Power in the Sharing Economy

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Report from the EU H2020 Research Project Ps2Share:
Participation, Privacy, and Power in the Sharing Economy

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1. Introduction: The Sharing Economy

Over the last decade, the emergence of peer-to-peer business models has empowered countless individuals across the globe to earn money through sharing their under-utilized assets. Encouraged by widespread technological advancements (Benkler, 2004; Botsman & Rogers, 2010; Gansky, 2010; Schor, 2016; Sundararajan, 2013), as well as by the purported rise of a new 'sharing culture' (Bardhi & Eckhardt, 2012; Belk, 2010; 2013; Cohen & Kietzmann, 2014; Grassmuck, 2012; John, 2013), this phenomenon has been widely referred to as the 'sharing economy'.

Alternatively, this phenomenon has been referred to with terms such as 'collaborative consumption' (Botsman, 2013; Botsman & Rogers, 2010; 2011), 'access-based consumption' (Bardhi & Eckhardt, 2012), 'peer-to-peer marketplaces' (Cullen & Farronato, 2014), or with the term preferred by the European Union: 'collaborative economy' (EU Commission, 2016). Criticism over the term 'sharing' in 'sharing economy' has, however, led certain critical parties, such as Nordic trade union groups, to use terms such as 'platform economy' instead (LO, 2016a; Unionen/Söderqvist, 2016).

Despite attempts to provide a universal typology of the phenomenon (Cohen & Muñoz, 2015; Lamberton & Rose, 2012; Martin, 2016) and reflective of the variety of available signifiers on offer, the sharing economy remains a concept with vast scope yet lacking either a common definition or theoretical unity (Codagnone, Abadie, & Biagi, 2016; Dubois, Schor, & Carfagna, 2014; Schor, 2014; 2015; Schor, Fitzmaurice, Carfagna, Attwood-Charles, & Poteat, 2016; Sundararajan, 2016; Vaughan & Hawksworth, 2014; Wosskow, 2014).

At its broadest conceptualization, a variety of different interaction modalities have been included within the umbrella of the sharing economy: peer-to-peer, business-to-consumer, and even business-to-business or government-to-government (Codagnone et al., 2016). For our purposes, we approach the sharing economy in the narrower sense of being a peer-to-peer exchange of tangible resources: "*A reciprocal exchange process, mediated through a digital platform, whereby individuals share their personal goods with others for use.*"

Stakeholders, such as public institutions, academics, politicians, and platform representatives, have all engaged in the ongoing public debate about the opportunities and costs related to these new peer-to-peer business models. As Martin (2016), in an analysis of press coverage of sharing platforms, points out, conflicting frames dominate the public discourse. Public debate, however, as well as academic interest, has tended to agglomerate around a small number of commercially successful platforms, such as Airbnb and Uber, thus rendering the debate often at risk of exaggerating certain issues not applicable to smaller, more localized, sharing services.

Numerous studies, referring in some cases to an alleged underlying anthropological or neuroscientific tendency for sharing (Agyeman, 2013; Schmidt & Somerville, 2011; Tomasello & Warneken, 2008), have focused on the sharing economy's benefits for community building, social participation, and the creation of social capital (Belk, 2007; 2010; Botsman & Rogers, 2010; Hamari, Sjöklint, & Ukkonen, 2016; Hellwig, Morhard, Girardin, & Hauser, 2015; Lampinen & Cheshire, 2016). A study by Möhlmann (2015), for instance, on German users of Airbnb and the business-to-consumer service Car2Go, found that community belonging was a key driver for repeated use. Optimistic parties have even argued that the sharing economy is a response to the

hyper-consumption of the 20th century (Leadbeater, 2010), placing a greater focus on access over ownership (Belk, 2014a; 2014b; Grassmuck, 2012) and enabling people to make use of what Benkler (2004) terms the 'excess capacity of goods and services'.

Given the utilitarian motivation of many users (Bucher, Fieseler, & Lutz, 2016; Hawlitschek, Teubner, & Gimpel, 2016), a major benefit for consumers in the sharing economy is the provision of broader options and lower prices (Sundararajan, 2016). A recent Eurobarometer study (2016), for instance, found that the benefits of sharing are largely monetary or related to convenience, while a Deloitte study (2015) on the sharing economy in Switzerland found that 65% of respondents considered lower cost to be a key benefit of sharing services. A survey conducted among Dutch internet users by Böcker and Meelen (2016) found, somewhat unsurprisingly, that economic motives were of particular importance for lower-income users.

An argument often raised by advocates of the sharing economy is its expansion of micro-entrepreneurship opportunities. Sharing platforms can contribute to the overall economy as a new source of employment, opening up previously un-tapped sources of income (Alkhatib, Bernstein, & Levi, 2017; Ikkala & Lampinen, 2015; Lampinen & Cheshire, 2016). The relatively low barrier to entry is particularly beneficial for marginalized populations who may be traditionally excluded, such as those with criminal records or low education. A Pew study (Smith, 2016), conducted in the US, found that 80% of respondents saw job opportunities as a major benefit of ride-hailing services, whereas 85% of respondents considered a major benefit of home-sharing services to be a convenient source of income.

Public debate has, however, not been an entirely utopian advertisement for the greater proliferation of sharing services. While the sharing economy has been shown to open up new opportunities to make money, earnings on platforms are also subject to significant diversity. In smaller scale initiatives, for instance, Fuster Morell et al. (2016) report that earnings are low and, in some cases, not even enough to cover basic needs. Critics have also argued that sharing services will undermine traditional employment relationships, leading to greater income inequality, poorer working conditions, labor uncertainty, and a tilt of power in favor of platforms in the creation of a 'new precariat' (Hill, 2015; Kuttner, 2013; Slee, 2015).

The regulatory backdrop of the sharing economy has also become a topic of major debate, as regulatory frameworks are not yet sufficiently robust to handle the expansion of peer-to-peer business models. To support appropriate regulation, a critical assessment of the net balance between positive and negative impacts of the sharing economy is required. However, this is hindered by the current state of empirical evidence regarding platform activities. Sharing platforms offer only limited access to their data, metrics, or operations, either to public bodies or researchers. Indeed, the majority of the available data has, to date, been produced and analysed by platforms either directly or indirectly through a combination of academics and platform-employed researchers (e.g. Hall & Krueger, 2016). With such data, replicability is impossible and transparency is refused. The assumption of validity with regard to results and platform claims must therefore be largely withheld.

In the European context, the sharing economy has seen widespread growth in terms of user numbers, spanning all socio-demographic categories. According to a recent Eurobarometer survey (2016), 52% of all EU citizens were aware of the services offered by the sharing economy,

with 17% having used such services at least once. Despite the spread of such services across Europe, many of the most prominent companies are US-based startups dependent on extensive venture capital funding to fund their growth. European companies are instead often localized and operate in fewer markets.

A prominent sector in Europe, in terms of scale, market share, and academic interest, is the peer-to-peer transportation sector, manifested through ride-hailing (Uber, BlaBlaCar), car-rental (SnappCar), bike-rental (Spinlister), and even boat rental (Tubber). A complementary growth of parking space rental has also emerged in Europe (JustPark). The second major sector is hospitality, with Airbnb, the leading peer-to-peer home-sharing service in Europe, becoming a viable alternative to staying in a hotel, hostel, or bed and breakfast. Yet, Europe also includes a number of similar peer-to-peer hospitality platforms, including Onefinestay, HomeExchange, HomeAway, and Wimdu. Often considered the most 'authentic' form of sharing, Europe has also witnessed the extension of peer-to-peer consumer goods sharing (Streetbank, Peerby). Lastly, although found in limited markets, the emergence of peer-to-peer finance platforms represents an important element in philanthropic, entrepreneurial, and personal financing (Zopa, Smartika, RateSetter, Auxmoney, Younited Credit, Lendico, Cashare and Geldvoorelkaar).

Responding to the spread of the sharing economy in Europe, the European Union finds itself in a position of knowledge gathering and deliberation, cautiously attempting to avoid curbing beneficial innovations while preserving fair competition, labor rights, and consumer protections (MEMO/16/2002). Indeed, for the EU, supporting the collaborative economy is a key factor in meeting the objectives of the digital single market. The EU Commission in the 2016 Annual Growth Survey emphasized that more flexible regulation in the EU would lead to wider consumer choice, higher productivity, and a reduction in the price for services (COM, 2016).

The European Parliament has, so far, published a number of analyses of the sharing economy (European Parliament, 2014; 2015a; 2015b; 2016; 2017). In 2016, the European Commission also set out an agenda through a series of sector-based analytical papers on the sharing economy in local European settings. Smorto (2016), for instance, looks at the short-term accommodation rental sector in Paris, Rome, Milan, and London, whereas Ranchordas (2016) looks at home-sharing in Brussels, Stockholm, and Budapest. The most recent of these papers (2017) is an updated state-of-the-art briefing of the earlier 2015 report on the impact of the sharing economy on the tourism industry. Further from the EU, an insightful policy report on the sharing economy was produced by the European Commission Joint Research Centre in 2016 (Codagnone et al., 2016), providing a robust conceptualization of the sharing economy and unpacking current controversies in the European context.

The EU has also attempted to take action in light of such research. The European Economic and Social Committee, in 2014, called the European Commission to take action to ensure that there was the right conditions for innovation and consumer protection (EESC, 2014). Following this, in 2015, the European Commission took action in the Single Market Strategy and the more specific Digital Single Market Strategy, with the Single Market Strategy announcing an assessment of digital platforms, including 'sharing economy' platforms. The European Commission also released a report called 'A European Agenda for the Collaborative Economy' (EU Commission, 2016). This report, supportive of the sharing economy, encourages EU member states to apply

existing legislation to platforms rather than creating new rules, as well as encouraging member states to work at the EU level to avoid regulatory fragmentation.

