DISRUPTING TOGETHER

THE CHALLENGES (AND OPPORTUNITIES) FOR PLATFORM CO-OPERATIVES

Written by: Duncan McCann and Edanur Yazici
June 2018

This report was produced as part of NEF's work with Nesta ShareLab Fund to explore the potential benefits of cooperatively owned digital platforms. Thanks to Alice Casey for providing comments and guidance.

Nesta is a global innovation foundation. It backs new ideas to tackle the big challenges of our time.

ShareLab Fund has a mission to grow evidence and understanding of how collaborative digital platforms can deliver social impact.

www.nesta.org.uk/project/sharelab

New Economics Foundation
www.neweconomics.org
info@neweconomics.org
+44 (0)20 7820 6300
@NEF

Registered charity number 1055254

CONTENTS

EXECUTIVE SUMMARY

Platforms – like Uber, Deliveroo, or TaskRabbit – connect services and products with consumers. With both sides theoretically having control over the interaction, and investing in the platform to reap the rewards, the rapid spread of platforms has the potential to revolutionise capitalism. But increasing concerns over the past few years around tech monopolies and the potential erosion of workers' rights through the gig economy have raised questions over who really holds control over the platforms, and what impact this has on workers and customers.

Platform co-operatives present a possible alternative to traditional platforms which tend towards monopoly, concentrate power and erode workers' rights. Drawing on a co-operative lineage which spreads out ownership and control, platform co-operatives could present a brighter future. But there are barriers to the spread of platform co-ops, including challenges of raising capital, finding the right skills within the organisation, competing with Silicon Valley, and harnessing positive network effects.

This is the second of two reports exploring the potential for platform co-ops, drawing on work we undertook with support from NESTA's ShareLab fund. The previous report, *A Better Gig?* focused on the concerns of both drivers and passengers engaging in the private hire gig economy in West Yorkshire, and suggested that platform co-ops could go some way to remedying these. This paper draws on these lessons to set out the main challenges to setting up platform co-ops, and suggest ways of overcoming them.

Through our own research, and in particular through observing the development of a new ride-hailing app started by drivers in South Yorkshire, we have identified five areas of challenge for platform co-operatives. Firstly, platform co-ops are **not attractive to traditional venture capitalists and tech investors**. Platform co-ops can utilise other sources of capital (crowdfunding, co-operative banks and credit unions, or blockchain and alternative currencies) but will still never be able to match the billions raised in Silicon Valley. Secondly, **co-operatives must commit long-term operational and financial commitment to building and maintaining their technology**. Thirdly, **co-ops need technology which can enable it to recruit drivers and passengers in parallel, and to distribute the profits of the business**. Fourth, platform co-ops **must find a way of subsidising their early entry into the market in order to build a profile for themselves**. And fifth, platform co-ops **must find a way to harness the virtuous cycle of positive network effects**.

These challenges are difficult for platform co-operatives to overcome. In the ridehailing sector, we posit that co-operatives can be most successful in either focusing on a large

city-scale project, or creating a network of federated co-ops to overcome some of the challenges. In other sectors, like cleaning and social care, the less complex tech demands mean that platform co-ops can make more of an impact. As well as developing alternative market interventions, we need to tackle the dominance of existing platforms.

We are at a crossroads. Traditional platforms seemed invincible until very recently, but regulatory battles and consumer action are changing the platform landscape. Platform cooperatives can be part of building a more equitable vision of the future. But small businesses cannot do it alone.

We provide a series of recommendations to make platform co-operatives viable.

1. We need new funding structures that can provide alternatives to the venture capital funding model.
2. New platform co-ops must collaborate with each other and, where appropriate, form federated structures.
3. Workers should be provided with the necessary skills training and support to establish their own co-operatives.
4. Locally-focused commissioning from the public sector could provide a vital revenue stream to platform co-operatives.
5. Government must enforce existing regulation robustly to ensure a level playing field for new platform co-ops.
6. Users and consumers need to understand the impact of spending their time and money on established platforms, and be given opportunities to spend their money on ethical alternatives.

The structural challenges outlined in this report offer some of the answers as to why we have not seen more platform co-ops emerge and flourish. Platform co-ops offer us hope that we can harness the benefits of digital platforms without the harms that many of the current ones create. But their creation will require both continued experimentation and the support of policy makers both to enforce existing regulations on platforms, and create new support structures. Only by working together can we hope to create a digital economy that truly works for everyone.

INTRODUCTION

This paper forms the second output of a project undertaken by the New Economics Foundation (NEF) with support from Nesta's ShareLab fund. The ShareLab fund aims to "grow evidence and understanding of how collaborative digital platforms can deliver social impact".[1] NEF has been shadowing a group of private hire drivers in Leeds and Bradford in West Yorkshire as they sought to prototype a worker-owned private hire app ready for user testing and piloting. The project was an opportunity for NEF to learn from the experience of the drivers as they navigated the challenging platform start-up environment. In return, NEF drew from its sizeable network to try and create connections and partnerships to help them. The drivers set out to develop a co-operative platform app to improve working conditions in the sector and take back more control over their working lives from large companies like Uber.

The idea for the co-operative platform app began with a private hire driver protest against Uber outside Leeds town hall in March 2016. In the months that followed, four drivers started working together on developing the app idea whilst continuing their work as full time private hire drivers. The platform, now called Yamuv, is a UK registered, UK tax paying company with four driver-owners. Yamuv are currently in the process of exploring the potential held by a co-operative model to improve their experience of working in the sector. The drivers see a co-operative model of organising as a way to take back control of their working lives. However, putting this into practice has seen them coming up against a range of barriers, from the challenge of acquiring the capital to get the business started, to ensuring that they have the right skills mix to run the new company, to the challenges of building the platform technology.

The paper will proceed in three main sections. Section 1 will introduce online platforms in the context of our rapidly changing economy and set out what we mean by 'platform co-operatives', before exploring what role platform co-operatives could play in addressing criticisms levelled against platforms. Section 2 will explore some recent success stories in the co-operative movement through a discussion of different co-operative business models. This will set the scene for a discussion of how newly formed ridehail platform co-operatives might enter the rich and varied co-operative movement. Section 3 will examine the challenges and opportunities for platform co-ops through a discussion of five key challenges, learning from the practical experience of Yamuv and others: investment, technology, skills, getting started, and the network effect. This will be used to see whether recent developments, together with the platform co-operative model, can be facilitators of future success or impediments to achievement. We will then conclude with a look towards the future.

1. ONLINE PLATFORMS AND THE POTENTIAL OF PLATFORM CO-OPS

1.1 ONLINE PLATFORMS

Despite their apparent novelty, the concept of platforms has existed for many centuries, in the guise of village markets and the matchmaker/broker roles that emerged to support different sectors.

Platforms seek to connect the services and/or products produced by one group to another group seeking to purchase the services and/or products. What theoretically differentiates platforms from traditional intermediaries is that "the two or more distinct sides retain control over the key terms of the interaction" such as "the pricing, bundling, marketing and delivery of the goods or services traded"[2]; that each user invests (time, capital, or labour) into the platform in order to reap the potential rewards; and that payment passes through the platform. In reality many of the most successful platforms restrict participants' control of various aspects of the interaction (like Uber) while others (like Ebay) allow a huge amount of individual control.

There are two main typologies of platforms:

1. **labour platforms**, where participants perform discrete tasks;
2. and **capital platforms**, where participants sell or rent assets.

Some of the most recognisable and powerful companies in the 21st century are platforms such as Ebay, Taskrabbit and Uber. Figure 1 breaks platforms down into further categories. These categories capture the wide range of types of digital platforms.

For some economists, the rise of platforms signals the "end of employment and the rise of crowd-based capitalism".[3] They see platforms as both efficient and empowering.[4] This is based on the idea that platforms can promote "more equitable consumption, by enabling more efficient use of under-utilised resources (e.g. cars, houses, goods, even time and skills)".[5] It is clear that platforms have in many ways revolutionised the way we call taxis or book accommodation. Despite this, there remain many unanswered questions around who holds control within the digital economy and what impact this has on both people and the planet.

The platform ecosystem can be viewed on a continuum from utopia to dystopia, where the utopic vision sees platforms as eliminating market inefficiencies through digitalisation, and the dystopic vision sees increasingly disempowered workers facing increasingly powerful platforms. In light of this, the following section will explore how platform co-operatives could address criticisms levelled against platforms.

Figure 1. Platform capitalism: domains of circulation and platform types[6]

Domain of circulation	Platform type	Principal platforms
Online exchange markets	Marketplace for sale of products and services through physical distribution, downloads, and streaming, normally at a discount to those charged by traditional incumbents. Includes multi-sided platforms typically with closed application programming interfaces (APIs),[7] and two-sided vendor platforms with open APIs for developer innovation.	• Alibaba • Amazon • Amazon Marketplace • Apply • Craigslist • eBay • Rakuten Spotify • Taobao
Social media and user-generated content	Host for user communities to post content. Multi-sided and open APIs for developer innovation.	• Facebook • Flickr • Twitter • YouTube (Google)
Sharing economy	Marketplace for hire of assets and services that would be underused or not even recognised as such, normally at a discount to those charged by traditional incumbents. Multi-sided with typically closed APIs.	• AirBnb • JustPark • RelayRides • Sidecar • Uber
Crowdsourcing	Marketplace for transactional and contractual work, freelance and informal labour, and know-how. Multi-sided, open APIs.	• Amazon Mechanical Turk TaskRabbit • Upwork
Crowdfunding and peer-to-peer (P2P) lending	Marketplace for donation, pledging, lending or investing money, rates of interest normally higher than traditional financial service incumbents. Multi-sided, closed APIs.	• Indiegogo • Kickstarter • Lending Club • Prosper

1.2 PLATFORM CO-OPERATIVES: AN ALTERNATIVE?

Both in the UK and internationally, groups of people have been coming together, not just resist, but to provide alternatives to the conditions imposed on workers by companies like Uber. The term 'platform co-operative' was coined as recently as 2014 by New School professor Trebor Scholz, who has become one of the leading lights of the nascent movement.[8] The term combined two previously existing concepts that have found new significance in the digital revolution. For Scholz, platform co-operativism sets out a positive alternative to the gig economy and has the potential to prefigure alternative futures.[9] In addition, applying co-op principals to the platform economy is a way to pressure existing platforms to improve their practice.

There are many examples of platform co-operatives across the world: the website, platform.co-op, has a directory that lists 81 platform co-operatives worldwide.[10] In Brooklyn, New York, for example, Si Se Puede (We Can Do It) has established a cleaners' platform co-operative. The co-operative has 65 members, all of whom are women with migrant backgrounds, and all of whom have equal say over the decisions made within the business.[11] The co-operative uses an app modelled on TaskRabbit to "create living wage jobs that will be done in a safe and healthy environment, as well as to provide social support and educational opportunities for our members".[12]

In the UK, Co-operatives UK are exploring the potential of creating platform co-operative incubators to "develop a global ecosystem that encourages replication of working models across industry verticals and geographies".[13] As part of this, Co-operatives UK has launched a competition for tech co-operatives. Their first winner was a platform co-operative FairMondo, which models itself on Amazon and only sells ethical produce.[14] In addition to this, Co-operatives UK, through the Hive business support programme, offer tailored advice and support to people "wanting to start or grow co-operative or community enterprises"[15] and are currently working with a further three private hire co-operatives.

