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RESEARCH ARTICLE

Regulating ride-sharing in the peer economy

Alice Witt,[a] Nicolas Suzor[a]* and Patrik Wikström[b]

[a] *School of Law, Queensland University of Technology, Brisbane, Queensland, AUS;*

[b] *Creative Industries Faculty, Queensland University of Technology, Brisbane, Queensland, AUS.*

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The rise of the peer economy poses complex new regulatory challenges for policy-makers. The peer economy, typified by services like Uber and AirBnB, promises substantial productivity gains through the more efficient use of existing resources and a marked reduction in regulatory overheads. These services are rapidly disrupting existing established markets, but the regulatory trade-offs they present are difficult to evaluate.

In this paper, we examine the peer economy through the context of ride-sharing and the ongoing struggle over regulatory legitimacy between the taxi industry and new entrants Uber and Lyft. We first sketch the outlines of ride-sharing as a complex regulatory problem, showing how questions of efficiency are necessarily bound up in questions about levels of service, controls over pricing, and different approaches to setting, upholding, and enforcing standards. We outline the need for data-driven policy to understand the way that algorithmic systems work and what effects these might have in the medium to long term on measures of service quality, safety, labour relations, and equality. Finally, we discuss how the competition for legitimacy is not primarily being fought on utilitarian grounds, but is instead carried out within the context of a heated ideological battle between different conceptions of the role of the state and private firms as regulators.

We ultimately argue that the key to understanding these regulatory challenges is to develop better conceptual models of the governance of complex systems by private actors and the available methods the state has of influencing their actions. These struggles are not, as is often thought, struggles between regulated and unregulated systems. The key to understanding these regulatory challenges is to better understand the important regulatory work carried out by powerful, centralised private firms – both the incumbents of existing markets and the disruptive network operators in the peer-economy.

Keywords: Peer economy; ride-sharing; regulation; nodal governance; complex systems.

*Corresponding author. Email: n.suzor@qut.edu.au

Introduction

The rise of the 'sharing' or 'peer' economy poses important challenges for regulators. Services like AirBnB, Uber, and TaskRabbit offer their users an opportunity to sidestep or evade the costs of highly regulated markets. By connecting individuals together, these services promise to provide greater flexibility in the way that resources are divided and consumed. AirBnB, for example, allows people to rent out individual rooms in their house on a nightly basis when they are not required. Similarly, the ridesharing services Uber and Lyft compete with taxi and limousine networks by enabling people to register as drivers with their existing vehicles, on schedules they control. These systems can lead to substantial efficiency gains through the increased use of slack capacity.

By connecting consumers with their 'peers' -- ordinary owners of ordinary houses, or drivers of ordinary cars -- sharing economy services promise the more efficient use of slack capacity in both physical goods and labour. They provide mechanisms to divide resources (goods and services) into much smaller components, and systems that radically reduce the transaction costs of finding and contracting with another party to use those resources. In doing so, these services promise greater flexibility for both consumers and providers, and increased freedom from the restrictions of old models of doing business.

This increased flexibility threatens to destabilise established industries, particularly industries with high regulatory overheads or barriers to entry. Established players are increasingly concerned that new entrants to these markets are not bound by the same regulatory structures, and are therefore able to compete on an uneven playing field. At the same time, concerns are beginning to emerge that consumers may not be well protected in these new systems, or that more flexibility necessarily means more precarious jobs and lower working conditions for the workers in the peer economy.

This paper explores the complex dynamics of regulating ride-sharing in the peer economy. The paper is structured into four parts. This introduction is followed by Part II where we provide a high-level comparison of regulated taxi markets with new sharing economy models, examining both through the conceptual framework of nodal governance. Through this conceptual lens, it becomes clear that Uber and other sharing economy firms are locked in an existential struggle over regulatory legitimacy with incumbent firms. Each group must convince a sufficiently broad and powerful array of stakeholders that their services and mode of regulation are better, in some way, than those of their competitors. This battle is being fought on several fronts, and regulators are quickly becoming outmatched.

The utilitarian component of this struggle is basically indeterminate with the available data and methods of contemporary policy analysis. A century of cycles of regulation and deregulation in the taxi industry makes one point abundantly clear: the outcomes of regulatory intervention are highly path-dependent and not predictably explainable by standard economic modelling. The challenge that services like Uber pose for regulators is typically thought of as a series of choices between regulatory control and market efficiency. Framed in this way, regulators are left with difficult choices to make in an attempt to balance consumer protection, innovation, and efficiency. As a utilitarian question, there are complex trade-offs that have not yet been

adequately conceptualised or modelled. In Part III, we canvas some of these trade-offs and provide some initial thoughts about how they may be better explored.

But this is not just a utilitarian struggle. The arguments that Uber and services like it are making is partly that they provide better outcomes. Importantly, however, these services are not waiting for the legitimacy that comes from changes in law. The model adopted by Uber, and other entrants to some degree, has been to seek legitimacy from different groups through a combination of pragmatic and discursive strategies. Notably, this includes a strong rhetoric of liberation and empowerment through technology, aimed at both drivers and consumers. The network operators are pursuing a clear agenda to win the acceptance of different stakeholders that their particular systems of regulation are better – more flexible, more efficient, more safe – than those of heavily regulated incumbents. At the same time, they are also trying to win the moral support of consumers by leveraging the 'warm-glow' associated with 'sharing'. On each of these fronts, Uber is facing significant resistance from incumbents. In Part IV, we sketch the main outlines of these rhetorical struggles, and show how this contest can be explained as a contest for regulatory legitimacy.