There has also been a level of active discussion between commercial sharing platforms and the European Union. In an open letter to the Netherlands Presidency of the Council of the European Union, sent in February 2016, 47 commercial sharing platforms including Uber and Airbnb urged the Member States to '*ensure that local and national laws do not unnecessarily limit the development of the collaborative economy to the detriment of Europeans*', by citing the benefits stemming from sharing services.

However, high-level regulatory response has been largely fragmented on both a regional and sector basis. Transportation and hospitality regulation, for instance, remains in the domain of local councils or city administrations, whereas broader social and labor regulation rests in the hand of individual state determination. There have been, for instance, localized bans, with Uber being banned in Berlin, Brussels, Spain and Denmark, among others. Brussels, for instance, has amended its regulations on tourist accommodation in the face of the sharing economy, ensuring alignment between the experiences of shared spaces with that of hotel rooms, with hosts expected to offer similar hospitality services (Ranchordas, 2016). The city of Paris and Airbnb, in a forward-looking step, concluded an agreement for the city tourism tax and administrative district tax to be added to the total amount paid by guests and remitted by Airbnb directly (Smorto, 2016).

Intending to be at the forefront of sharing economy growth, the UK launched a new trade body, Sharing Economy UK (SEUK), in 2015 to represent the sharing sector. The UK government also published a response to an independent review of the sharing economy (UK 2015), while the Competition and Markets Authority planned to scrutinize the business practices of internet 'intermediaries' (Lougher & Kalamanowicz, 2016). The House of Lords, encouraging transparency, conducted an inquiry into online platforms and the EU digital single market strategy (House of Lords, 2016).

Overall, it has become clear that the growth of a number of commercial sharing platforms, the breadth of their economic and social impact, and the conflicting interests among stakeholders have made the sharing economy a domain of controversies and rhetorical dispute. The phenomenon has nevertheless been met by a burgeoning and warranted academic interest across all topics.

This report forms one part of a European Union Horizon 2020 Research Project on the sharing economy: **Ps2Share 'Participation, Privacy, and Power in the Sharing Economy'**. We aim to foster better awareness of the consequences which the sharing economy has on the way people behave, think, interact, and socialize across Europe. Our overarching objective is to identify key challenges of the sharing economy and improve Europe's digital services through providing recommendations to Europe's institutions.

The initial stage of this Research Project involves a set of three literature reviews of the state of research on three core topics in relation to the sharing economy: participation (Andreotti, Anselmi, Eichhorn, Hoffmann, & Micheli, 2017), privacy (Ranzini, Etter, Lutz, & Vermeulen, 2017), and power. This piece is a literature review on the topic of power. As power is a broad and abstract construct, entailing the scope of both explicit and implicit control and influence,

we take a broad and actor-centric understanding of the concept. We are informed by Weber's definition of power as the "*probability that one actor within a social relationship will be in a position to carry out his own will despite resistance, regardless of the basis on which this probability rests*" (Weber, 1978, p. 53, as cited and translated in the Max Weber dictionary/Swedberg, 2005, p. 205).

This report will follow in three main thematic sections in which current findings will be discussed. First, we examine current debates through the concept of 'bargaining power', namely the ability to communicate with platforms and determine the parameters of sharing transactions. We then look at the aspect of algorithms and finally undertake a deeper discussion of regulation. This overview will conclude with key findings.

2. Bargaining Power

Take it or Leave it: Voice and Exit in the Sharing Economy

Sharing economy platforms are facing increasing turnover among their provider base, in a process entitled 'platform churn' (Efrati, 2017; Hall and Krueger, 2016; Van Doorn, 2017). In traditional organizational sociology, stemming from Albert Hirschman's (1970) seminal work, disgruntled organizational members may '*exit*' an organization when '*voice*', namely the ability to raise concerns and negotiate the terms of an exchange, had failed (Strauss, 2006; Van Buren & Greenwood, 2008).

Hitherto, this 'platform churn' of disgruntled users has appeared relatively sustainable due to the fungiblity of the provider-base and a surplus population of underemployed individuals willing to share their goods for profit (Van Doorn, 2017). However, as the sharing economy expands, this churn may become unsustainable, at least insofar as exceptionally qualified providers are concerned; less-skilled providers will remain abundant for the foreseeable future.

Taking a more instrumental perspective, increased bargaining power and '*voice*' could leverage material and economic considerations for platforms (cf. Cropanzano, Rupp, Mohler, & Schminke, 2001). As shown by Crawshaw, Cropanzano, Bell, and Nadisic (2013), workers prefer to labor in ethical environments, while fair work is considered more fulfilling and meaningful. Accordingly, in the sharing economy, increased fairness perceptions through the greater exercise of '*voice*' could lead to a decrease in platform churn.

Nevertheless, the underlying power dynamics that are making '*exit*' rather than '*voice*' a viable option have demanded greater attention in scholarship. Indeed, it has been established that there is a pressing need for greater attention on the communication between parties in the sharing economy (Rosenblat & Stark, 2016).

Critics have noted that platforms may be systematically limiting the scope and outcome of negotiations, restricting '*voice*' and thus increasing the likelihood of '*exit*'. Our first point of departure, in examining the role of power in the sharing economy, thus regards the openness of platforms to negotiation with their user-base. It concerns the negotiation of bargaining power, namely the ability of providers and consumers to communicate, negotiate, and influence their own activity on sharing economy platforms.

An Employee by any other Name: Classification of Providers

A primary factor in establishing bargaining power between platforms and providers is the designation of status, such as that of an 'employee' or a 'third-party independent contractor'. While it is important not to view the 'hazy' nature of labor relations in the sharing economy as entirely paradigm-shifting, given the presence of similar challenges across the digital economy (Finkin, 2016; Scholz, 2013; Van Doorn, 2017), it is nevertheless a persistent issue in the sharing economy. Nearly all platforms designate their providers as either 'independent contractors' (Schor & Attwood-Charles, 2017) or 'consumers' (Cherry, 2015).

Accordingly, the (mis-)classification of providers has received considerable attention from multiple fields of scholarship. Attempting to identify appropriate legal status, Carboni (2016), Kassan and Orsi (2012), and Cherry (2016) all use a legal lens to assess the position of providers within the sharing economy. Prassl and Risak (2016), meanwhile, adopt a flexible approach by using a functional concept of the employer to question which party in the provider-platform-consumer relationship might be identifiable as a responsible employer.

Several scholars have argued that the 'binary divide' between 'employees' and 'independent contractors' should be in any case abolished, with the protections afforded to the former be extended to the latter (Carlson, 2001; Freedland & Kountouris, 2011; Tucker, Fudge, & Vosko, 2003). More optimistic viewpoints, stressing the empowering potential of sharing platforms and their scope to provide more labor opportunities, have called for an updated legal category of 'independent worker' (Harris & Krueger, 2015). Indeed, an intermediate definition of 'dependent contractors' already exists in a legal sense in some contexts and its acceptance is increasing (Davidov, Freedland, & Kountouris, 2015). However, as emphasized by Davidov (2017), it is important to contextualize the issue of (mis-)classification. '*We should not change our general understanding of employer-employee relations in light of the experience of 0.5% of the workers, if this might negatively impact the other 99.5%*' (p.2).

Regardless, there appears to be a consensus that platforms are leveraging the debate over provider status for their own benefit. Van Doorn (2017) argues that platforms attempt to avoid the obligations that pertain to an employment relationship, while other critics have pointed out that these arrangements enable sharing companies from avoiding paying employee benefits, compensations, and insurances (Bernhardt, 2014; Cherry, 2016; Hill, 2015; Rogers, 2015; 2016; Tomassetti, 2016). As Graham, Hjorth, and Lehdonvirta (2017, p. 6) note, '*a key feature of digital work platforms is that they attempt to minimize the outside regulation of the relationship between employer and employee*'.

In the European context, where there have been numerous suits for employment-status recognition, the EU Court of Justice has defined that '*the essential feature of an employment relationship is that for a certain period of time a person performs services for and under the direction of another person in return for which he receives remuneration*' (COM, 2010, p. 373). The EU Commission also provided additional orientation on how the traditional distinction between workers and the self-employed applies in the sharing context (EU, 2016). However, definition issues remain unclear as '*EU legislation does not establish expressly at what point a peer becomes a professional services provider in the collaborative economy*' (EU, 2016, p.5).

I Accept: Defining the Terms of Exchange

It has been argued that providers in the sharing economy lack informed consent when agreeing to platform terms of service. Accordingly, the nature of contracts has become a burgeoning issue in terms of establishing the bargaining position and power of users. As Calo and Rosenblat (2017) discuss, the frequency of the contractual changes on some platforms result in providers having to agree to new terms of service every couple of days. Radin (2012) has similarly established the increasing complexity of contracts on digital platforms. However, Bar-Gill (2012) and Horton (2010) went further in arguing that this contractual complexity is a purposeful attempt to exploit the human limitations of processing information, so as to maintain a powerful information asymmetry between platforms and providers. Without a full legal understanding of the current terms and conditions, as well as access to prior versions for detailed comparison, providers and consumers are liable to be governed by what Horton (2010) calls 'shadow terms': terms which users are unaware of.

Terms and conditions can thus variably determine, often in the platforms' favor, provider classification (Van Doorn, 2017), arbitration mechanisms (Cherry, 2016), as well as eligibility criteria (Aloisi, 2016). Detractors have argued that platform control over the form and manner of participation in this way thus represents a reimagined form of capitalism, where providers have control over the *means* of production, but limited control over the *parameters* of production (Hill, 2015; Lobo, 2014; Slee, 2015).

Whereas informational fairness would require that rules be applied uniformly rather than arbitrarily (Kingsbury et al., 2005), platforms can restrict access through varied entry requirements which are liable to appear arbitrary to providers and consumers. Platforms retain the right to deactivate accounts without recourse (Schor & Attwood-Charles, 2017) and, as Salehi et al. (2015, p. 4) point out, *'hiring and firing employees is as simple as registering on a website and deleting a row in a database*'.