1.3 CO-OPERATIVE LINEAGE

Co-operatives have a long intellectual and practical tradition. The first UK co-operative was established in 1844 by the Rochdale pioneers. The movement started as a reaction to the emergence of mass production techniques by large businesses who failed to reward the skill of their employees and lacked incentives to maintain quality. As more skilled workers were pushed into poverty, the Rochdale pioneers opened their own store to sell quality food and supplies that they would otherwise have been unable to afford.[16]

Since the first co-ops in Lancashire, the movement has grown significantly and co-operatives currently employ about 10% of the global workforce.[17]

A significant aspect of the co-op movement is the importance given to co-operative principles and values (see Figure 2).

Figure 2. The seven co-operative principles[18]

1. Voluntary and open membership

Co-operatives are voluntary organisations, open to all persons able to use their services and willing to accept responsibilities of membership, without gender, social, racial, political or religious discrimination.

2. Democratic member control

Co-operatives are democratic organisations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. In primary co-operatives, members have equal voting rights (one member, one vote), and co-operatives at other levels are also organised in a democratic manner.

3. Member economic participation

Members contribute equitably to, and democratically control, the capital of their co-operative. At least part of that capital is usually the common property of the co-operative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any of the following purposes: developing their co-operative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the co-operative; and supporting other activities approved by the membership.

4. Autonomy and independence

Co-operatives are autonomous, self-help organisations controlled by their members. If they enter into agreements with other organisations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their co-operative autonomy.

5. Education, training and information

Co-operatives provide education and training for their members, elected representatives, managers and employees so they can contribute effectively to the development of their co-operatives. They inform the general public – particularly young people and opinion leaders – about the nature and benefits of co-operation.

6. Co-operation among co-operatives

Co-operatives serve their members most effectively and strengthen the Co-operative Movement by working together through local, national, regional and international structures.

7. Concern for community

Co-operatives work for the sustainable development of their communities through policies approved by their members.

Co-operatives, as an alternative form of ownership and control, place incentives on managers to maximise long-term value to the members of the co-operative, rather than short-term profit. Co-operatives frequently aim to maximise 'customer value' rather than profitability.

There are three main types of co-ops:

1. **membership co-ops**, of which the Co-operative Group is one of the highest profile examples, where anyone can join and take part in the running of the organisation;
2. **producer co-ops**, where individuals and businesses, not necessarily themselves co-ops, work closely together, usually within a sector;
3. and **workers' co-ops**, such as SUMA Wholefoods. Under this last model all employees become part of the co-operative.

Workers' co-ops can be better at ensuring the long-term benefit of the members since there is an increased interest in the collective long-term success of the company, not just to provide a financial return as an owner, but also a secure good job as an employee.

1.4 HOW PLATFORM CO-OPS CAN ADDRESS THE CHALLENGES OF PLATFORMS

The rise of platforms has been marked by a rise in criticisms of the platform ecosystem. Although impossible to cover all the critiques of platforms, we will cover a few categories to give the reader an understanding of why and how platform co-operatives could be part of the solution.

1.4.1 Monopoly issues

Whilst many platforms are not treated legally as monopolies, Stiglitz has shown they have been able to gain dramatic increases in market share and increasingly hold sway over public policy through lobbying and anti-trust practices.[19] The network effect (see

Section 3.5) means that in many areas a single dominant platform emerges, making it hard for smaller competitors to emerge. At the same time the platforms use their large cash reserves to buy out any potential competitors, stifling potential disruption and hampering competition. A notable example of this is Amazon and the effect that its practices of undercutting and buying out competitors has had on the wider market in which it operates.[20]

Aggressive lobbying, together with buying up rivals in order to dominate a market as completely as firms like Amazon or Google, is highly unlikely behaviour from a platform co-operative. The Yale law professor Henry Hansmann has directly linked the failure of regulators to enforce anti-monopoly regulations to an increase in need for co-operative structures. He argues that since "absent anti-trust enforcement, firms tend to form cartels" and abuse their monopoly positions, "this creates an incentive for the persons with whom they contract to form co-operatives."[21] This relationship, taken together with the sixth and seventh co-operative principles, means that co-ops are more likely to collaborate with regulators and competitors.

1.4.2 Concentration of corporate power

As just a few platforms emerge to dominate the global economy, power is concentrated in fewer hands. The trend of issuing B shares without voting rights means that even paid-up shareholders exert no governance power. What is particularly notable, as discussed in the section above, is the global positioning of these corporate giants. Many of the most prominent platforms are concentrated in the US and the vast majority of the profits generated by these companies flow back to the US metropole. In this way, it is possible to see that the concentration of corporate power also further exacerbates global and regional inequalities.

Platform co-operatives specifically act against the concentration of power by ensuring the power is dispersed through the membership. This means that as the platform co-operative grows and its membership expands, it is widening the number of people with a stake in the company and therefore spreading power.

1.4.3 Erosion of workplace rights

As the power of the platforms has increased through scale and becoming near-monopolies, there has been a shift in the way that workers are treated. Working in the core offices of these new giants can be some of the most sought after jobs, where you are well rewarded monetarily and with other benefits like free food, flexible working and unlimited holiday (provided you can show that you are not needed in the office).[22] This contrasts with the way that some of the participants in their platforms are treated. The likes of Uber drivers, Deliveroo riders, or Amazon warehouse staff have rarely been out of the headlines as a portion of the workforce fights to be considered employees, in order to receive basic employment rights. These workers often undergo intense surveillance and workflow management. This, as discussed above, has been linked to growing income inequality.

Deliveroo, for example, is known to charge workers for their uniforms and to not pay sick pay, holiday pay or national insurance contributions.[23] Deliveroo workers have said that they can earn as little as £2 an hour and, although they are officially seen to be self-employed, the nature of their work means that there is little alternative to working for Deliveroo as the hours required clash with other opportunities.[24]

Another notable example of worker exploitation is the conditions faced by workers in Amazon's warehouses where workers must wear tracking devices, have their toilet breaks timed, and may have to walk almost a mile to and from a break area within a twenty minute break.[25] Also notable in the case of Amazon is its repeated union busting.[26]

It is experiences like these that provided one of the catalysing forces behind the platform co-operative model. Central to the idea is that, with workers (and users) in charge of the platform, the employment and human rights of those who participate will be protected. We have seen some of the early examples of platform co-operatives emerge in areas where worker rights have been particularly at risk from platforms. Examples include: musicians who can become members of Resonate; photographers who can join Stocksy; or nurses who can become members of Nursescan. Following close behind are a number of initiatives looking to improve the conditions for delivery drivers, taxi drivers and care providers – to name but a few.

1.4.4 Platform co-ops and digital unemployment

Policy makers and workers alike are concerned by the impact that the increasing digitisation of our economy will have on employment. The 'rise of the robots' is often in the media, sparking extensive debate about what the future of work will look like, and whether huge swathes of the population will find themselves unemployed.[27] Indeed, in some areas, there has been a rise in 'new luddism' – one notable example of this is the attacks on self-checkout counters at supermarkets in Australia.[28]

In many sectors, including transport, warehouse work, communications, and manufacturing, it appears that a high number of jobs are at risk. In the postal service for example, the Communication Workers Union have brought attention to the potential impacts of 'digital unemployment', and are currently campaigning for a 35 hour work week with no loss of pay to mitigate the effects of automation.[29]

Within the context of co-operatives then, it is important to consider the tension between increased digital employment and the potential held by platform co-operatives. It is possible, for example, that in a future world where platform co-operatives have proliferated widely, workers' control is able to mitigate job losses, so a worker on a platform could work fewer hours with no loss of pay because they also enjoy an equitable share of the profits. As the work becomes increasingly automated, the member shifts from getting most of their wages from work to receiving an income from being an owner of the company. This is radically different from the impact of automation on workers in traditional companies where automation leads to job losses and increased profits for the owners and investors of the company. While exploring the potentials here is somewhat beyond the scope of this paper, the debate around digital unemployment holds a great deal of opportunity for co-ops. It is therefore important to draw attention to how increased worker control may alleviate the worst impacts of digital unemployment and consider the role of co-ops within the digital economy in the long term.

1.5 PLATFORMS AND CO-OPERATIVES: A MATCH MADE IN HEAVEN?

The previous section set out how some of the criticisms of platforms can be overcome through the integration and adoption of the co-operative principles. It is clear that platform co-ops are an exciting field of emerging collective action in the face of increased precarity, tech monopolisation, and diminishing worker control.

Both the history and principles of the co-op movement suggest that this area holds considerable potential for prefiguring alternative futures. This is particularly evident when considering Scholz's adaptation of the long established co-operative principles for the new platform co-operative movement (see Figure 3).[30]

Platform co-ops offer us an enticing new frame within which to view a future platform-mediated world. So it is important to ask why we have not seen more impactful developments in this area, given that platform co-ops offer us a positive vision for the future: where people exert more control over the platforms they use; where the value is more widely dispersed; and where there is a network of platforms operating as good corporate citizens.

The major problem platform co-ops will need to address is how they will be able to manage at scale with diverse groups as members. Professor Niels van Doorn eloquently sums up the problem when he states that "[p]rocesses of collective self-government will be more feasible and frictionless when a co-op is small, local, and relatively homogeneous. In contrast, platform co-ops looking to reap the economic benefits of scaling up in a digital economy will need to accommodate a wider range of member identities, needs, and interests, which will be more difficult to align and may encumber the distributed decision-making process."[31]

Figure 3. 10 principles for platform co-operatives[32]

1. Ownership (collectively owned platform co-ops governed by its member-owners)
2. Decent pay and income security
3. Transparency and data portability
4. Appreciation and acknowledgment
5. Co-determined work (involve workers in platform design)
6. A protective legal framework (that gives platform co-ops a chance to compete on the market)
7. Portable worker protections and benefits
8. Protection against arbitrary behaviour
9. Rejection of excessive workplace surveillance
10. The right to log off

There are significant trends in the economy that offer great opportunity for the emerging platform co-op ecosystem. The dominance of existing platforms is starting to be challenged: by legislatures calling out questionable and sometimes illegal practices[33]; by workers of the platform actively organising to resist unfair working conditions[34]; and by participants starting to rethink their loyalty to some platforms.[35] People are also becoming more comfortable with providing and procuring service through platforms and this should make it easier for new entrants in the market. Technology is also being commoditised which has greatly reduced the barriers to entry, and tools are being created and deployed specifically to help manage complex organisations.

