Numbers*, Supervisors: Prof. S. Puntoni & Dr B. Van Den Bergh, EPS-2022-558-MKT

Hartleb, J., *Public Transport and Passengers: Optimization Models that Consider Travel Demand,* Supervisors: Prof. D. Huisman, Prof. M. Friedrich & Dr M.E. Schmidt, EPS-2021-535-LIS

Hendriks, G., *Multinational Enterprises and Limits to International Growth: Links between Domestic and Foreign Activities in a Firm's*

*Portfolio,*Supervisors: Prof. P.P.M.A.R. Heugens & Dr A.H.L Slangen, EPS-2019-464-S&E

Hoogervorst, R., *Improving the Scheduling and Rescheduling of Rolling Stock: Solution Methods and Extensions*, Supervisors: Prof. D. Huisman & Dr T.A.B. Dollevoet, EPS-2021-534-LIS

Jia, F., *The Value of Happiness in Entrepreneurship*, Supervisors: Prof. D.L. van Knippenberg & Dr Y. Zhang, EPS-2019-479-ORG

Kishore Bhoopalam, A., *Truck Platooning: Planning and Behaviour*, Supervisors: Prof. R.A. Zuidwijk & Dr N.A.H. Agatz, EPS-2021-540-LIS

Koenraadt, J.K.G., *Essays in Financial Accounting*, Supervisors: Prof. J.P.M. Suijs & Dr. P.Y.E. Leung, EPS-2022-557-F&A

Koolen, D., *Market Risks and Strategies in Power Systems Integrating Renewable Energy*, Supervisors: Prof. W. Ketter & Prof. R. Huisman, EPS-2019-467-LIS

Kong, L. *Essays on Financial Coordination,* Supervisors: Prof. M.J.C.M. Verbeek, Dr D.G.J. Bongaerts & Dr M.A. van Achter. EPS-2019-433-F&A

Koritarov, V.D., *The Integration of Crisis Communication and Regulatory Focus: Deconstructing and Optimizing the Corporate Message*, Promotors: Prof. C.B.M. van riel, Dr G.A.J.M. Berens & Prof. P. Desmet, EPS-2021-522-ORG

Korman, B., *Leader-Subordinate Relations: The Good, the Bad and the Paradoxical*, Promotors: S.R. Giessner & Prof. C. Tröster, EPS-2021-511-ORG

Kyosev, G.S., *Essays on Factor Investing*, Supervisors: Prof. M.J.C.M. Verbeek & Dr J.J. Huij, EPS-2019-474-F&A

Lamballais Tessensohn, T., *Optimizing the Performance of Robotic Mobile Fulfillment Systems*, Supervisors: Prof. M.B.M de Koster, Prof. R. Dekker & Dr D. Roy, EPS-2019-411-LIS

Legierse, W., *The Timing and Pricing of Initial Public Offerings: Evidence from the Low Countries*, Supervisors: Prof. A. de Jong & Prof. P.G.J. Roosenboom, EPS-2022-543-F&A

Leung, Y.K., *The Mind with a Touch of Madness? Mental health and well-being of entrepreneurs*, Supervisors: Prof. A.R. Thurik & Prof. I.H.A. Franken, EPS-2022-546-S&E

Leung, W.L., *How Technology Shapes Consumption: Implications for Identity and Judgement*, Supervisors: Prof. S. Puntoni & Dr G Paolacci, EPS-2019-485-MKT

Li, Wei., *Competition in the Retail Market of Consumer Packaged Goods*, Supervisors: Prof. D. Fok & Prof. Ph.H.B.F. Franses, EPS-2021-503-MKT

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The gig economy, where mostly self-employed workers perform short-term service jobs intermediated by digital platforms, is often portrayed as offering a glimpse at the future of work. Platform cooperatives that are owned and controlled by gig workers themselves have emerged as an alternative form of organisation to the currently dominant investor-owned platforms. The appeal of platform cooperatives as an alternative is to provide more secure working conditions and democratic control over the platform. In his PhD project, Damion Bunders investigates the challenges that gig workers face when organising themselves in a cooperative enterprise. In particular, he provides insight into the initial feasibility and more long-term challenges of platform cooperatives as one institutional approach to organise work differently in the gig economy by analysing the conditions under which cooperatives of gig workers can become resilient. The project addresses questions on enterprise formation, member commitment, democratic governance, and coordination of collective resources. Damion takes a multi-disciplinary and multi-method approach, combining theory from sociology and institutional economics with interview, survey, and text analysis research. Just as economists have long wondered why firms are usually controlled by capital suppliers instead of by labour suppliers, this dissertation addresses the puzzle of why platforms are not more commonly owned and governed by workers.

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