Platforms may be leveraging this information asymmetry to limit the process of '*exit*' as providers are largely unable to transfer the labor, networks, or reputation developed on a particular platform to other platforms. In broader terms, fairness would require that there be a genuine opportunity for users of a platform to exit the service without losing the labor they invested or the capacity to communicate with the social contacts they had developed (Suzor, 2016). As Prassl and Risak (2016) have commented, platforms dissuade exit by retaining control over a provider's entire 'professional career' due to ownership of data about ratings.

In the context of ride-hailing, Cockayne (2016) and Rosenblat and Stark (2016) both discuss the presence of economic control when providers have to accept a certain, seemingly arbitrary, number of rides to avoid being removed from the system. Rosenblat and Stark (2016) also explored the frequently changing list of cars eligible for sharing on the Uber platform.

This top-down determination of participation access is particularly problematic in the face of the increasing uptake of platform sponsored auto-loans for the purpose of sharing, as has occurred in the case of both Uber and, more recently in Europe, BlaBlaCar. If providers are 'locked-in' to auto-loans for use on the platform, platforms maintain a significant power advantage. They can consequently determine the eligibility of those cars for use, as well as in controlling how

much participation on the platform is required for continued eligibility for the auto-loan (i.e. providers must accept at least one ride per week).

This element of quasi-obligatory service is of particular interest in the light of EU regulation. The EU Commission established that platform liability to market access requirements can be evoked by the existence of '*mandatory instructions for the provision of the underlying service, including any obligation to provide the service*' (EU Commission, 2016, p.6). Specifically, if platforms oblige providers to offer their services, platforms may be liable for greater regulatory oversight. This is thus an instance where increased transparency over obligation requirements is necessary for a fairer regulatory landscape.

Knowledge is Power: Information Asymmetries and Bargaining Power

Most transactional relationships are characterized by some form of information asymmetry (Akerlof, 1970; Kingsley, Gray, & Suri, 2015). While it has been suggested that sharing economy platforms reduce information asymmetries by providing more information about a provider, such as a taxi-driver or a residential host, than in traditional business-models (Cohen & Sundararajan, 2015), it has been argued that sharing economy platforms are not only perpetuating information asymmetries, but encouraging them for their own benefit.

Platforms have been accused, for instance, of restricting access to information which would enable providers to assess the profitability of certain transactions, thus limiting their own ability to enact informed agency (Rosenblat & Stark, 2016; Slee, 2015). In alignment with Lee, Kusbit, Metsky and Dabbish (2015), who argue that ride-hailing platforms do not permit providers to set preferences for either consumers or rides, Van Doorn (2017, p. 902) argues that such asymmetries are in place to prevent profit-based selection. '*Frequently even the most basic information becomes available only after the provider has accepted the request and thus commits to taking on the gig*'. Rosenblat and Stark (2016) discussed how Uber providers face penalization when favoring higher-paid work over lower-paid work.

Agency over transaction acceptance is further limited since assignment algorithms on certain ride-hailing platforms penalize all rejections equally, regardless of circumstances (Lee et al., 2015). In order to prevent the negative outcomes of transaction rejection, providers are thus encouraged to accept transactions regardless of preference or profitability.

It has been argued that platforms also control the actual terms of exchange. Distribution of profits has traditionally always depended on the social positioning and bargaining skills of involved parties (Colquitt, 2001; Zwolinski, 2008). Providers in the sharing economy may not, in all cases, have the ability to set their prices directly but must comply with the prices set by the platform (Rosenblat & Stark, 2016). Due to the reduced bargaining power of providers, platforms in some cases may also have unilateral control to determine what services may be charged for. Uber, for instance, '*communicates that some services have prices and some services do not, but the power of determining these distinctions resides with Uber alone*' (Rosenblat & Stark, 2016, p. 3765).

As Rogers (2015) has argued, this centralized price control becomes problematic if platforms keep prices artificially low to ensure market dominance. With increased market dominance, the

benefits of an open market in ensuring fair competition are reduced (Wertheimer, 1996). Providers, therefore, may face unfair labor conditions and be under-rewarded compared to relevant others (Crawshaw et al., 2013).

Opening and Closing the Channels of Communication

Communication is an essential factor in shaping the power dynamics among sharing economy platforms, providers, and consumers since the outsourcing of customer service representatives, as well as the mediation of communication through websites or applications, reduces the flow of information. It is indeed through the medium of software where sharing platforms attempt to exonerate themselves from responsibility, '*to dissolve their authority into the disinterested medium of a software program*' (Tomassetti, 2016, p. 46).

As Irani and Silberman (2013) note, with regard to the broader digital labor market, the minimized recruitment and labor costs make engaging with individual provider concerns become untenable. Lee et al. (2015), for instance, in a qualitative study of ride-sharing providers found that provider emails to company representatives regarding ride-rejections would often go without response. Such restrictions on formal channels for communication, such as '*codified, pre-arranged, and regular/concrete structures*' (Marchington & Suter, 2013, p. 286), can become increasingly hindering for users of a service, particularly given the lack of alternative informal communication mechanisms (Klaas, Olson-Buchanan, & Ward, 2012).

Yet, the fungiblity of providers may also be restricting provider motivation or ability to communicate with the platform. While studies had found that employee voice diminishes in accordance with the decreased value and rarity of the offered skills (LeRoy & Feuille, 2002; Van Buren & Greenwood, 2008), literature has similarly noted that the state of the field-level labor market, in terms of alternate job availability, may be conditioning employees' willingness to communicate their problems or speak up (Bryson, Charlwood, & Forth, 2006; Budd, Gollan, & Wilkinson, 2010; Hirschman, 1970). Accordingly, by positioning themselves as one of many similar providers in an unfriendly labor market, providers in the sharing economy may be limiting their communication power.

See you in Court (or not): Dispute Resolution in the Sharing Economy

Questions over the capability of users to arbitrate disputes have become a growing trend in scholarship, since certain sharing platforms attempt to retain control over access to legal arbitration. Such use of arbitration provisions, which minimize liability for the platform, have grown in the mainstream as well as digital economy (Cherry, 1998; 2016; Drahozal & Ware, 2010; Eisenberg, Miller, & Sherwin, 2008). In relation to this power dynamic, Aloisi (2016, p. 18) states, *'in the long run, these inescapable procedures could represent a race to the bottom, since the balance of power seems to be totally lacking*'. However, this position of arbitration control is under threat since a legal ruling, filed in late April 2017 in the Northern District of California, denied Uber the ability to compel arbitration to its customers (Morran, 2017).

A further topic is that, due to inherent information asymmetries, platforms retain the ability to determine in disputes between providers and platforms. As has been found across digital

platforms, providers can be held responsible for low quality work regardless of circumstances (McInnis, Cosley, Nam, & Leshed, 2016). Uber, for instance, maintains the right to hold providers to the most efficient routes based on its own calculations, regardless of consumer preference or individualized circumstances (Rosenblat & Stark, 2016).

In cases of fare dispute, the algorithmic reality also places the burden of evidence for disputation on the provider, who nonetheless has no ability to check and can be penalized for attempting to reverse engineer the application in order to find out. '*Drivers may not even have a record of the specific terms governing a particular period of time, let alone a clearly legible record of their transactions*' (Calo & Rosenblat, 2017, p. 33). Since disagreements will be resolved usually in the platforms' favor, Calo and Rosenblat (2017) have recommended that platforms should withdraw barriers for technical auditing, reducing the information asymmetry in favor of providers.

It has also been noted that platforms can leverage their mediating position to arbitrate in disputes between providers and consumers. Rosenblat and Stark (2016) argue that Uber claims the right to adjudicate between providers and consumers as a result of their data privilege. However, they found that providers perceived Uber as favoring the consumers in such situations rather than acting as an objective judge.

The authors have yet to see anything on dispute resolution between providers or between consumers. As sharing services become more collaborative, with shared-room options or carpooling services, this field of study could be profitable.

From Individual to Group: Soft and Hard Collective Action

A final key aspect of bargaining power raised in the literature is the use of collective action among providers and consumers (Budd, 2014). Among providers, collective action can occur in 'soft forms', which include participation in discussion fora or social groups. Social media have been well known for fostering a sense of community, as well as acting as a platform for both civic engagement and political empowerment (Lai & Katz, 2016; Leung, 2009; Schneider, Von Krogh, & Jäger, 2013). Shirky (2011), for instance, has discussed how connectivity, established through social media, was able to enhance a user's ability to take up collective action. In the broader context of digital labor, the presence of online support groups have been shown to benefit workers, even in cases where there is relatively passive engagement (Irani & Silberman, 2013; Mo & Coulson, 2010).

More specifically on the sharing economy, empirical research undertaken into Uber providers' collective action has noted that providers used fora to complain about the company and make sense of algorithmic features (Lee et al., 2015; Rosenblat & Stark, 2016). However, the utility of these platforms was found more in emotional support than in functional support. '*Sensemaking activities around assignment algorithms and surge pricing seemed less successful in terms of informational usefulness*' (Lee et al., 2015, p.7).

Collective action can transition into 'harder' action in the form of unionization. Indeed, leveraging digital technologies for offline unionization is a topic of increasing attention among scholarship (Bimber, Flanagin, & Stohl, 2012; Flanagin, Stohl, & Bimber, 2006). Rogers (2015), taking

a legal view of Uber, also discussed the potential for collective action among Uber drivers. Such unionization has seen an upsurge among sharing providers, with a notable example being the discussion around the organization of a protest group against CouchSurfing in 2010 (Belk, 2014a; 2014b; Marx, 2012). Certain countries, with a longstanding pro-union approach, have seen active engagement with the potential for sharing economy providers to unionize. The Unionen in Sweden and the LOs in both Denmark and Norway have voiced their concerns about the protection of labor rights in the face of the sharing economy, with Unionen adopting a set of visions for incorporating the sharing economy into the Nordic model (Dølvik & Jesnes, 2017; LO, 2016a; 2016b; Unionen/Söderqvist, 2016).