There remain challenges, most notably how to raise the capital to get platform co-ops off the ground. Finding the right people with the right skills to actually run the new worker-/user-owned platforms can also be a major hurdle. These new businesses will then need to compete with existing platforms to attract workers and users, or in a new sector expend the considerable effort to change the way that a particular service or good is consumed. Finally, there are challenges to managing the platform to ensure that it harnesses positive network effects and manages challenges of scale, all the while without falling into the grip of negative network effects.

In Section 2 we will explore a variety of co-operative and ethical business models that can be adopted and some of their respective benefits and problems. Section 3 covers the challenges and opportunities that platform co-ops need to be aware of in order to succeed.

2. POTENTIAL BUSINESS MODELS

This section will outline the potential business models that may be adopted by a company seeking to become an ethical platform business, such as Yamuv, and give examples of successful businesses that have adopted them. The models presented here will be used to explore the challenges that may be faced by ridehail providers such as Yamuv.

2.1 MODEL 1: THE PLATFORM CO-OPERATIVE

A platform co-operative is a co-operative that uses the internet, in the form of a website or an app, to facilitate the exchange of its goods or services. For Scholz, it has the potential to challenge the dominance of tech giants such as Amazon and Uber.[36] In this way, in a period of aggressive tech monopolisation,[37] it is possible to see platform co-operatives as being a means of democratising and taking back control. Perhaps more importantly, co-operative alternatives to the gig economy can be seen as a means for workers to challenge exploitation, poor pay and conditions as well as set a precedent for the rest of the economy. What is particularly significant about this is that the value of a platform is created mainly by the groups that it connects. Whereas, under the present model, all of the profit accrues to the small group of owners and investors at the top of pyramid, a co-operative model may allow the value to flow back down towards the creators thereby challenging the concentration of wealth in the hands of a powerful few.

Under this structure the business is incorporated as a co-operative. The business then needs to decide how to define its membership. For a ridehail platform or similar on-demand service platforms, the options are between: a worker co-op, where only the drivers (or other service providers) have the option to become members; or a multi-stakeholder co-op, where both drivers and users would be able to join the co-op, although not necessarily with exactly the same roles and responsibilities. Not all those who participate in the platform need to become members of the co-op, but only those who do will be included in governance decisions and share in any profits that the co-op generates.

As a worker/producer co-op only the service providers/producers can become members of the co-op (see Case Study 1). Although there are no significant worker platform co-ops in the UK at the moment there are a number of successful examples of traditional worker co-ops such as SUMA Wholefoods (largest single pay worker co-op in Europe), and they are very prevalent in the existing taxi/minicab sector, such as Central Taxis in Edinburgh. All that the platform is bringing to this already existing model is that the work is mediated through technology, which means that taxis/minicabs should be well suited to the platform co-operative model.

Case study 1. Stocksy

Domain: Stocksy is a photography and video platform owned by the artists who create the material. To differentiate from the rest of the market they heavily curate their selection and hand select the artists able to join, as well as maintaining strong commitment to real customer service.

Year established: 2013

Revenue: In 2016, revenue $10.7 million with dividends of $300K

Initial funding: Funded through a $1 million loan for one of the founders

Co-op type: Producer co-op with all artists as members

Profit share mechanism: Artists receive 50% of a standard license purchase and 75% of an extended license purchase as well as a share in the company which gives them a right to a portion of the profits of the company.

Another model that platform co-operatives may adopt is a multi-stakeholder co-op where many different stakeholders can become members of the co-op, often on different terms (see Case Study 2). Nathan Schneider noted in a recent article that "[t]raditional lines that distinguish worker-owned, consumer-owned, or producer-owned co-ops tend to blur in a platform economy where much of a platform's value comes from the contributions and resources of people who are not the company's employees. Many emerging platform co-ops have opted for multi-stakeholder models that encompass various classes of co-owners, such as employees, users, and customers."[38]

In the case of ridehail platforms this would give drivers and users the option of becoming members of the co-op. This form of co-op has a particular rationale when applied to a platform because its monetary value, along with its utility value, requires both sides of the platform to work in unison. As we will explore in in Section 3.5, the network effects that platforms are subject to means that only when the supply and demand sides of the platform are in relative equilibrium can it grow. This also means that it is both sides of the platform that generate the value, making it logical that they should also govern and share in the future profits.

Multi-stakeholder co-ops, as well as being the logical response to the nature of platforms, can only succeed when their inherent conflicts of interest are reconcilable. In the case of ridehail market this would require an alignment of users' desire for speed and low-cost, with drivers' desire for increased control and reward. This alignment will become increasingly difficult as the number and variety of member-owners rises, where they are geographically dispersed with no natural physical meeting points, and where the diversity of membership includes a mix of class, race, and gender identities.

Case study 2: Resonate

Domain: Resonate is a multi-stakeholder co-operative music streaming site which offers artists, listeners and employees real democratic control of the company as well as a share of the profits.

Year established: 2016

Revenue: N/A

Initial funding: Crowdfunding initiative

Co-op type: Multi-stakeholder co-op with artists and employees get their share for free while listeners pay a small ($5) annual fee to become members.

Profit share mechanism: They use a 'stream2own' model to ensure that artists get their fair share from user listens. Initial listens are very cheap but after about 10 listens the users has contributed the equivalent of purchasing the song on iTunes. The artist is rewarded and the user gets the song to own. All listens are recorded on a public blockchain to ensure total transparency.

Under both of these models, the owners of the platform are the members who, in exchange for sharing potential profits, also take part in the management and governance of the company.

The benefit of this model is that it ensures that the rights and interests of those providing the service or product are better protected and more central to the ethos of the company. Having customers, being members can ensure that the needs of people on both sides of the platform are met. This is particularly valuable in light of the needs of vulnerable or marginalised communities discussed in our recent report, *A better gig*.[39] This can also be extremely prudent since the value of the platform is a factor of both sides getting what they want rather than prioritising one side. For instance, in the ridehail market, a platform that sought to maximise driver income might ultimately fail because users would feel ripped off.

Being a stand-alone entity means that the start-up costs can be high due to the need to develop the technology to mediate the work. Once this challenge has been overcome, the co-op then needs to grow, which many platforms do by burning through their venture capital, often subsidising one or both sides of the platform. Both of these actions require capital, which Section 3 identifies as a specific challenge for co-operatives generally, and platform co-operatives specifically.

Some markets segments, like stock photos, can function well at a relatively small scale. With markets that have large incumbents like Uber or Airbnb, their scale is material to their success. Uber works well for drivers and users because at any time there are many users looking for rides, and drivers looking for customers. This means that neither side ever has to wait too long before their need is met. A start-up platform co-op like Yamuv seeking to emulate the success of Uber will struggle initially, since drivers will be reluctant to commit to using the platform until there are users; and users will not flock to the platform until there are sufficient drivers. Failing to manage this means it can be hard to reach a sufficient scale to start to see the positive feedback loops, or network effects, that affect platforms as they reach the necessary critical mass.

2.2 MODEL 2: THE FEDERATED CO-OP

A federated co-op is a model in which a group of co-operatives, often smaller and place based, form and become members of 'parent' co-operatives (see Case Study 3). Historically, these have mainly come in the form of wholesale societies, a form of federal co-operative through which consumer co-operatives can collectively purchase goods at wholesale prices, and in some cases collectively own factories or farms, with some of them achieving significant scale. The International Co-operative Alliance notes that "co-operatives serve their members most effectively and strengthen the co-operative movement by working together",[40] and a federated model can achieve this goal.

Case study 3: Federated Co-operatives Limited

Domain: Federated Co-operatives Limited (FCL) is owned by approximately 265 retail co-ops located throughout Western Canada. FCL provides central wholesaling, manufacturing, marketing, and administrative services to its member-owners. It provides services that operate in six key areas: groceries, oil refineries, agricultural feed distribution, wholesale distribution, propane distribution, and lumber production.

Year established: 1955

Revenue: $9.8 billion (2017) and returned $408 million to its members

Co-op type: Federated co-op

Profit share mechanism: All members are given shares in the parent co-op and then have a right to a portion of the profits.

For a ridehail platform, this could mean that the parent co-operative would own and manage the development of the technology. The local co-operatives would then run the ridehail services.

The challenge with the federated co-operative structure is in setting up the initial structure, as it requires considerably more effort, coordination and agreement than going it alone. However, the increased challenge is more than offset by the potential benefits. The challenges facing individual platform co-ops, around technology, scaling up and benefiting from positive network effects, can be significantly mitigated in this model.

Although the technology has to a large degree been commoditised, as we will see in the Section 3, it can still represent a significant investment, especially to achieve the seamless user experience that many of the most successful applications generate and which users now expect. Building a basic, yet functional, ridehail application and backend server can be done for under £50k, with a more complete system costing £200k. It is also economically inefficient to independently develop tens or maybe hundreds of standalone, yet very similar, apps. Sharing the development costs could allow all the local co-operatives to use technology that matches the current market leaders, is stable, scalable, and has great usability, all without breaking the bank.

Federating the technology also allows all of the local co-operative members to appear on a single platform, which would solve another problem of the stand-alone platform co-op model. As a user, a person would only need one app on their phone which would directly connect them to their local co-op member – this could be national or even international. This potentially enables users to adopt the platform without needing to know about all of the local co-operatives.

The single app connecting many different place-based co-operatives in multiple locations also makes it easier to get the attention of users, another key challenge that we identify in Section 3. Any marketing done by any of the members of the federated co-op would benefit the entire network.

The increased challenge and risk of the structure should not be underestimated. The temptation for new platform co-ops that are establishing themselves is to start building the technology prior to launching. In order for the federated model to work, a number of established co-ops would need to collectively form the parent co-op. Ideally, they would then start to build the technology which they would co-own through their local co-op (as a member of the parent co-op). If the local co-ops already used their own pieces of technology, this pooling becomes much more complicated. As new co-ops form and seek to join the federated structure, terms need to be worked out to ensure that the new member contributes fairly to the technology.

2.3 MODEL 3: A NON CO-OP OPTION

Other ways of modelling a company that respects the people on both sides of its platform, as well as offering some measure of control over the operations of the company, can be achieved outside of the co-operative structure. This can also be seen as a stepping-stone to establishing the company as a full co-operative.

A combination of three factors would produce many of the positive effects that could be achieved through being a co-operative. First, it is critical to clearly establish the company as having a broader purpose beyond returning profit to shareholders. One of the most popular means to achieve this currently is through B Corp registration. B Corps are for-profit companies certified by the non-profit B Lab that enshrine a purpose in their articles of association and meet rigorous standards of social and environmental performance, accountability, and transparency.

Secondly, the profits should be shared as widely as possible, as they would be among members of a co-op.

Thirdly, structures should be put in place to ensure that people on both sides of the platform have an input into the management and governance of the platform.

This combination can be great for those who are unsure of whether the co-operative structure is right for company as it gets started, while enshrining many positive practices from the start.