The implications of this struggle for legitimacy are important for three key reasons. First, it demonstrates that the common framing of this contest, as a contest between systems of centralised regulation and control versus systems of disintermediated disruptors is not sustainable. Despite the language of disintermediation, large, commercial sharing economy systems rely, to a large extent, on governance by centralised private businesses. While operationally quite different, these intermediaries play a role that is functionally very similar to the role of incumbents in regulating established industries. Second, it highlights the fact that the desirability of these systems cannot be adequately evaluated with the methods or models most familiar to regulators. Third, these struggles demonstrate that the contest for legitimacy should not be understood in purely utilitarian terms. A substantial part of the battle is actually being waged as an ongoing ideological conflict between different conceptions of the appropriate role of the state, algorithms, and markets. This ideological conflict is supplemented in rich and complex ways by strong and often conflicting rhetoric of decentralisation, liberation, communitarian sharing, and anti-consumerism. We conclude this paper with a call for further research to better understand both the complexity involved in regulating the peer economy and the discursive work that informs and shapes these debates.

Regulating a decentralised, transnational environment

The peer economy represents a fundamental shift in organisational structures made possible by advances in technology. In Ronald Coase's classic model, individuals form firms when costs involved in procuring goods and services required for market production exceed the costs of hiring employees to produce them (Coase, 1937). Peer economy systems like Uber and AirBnB work by exploiting slack capacity in privately owned goods. In Benkler's typology (2004), cars and private houses are both 'lumpy' – they are only available in fixed packages and are routinely underutilised relative to their capacity. They are also 'mid-grained' – their purchase price is high enough that consumers have an incentive to only rent access to them as needed, but not so high as to be prohibitive without forming groups to share the capital costs (Benkler, 2004). These two factors combined mean that there is a great deal of slack capacity in privately owned

cars and houses. All this slack capacity means that the marginal cost of becoming a service provider is low. Systems like Uber and AirBnB exploit this slack capacity and existing internet infrastructure by providing large-scale systems that lower the transaction costs of finding suppliers and negotiating agreements. Together, these changes enable individuals to efficiently coordinate production and services without the need to form firms (Benkler, 2006).

Importantly, however, both Uber and AirBnB are examples of 'sharing' in markets where consumers already typically rent access to goods and services. Only part of their competitive advantage over incumbents in the taxi and hotel industry comes from the lower capital costs involved in reusing consumer goods. Indeed, in both of these markets, we are starting to see an increase in professionalisation, as providers take out loans to buy cars and apartments specifically to participate in the peer economy. The other key source of efficiency that these new systems depend upon is that providers do not bear the same regulatory overheads as incumbents, enabling them to provide services at significantly lower costs (Miller, 2015). The taxi industry is one of the most heavily regulated modes of transport in the economies of most developed nations (OECD, 2007). Entry to the taxi industry is heavily constrained through licensing requirements, unlike most other customer service industries. Where licences are available, competitors are subject to high fixed costs (licences in Australia, for example, average nearly $360,000), and substantial ongoing overheads for regulatory compliance (Australian Taxi Industry Association, 2013).

The ability of sharing economy providers to avoid these overheads reflects the need for a massive shift in approaches to regulation in networked society. The scale of the internet, its transnational nature, and the anonymity of users make it extremely costly to target the individuals who breach national civil or criminal laws. The only effective and scalable way to regulate the actions of people on the internet is through online intermediaries (Goldsmith & Wu, 2006). But regulating intermediaries is particularly difficult in a transnational environment, where national laws often have little effect. Because the services that sharing economy intermediaries offer are predominantly carried out digitally (registering consumers and providers, providing a common framework for negotiating transactions, exchanging payments, resolving disputes), they do not need a physical presence within any given jurisdiction.

The tensions over sharing economy businesses are an extension of the classic jurisdictional problem of regulating the internet into physical markets for goods and services. Intermediaries that operate digitally are able to base their operations from jurisdictions that protect their interests – a 'race to the bottom' in the market for regulatory schemes (Burk, 1997). Just as states continue to struggle to regulate the flow of information online, the ability of any given jurisdiction to regulate the provision of goods and services that are transacted online is limited by the expense of identifying participants and bringing some form of enforcement to bear upon them. Particularly where any given infraction is of relatively low value and the number of participants is high, effective deterrence can quickly become prohibitively expensive or oppressive.