However, in less union-friendly countries, there may be certain hindrances to prevent collective action, such as a lack of clarity over eligibility and a fear of retaliation in the form of termination. Since users, both providers and consumers, are perceived as operating within a private network governed by voluntarily accepted terms of service, they may be also limited in their eligibility to unionize (Suzor, 2016).

As discussed in organizational scholarship, collective action requires the conjunction of both mutual and individual interests (Flanagin et al., 2006; Marwell & Oliver, 1993). For Kelly and Kelly (1994), the most significant correlate of unionization was the strength of group identification (cf. Benford & Snow, 2000; Soule & Olzak, 2004). Some theorists have posited that face-to-face engagement is of key importance in collective action. A lack of co-presence thus makes it hard to feel solidarity and organize collective action (Calhoun, 1986; Graham, 2016; Lehdonvirta, 2016; Putnam, 2000; Sampson, 1988; Verba, Schlozman, & Brady, 1995).

Most digital platforms, including sharing economy platforms, have faced critique due to their functioning as spot markets, impeding the establishment of interpersonal connections and networks (Connelly & Gallagher, 2004; Gregg, 2011). A fragmented and changing labor force, particularly of providers who view themselves as variably reliant or employed by the platforms, makes it difficult to forge initial contact in 'soft forms' which can create solidarity leading to more organized forms of action (Finkin, 2016; Salehi et al., 2015). As Graham et al. (2017, p. 21) note, '*digital workers have been unable to build any large-scale or effective digital labor movements*'.

Moreover, a significant barrier to group identification is also the decentralization of providers. Decontextualization of work has been shown to have an impact on the creation of interpersonal connections, essential for the creation of collective action (Lee et al., 2015). McCullum (2013), looking at transnational labor organizing, looked at the difficulties faced by building local power in a distributed global network.

Problematically, the decentralization of providers is sometimes built into the framework of the platforms, where the only form of worker rationality between providers is comparison metrics which create a hierarchical space. Platforms monitor providers to produce performance metrics, including comparisons to other providers and overall rankings, thus creating a hierarchical space where '*all participants relate to one another continuously and competitively*' (Guyer, 2016, p. 135). About Uber, Van Doorn (2017, p. 903) states that the platform '*otherwise prohibits contact between drivers whom Uber rather sees working in isolation*'.

Micro-level interactions can reproduce inequality between social groups, further hindering collective identity. Schor et al. (2016) found that individuals in the sharing economy succumbed to opportunities for distinction making and paid attention to status markers of others. Distinction practices thus undermine seemingly open forms of exchange relations, creating a '*paradox of openness and distinction*'.

Graham et al. (2017) address what can be done to counter systems which make it challenging for distributed workers to mount local activism, suggesting a transnational digital workers union or trade secretariat. However, what needs to be promoted is a sense of common class consciousness among digitally mediated-workers, the creation of 'imagined solidarities' along what Graham et al. (2017) have called '*digital picket lines*' (Graham & Wood, 2016; Graham et al., 2017, p. 21; Huws, 2009). Yet, Graham et al. (2017) give nuance to the practicality of this solution, pointing out how the digital contexts are highly controlled, regulated, and algorithmically opaque.

There is also the question of the role of consumers in the collective action discourse. Campaigns such as #deleteuber have shown the ability for consumers to express their negative opinions and open a chain of communication with the platform for its improvement in certain areas. However, there are different motivations and experiences among consumers, evident in how collective action has been seen in a supportive function. Attempts to regulate the sharing economy have generated push-back, mobilizing the consumer base to protest regulations (Christie, 2016; Fiegerman, 2015; Lomas, 2016; Said, 2015; Van Doorn, 2017).

3. Algorithms

Algorithmic Reality: The Invisible Architectures of Power

Algorithms, defined by Gillespie (2014a, p. 168) as *'encoded procedures for transforming input data into a desired output, based on specific calculations*', have a crucial role in shaping power dynamics within the sharing economy, operating through mechanisms such as search listings, dynamic pricing, and reputation scores. As Just and Latzer (2017, p. 252) argue, '*the power of algorithms… needs to be discussed, their use as instruments to exert power but also as themselves having power to enforce objectives against others' interests*'.

Over the last few years, public interest in algorithms has increased, with academic discourse on the power of algorithms seeing a similar intensification. The concept of the '*algorithmic revolution*', put forward by Zysman (2006), captures this shift and describes the growing reliance on algorithms for data enriched decision-making. Similarly, Ulrichio's (2011) concept of the '*algorithmic turn'* delimits how algorithmic regimes increasingly act as mediators between people.

However, several authors have expanded the discourse on algorithms by discussing their ideological power and social significance (Anderson, 2013; Barocas, Hood, & Ziewitz, 2013; Gillespie, 2014a; 2014b; Introna & Nissenbaum, 2000; Latzer, Hollnbuchner, Just, & Saurwein, 2014; Lee et al., 2015; Mager, 2012; Pasquale, 2015; Steiner, 2012). Since platform architecture (Lessig, 2006) and algorithms (Gillespie, 2014a) shape how people communicate and what information is presented to participants, the decisions that platforms make have a real impact on the

lives of their users (DeNardis & Hackl, 2015; Gillespie, 2015). Moreover, since algorithms carry within them intentional and unintentional biases from their design and deployment, critical investigations have pointed to the implications of integrating the subjective nature of algorithms within broader cultural and social systems (Cheney-Lippold, 2011; Manovich, 2013; Mittelstadt, Allo, Taddeo, Wachter, & Floridi, 2016).

Certain theorists, dependent on the work of Lessig (1999, 2006), view the coding of algorithms as constructing the architecture of the internet, delimiting and defining our online experience. Taking a contemporary bio-political analysis, algorithms have been considered as mechanisms of soft power, tailoring the conditions of possibility through pre-emptive regulation (Cheney-Lippold, 2011; Revel, 2009). Their power comes from their ability to *'sort, classify, and hierarchize people, places, objects, and ideas, and also the habits of thought, conduct, and expression that arise in relationship to those processes*' (Hallinan & Striphas, 2016, p. 119).

Critical views have also pointed out how algorithms increasingly have powers to govern behavior (Banning, 2016; Gillespie, 2014a; Musiani, 2013; Pasquale, 2015). For platform-based sharing economy companies, therefore, this algorithmic 'intermediation' (Águila-Obra, Padilla-Meléndez, & Serarols-Tarrés, 2007), where algorithms act as the 'middle man' (Lee et al., 2015), determines the limits and nature of interaction between platforms, users, and providers. Platforms' capabilities for algorithmic governance are being driven by the establishment of informational asymmetries at a high-level.

Calo and Rosenblat (2017), taking a legal and technological perspective, provide a critique of the sharing economy as grounded in asymmetries of information and power. Gillespie (2014a), notes that while it might be ideal to analyze the evaluative criteria for algorithms, '*in nearly all cases, such evaluative criteria are hidden and must remain so in order to avoid giving competitors a means of duplicating or surpassing the service*' (p.176). Algorithms tend to be invisible, so the philosophies they encode and the implications are resistant to scrutiny (Banning, 2016). They are, according to Pasquale (2015), 'black boxed'.

Dynamic Pricing: Consumer Management and Market Manipulation

The use of information to shape the behavior of consumers is a long-standing phenomenon. The theory of market manipulation of Hanson and Kysar (1999) illustrates how companies leverage consumer limitations to extract rent, while firms who are not willing to conduct market manipulation might find themselves displaced (Calo, 2014). With the informational leverage of platforms, critics have claimed that sharing economy companies are able to govern and guide the user base in a process of market manipulation (Calo & Rosenblat, 2017). '*Much activity is hidden away from view, but preliminary evidence suggests that sharing economy firms may already be leveraging their access to information about users and their control over the user experience to mislead, coerce, or otherwise disadvantage sharing economy participants*' (Calo & Rosenblat, 2017 p.1).

Indeed, an ongoing topic of discussion across fields of scholarship is the role of dynamic pricing mechanisms in leveraging control and conducting experimentation among the user base.

Calo (2014) argues that digital transactions provide significant opportunities to discover and exploit the limits of each consumer's ability to pursue their self-interest. Sharing platforms may be carrying out active experiments to find out what customers might be willing to pay (Calo & Rosenblat, 2017; Carson, 2016).

Platforms are also able to operate discriminatory pricing mechanisms due to information asymmetry. '*Algorithmic reality construction tends to increase individualization, commercialization, inequalities, and deterritorialization and to decrease transparency, controllability, and predictability*' (Just & Latzer, 2017, p. 238). Haws and Bearden (2006) conducted studies looking at consumer fairness perceptions with regard to dynamic pricing. They looked at the effects of seller-, consumer-, time-, and auction- based price differences, finding potential negative effects associated with price differences. This aligns with Zwolinski (2008), who argued that charging higher prices during periods of extreme demand has echoes of price gouging.

The Algorithm is your Boss: Management through Software

Sharing economy platforms have a unique capacity to monitor and nudge providers in a form of 'soft control' (Deleuze, 1990) in cases where the 'sharing' involves an element of human labor. Glöss, McGregor, and Brown (2016), looking at the Uber on-demand workforce, point out that the app is involved in actively changing the labor conditions of the work, made possible due to the changing definition of what work is, from a well-defined list of tasks to a blurred set of expectations (Oldham & Hackman, 2010).

The use of code to mediate work relations is not new or singular to the sharing economy (Alkhatib et al., 2017). Referred to as 'automatic management' elsewhere (Aneesh, 2009), the use of ICT technologies to monitor, record, and survey an employee's workload contribution are increasingly replacing labor practices that previously ran through organizational control regimes (Cherry, 2016, p. 21). Upchurch and Grassman (2016) have argued that monitoring through computerization not only restricts opportunities for rest, it also reduces context from the decision-making process. However, more optimistically, for some providers it might be the gamified process of observation, target setting, and feedback which creates pleasure by fulfilling objectives (Johnsen & Gudmand-Høyer, 2010, p. 336). In any case, for many people, the platform has become their boss.