The drivers at Yamuv, for whom the co-operative model remained a goal, found that it did not suit their process of establishing the business. They will be implementing a profit share system that rewards the contribution that each driver makes, in proportion to the total hours worked on the platform. Doing 1% of the total hours of work on the platform would lead to the driver receiving 1% of the profits. When they launch they will use the technology to monitor and record how long drivers spend using the app.

One of the challenges will be whether to reward all the drivers' time spent with the app on, but where the car could be empty, or just reward the time spent picking up and driving customers. In the start-up phase, aiming for a share based on input to the company can pose additional challenges, because much of the work takes place in an office admininistrative context. It can be hard to draw equivalences between this work, and the work of picking up and driving customers.

3. CHALLENGES AND OPPORTUNITIES FOR PLATFORM CO-OPERATIVES

This section will examine the main challenges and opportunities facing organisations as they seek to establish themselves as platform co-operatives. Yamuv's development demonstrated three areas of challenge:

1. **raising capital**;
2. **using technology**;
3. and **getting the right skills to run the business**.

Additional research identified a further two areas which would need to be addressed once the business had successfully launched:

1. **getting attention from the market**;
2. and the impact of **network effects**.

3.1 CAPITAL: SECURING FINANCES AND INVESTMENT

All businesses need a source of capital in order to build and operate the business. Starting a platform requires the integration of the technology in the business model, technology which sometimes needs to be built from scratch. In addition the start-up phase of any business often requires some reserves of capital, as spending can often precede revenues. Yamuv faced all of these challenges head on.

The very thing that makes platform co-operatives attractive to workers are the same attributes that tech investors balk at. Although a traditional co-op has more chance of surviving than a traditional business, this has so far not been proved for digital platforms. From the perspective of tech investors, the platform co-op can seem at least as risky as a conventional platform, while offering much less scope for large returns. This means that many investors will not consider investing in platform co-operatives.

A recent attempt to disrupt the existing ridehail market was La'zooz from Israel which, despite getting a significant amount of media coverage, struggled to find the necessary funding to make their ethical alternative a reality. "No funds [meant] no real capacity to push development and to build a product that could be an alternative to giant start-ups backed with millions/billions of dollars by VCs," says Eitan Katchka, co-founder of La'zooz.[41]

Uber, on the other hand, managed to raise $11.5 billion across 18 funding rounds to enable it not only to build the applications and backend servers that are the engine of the company, but also to operate a sustained loss (over $2.6 billion in 2016) in order to outcompete local incumbents.

The stark difference in the way these two disruptive start-ups were treated is emblematic of a systemic lack of financing opportunities for platform co-operatives. The Yamuv founders did actively seek out more traditional routes for acquiring early-stage capital but found that investors were put off by their desire to ensure that drivers were properly rewarded and in control of the platform, and their lack of focus on high profitability. Having exhausted the traditional routes, the drivers utilised one of the tried and tested ways of starting a co-operative business: pooling member funds.

3.1.1 Member funds

The traditional means of starting a co-operative has been for the initial members to invest their own money in the venture. This was the model that the drivers from Yamuv adopted. The drivers had been operating as self-employed units working for other minicab firms and Uber over the years and had built up some savings. They decided to pool their own money in order to develop the business started. They used their initial capital to develop their own proprietary technology, create a brand and start to engage the local community. They also provided their own time free of charge in order to get the business off the ground.

The superstar of the platform co-operative movement, Stocksy, was able to get started through a loan of $1 million from one of the founders. A very successful start meant that within a year they were making money and paying off the loan. In fact, by mid-2016, Stocky's members were able to pay off the loan entirely. Today, Stocksy has nearly 1,000 contributing artists, and had annual revenue of $10.7 million in 2016.

The Stocksy situation is fairly unique and most platforms cannot rely on large-scale internal investment like that. For Yamuv, the limited capital brought in by the founders was always one of the major challenges and meant that they were constantly challenged in how to move the business forward. The fact that they decided to invest in building their own technology meant that almost all of their initial capital was spent on the development, which occurred quite early on in the business development cycle. The lack of available funds just as they were trying to launch the service was a significant challenge for them.

Although Yamuv has not as yet availed themselves of alternative means of acquiring capital investment, alternatives do exist.

3.1.2 Crowdfunding

Crowdfunding has become a valuable tool, linking investors of all shapes and sizes with projects, products and services that they want to invest in. Although at its present scale and reach it is a relatively new form of funding, the co-operative movement has utilised a similar model for a long time when seeking to raise money from the wider community for local project. Today, there are four distinct types of crowdfunding that can be leveraged for different purposes and outcomes:

Donation-based crowdfunding relies on donors giving small amounts of money in return for gratitude from the project and the positive feelings associated with donating to good causes. The types of projects best suited to this funding model are generally for non-profit initiatives and worthy causes. For example, when the New Economics Foundation sought to raise funds to start a platform co-operative alternative to Uber in London, the initial donation-based crowdfunding successfully raised over £20,000 from about 750 individuals.[42] This will help to develop a business plan and organise the drivers, but greater funds will be needed to successfully launch and operate a viable business.

Rewards-based crowdfunding encourages donors give a small amount, usually below £1000, in exchange for a specific reward. The reward is often the product that is being produced, early and/or privileged access to the service, or special recognition. Kickstarter and Indiegogo are the two most popular rewards-based crowdfunding platforms but there are lots of others. A platform co-operative could leverage this source by offering access to the platform early, have the amount pledged count towards the donor's credit on the platform, or an opportunity be recognised as 'founders' of the company.

Debt-crowdfunding raises money from many donors, where the recipient promises to repay the money with some interest. The most common form is peer to peer (P2P) lending. P2P lending is a fast-growing industry with the biggest players lending out over 500 million euros in October 2017.[43] Platform co-operatives, like all start-ups, often struggle to get loans from traditional financial institutions, and the P2P sector can be much better at supplying loans to businesses at this stage of development and at better rates. It is important to note that many P2P platforms focus on providing loans to entities that are considered to be good credit risks, and the assessment of the risk profile of platform co-ops may result in the rates being higher and some access being restricted.

The final option is **equity crowdfunding**, which involves raising money from investors in exchange for a share of company ownership. This can often be a route to raising more substantial amounts of money, but poses some challenge to the platform co-operative model since it carves out some equity that will be owned by individuals and/or companies. Resonate, the music-streaming platform co-operative, went down this route in when they launched their bid to raise 50,000 euros in exchange for Supporter Shares. Despite only raising 10,000 euros, this was enough to launch the platform. At present 10% of the revenues are being put aside in order to pay interest for support shares.[44]

3.1.3 Co-operative banks and credit unions

One of the challenges when seeking investment is that a platform co-operative does not easily marry with the high returns that tech investors normally look for. The co-operative banking and credit union sector is one alternative, but these institutions are used to funding small, place-based entities.

Nathan Schneider has advocated for the credit union and co-operative banking sector to take a more active role in providing capital and investment credit to the nascent platform co-operative movement. He has noted however that "people who have been interested in co-operative development and investment see co-operatives as small businesses in local communities," and that "they tend to be not oriented into investing in the tech industry, which requires a specific tool set".[45]

Although there are existing schemes that seek to provide loans for workers' and housing co-operatives, for platform co-ops, the barriers to accessing such loans may be high. The co-operative network Radical Routes, for example, runs an ethical investment scheme called Rootstock, where newly established workers' or housing co-ops can apply to borrow money. However, there are some strict stipulations around accessing the scheme, such as a nine-month application period, and guidelines around how much a member co-op must participate in the day-to-day running of the network: "Co-ops who receive money from Radical Routes must fully participate in the network or risk expulsion and the recall of any money lent".[46]

3.1.4 Blockchain and alternative currencies

Some organisations are seeking to establish an alternative money and financial system that is outside the mainstream and provides an alternative channel for investment to those listed above. Some within this community are seeking to create a whole new monetary system specifically designed to support the platform co-operative economy. Alternative currencies, especially business barter currencies, have long played a role in allowing existing businesses to perform part of their operation within an alternative financial system. Some of the most notable success stories are the 80-year-old WIR bank in Switzerland, which holds assets of approximately 3 billion CHF and annual sales in the region of 6.5 billion CHF. Similarly, Sardex traded 31.3 million euros in 2015.[47] Both these currencies allow member businesses access to alternative currency systems, allowing them to exchange using their new tokens, WIR franc and Sardex, respectively. It is important to note that many business barter currencies are not readily available to new start-ups as they focus on already established businesses which have a verifiable operational and financial history.

Some recent developments in this area have focused on the potential to use blockchain technology – an open, distributed ledger that records transactions between parties transparently, and can support multiple currency types and designs. Earlier in the year Faircoin launched on its own blockchain, seeking to be a currency that can be used by the co-operative movement. Many of the features of bitcoin, the most famous blockchain based currency, have been altered to better meet the needs of the co-operative community. The notorious energy-hungry 'proof of work' confirmation system has been shifted to 'proof of co-operation', vastly reducing the energy consumption of the network and helping ensure that transactions will be free or at very low cost.[48] As well as facilitating transactions, the founders of the currency also want to see it: working as a store of value and providing the ability to extend credit to organisations; in conjunction with supporting transfers of wealth to the Global South and helping incubate nascent co-operative projects around the world. The market capitalisation of Faircoin currently stands at over $54 million.[49] Another initiative, Collabor8, is poised to launch a blockchain based currency designed specifically to support platform co-operatives.[50]

3.1.5 Future funding for co-ops

This sub-section has presented some of the challenges in securing capital in order to establish a new platform co-operative. Although we have demonstrated that there are alternative means by which capital can be acquired, it should also be clear that these forms of capital are much more limited than the traditional capital markets. They are also novel, which increases the perception of risk, further alienating the traditional capital market.

One potential way that a co-op may overcome the challenge of securing capital could be a combination of the instruments listed above. For instance, the optimal package for financing a new platform co-operative could consist of some debt (either from P2P lender or ethical financial institution), some equity, and some members' loans. This could potentially allow a newly established platform co-operative to both become financially sustainable and to protect itself from some of the drawbacks that one particular instrument of funding may have.

Although clever use of the various capital streams can raise significant funds when compared with traditional co-operative start-ups, they will never be able to match the amounts raised by platforms in the market. How a platform co-op will ever be able to compete with the highly capitalised behemoths of the platform world such as Uber (which raised over $11.5 billion), Airbnb (just under $4.4 billion), Lyft ($4.1 billion), or Deliveroo (just under $1 billion) is questionable.

3.2 PLATFORM TECHNOLOGY – FROM BARRIER-TO-ENTRY TO ENABLER

Technology performs two distinct roles in enabling platforms. Firstly, it helps mediate the activity on the platform and enables both sides of the platform to interact with each other. Secondly, it can help with the governance and operation of the platform. Yamuv made the decision early on to spend their limited capital to invest in the creation of their own proprietary technology to run the service, and planned to use technology to assist in the governance of the platform.

3.2.1 The app and backend

Some of our best loved platforms started out by building cutting edge technology connecting people and thereby allowing them to do things that were previously either not possible or highly risky, like stay in a stranger's house or get an unknown person to work for them. Uber in many ways exemplifies this sort of technology, with its seamless and intuitive app from which, at the press of a few buttons, a minicab can be ordered, tracked to your pickup location and paid for by linking the app to your bank account details, all with minimum fuss. eBay allowed ordinary people with stuff they no longer wanted to sell into a market with millions of potential purchasers and pay securely. The inclusion of ratings systems allowed users on both sides of the platform to develop a level of trust in providing and procuring goods and services through platforms. When these platforms developed the technology initially it was revolutionary and part of what set these companies up for the success that they now enjoy.

However, a few years in the technology world is a long time and what was considered to be cutting-edge and cost many millions to create from scratch has now become much more commoditised. This is what has happened to the key technology of platforms.

The technology of platforms has a number of different facets that make it work in the way that it does, some of it user facing, generally via an app or website, and some of it working on the backend server, mediating the proper functioning of the system. For a ridehail platform, informed estimates are that the app development should account for about 20% of the cost, with the server development costing the remaining 80%.

Two elements of many of the most successful platforms have been the integration of location tracking and payments services seamlessly into the apps that they produce. These used to be challenging and costly to develop and could be conceived as a barrier to entry for all but the best capitalised start-ups. Both of these features can now be easily licensed from a variety of providers and integrated.

Yamuv were able to invest tens of thousands of pounds into the development of the technology. The resulting product had many of the fundamental elements that any ridehail service needs, such as a simple interface from which cars can be tracked and a minicab can be easily called, as well as automatic payment. Although the technology managed to integrate many of the key features, the first iteration of the solution also contained a number of bugs revealed through a process of continued user testing. This fact really brought home to the founders of Yamuv that creating your own technology represents not just a significant initial development cost but also requires a long-term operational and financial commitment to update and improve the technology as the business develops and grows.

The ease with which the technological features can be integrated should not be confused with providing a user experience that is clean and seamless. Even after all the key features are integrated and major bugs fixed there is still a considerable challenge in making an app that really 'works'. Any platform that wants to take on an established player, especially one that wants to offer the service at scale, should be considering development costs in the hundreds of thousands of pounds and a team of developers working over many months.

Part of the reason that the founders of Yamuv wanted to build their own technology was so that they could license it to other groups of drivers around the UK and further afield who wanted to start ethical and co-operative ridehail services. This would have generated a future income stream that could justify the continued investment. The founders also realised, having personally gone through the process, that building the technology makes starting your own ridehail service much more challenging. From an economic perspective it is also extremely wasteful for every company wanting to participate in the ridehail market to build and maintain their own technology.

This process gave insight into what the market needed, namely a good quality app and backend solution, but not necessarily one that Yamuv was adequately capitalised to achieve. Indeed in retrospect it may have been more prudent for Yamuv to license existing technology and use their limited capital to meet some of the initial cash outflows associated with setting up a new business. The federated co-operative structure that we outline in Section 2.2 is the formal structure needed to ensure efficient technology development together with appropriate contribution from members that could allow an ethical technology to become widely used not just in the UK but across the world.

3.2.2 Using technology for business management

Although we did not get to witness Yamuv fully operational, we did get the opportunity to see how technology could help in the governance and profit sharing of the platform.

The technology co-operative Outlandish offered to help Yamuv with some of the operational challenges and create a business intelligence application as a plugin for the Yamuv backend.[51] Outlandish quickly recognised that one of the most challenging elements of running a platform is the need to ensure a balance between the supply and demands sides. One of the challenges facing Yamuv was always to ensure that there were enough drivers on the platform to meet the demand from users. Although we cover the specific dynamics of the network effect in more detail in Section 3.5, getting too many users without enough drivers leads to dissatisfaction with waiting times, driving them off the platform. On the other hand, having too many drivers without the user demand can lead to drivers abandoning the platform in favour of one that provides more work. Therefore in order to succeed, the recruitment of drivers and users must progress in parallel. The technology that Outlandish would have developed would have provided Yamuv with a way to analyse driver/user usage of the app and generate actionable data on how balanced the app is in terms of driver/user numbers.

As well as using technology to overcome one of the major challenges for platforms, Yamuv also planned to have the profit share mechanism underpinned by technology. Once operational, the app would have recorded the activity of all of the drivers. The profit share that each driver was then entitled to was to be in proportion to their contribution in time to the platform.

In addition, Yamuv were considering using tools like Telegram, Slack, and Loomio to help manage the complexity of being a worker-owned business. Telegram and Slack offer effective and secure ways to communicate in a variety of configurations within the same organisational structure. Telegram is purely a mobile communication service that offers additional security, whereas Slack offers more functionality to enable collaborative discussions and can be accessed on mobile, tablet and computer. Loomio enables collective decisions to be made without the need for face-to-face meetings and discussions, one of the major challenges to wider involvement in governance and operational issues specific to co-operatives and those seeking broad participation. Through simple work-flows, all of the people involved in a decision can be brought together where they can all comment, make suggestions regarding the potential resolution and vote of the proposals. Existing users of the tool have noticed that "communications are more effective and efficient" and that "people learn to engage more usefully with one another, and that carries over into face-to-face working".[52]

3.3 SKILLS CHALLENGE: DOING YOUR WORK VERSUS WORKING FOR THE COMPANY

Many of the types of workers that are starting to be mediated through platforms, such as private hire drivers, cleaners, and taskers, are used to being a small self-contained business and often have many years or decades of experience working for themselves. However, the challenges of running a company can be quite different from being self-employed. There are specific roles that need to be taken on when starting a platform co-operative.

The founders of Yamuv decided to split up the main responsibilities in starting the new company, with one individual being responsible for each of the four key functions listed below. The roles were matched up with those who, where possible, to could demonstrate relevant experience but since many of the areas, such as technology development, were so new the roles also aligned to people's interests and enthusiasm.

Every organisation, especially a new start up looking to compete in a highly competitive market, needs **a person to take the lead of it**, a sort of 'head evangelist' who can convey the key messages surrounding the platform. Having a good, articulate person who is happy to engage widely with external stakeholders can be hugely beneficial. Yamuv benefitted from having someone with a lot of respect within the existing minicab trade which gave them credibility within the industry.

An organisation also needs a person to manage the company's finances and create an ambitious yet realistic business plan. This role is always challenging when setting up a new company, and even more so when trying to set something up to compete in an established marketplace with plenty of incumbents. Setting up as a platform co-operative further increases the challenge, especially of raising initial capital. Creating business plans can be particularly challenging for platform co-ops without a deep understanding and knowledge of the structures and growth plans adopted by co-operatives, and how those interact with the needs and dynamics of platform businesses. Yamuv struggled to marry their desire for organic manageable growth in the business with the advice they were getting from meeting with traditional investors that they should seek to grow the business fast to generate more revenue and capitalise on potential network effects.

One of the toughest jobs, especially at the early stages, was to **manage the development and deployment of the technology**. This is different from the self-employed person using the technology, who needs to be familiar with it but generally has little or no involvement with the development of strategic direction for the technology. Here, by almost any measure, Yamuv did very well given the extremely limited budget and the fact that the founder responsible for this element had not previously managed the deployment of technology like this before. Communicating with remote technology development teams can be hugely challenging for seasoned professionals due to the very specific technical nature of the communications required, the potential for translation errors to emerge, the challenge of performing activities like user acceptance testing, and translating the missing requirements into easy to understand projects.

Finally, Yamuv assigned someone to be **responsible for the HR function** that involves fulfilling a number of different roles: from engaging with drivers and users to get them interested in the platform, to dealing with the legal tasks involving the terms and conditions under which people engage with the platform. Drawing up the legal employment framework is a challenging activity which can require considerable capital to pay for lawyers and specialists. This is especially true when trying to create a different relationship between employee and employer, which was always at the heart of what the founders at Yamuv wanted to do. They were therefore obliged to rely of voluntary contributions from people who did not always fully understand or appreciate their ambitions for the company.

3.4 GETTING STARTED AND GETTING NOTICED

Even if you manage to navigate through raising the necessary capital, have the technology ready, and have managed to assemble a group of people with the right skills to run a company, two further major challenges remain. The next sub sections will present the challenges posed by getting attention, and by achieving scale. These are items that we only encountered from a theoretical perspective with Yamuv, but are crucial to the successful development of platform co-operatives.

Platforms are notorious for using the money they raise from their financiers to subsidise their early entry into the market. The emblematic example of this behaviour is Uber. As a global company they continue to lose colossal sums of money – over $2.6 billion in

2016. This is money they can currently afford, given that they have raised over $11.5 billion from financiers over the years. They use this money to subsidise rides, aggressively market their services to users, hire top public relations companies to manage bad press, and lobby to gain political influence and favourable regulatory conditions. Even in markets where Uber is profitable, like London, it has not always been so. When Uber came to London in 2012, new drivers were tempted onto the platform with free iPhones and earnings of £25 an hour, irrespective of whether there was work. On its first day of operation, Uber had 50 drivers who completed just 30 rides.[53] This was together with introductory offers for new users giving them free credit towards rides. Platforms can often rack up losses for a sustained period, especially ones that seek quick expansion, and entering a market can be expensive if you are seeking to lure the existing workforce to the new platform as well as tempting users.

The Yamuv founders were all minicab drivers with many years' experience and fantastic contacts within the industry. They were therefore in a good position to bring existing drivers to the Yamuv platform. From discussions with the founders and other drivers it was clear that the majority recognised that they were in an exploitative relationship with the ride-sharing platforms they used. Even many of those who earned a decent living from using the Uber app and valued the flexibility it offered understood the power imbalance. For instance, should the app stop working, making it impossible for the driver to get work, there is no direct support line to call. The only option drivers have is to submit a form designed to report if a passenger has left belongings in the car, as this is the only field that allows any freeform text in communications between drivers and Uber. It was therefore clear that drivers were actively looking for other companies offering better conditions. In some places, like London, this allows drivers to use multiple platforms to source their work, with the drivers prioritising work on the platforms that they feel provide the best conditions.

While the Yamuv founders had the contacts and experience to recruit drivers to the platform, they came up against the challenge posed by the local regulatory regime. In Leeds, drivers are only permitted to drive for one company at any time. This means that in order to convince drivers to join the new platform, the operators have to be able to guarantee an income. Without at least some capital to pay drivers, it becomes very hard to build up a workforce since to the company cannot guarantee that users will be requesting sufficient journeys from the start. This means that drivers will be reluctant to risk their income on joining the platform. And as with all platforms, if you do not have the provider side of the platform (drivers) it becomes very hard to attract the customer side (passengers). With too few drivers, customers using the platform for the first time and finding no cars or long pick-up times are unlikely to return. This presents a vicious cycle for any new platform, making it very difficult to enter or establish oneself in the market.