Scholars have argued that there are similar forms of 'algorithmic management' (Lee et al., 2015) to be found on sharing economy platforms. Sharing platforms use technology and algorithms that, according to Scholz, '*make people easier to use*' (2008).

Uber is allegedly a notable case for using automatic management (Dwoskin, 2015; Teodoro, Ozturk, Naaman, Mason, & Lindqvist, 2014). Lee et al. (2015), for instance, conducted in depth research into the 'algorithmic management' of Uber and Lyft drivers, comparing the algorithmic features of ride-hailing platforms, namely the passenger assignment, dynamic display of surge pricing, and evaluation of ratings, to the decisional, informational, and evaluation roles of human managers. Rosenblat and Stark (2016) also explored algorithmic labor and information

asymmetries through a case study of Uber drivers, arguing that the combination of blind passenger acceptance with low minimum fares and algorithmically determined surge pricing were markers of algorithmic management.

While the designation of providers as 'independent contractors' should nominally limit the level of control over the work schedule and method, job expectations are communicated in the language of suggestions or recommendations (Rosenblat & Stark, 2016). Van Doorn (2017), critically, discusses how the use of monitoring would continue over providers even if their status was reclassified as employees, since platforms use 'nudges' to suggest and encourage work, all as part of the '*choice architecture*' (Sunstein, 2015).

Through algorithmic management and other behavioral science methods, Scheiber (2017) argues that Uber and Lyft use psychological inducements to influence how long and when drivers work, such as sending them the next fare before the current ride is complete in a form of 'binge driving'. On ride-hailing platforms, companies can also use income-targeting to encourage continued labor where purported high demand is used as an incentive (Scheiber, 2017). Indeed, an Uber study, replicating and expanding on the findings of Camerer (1997) who looked at the taxi driver industry, found that a substantial number of their drivers used income targeting (Sheldon, 2016).

Chen and Sheldon (2015), undertaking an internal study of the dynamic pricing mechanism on Uber, argued that the dynamic pricing of tasks positively influenced the supply of labor, '*We find that in response to surge pricing, Uber driver-partners choose to extend their sessions and provide significantly more rides on the Uber platfor*m' (Chen & Sheldon, 2015, p. 13). However, given that this study was produced by both a current and former Uber employee, the arguments of the study should be only cautiously accepted. Critically, Rosenblat and Stark (2016, p. 3768) claim that '*Uber's attempts, through algorithmic management and communications, to mobilize its supply or drivers to meet demand ahead of time complicate its claim that it operates as a neutral intermediary*'.

Yet, Bardhi and Eckhardt (2012) noted the existence of certain benefits to platform-control. In an examination of consumer opinion of other car-sharers, they noted that users appreciated that the platform had control over other members through penalizing and monitoring.

Searching for Truth: Objectivity in Search and Matching Algorithms

Given that sharing economy companies are, at least rhetorically, primarily concerned with facilitating acts of sharing between users, the management of transactions and transaction costs through algorithms has become a central issue. Traditionally, transaction costs are threefold: search and matching costs, bargaining and decision costs, and policing and enforcement costs (Coase, 1960; Dahlman, 1979). It is as a solution to the first of these, search and matching costs, that sharing economy platforms primarily establish themselves (Casilli, 2016; Cullen & Farronato, 2014). Uber, for instance, presents its key innovation as the increased efficiency that comes from sophisticated algorithmic matching in the ride-hail market (Rogers, 2015). However, it is control over the search and matching process through which platforms are able to exert power over both consumer and provider experiences.

With a techno-solutionist lens, algorithms are often presented as if they are objective (Gillespie, 2014a; Morozov, 2014). However, as critical views such as Banning (2016) have noted, algorithms across different search platforms are not neutral, but strategically designed and skewed towards private interests (Armstrong & Zhou, 2011; Lao, 2013; Latzer et al., 2014). Consumers are presented with options in a non-random manner due to the active management of the transactional process. Rather than simply aggregating potential market participants, many sharing platforms order results or select individual matches based on internal and opaque algorithms. This has led certain scholars to discuss the implications for fairness, as platform incentives may not align with consumers or providers' intentions, if platforms can get higher revenue from certain sellers (Athey & Ellison, 2011; Chen & He, 2011; Edelman, Ostrovsky, & Schwarz, 2007; Eliaz & Spiegler, 2011; Hagiu & Jullien, 2011; Varian, 2007).

Literature on search costs has demonstrated correlation between placement and purchase behavior, with higher placement linked to greater likelihood of purchase (Ghose, Ipeirotis, & Li, 2012; Goldman & Rao, 2014). Fradkin (2015), using Airbnb data to study the efficiency of the market and the effects of ranking algorithms on Airbnb, found that guests only engage in a limited search process; higher placement therefore determines the likelihood of a successful match and the allocation of profit opportunities.

In part because of this managed ranking, research by Fradkin (2015) on Airbnb and Horton (2015) on oDesk (now Upwork) concluded that congestion in the search process remained an issue with consequences for the whole sharing market. Potential users are often presented with unsuitable or already engaged providers by algorithms that favor certain profile characteristics. This will have a considerable impact on lower ranked providers as unsuccessful purchasers are liable to exit the market completely rather than transfer their business to an alternate provider (Arnosti, Johari, & Kanoria, 2015; Fradkin, 2015).

There also remains an issue of result visibility as platforms limit the number of potential providers on offer to a user. On Airbnb and other home-sharing platforms, only a restricted selection of options is given with no option for an unfiltered selection. While research on online matching platforms has shown that maximizing the number of potential matches shown to each user may not be desirable, this remains an issue of top-down algorithmic control over the transaction process. Transparency in the assignment process could elicit greater cooperation. Consistent with Cramer et al. (2008), whose research suggested that transparency improved trust and acceptance in recommender systems, Lee et al. (2015) argued that greater transparency, the provision of explanations, and allowing providers to ask questions would increase acceptance and improve cooperation.

SuperHosts: Reputation Mechanisms and Status Hierarchies

The 2016 Eurobarometer Survey found that the second most important obstacle in using the sharing economy, after a lack of knowledge about responsibility, was trust and reliability. To address this need for trust, platforms co-ordinate trust through feedback and reputation systems.

Shaheen, Mallery, and Kingsley (2012) found that user rating and feedback, operator screening and selection, and integration in social networks were key mechanisms to help address trust considerations. '*Testimonials, putting up photos and videos of people and the cars to be shared or collaboratively consumed all help to build a reputational economy making transactions between strangers safer and less uncertain* (Belk 2014b, p. 1598; see also Masum & Tovey, 2012; Solove, 2007). However, the mechanisms of such reputation systems represent a significant factor in the power dynamics among platforms, providers, and consumers.

In early reputation literature, reputation was modeled as the personal beliefs of market participants about each other (Greif, 1993; Kreps & Wilson, 1982). Yet, as distributed e-commerce platforms needed to form trust, they thus reified 'reputation' by collecting and displaying average feedback ratings as a seemingly objective calculation of reputation within a network (Ba & Pavlou, 2002; Belk, 2014a; 2014b; Bolton, Greiner, & Ockenfels, 2004; Dellarocas, 2003; 2006; Resnick, Kuwabara, Zeckhauser, & Friedman, 2000; Tadelis, 2016). This mechanism worked in a form of indirect reciprocity, where information about participants can be shared among a network (Bolton, Katok, & Ockenfels, 2004; Hoffmann, Lutz, & Meckel, 2014; Kreps & Wilson, 1982).

Approaches to securing trust are increasingly connected to social networks and their data. For example, social media can serve as a way of embedding trust in ridesharing programs (Chaube, Kavanaugh, & Perez-Quinones, 2010). *'In order to build trust between unacquainted ridesharing partners… [platforms] may, for example, integrate the ride-matching system with social networking sites that enable users to obtain more background information of potential drivers and passengers'* (Furuhata et al., 2013, p. 30).

Reputation may also be created through social media as it provides evidence of social capital. Social capital, a sociological term, refers to '*social connections and the attendant norms and trust*' (Putnam, 1995, p. 665). Arguments surrounding whether participation in the sharing economy has an impact on social capital are mixed and the topic of social capital is an ever-expanding subject of debate (c.f. Bourdieu, 1986; Coleman, 1988; 1990; Putnam, 1993; 2000). The most empirically robust study of social capital in the sharing economy was performed by Parigi and colleagues (Parigi, Dakhlallah, Corten, & Cook, 2013; Parigi & State, 2014) on CouchSurfing, where they reported that participation was impacted by new-friendship ties and thus participation was generating new social capital.

The alternative or lateral option is dynamic feedback systems. To incentivize trustworthiness, online commerce platforms employ reputation based feedback systems which enable traders to post information about past transactions (Mayzlin, 2016). For example, the key trust mechanism on Airbnb is the review feature. Similarly, Uber relies strongly on driver ratings. Lauterbach, Truong, Shah, and Adamic (2009, p. 346), looking at the CouchSurfing review process, note: *'Reputation mechanisms are essential for online transactions, where the parties have little prior experience with one another. This is especially true when transactions result in offline interactions*.'

However, beyond merely being an instrument of ensuring trust, reputation mechanisms can act as a crucial factor in determining success in a transaction, as has been seen in the wider digitally-mediated labor market (Graham et al., 2017). Yet, providers with a low reputation score can face negative consequences with only limited recourse, up to and including rejection from

the platform. In this way, reputation scores are a fundamental part of the algorithmic management of providers. This reputation mechanism can be seen on both sides of the transaction since on ride-sharing platforms, Lee et al. (2015) noted that providers would use consumer ratings to decide whether to accept the ride.

However, the use of comparison and ranking mechanisms can also foster an environment dominated by hierarchical ordering. Hierarchical ordering can create distinct circuits of high-status participants and low-status participants, dividing the group in the sharing economy up on a value basis (Schor et al., 2016).