It is clear that no matter how amazing the technology is (even if you do manage to get the provider side of the platform in) the significant challenge of getting noticed by potential customers still remains. In an interview with the CEO of RideAustin, one of the most successful ethical Uber competitors in the world, we found that whether a platform co-operative lives or dies is based on how well they engage and retain customers. Although we did not have the chance to witness this part of process with Yamuv, since the service did not go live during the period of our engagement, we did witness some interesting strategies to help create demand on the user side. The Yamuv founders identified the potential of winning local authority transport contracts, like helping people get to school. Winning a contract like this could have created the guaranteed demand that would have helped drivers make the leap onto the new platform, thus allowing them to start to benefit from positive network effects. Although the idea is appealing, the public procurement process for these types of contracts is another complex process to navigate. While there can often be ethical and social criterion to the local authority procurement decisions (potentially giving Yamuv a bit of an advantage), they can also require companies to have been in operation for a number of years and give cast iron guarantees, something that challenged Yamuv.

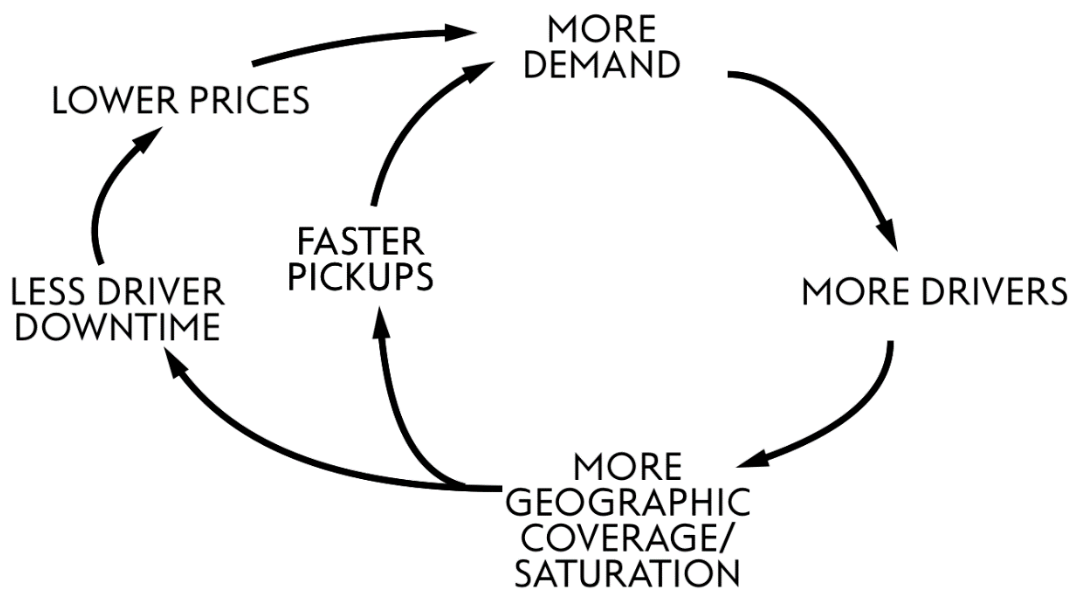
3.5 PLATFORM CO-OPS, THE NETWORK EFFECT AND SCALE

With some notable exceptions, co-operatives have historically tended to be relatively small businesses anchored in a local community. This has conveyed benefits to newly formed co-operatives, which are twice as likely to make it through the first five years than traditional companies.[54] However, platforms function differently to conventional businesses, and platforms that are too small suffer as they struggle to match customers efficiently to providers. This is also why it can make sense to subsidise both sides of the platform at the beginning, as Uber did, or to permanently subsidise one side. OpenTable, for example, uses the latter approach: users not only get to use the platform for free to book tables and restaurants, but can also earn discounts (a subsidy) by using it. The challenge of achieving scale is one that we were not able to observe in action during the Yamuv project, given that Yamuv did not officially launch within the timeframe of our research.

Platforms are subject to network effects in ways that traditional businesses are not. Some consider this to be one of the fundamental misunderstandings that led to the failure of many dotcom businesses during the 1990s and early 2000s.[55] The prevailing convention was that new online businesses should seek to grow their market share as quickly as possible, often by giving away their products and services for free or at huge discounts. Contemporary analysis has shown that it is very hard to convert customers who have become used to free or heavily discounted items to paying customers, with maybe only 1-2% making the jump.[56] It is network effects, both positive and negative, that determine a platform's success.

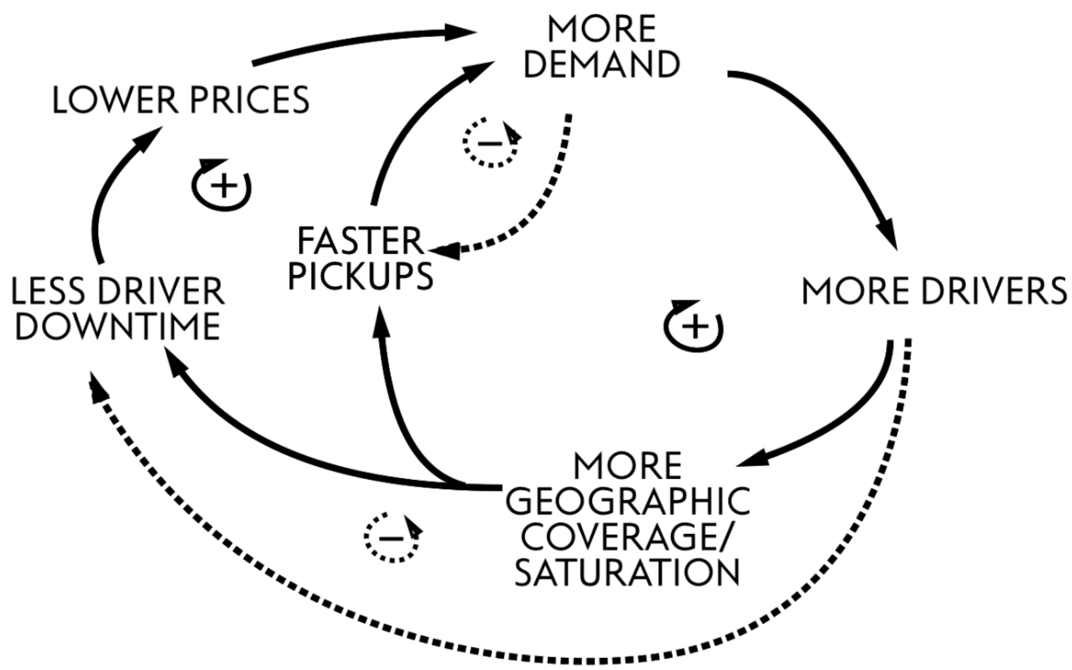
'Network effects' refers to the fact that the value of the platform is directly related to the number of users the platform has on each side of it (ie: the number of both producers and customers). A famous sketch on a napkin (replicated in Figure 4) produced by one of the early investors in Uber highlights the positive potential of these effects. The simple diagram shows the virtuous cycle that all platforms want to access, where the more participants increase the value of the platform to each user. This then attracts more people to join the platform, thereby further increasing the value of the platform to all the participants.

Figure 4. Positive network effects for Uber[57]



Just as platforms can get into virtuous growth cycles of positive network effects, it is also possible to suffer negative network effects that can drive away participants and even lead to the demise of the whole platform. A popular parable is that of MySpace: in 2006 the social media site was a more popular site than Google, growing to almost 80 million unique monthly visitors. Due to competition from newcomer Facebook, together with other factors, MySpace lost more than 50% of their monthly visitors and 80% of their employees in just one year.[58] After 2009, all the positive network effects were felt by the growing Facebook, with MySpace unable to harness any. Figure 5 represents the same Uber network effects but this time with the negative effects added in, showing that if they attract too many drivers then driver downtime will increase, potentially resulting in drivers leaving the platform. Likewise, if too many users join the service then pickup times will suffer, causing users to leave the platform.

Figure 5. Positive and negative network effects for Uber[59]



The broad challenge for platform co-operatives will be how to execute a business plan that can leverage positive network effects without falling foul of negative ones. For Yamuv, we saw that they will be challenged from the start to ensure that an adequate number of drivers are available for the projected number of users. Since it is very hard to build numbers on both sides of platform at the same time, most start-ups in this area have focused on ensuring that drivers are available and paid, using the capital that they have raised, while they actively recruit users. What is also clear is that, although drivers are often actively looking for alternative platforms that might reward them better, either monetarily or though ownership and participation, users are often very content with the existing platforms. Users therefore have little patience for platforms that do not replicate the service level of existing platforms like Uber.

4. THE FUTURE OF PLATFORM CO-OPS

Section 1 demonstrated how platform co-ops could potentially mitigate some of the harm of traditional platforms as well as providing additional security to precarious workers. Section 2 discussed a number of different business structures that a company can adopt. Section 3 illustrated how complex and challenging actually starting a platform co-op business can be, and the multiple and varied challenges that people face in bringing their vision to reality.

So where does this leave us? What next for platform co-ops in the ridehail sector? And what about other sectors of the economy?

4.1 THE FUTURE FOR CO-OPERATIVE RIDEHAIL

There is already a co-operative movement in the private hire and taxi sector. Co-ops UK have identified over 20 such initiatives across the UK that range from the well-established to those in the early stages. Due to the challenges raised in Section 3, small-scale platform co-ops will struggle. The best chances of success in this sector will be either a focus on creating a federated network of co-ops in the UK or focusing on a large city, where the market is sufficiently big to accommodate a stand along platform co-op.

4.1.1 The federated ridehail co-op

Many of the challenges that the founders of Yamuv faced would have been significantly easier had they been sharing the burden across multiple co-operatives. This suggests that a federated network is likely to be the most effective means of supporting a successful platform co-op ecosystem in the UK. Whereas some big cities, like London, Manchester or Birmingham, could support a standalone platform co-op, smaller cities could struggle to sustain themselves due to start-up costs, the difficulty in getting noticed, and the impact of negative network effects. As described in Section 2.2, the parent co-op would hold and develop the technology and allow all the locally place-based co-operatives to use the application. The child co-ops could then concentrate on running their own businesses without having to do all the work and being focused on achieving sufficient scale.

4.1.2 Cabfair

In September 2017 Transport for London announced the revocation of Uber’s licence to operate in London. In response the New Economics Foundation proposed a driver- and passenger-owned alternative and ran a successful crowdfunder to support the development of an initial business plan.

The size of the London market, both in terms of drivers and consumers, means that establishing a standalone platform co-op in London could potentially overcome many of the challenges faced by Yamuv. Firstly, our crowdfunder showed there is appetite from Londoners for an alternative and people are prepared to provide some of the capital to make it happen. With over 100,000 minicab drivers in London the potential for future members of the co-op to contribute is significant. Secondly, given the size of London it also makes more sense to invest an appropriate amount in technological development than in smaller markets. Thirdly, it would be able to overcome the skills challenge faced by Yamuv, through being able to draw from a much larger pool for potential members. This would ensure that people with not just the right skills, but also a desire to do the jobs, were correctly assigned within the company. Fourthly, getting started would be simpler, as in London, drivers can use multiple apps, meaning that as long as Cabfair provided better conditions than other platforms for drivers, they would prioritise taking jobs from that platform over others. Finally, it could also overcome the negative network effects because even if Cabfair was able to take just 5-10% of the market, that would still mean between 5000-10000 drivers being used by 250,000 and 500,000 people.

4.2 PLATFORM CO-OPS IN OTHER SECTORS

Of course, taxi and minicab drivers are not the only sector to be experiencing challenges to their rights and conditions. Sectors such as food delivery, cleaners, carers, and taskers are all increasingly mediated through platform technologies. Many of these sectors could benefit from forming platform co-ops to better protect their rights, and receive better conditions of employment by removing the need to reward venture capital investors or shareholders.

The biggest platform-mediated sector is cleaning, with millions working for cleaning platforms around the globe. In the US, Up & Go has been established to respond to the precarious nature of cleaners' employment. Up & Go is a worker's co-operative that provides quality cleaning services while paying the living wage, being transparent, and giving back to the community.

A potential sweet spot for platform co-ops are in areas where there is a significant social impact to the work, and where a more sustainable model that extracts less profit leads to improved service quality. One such area is social care.

4.2.1 Social care

The social care sector in the UK is facing a number of challenges, prompted by a shift towards ever greater private provision of care which has "reduced the quality of care, undermined labour market conditions and reduced cost efficiency within the sector."[60] Studies suggest that around 160,000 care workers are paid under the minimum wage[61] and HMRC found almost half of providers were found to be non-compliant with minimum wage regulations. The under-funding of the sector by government is exacerbating the poor working conditions of social care workers. Private care providers are also increasingly hiding behind complex business models to justify the low pay of frontline staff while allowing investors to extract cash and increase liabilities.[62] All of this behaviour reduces the quality of care provided.[63]

Luckily this is also a sector where there exist non-platform co-operatives that enable us to understand some of the potential benefits to workers such as increased empowerment, better conditions and improved pay. What is promising is that the evidence shows that conditions improve not just for the workers but also for the service users.[64]

Innovators are already seeing the potential for a platform that can mediate between carers and those in need of care, and which is focused primarily on ensuring the quality and credentials of the carers. Already in operation is Supercarers which, although not co-operatively owned, is seeking to reduce the high overhead costs associated with contracting through an agency. This reduces the cost for the consumers while at the same time allowing carers to take home higher pay. Another initiative at an earlier stage is Careshare, which will be a co-operative with all carers being members and hopes to achieve many of the same benefits as Supercarers.[65] They recently won a competition run by Co-ops UK that provided them the money they needed to get started, as well as business support.

This sector then offers particular opportunities through use of the platform co-op structure. Carers get more control, are better remunerated and achieve greater job satisfaction. Users get more input into their care provision, and save money by reducing costs, leading to better health outcomes.

Applying our learning from Section 3 also offers encouragement for the sector. Firstly, the technological complexity required for the app is much less when compared to the requirements of the ridehail. A ridehail app needs to be very easy to use because it is competing in a market where people are used to the efficiency of Uber, meaning any small fault can lead people to exit the app. With social care, the app is a means of forming a real, and hopefully long-term, relationship with a carer. The reduced technological complexity also means that less capital needs to be raised in order to make the platform operational. Secondly, social care platform co-ops could also benefit from the fact that the market has yet to see any major disruption and so any new serious player can expect attention from professionals, consumers and the press. Finally, a social care co-op would potentially not be subject to network effects in such a significant way as ridehail platforms, because rather than providers looking for multiple matches every day, providers would be seeking much fewer connections, with each of those connections providing a much longer stream of work. A social care platform would not be immune however, and if there was ever a huge imbalance between supply and demand on the platform then it would be unlikely to succeed and grow.

4.3 TACKLING EXISTING PLATFORMS

Along with these very practical interventions in specific markets there is a growing movement trying to tackle the huge dominance of some of the major platforms. Academics like Nick Srnicek and campaigners like Cat Hobbs have called for the big platforms to be nationalised. For the likes of Google and Facebook, which operate as monopolies (over search engines and social media, respectively) or duopolies (both as advertising space), depending on the market, economic theory as well as real world experience states that they ought to at least be regulated. Where regulation proves ineffective, other more radical solutions should be considered. Catt Hobbs has commented that as consumers we are left powerless in the face of these platforms since we "don't have real competition and consumer choice, but we don't have a democratic say as citizens either."[66] Indeed it is vital that we remember how we dealt with the old monopolies like rail and utilities who also enjoyed monopoly status in many instances as well as functioning much more efficiently at large scale. These kinds of industries have always been prime candidates for public ownership, as Nick Srnicek recently articulated: "The solution to our new-fangled monopoly problem lies in this sort of age-old fix, updated for our digital age. It would mean taking back control over the internet and our digital infrastructure, instead of allowing them to be run in the pursuit of profit and power."[67]

As well as theoretical battle being fought via opinion pages and campaign sites, a nascent real world movement is emerging, initially focused on buying Twitter and turning it into a large co-op. A crowdfunder was launched in Aug 2017 with the ambitious goal of raising $1 billion, with limited success.[68] What is perhaps more remarkable is that a vote was held at the last Twitter AGM in which 4.9% of the shareholder voting was in favour democratic ownership, allowing them to submit a stronger proposal next year.[69]

5. CONCLUSION

We sit at a crossroads. Are we going to sit back and allow massive platforms to take over and mediate ever greater areas of economic and social activity? In the space of just a few decades much of modern life has come to be dominated by platforms. Today the five most valuable companies in the world by stock market capitalisation are all platforms: Alphabet, Apple, Facebook, Microsoft and Amazon. As well as the behemoths, the likes of Uber, Airbnb, and Spotify are changing considerably how we buy and use goods and services in the modern economy.

Until recently, people have been so drawn to the ease with which these services can be used and the value for money for customers. This has driven many to become very loyal to these new brands. Indeed many of these brands have now become verbs like 'to uber', 'to google' or 'to airbnb'. Just a few years ago the position of these large platforms seemed unassailable. Today, things look different. Over the last year a series of regulatory battles, corporate mistakes, and worker and consumer actions have changed that picture. People, regulators, and workers are starting to resist the terms of the established platforms and, more importantly, start to experiment and build the solutions for the future. This is where platform co-ops come in.

As we seek for alternative ways of enjoying the benefits of platforms without the downsides, it is clear that the co-operative structure goes some way to achieving this. Despite the term only being coined in 2014, it is already seen as one of the big hopes for delivering a more just and fair digital economy. However, as we saw in Section 3, there are some important elements in how platforms work that make the imposition of the co-operative structure challenging. If we are want to have a vibrant platform co-op sector we will need specific interventions to make this happen:

New funding structures need to emerge that can provide alternatives to the venture capital funding model that presently dominates the platform ecosystem. It is encouraging to see the emergence of a good crowdfunding ecosystem offering new business a range of financing options. These sectors need to be encouraged, and as they become more 'normal', more people and institutions will push their money through these portals. It is also vital to reinvigorate the local banking and credit union sector and give them a specific mandate to help support the rise of new platform co-ops. Although alternative currencies and blockchain solutions are not for everyone, they offer an exciting potential and should be available for pioneering businesses.

In order to deal with the issues around the cost of building and maintaining the necessary technology to run these platforms it is vital that the **new platform co-ops**

collaborate with each other and, where appropriate, form federated structures. This collaboration will help reduce operational costs, help them get noticed in crowded and competitive markets, and achieve the scale necessary to capture the positive element of the network effect.

Workers also need to be provided the **necessary skills training and support** so that, should they want to, they can establish their own platforms. This could range from specific training in various aspects of running a business to providing support programmes which aim to link new platforms with existing expertise.

The potential of **more locally-focused commissioning from the public sector** can have a significant effect in helping foster a vibrant platform co-op sector. Just as we are seeing some local areas like Preston and Manchester redirect their spending to the local economy generally, some portion of that could also be directed to the nascent platform co-op sector. Manchester has increased its direct spend to the local economy from 51.5% in 2008-09 to 73.6% in 2015-16.[70]

Government needs to **enforce existing regulation robustly** to ensure a level playing field that new platform co-ops can compete on. This is especially true of gig economy platforms, where many reduce their costs by cutting corners and not properly recognising their participants as employees.

Finally, users and consumers also need to **understand the impact of spending their time and money on established platforms**, and be given opportunities to spend their money on alternatives that better align with their own values.

The structural challenges outlined in this report offer some of the answer as to why we have not seen more platform co-ops emerge and flourish. Platform co-ops offer us hope that we can harness the benefits of digital platforms without the harms that many of the current ones create. But their creation will require both continued experimentation and the support of policy makers both to enforce existing regulations on platforms, and create new support structures. Only by working together can we hope to create a digital economy that truly works for everyone.