Bias and Manipulation with Reputation Mechanisms

Given the use of reputation mechanisms as a management tool, particularly for performance metrics, it is problematic that user ratings lack accuracy. Manipulation has been identified in reputation and recommender systems, with regard to hotels or product recommendations (Rietjens, 2006; Schormann, 2012), where hotel reviews online tend to be more negative on average than home-sharing recommendations. Mayzlin et al. (2014) noted that this effect could be due to differences in review manipulation, as there is more of an incentive for negative review manipulation by close competitors for hotels.

Potentially less severe than active manipulation, it has been argued that bias presents a serious challenge to rating systems. A key concern regards the overly positive valence of user ratings, a phenomenon for which there is growing evidence (Chevalier & Mayzlin, 2006; Chintagunta, Gopinath, & Venkataraman, 2010; Moe & Trusov, 2011; Resnick & Zeckhauser, 2002).

Reputation systems can also be positively skewed due to social and platform norms. For example, a working paper by Nosko and Tadelis (2015) found that 99% of sellers on eBay had positive feedback. While Dellarocas and Wood (2008) proposed that the high percentage of positive reputation measures on eBay are explained by the fact that buyers who have poor experiences choose to leave no feedback at all, Nosko and Tadelis (2015) expand on Dellarocas and Wood (2008) by showing how biased reputation measures are, where the median seller on eBay has a feedback score of 100%. Buyers avoid leaving negative feedback and instead prefer to pursue customer service complaints to demonstrate dissatisfaction.

Horton and Golden (2015) report reputation inflation on oDesk over time, with data from Elance showing similar patterns. They were able to show that inflation is not entirely explained by changes in marketplace composition, where bad sellers exit the marketplace over time. A key reason for the overly positive valence of ratings is that giving negative feedback is more costly than giving positive feedback due to retaliation (Bolton et al., 2013; Horton & Golden, 2015; Nosko & Tadelis, 2015). Indeed, Bolton et al. (2013) found that sellers' negative feedback were primarily retaliatory, making it difficult for buyers to leave negative feedback.

Certain scholars have argued for the existence of a '*declining dynamic trend*' over time (Cabral & Hortacsu, 2010; Li & Hitt, 2008; Moe & Trusov, 2011; Moon et al., 2010; Wu & Huberman, 2008), whereas Godes and Silva (2012) have argued that the average reviewer is becoming more critical. Moe and Trusov (2011) moreover found the existence of a negative autocorrelation in review ratings: an increase in average ratings is associated with subsequent posting of negative

ratings. If there are biases that arise (due to bad early ratings) the usefulness of the rating is lessened.

Another consideration lies in the temporal nature of many sharing transactions in that not all service providers are around long enough to be incentivized by future returns dependent on current feedback (Dellarocas, 2006; Jøsang, Ismail, & Boyd, 2007).

While bias in user ratings has been increasingly researched in more traditional e-commerce settings, less evidence is available about the sharing economy. Lee et al. (2015) found that ride-sharing providers often felt that their rating was not reflective of their driving performance and services, particularly as passengers could misattribute system faults to the driver.

Fradkin et al. (2015) conducted a study on the bias in online reviews, using internal data from Airbnb. They found that one bias is the loss of information of people who do not leave reviews. Zervas, Proserpio, and Byers (2015) have also demonstrated severe rating inflation on Airbnb, where ratings are overwhelmingly positive, more so than TripAdvisor. They argue that differences are mostly attributed to strategic considerations incentivized by Airbnb's bilateral review system. While they are not the first to explain how reputations can be biased, they are the first to explain how individually rational choices about feedback can push a sharing market towards an uninformative equilibrium.

With regard to the bias of ratings, there is also a discussion held over literacy with regard to reputation mechanisms. Lee et al. (2015) found that providers of ride-hailing services concluded that passengers needed education on the rating system, with consumers misunderstanding the real valence of each 'rating' option. This is particularly problematic as online reviews may be aggregated into a single rating or summary for easier processing and comparison (Godes & Silva, 2012), thus masking the varied reality of the individual items of feedback. Particularly bad reviews, due to mistakes or misunderstanding of the valence of reviews, can have a considerable impact on overall rankings without the opportunity for explanation.

Greater awareness of the biases inherent within rating and reputational systems is important given the EU Commission's stance towards rating and reputational systems as mechanisms which may reduce the need for certain regulation, under condition that '*adequate trust be placed in the quality of the reviews and ratings*' (EU 2016, p. 4).

Algorithms and Discrimination

It has been argued that user ratings are able to reinforce discriminatory practices through the prejudiced opinions of providers or consumers in a form of social discrimination through algorithmic selection (Ge, Knittel, MacKenzie, & Zoepf, 2016; Gandy, 2010; Rosenblat, Levy, Barocas, & Hwang, 2016).

Much of the available literature on the sharing economy, particularly in the US context, discusses the connection between ethnicity and discrimination. Leading this topic are Edelman, Luca, and Svirsky (2017), who found evidence of racial discrimination in the sharing economy through an examination of Airbnb. According to their findings, guests on Airbnb with distinctively African American names were roughly 16% less likely to be accepted than identical guests with traditionally white names (Edelman et al., 2017). As providers on Airbnb, African-American

providers also earned around 18 dollars less than other providers, independent of user ratings, facilities, and apartment pictures (Edelman & Luca, 2014).

Cansoy and Schor (2016) show similar results in an analysis of US census areas, finding that there are higher prices in areas with a greater proportion of a white population. In an experimental study, Fagerstrøm, Pawar, Sigurdsson, Foxall, and Yani-de-Soriano (2017) explored the importance of online self-presentation in Airbnb user profiles, finding that facial expressions of providers affected purchase behavior. A similar study was conducted by Ert, Fleischer and Magen (2016), who analysed trust inferences based on Airbnb user photos.

With regard to ride-sharing, Rosenblat et al. (2016) argued that racial discrimination may be taking place on Uber in terms of ratings, '*Consumer-sourced ratings (…) are highly likely to be influenced by bias on the basis of factors like race or ethnicity. If a platform bases material employment determinations on such ratings, these systems – while appearing outwardly neutral – can operate as vehicles through which consumer bias can adversely impact protected groups'* (p. 7).

On the topic of discrimination, Angwin, Larson, Mattu, and Kirchner (2016) have argued that algorithms can reproduce the racist biases of programmers. However, a rejoinder by Flores, Lowenkamp and Bechtel (2017), who re-analyse the data used by Angwin et al. (2016), challenge their methods and findings.

Five Star Service: Emotional Labor in the Sharing Economy

Reputation systems act as an incentive for both parties to act acceptably in a transaction (Jøsang et al., 2007). As Horton and Golden (2015) note, '*the reputation system can also reduce moral hazard by motivating behavior that will lead to 'good' feedback, such as high effort and trustworthy behavior'* (p.1). Since both parties get to provide a rating on certain sharing platforms, there is a perceived equality between parties and a notional equivalency of the rating. However, in cases where reputation has variable impact on parties, the power of behavioral shaping is stronger on one side.

Indeed, a critical issue which is gaining more attention is the role of rating systems in encouraging 'affective labor' (Anderson, Hamilton, & Tonner, 2016; Hardt, 1999; Thrift, 2010) and 'emotional labor' (Hochschild, 1983) among providers. Rating systems, through their ability to determine eligibility and ranking, put consumers into essentially the position of control (Rosenblat & Stark, 2016). With the growth of algorithmic management, there is a clear power asymmetry between consumers and providers within the sharing economy. Management by consumers can only deepen and complicate authority and power relations.

In the context of ride-sharing, Lee et al. (2015) found that ratings created a service mentality among providers, while Raval and Dourish (2016) and Glöss et al. (2016) note that ratings force ride-sharing providers to engage in 'emotional labor'. Cockayne (2016) has similarly discussed how ratings can act as an instrument of imposing discipline and economic control over user behavior, ensuring that provider behavior aligns to what can meet the ratings required. As Van Doorn (2017, p. 903) notes, '*customer ratings serve as another crucial metric with which to con-*

trol service providers. Such ratings have become a major decentralized and scalable management technique that outsources quality control to consumers of on-demand platforms, creating a generalized audit culture in which service providers are continually pushed to self-optimize and cater to the customer's every whim'.

4. Regulation

Between Innovation and Protection: The Regulatory Landscape

Questions surrounding regulatory oversight are of continuing importance for sharing platforms, since regulation, at a local and regional level, directly influences their uptake, expansion, and economic potential. The novel nature of sharing economy platforms within the economic landscape, in addition to their frequently trans-national nature, has created a scattered regulatory backdrop against which companies have been able to expand with varied levels of resistance and compliance (Koopman, Mitchell, & Thierer, 2015; Martin, 2016; Quattrone, Proserpio, Quercia, Capra, & Musolesi, 2016; Rauch & Schleicher, 2015). Indeed, Hill (2015) has identified the absence of regulation as one of the key causes of the sharing economy's rapid growth (Hill, 2015).

In terms of power, the relationship between sharing platforms and external regulatory bodies is crucial in determining not only the power of the platform, but also in mediating the developed power imbalances that develop between platforms, their users, and affected third parties. Platforms are able to avoid protection regulation such as consumer protection law (Calo & Rosenblat, 2017; Kassan & Orsi, 2015; Miller, 2016; Rogers, 2015). Disability advocates, similarly, argue that freedom from legal obligation entails fewer accommodations for disabilities (Calo & Rosenblat, 2017; Murphy, 2015).

There exists major disagreement over whether sharing economy companies should face increased or decreased regulatory attention. As Oskam and Boswijk (2016) discuss, attempts to ban disruptive sharing services like Airbnb could be a disincentive to innovation and protect oligopolistic markets, but more receptive policies could, in booming destinations, lead to harmful commercialization. Attitudes have also been shown to differ even among users of sharing services. A Pew study in the US (Smith, 2016) found that attitudes differed over the necessity to regulate, with conservatives seeing a lower need to regulate than liberals.

There are advocates for some form of regulation (Cannon & Chung, 2014; Edelman & Geradin, 2016; Johal & Zon, 2015; Malhotra & Van Alstyne, 2014; McLean, 2015; Ranchordas, 2015; Rauch & Schleicher, 2015). Yet, in the face of the rapidly changing nature of the digital economy more widely, there has been a call for regulation to be more suited to the updated socio- and technical- realities (Barry & Caron, 2014; Johal & Zon, 2015; Miller, 2014; 2015; Ranchordas, 2015; Rauch & Schleicher, 2015). Ranchordas (2015) argues that regulators misperceive how the innovation process works and that experimental regulations should be used to regulate innovative products and services. She warns that regulators should not rush into regulation enactment but should delay final legislation until there is more information available or when the technology is widely commercialized. Dyal-Chand (2015) similarly argues that current forms of regulation do not fit with the sharing economy due to a lack of fit with traditional business models.

A more holistic understanding goes beyond just regulating the code, but also considers the organizational settings (Brown & Marsden, 2013), while Calo and Rosenblat (2017) argue that legal interventions must reflect a deeper understanding of platform practices. *'There are no one-size-fits-all solutions for the governance of algorithms* (Latzer et al., 2014). To quote Brynjolfsson et al. (2015), we must '*update our policies, organizations, and research to seize the opportunities and address the challenges these [technological] tools give rise to'*. Johal and Zon (2015), for instance, have argued that governments should modernize their structures to manage smart regulation regimes.

In contrast are a body of neoliberal and libertarian economists presenting a laissez-faire approach to the sharing economy (Allen & Berg, 2014; Cohen & Sundararajan, 2015; Koopman et al., 2015; Sundararajan, 2014; Thierer et al., 2015), such as the stances of Koopman et al. (2015) who argue that existing regulations should not apply to the sharing economy at all and Allen and Berg (2014) who, in an anti-regulation white paper, claim *'direct government will hinder, rather than help, the growth of these services.'* They propose instead a bottom-up form of self-regulation where private certification schemes and reputation mechanisms can evolve to replace licensing schemes.

Finding Fault, Finding Responsibility: Liability and Regulation

Across the sharing economy, users are in a position of legal disempowerment due to a lack of clarity over the legality of services, leaving participants potentially liable for legal repercussions.

A crucial issue seems to be how to tax new forms of economic activity (Gottleib, 2013; Guttentag, 2015; Kaplan Nadler, 2015). While there is a lack of tax regulation in the wider e-commerce market (Einav, Knoepfle, & Sundaresan, 2014; Goolsbee, 2000), with regard to the sharing economy, the main issue appears to be enforcement, rather than application, as certain platforms are opportunistic in selecting a favorable regulatory regime.

Airbnb, for instance, requires the providers to comply with local laws indicating that the burden for compliance rests on the providers. However, certain districts have adopted an active approach to ensuring tax compliance with sharing services. The city of Paris and Airbnb, for instance, concluded an agreement for the city tourism tax and administrative district tax to be added to the total amount paid by guests and remitted by Airbnb directly to city hall (Smorto, 2016).

Concerns have also been raised over the absence of license requirements for providers (Malhotra & Van Alstyne, 2014; Rauch & Schleicher, 2015; Sablik, 2014). Platforms in the food service sector, for instance, have argued that they are not restaurants and thus not liable to certain tax and health codes (Rauch & Schleicher, 2015). Airbnb and Uber, similarly, claim they are not legally responsible for the same safety standards as hotels or taxis. McLean (2015) stresses the lack of clarity over liability in cases where a car crashes or a host's apartment is damaged. The Frankfurt District Court argued that Uber, in not having the necessary licenses and insurance, was competing unfairly with the taxi industry (Scot & Eddy, 2014).

Edelman and Geradin (2016), in a balanced appraisal which combines regulatory considerations with economic analysis, have argued that imposing licensing requirements on platforms

would be both ineffective and a source of regulatory capture by incumbent firms. However, they do not argue for complete freedom of oversight, as they recommend that platforms should accept oversight to prevent negative externalities impacting consumers and non-consumers, in particular through the closing of insurance gaps.

Liability has emerged as a more pressing issue given the number of incidents caused by ride-hailing drivers (Pfeffer-Gillett, 2016). Pfeffer-Gillett (2016) reports that in the US, at least, both Uber and Lyft include clauses in their terms of agreement which waive all liability. Insurance similarly remains a key challenge in the regulation of sharing economy services, one for which the liability falls disproportionately on the users. Ballús-Armet, Shaheen, Clonts, and Weinzimmer (2014) discuss the liability issues with regard to peer-to-peer car-sharing, as personal vehicle insurance policies are sometimes not valid when a car is being rented or leased to others. As Wosskow (2014) discusses, in the UK personal insurance policies often do not extend when individuals partake in sharing services, thus leaving a lack of insurance and a lack of clarity in cases of damage.

This is evidently a pressing issue, as a Eurobarometer survey (2016) found that 41% of respondents worried about personal accountability and users' main concern with the sharing economy was a lack of knowledge about who was responsible if a problem arose during the service provision.

Yet, regulation is also necessary to protect third parties from impact. As Cohen and Sundararajan (2015) comment, peer-to-peer transactions may cause negative externalities for third-parties in a form of passive participation. *'Some form of third-party regulatory intervention seems necessary in these situations*' (p.122). The concept of passive participation (Casemajor, Couture, Delfin, Goerzen, & Delfanti, 2015; Lutz & Hoffmann, 2017) describes activities which affect or target individuals despite no active, voluntary, or conscious involvement in the activity. Whether and how regulation mechanisms for limiting the negative effects of passive participation should be implemented is an open question.

Quis Custodiet Ipsos Custodes: Approaching Self-Regulation

Proponents of self-regulation argue that formal regulation is costly and merely serves to protect vested interests. Regardless, current information asymmetries within the sharing economy restrict the ability to regulate. Platforms maintain control over the algorithms and data, allowing them to exercise absolute power within the community itself as well as hinder regulatory investigation (Latzer et al., 2014). The exercise of this power is limited by the market and by emergent social norms, but, as Suzor (2016) argues, it is barely limited by law. Only the platforms currently have the data to determine whether they are behaving fairly in a form of autocratic self-regulation.

In the literature on regulation theory, much has been written about self-regulation as a regulatory technique (Black, 2001; Ogus, 1995). Black's (2001) work and typology of self-regulation offers a useful lens to study the sharing economy, even though it was published before the emergence of commercial sharing services. Initiatives are hopeful about self-regulation as a viable means for achieving social justice in the workplace (Van Doorn, 2017) and Cohen and

Sundararajan (2015) argue that in facing the future of the sharing economy, there must be some form of self-regulation. However they stress that '*self-regulation is not the same as deregulation or no regulation. Rather, it is the reallocation of regulatory responsibilities to parties other than the government*' (p.116).

Cannon and Chung (2014) interestingly argue in favor of a form of co-regulation whereby certain areas of the sharing economy should be regulated, such as insurance requirements, while others left to self-regulatory approaches. However, as Suzor (2016) has attested, forms of private governance are very seldom transparent, clear, or predictable (Suzor, 2016). A stark example of the limitations of self-regulation comes from the targeted avoidance of law enforcement on the Uber platform (Isaac, 2017; Calo & Rosenblat, 2017).

The Rhetoric of Sharing: Framing and Narratives

As a mechanism for more 'informal' self-regulation, platforms use narratives and self-framing as an attempt to negotiate regulatory applicability. Framing is a deliberative communicative process for positioning and narratives can be analyzed within the framing theory (Snow & Benford, 1988; Snow, Rochford, Worden, & Benford, 1986; Steinberg, 1998). In particular, debates and framings of the central concepts of the sharing economy point to the rhetorical power of language and the importance of narratives. In Dredge and Gyimóthy's (2015) analysis of discourses on the sharing economy, they show that the initial framing of issues relating to the sharing economy created path dependencies which determined the agenda for future policy discourses and debates, further shaping the identification of research needs.

A continuously divisive controversy within academic and policy debates concerning the sharing economy is the co-optation of the 'sharing movement' by commercial companies (Codagnone et al., 2016; Lee et al., 2015; Schor, 2015; Walker, 2015). The platforms, while diverse, use a homogenous terminology, speaking of promoting freedom, flexibility, and independence (Rosenblat & Stark, 2016). Martin (2016), for instance, found that actors seeking to empower the sharing economy niche employed three framings: the sharing economy as an economic opportunity, as a more sustainable form of consumption, and as a pathway to a decentralized, equitable, and sustainable economy.

Gillespie's (2007, 2010) investigation into the discursive work of platforms noted that platforms aim for the regulatory 'sweet spot' that allows them to benefit while avoiding obligations, a topic expanded on in the sharing context by Calo and Rosenblat (2017). Smith and Leberstein (2015) similarly argue that Uber uses its identification as a technology company to self-define its own role in relation to regulation. In many cases, sharing economy services portray themselves as neutral intermediaries, merely facilitators, despite their active mediation of transactions. *'At base the sharing economy and its sister terminology represent a rhetorical device, a story that proponents tell in service of some business or political purpose such as attracting participants and funding or minimizing government intervention'* (Calo & Rosenblat, 2017 p.10).

However, as Cherry (2016) has discussed, there is a dissonance between narratives and reality. *'Many of the 'sharing' companies of yesteryear have moved away from 'sharing' and in fact are fully for-profit businesses pursuing a shareholder value maximization model at all costs, often*

driven by the demands of their venture capitalist investors' (p.11). Similarly, Benkler (2004, 2006) comments on how sharing practices are romanticized as altruistic, pro-social, and non-reciprocal, despite being open to the possibility of capitalist exchange while Stalder and Sützl (2011) encourage us to be critical of the contradiction between the culture of sharing amongst users and the commercial ambitions of the platforms.