ENDNOTES

---

[1] Nesta. "ShareLab". https://www.nesta.org.uk/project/sharelab. Accessed 9th November 2017.
[2] Hagiu A & Wright J. (2015). "Multi-sided Platforms, Harvard Business Review Working Paper 15-037". http://www.hbs.edu/faculty/Publication%20Files/15-037_cb5afe51-6150-4be9-ace2-39c6a8ace6d4.pdf. Accessed 9th November 2017.
[3] Sundararajan, A. (2016). *The sharing economy: The end of employment and the rise of crowd-based capitalism.* Cambridge, MA*: MIT Press.*
[4] Horton, J. J., & Zeckhauser, R. J. (2016). "Owning, using and renting: Some simple economics of the "sharing economy" (NBER Working Paper No. 22029). *Retrieved from the National Bureau of Economic Research website:* http://www.nber.org.sheffield.idm.oclc.org/papers/w22029. Accessed 11th November 2017.
[5] Dragomirescu-Gaina, C. (2016). "Policy and Research Challenges the View from a European Think Tank". *Foundation for Progressive European Studies.* http://dynamicsofvirtualwork.com/wp-content/uploads/2016/06/Dragomirescu-Gaina.pdf. Accessed 11th November 2017.
[6] Langley, Paul and Leyshon, Andrew (2016) Platform capitalism: the intermediation and capitalization of digital economic circulation. Finance and Society, 2 (1). ISSN 2059-5999 (In Press)
[7] An API is an Application Programming Interface and is used to build application software.
[8] Scholz, T. (2014). "Platform Coopereratism v Sharing Economy, Dec 5th 2014, https://medium.com/@trebors/platform-cooperativism-vs-the-sharing-economy-2ea737f1b5ad
[9] Scholz, Trebor. (2016). "Platform Cooperativism: Challenging the Corporate Sharing Economy". *Rosa Luxemburg Stiftung, New York Office.* http://www.rosalux-nyc.org/wp-content/files_mf/scholz_platformcoop_5.9.2016.pdf. p1. Accessed 3rd August 2017.
[10] Coopify. Platform Coops Directory. *https://platform.coop/directory*. Accessed 4th August 2017.
[11] "We can Do it". http://www.wecandoit.coop/. Accessed 3rd August 2017.
[12] IBID.
[13] Platform Co-ops. (2016). *Co-ops UK.* https://www.uk.coop/sites/default/files/uploads/attachments/platform_co-ops_presentation.pdf. Accessed 3rd August 2017.
[14] Co-ops UK. (2017). "A 'Co-operative Amazon' Wins First Competition for Tech Co-ops". https://www.uk.coop/newsroom/co-operative-amazon-wins-first-competition-tech-co-ops. Accessed 3rd August 2017.
[15] The Hive. "Building Better Cooperative Businesses". https://www.uk.coop/the-hive/. Accessed 3rd November 2017.
[16] "Cooperatives a Short History". https://www.culturalsurvival.org/publications/cultural-survival-quarterly/cooperatives-short-history. Accessed 3rd November 2017.
[17]"Co-ops for 2030". http://unsdn.org/2017/07/14/co-ops-for-2030-a-movement-achieving-sustainable-development-for-all/. Accessed 10th November 2017.
[18] "Co-operative Principles". The Co-operative College. https://www.co-op.ac.uk/about/values-and-principles/
[19] SJiglitz, J. (2016). "The Era of Monopoly is Here". *The Guardian.* Economics Section. Friday 13th May 2016. https://www.theguardian.com/business/2016/may/13/-new-era-monopoly-joseph-stiglitz. Accessed 16th November 2017.
[20] Khan, L. "Amazon Bites off even more monopoly power". *New York Times.* Opinion Section. 21st June 2017. https://www.nytimes.com/2017/06/21/opinion/amazon-whole-foods-jeff-bezos.html. Accessed 15th November 2017.
[21] Hansmann H, "Cooperative Firms in Theory and in Practice", 1999, LTA 4/99 p.387-403, p.401
[22] Marsh, S. (2016). "Are these the world's coolest offices?". *The Guardian.* Opion Section. 12th July 2016. https://www.theguardian.com/commentisfree/2016/jul/12/amazon-are-these-worlds-coolest-offices. Accessed 16th November 2017.
[23] Tims, A. (2017). "Gig economy ruling has Deliveroo riders without rights and buying their own kit". *The Observer.* 19th November 2017. https://www.theguardian.com/business/2017/nov/19/gig-economy-ruling-deliveroo-riders-equipment-basic-employment-rights. Accessed 19th November 2017.

[24] Davies, Rob., and Butler, Sarah. (2017). "UK Workers Earning £2.50 an Hour Prompts Call for Government Action". *The Guardian,* Thursday 6th July, 2017. https://www.theguardian.com/business/2017/jul/06/uk-workers-poverty-pay-gig-economy-frank-field-report. Accessed 17th November 2017.
[25] Johnston, I. (2015). "Amazon: Devastating expose accuses internet retailer of oppressive and callous attitude to staff". *The Independent.* Business Section. 16th August 2015. http://www.independent.co.uk/news/business/news/amazon-devastating-expose-accuses-internet-retailer-of-oppressive-and-callous-attitude-to-staff-10458159.html. Accessed 18th November 2017.
[26] Kopytoff, V. (2014). "How Amazon Crushed the Unions". *Time Magazine.* http://time.com/956/how-amazon-crushed-the-union-movement/
[27] Ford, M. (2015). *The Rise of the Robots: Technology and the Threat of Mass Unemployment.* London: OneWorld Publications.
[28] Boycott Self Service Checkouts to Save Jobs. (2014). *The Chronicle.* https://www.thechronicle.com.au/news/boycott-diy-check-outs/2485311/. Accessed 17th November 2017.
[29] CWU. (2016). "Drive for 35". https://www.cwu.org/news/cwu-drive-for-35/. Accessed 18th November 2017.
[30] Scholz, Trebor. (2016). "Platform Cooperativism: Challenging the Corporate Sharing Economy". *Rosa Luxemburg Stiftung, New York Office.* http://www.rosalux-nyc.org/wp-content/files_mf/scholz_platformcoop_5.9.2016.pdf. p1. Accessed 3rd August 2017.
[31] van Doorn Niels, "Analysis: Platform cooperativism and the problem of the outside", http://culturedigitally.org/2017/02/platform-cooperativism-and-the-problem-of-the-outside/
[32] 10 Principles for Platform Cooperatives, Scholz, Trebor. (2016). "Platform Cooperativism: Challenging the Corporate Sharing Economy". *Rosa Luxemburg Stiftung, New York Office.* http://www.rosalux-nyc.org/wp-content/files_mf/scholz_platformcoop_5.9.2016.pdf. p1. Accessed 3rd August 2017.
[33] Valero J, "Uber needs prior authorisations to operate, EU court says", EurActiv, 20th December 2017, https://www.euractiv.com/section/future-of-mobility/news/uber-needs-prior-authorisations-to-operate-eu-court-says/
[34] Kelly G, "Digital trade unions will empower tomorrow's sharing economy employees", Wired, 12th January 2017, https://www.wired.co.uk/article/gig-economy-digital-unions
[35] Brownsell A, "Are brands right to boycott youtube", 29th November 2017, https://www.campaignlive.co.uk/article/brands-right-boycott-youtube/1451412
[36] Scholz, Trebor. (2016). "Platform Cooperativism: Challenging the Corporate Sharing Economy". *Rosa Luxemburg Stiftung, New York Office.* http://www.rosalux-nyc.org/wp-content/files_mf/scholz_platformcoop_5.9.2016.pdf. p1. Accessed 3rd August 2017.
[37] Srnicek, Nick. (2017). The Challenges of Platform Capitalism. *Juncture* 23, no. 4: 254-257.
[38] Schneider N "An Internet of ownership: democratic design for the online economy", https://ioo.coop/2016/09/07/an-internet-of-ownership/
[39] http://neweconomics.org/2018/05/a-better-gig/
[40] International Cooperative Alliance. https://ica.coop/en/what-co-operative-0. Accessed 16th November 2017.
[41] Coca, N. "How Innovative funding models could usher in a new era of platform cooperatives". https://www.shareable.net/blog/how-innovative-funding-models-could-usher-in-a-new-era-of-worker-owned-platform-cooperatives. Accessed 16th November 2017.
[42] "We can do better than Uber". The New Economics Foundation. https://www.crowdfunder.co.uk/faircab. Accessed 17th November 2017.
[43] "Peer to Peer Lending". https://www.p2p-banking.com/countries/germany-international-p2p-lending-volumes-october-2017/#more-7985. Accessed 17th November 2017.
[44] Resonate. "Exploring why we're a cooperative". https://resonate.is/exploring-why-were-a-cooperative/. Accessed 19th November 2017.
[45] Ibid, Coca, N.
[46] "Rootstock". Radical Routes Network. http://www.radicalroutes.org.uk/rootstock-ethical-investment-scheme.html. Accessed 16th November 2017.
[47] Posnett, E. (2015). "The Sardex Factor". *The Financial Times.* https://www.ft.com/content/cf875d9a-5be6-11e5-a28b-50226830d644. Accessed 17th November 2017.
[48] "Faircoin activate the first 100 cooperative blockchain". Fairr.Coop. https://fair.coop/faircoin-activates-the-first-100-cooperative-blockchain/. Accessed 17th November 2017.

[49] "Faircoin". https://coinmarketcap.com/currencies/faircoin/. Accessed 17th November.
[50] "ICO for Platform Cooperatives". https://community.coops.tech/t/ico-for-platform-cooperatives/309/9. Accessed 18th November 2017.
[51] Ultimately Outlandish did not provide any actual support since the support was predicated on two elements. Firstly that they either register as a cooperative or at least make an explicit commitment to do so in the future, which never happened. Secondly the support that they wanted to provide would only have had an impact once the business for fully operational, which has not happened yet.
[52] https://www.loomio.org/#features
[53] Knight, S. (2016). "How Uber conquered London". *The Guardian.* 27th April 2016. https://www.theguardian.com/technology/2016/apr/27/how-uber-conquered-london. Accessed 19th November 2017.
[54] "UK Co-operative Economy 2015 Report". Coops UK. https://www.uk.coop/economy2015/uk-co-operative-economy-2015-report. Accessed 18th November 2017.
[55] Evans, D., and Schmalensee, R. (2016). *Matchmakers: The new economics of multi-sides platforms*. Cambridge Mass.: Harvard Business Review Press.
[56] Parker, G., Van Alstyne, M., and Choudhary, S. (2016). *Platform Revolution.* New York: Norton and Norton and Company.
[57] David Sack's network sketch 'Matchmakers: The New Economics of Multisided Platforms by David S. Evans and Richard Schmalensee'
[58] "MySpace: The sise and Fall and Rise Again". Start up Bros. https://startupbros.com/myspace-the-rise-fall-and-rise-again-infographic/. Accessed 18th November 2017.
[59] David Sack's network sketch 'Matchmakers: The New Economics of Multisided Platforms by David S. Evans and Richard Schmalensee'
[60] The Cooperative Party, "Taking Care", September 2016, https://party.coop/publication/taking-care-a-co-operative-vision-for-social-care/
[61] Gardiner, L. (2015) Resolution Foundation Briefing. The scale of minimum wage underpayment in social care. Resolution Foundation.
[62] Dolan A, "Britain's care homes are being turned into complex financial instruments", Open Democracy, 11th March 2016, https://www.opendemocracy.net/uk/andrew-dolan/britains-care-homes-have-been-turned-into-complex-financial-instruments-how-could-this-possibly-go-wrong
[63] Centre for Health and the Public Interest, "The failure of privatized adult social care in England: What is to be done?", November 2016, https://chpi.org.uk/wp-content/uploads/2016/11/CHPI-SocialCare-Oct16-Proof01a.pdf
[64] The Cooperative Party, "Taking Care", September 2016, https://party.coop/publication/taking-care-a-co-operative-vision-for-social-care/
[65] http://www.careshare.org.uk/
[66] Hobbs C, "Five reasons we should take Facebook into public ownership", 30th August 2017, https://weownit.org.uk/blog/5-reasons-why-facebook-should-be-global-cooperative-public-ownership
[67] Srnicek N. "We need to nationalise Google, Facebook and Amazon. Here's why", The Guardian, 30th August 2017, https://www.theguardian.com/commentisfree/2017/aug/30/nationalise-google-facebook-amazon-data-monopoly-platform-public-interest
[68] https://www.gofundme.com/buytwitter
[69] https://www.buytwitter.org
[70] Sheffield H., 'The Preston Model: Uk takes lessons in recovery from rust-belt Clevland, the Guaridan, 11th April 2017, https://www.theguardian.com/cities/2017/apr/11/preston-cleveland-model-lessons-recovery-rust-belt