Narratives such as these, while enabling regulatory avoidance, have been argued to also justify and normalize precarious work conditions for providers (Cockayne, 2016). Platforms shape sharing in terms of transactional exchanges and convenience for customers, conveying sharing as an altruistic and non-reciprocal social interaction rather than a business (Cockayne, 2016; Ettlinger, 2014; Hacklay, 2013; Turner, 2006).

Sharing companies are able to thus define themselves and present their own data as a form of lobbying. It has been argued by Kang and Eilperin (2015) that Silicon Valley has even become a 'revolving door' for former Obama staffers, co-opted to lobby on behalf of platforms. Cannon and Summers (2014), writing in the Harvard Business Review, advised major companies in the sharing economy to use reports on their positive impacts for lobbying purposes.

Among other self-published reports (e.g. Airbnb, 2015), Airbnb, for instance, commissioned Gene Sperling, a former White House National Economic Advisor, to write a report using administrative data from Airbnb on the topic of provider income (Sperling, 2015). In addition to the well-cited paper by Hall and Krueger (2015) on the allegedly high earnings and flexibility afforded to Uber drivers, Uber has similarly released a body of self-published reports on its own benefits and positive impacts.

In one report, from 2015, Uber presented evidence that it contributed to a decline in DUI instances in all cities where it operates, despite extrapolating the data from only Seattle. '*This simple econometric study provides evidence that Uber's network of safe, readily available rides have a meaningful and measurable impact on drunk driving in cities in which Uber operates freely*' (Uber, 2015a). Interestingly, a similar study was released by Greenwood and Wattal (2015), who investigated the entry of ride-sharing services such as Uber and Lyft on the rate of alcohol related motor vehicle homicides in California. Their study found that there was a drop, but that not all services offered by Uber had the same effect, indicating that prior claims about Uber's efficacy, such as by Badger (2014), had been overstated.

Similarly, in an ambitious study with Justus Haucap, Director of the Düsseldorfer Institut für Wettbewerbsökonomie (DICE) and former Chairman of the German Monopolies Commission, Uber presented a two volume report on the impact of Uber on the German economy, arguing that with Uber, consumer welfare will be improved by the provision of more rides and lower prices (Uber, 2015b; 2015c).

From Disruption to Business-as-usual

The concepts of 'disruptive innovation' and 'disruptive innovation theory', as proposed by Christensen (Bower & Christensen, 1995; Christensen, 1997; Christensen & Raynor, 2003), covers how a disruptive product underperforms with regard to a prevailing product's key performance attributes, but offers a distinctive set of benefits. After competing in a completely new market,

or appealing to a certain market niche, over time the product improves and becomes mainstream.

With regard to the sharing economy, disruption presents an often used key word but also a conceptual approach to describe sharing economy services (Möhlmann, 2015). Sharing economy platforms continue to 'disrupt' traditional businesses, leveraging a power dynamic over other platforms, often as their primary strategy for growth (Cusumano, 2015). Uber, for instance, openly aims to undermine the traditional taxi industry (Rogers, 2015).

Such disruption can have both positive and negative consequences. Sharing services' disruption can challenge unsustainable models, such as hyper-consumption (Botsman & Rogers, 2010) and place competitive pressure on incumbent services, leading to lower consumer costs and increasing quality, *'It is economics 101 that the introduction of new competitors into existing markets should have a positive effect on price and quality'* (Calo & Rosenblat, 2017, p. 17).

Einav, Farronato and Levin (2016), coming from an economic perspective, have discussed regulatory issues in the peer-to-peer economy, providing theoretical predictions of the effects which peer-to-peer markets might have on incumbent firms. One impact of the sharing economy and its disruption is the enforced adoption of 'sharing' models by traditional industries (Botsman, 2014; Cusumano, 2015; Martin, 2016; Wosskow, 2014). Taxi companies, for instance, now offer app-based hailing (Calo & Rosenblat, 2017).

Unsurprisingly, the main bulk of the critical literature on the topic of disruption comes in the sector of home-sharing, dealing with local economic effects connected to widespread usage of Airbnb. Such literature covers rent and house price increases (Lee, 2016; Sheppard Udell, 2016) and gentrification (Gant, 2016). Using the lens of disruptive innovation theory, Guttentag (2015) looked at how Airbnb is a disruptive innovation within the tourism sector. Oskam and Boswijk (2016) similarly looking at the disruptive potential of Airbnb on the traditional tourism industry, used scenario workshops and a Delphi panel to map current trends and uncertainties.

In an empirical study, Zervas, Proserpio and Byers (2016) conducted research on the impact of Airbnb on the traditional hotel industry, specifically analyzing the entry of Airbnb into the state of Texas. Despite Airbnb suggesting complementarity of the offerings, Zervas et al. (2016) found that Airbnb resulted in an estimated 8-10% revenue impact for the most vulnerable hotels in Austin. They also found a general decrease in occupancy rate and in hotel prices, with the impact of Airbnb falling disproportionately on hotels which lack conference facilities and on independent hotels.

In the ride-hailing sector, one study found that Uber changed the make-up of the labor market, growing the 'pie' overall (Berger et al., 2017). However, Bond's (2015) analysis of the impact of Uber on New York, San Francisco, and the District of Columbia, found that Uber had a clearly negative impact on the value of taxi medallions and on taxi industry revenues overall.

Regardless of potential benefits or costs, this narrative of market-based digital innovation disrupting established business models (Wosskow, 2014) has been critiqued as a form of '*neo-liberalism on steroids*' (Morozov, 2013). It has been argued that disruption can be a 'card' played against regulation (Slee, 2015) and companies are playing a game of regulatory arbitrage, exploiting the gap between economic substance and legal treatment (Fleischer, 2010). Calo and

Rosenblat (2017), for instance, argue that sharing firms engage in regulatory arbitrage, reproducing existing services without the same restrictions (Calo & Rosenblat, 2017). They claim that the sharing economy is more of a 'taking economy', '*extracting more and more value from participants while continuing to enjoy the veneer of a disruptive, socially minded enterprise'* (p.4).

The shift of bargaining power to the intermediary platforms allows them to amplify their market power, particularly so if they can establish themselves as monopolist bottlenecks controlling the access to the products of others (Kenney & Zysman, 2015; Shelanski, 2013). Indeed, platforms may be benefiting from a first mover benefit, whereby first movers can ensure a dominant or monopolistic market position for the purpose of a 'winner takes all' result (Degryse, 2016). For the vast majority of sharing platforms, market dominance to the degree of monopoly is out of reach. However, for Uber, pricing strategies and the wealth of data collection may enable market dominance, which according to Rogers (2015) is their primary goal.

As an interesting take, which is more critical of the concept of disruption in general, Richardson (2015) argues that while the sharing economy has the potential to disrupt current industry models, it is also able to further entrench 'business as usual', since the market retains the power to 'disrupt' companies through encouraging isomorphism.

As Martin, Upham and Budd (2015) argue, isomorphic forces operate in the sharing economy to encourage non-profit sharing economy companies to become more commercially oriented. A subsection of literature also describes the evolution of sharing economy services over time, showing exemplary trajectories with case studies. Mikołajewska-Zając (2016), for example, discussed the transition of Couchsurfing in 2011 from a non-profit to a for-profit organization, funded by venture capital. In such a case, while platforms are locked in a power struggle with competing platforms or incumbent businesses, they are nonetheless shaped themselves by traditional market forces.

5. Final Discussion and Implications

The above discussion has highlighted the key threads of academic discourse surrounding considerations of power in the sharing economy. In this literature review, we have focused on the varied mechanisms for leveraging power over other parties in the dynamic peer-to-peer sharing economy.

Most prominently, we have explored the control of the platform over its users, both as providers and as consumers. This control can take the form of algorithmic management, communication restriction, limitations on both formal and informal dispute resolution options, as well as a unilateral approach to determining the terms of exchange. In the face of these issues, it has been suggested that collective action, as well as stronger regulatory intervention, can be leveraged to equalize the current power imbalances.

One of the most prolific targets of academic attention has been the ongoing power struggles between platforms and regulatory bodies, in which the self-narratives of platforms concerning what they 'are' and 'are not', are creating a highly fragmented, often conflicting regulatory landscape. These regulatory disputes, causing 'un-regulated grey areas', have a significant impact on

the ability of platforms to bypass consumer protection regulations, anti-discrimination regulations, and labor laws.

In the face of potentially monopolistic platform intentions, attention has also been paid to the power dynamics between platforms and incumbents, namely on their 'disruptive' self-presentation. With regard to these topic, the high level of academic interest has been warranted and should be reinforced in the future with further discussion from a variety of perspectives across legal, public policy, sociological, and ethical scholarship.

As a field of research, it is thus clear that the topic of platform control is growing in size and popularity. However, research into many of these aspects, particularly in the case of algorithmic control, is limited by the restricted nature of platform data. The limited platform data released, therefore, either in publication or through media claims, should be approached with additional scrutiny for its veracity, reliability, and replicability.

In the sharing economy, there also exist mechanisms for control between users, namely of consumers over providers, and of providers over consumers. In an abstract and impersonal sense, these control mechanisms can take effect through the sophisticated rating and review systems that platforms are utilizing to ensure trust between users, as well as to create an efficient matching process. However, as has been discussed in detail, these mechanisms are open to manipulation, bias, and discriminatory practices.

In addition, an under-studied topic of particular interest is the effect of ratings on enforcing a 'service mentality' onto providers. We propose that, as a field of enquiry, the control mechanisms utilized between users should receive greater attention. Given the rhetoric of 'sharing', 'peer-to-peer', and 'collaborative', it is thus important to consider what power dynamics are at play in that purportedly positive relationship.

In terms of propositions for future research, we suggest that attention should also be paid to the power of platforms and users of sharing services over passive third-parties who are not engaged in the service.

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