The operators of sharing economy networks can often avoid the obligations that are imposed on other firms in the industries they are competing against. The rhetoric invoked by these

services emphasises their role as technical facilitators who provide a communications service for independent providers and their clients. Uber, for example, regularly responds to suggestions that it should take responsibility for safety or labour issues with the statement that it is a 'technology firm', not a taxi network (Elliott, 2014). This claim makes use of the powerful liberal ideology that informs the basic assumptions of our legal system and prioritises individual responsibility. Historically, our law is reluctant to make third parties responsible for the actions of individuals unless they are within some form of special relationship; the claim made by Uber and other sharing economy network operators is that no such relationship exists. Legally, this is reinforced by the extremely powerful 'safe harbour' provided to technology companies under US law, which immunises 'providers' of 'interactive computer services' from liability for the actions of users of the network.[1]

Importantly, and perhaps counter-intuitively, the conflict between incumbents and 'peer-economy' entrants cannot be understood as a conflict over deregulation in any meaningful sense. A great deal of regulation in modern society operates through the participation of private firms that exercise some degree of control over market activity (Burris, Drahos, & Shearing, 2005; Shearing & Wood, 2003). Firms have the resources to perform quality control and compliance operations, and have incentives to do so from market forces, the prospect of legal liability, and direct regulatory obligations. In the taxi industry, for example, the taxi network operators have a strong regulatory function in maintaining standards of services provided by drivers and owners of taxis, and in general terms, they are responsible both to consumers and public officials for doing so. In the peer economy, this regulatory function is fulfilled by the 'technology firms' that provide the technical and social infrastructure of the system (at least in large-scale commercial peer economy systems). 'Regulation', in this context, cannot be thought of as the exclusive domain of states exercising control through law (Black, 2001).

The rise of the sharing economy brings a need for better ways of thinking about regulation in a transnational networked environment. The challenge states face in regulating the internet and services coordinated through the internet is largely the challenge of finding intermediaries that both have a degree of influence over the network and are subject to the influence of the state. The ability of technology firms to avoid regulation – most simply, by operating from outside of the jurisdiction – demonstrates that a simple command-and-control approach is unlikely to be effective (Miller, 2015). Importantly, however, the key difference between regulated taxi markets and Uber is not that one is 'regulated' and the other is not, but that methods of controlling the former are relatively well-understood (or at least familiar), while states and other stakeholders have not yet come to terms with how the governance practices of the latter can and should be influenced.

Taxi regulation in Australia primarily works by imposing obligations on taxi booking networks, who are required to meet certain standards across their fleets. These include obligations to ensure that universal service obligations are met (round-the-clock availability across entire geographic markets), that vehicles and drivers meet minimum standards, and that complaints are handled in particular ways. In turn, these networks impose obligations on the independent operators and drivers of taxis that make up their fleet. Separate obligations are also directly

imposed by the state on operators and drivers, but taxi booking networks assume a substantial portion of the responsibility for upholding standards in the industry.

Companies like Uber also have a significant role in governing the services that their "driver partners" provide. For instance, Uber (2014c) subjects all ridesharing and livery drivers to a criminal background screening, and the system protects both drivers and consumers through centralised cashless transactions, rating systems, and (limited) end-to-end commercial liability insurance in most countries. The key difference is that Uber is not directly bound by obligations to the State. This represents a massive competitive advantage over Australian taxi network operators and taxi operators, who bear significant costs in complying with detailed requirements and oversight procedures imposed by state governments.

The differences between these approaches create substantial difficulties for public regulators. As new entrants begin to disrupt existing industries, there is a great deal of concern about fair competition and whether the entrenched interests of existing incumbents should be protected. Representatives of taxis and hoteliers in particular are expressing concern that the regulatory environment is uneven: it is difficult or unfair to expect heavily-regulated incumbents to compete with providers who offer the same class of services but do not have to bear the same regulatory burden. The new sharing economy entrants, on the other hand, argue that the existing system is inefficient and that licensing and other regulatory requirements are unnecessarily high and anti-competitive barriers to entry. There are also substantial concerns about whether consumers and providers are adequately protected, and both sides mount arguments that their systems ultimately provide better results for each group.

In explicitly challenging the dominance of existing, heavily regulated industries, commercial ridesharing services are competing not only in the market for passengers and drivers, but for the acceptance of their particular mode of regulation. This is a competition for legitimacy (Black, 2009). Legitimacy, in this sense, requires "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995: 574). To the extent that they are successful, these services have been able to convince their users (both providers and consumers) that they are a viable alternative both to less polished or organised 'sharing' models and to the older commercial institutions of the taxi and hotel industries. The ways in which they have achieved this level of success so far demonstrate some sophistication in appealing across a range of interests with varying degrees of relevance to different stakeholders.

In more recent times, however, Uber in particular has had to come to terms with the necessity of convincing governments of their legitimacy, in addition to convincing service providers and consumers. Its roots in California, where taxi regulation is light and support for technological disruptors is strong (California Public Utilities Commission, 2014; Gorenflo, 2012), combined with the strong protection afforded to online intermediaries by US Federal law, enabled it to scale up quickly without seeking to reform existing industry regulation. Its rapid rise, however, has led to strong backlashes in several jurisdictions – it has been banned in several countries across Europe including Germany, Spain, and Belgium (BBC, 2014; Eddy, 2015; Robinson, 2014). In Australia, some states have started aggressively pursuing drivers; Queensland, for example, has issued fines of over $600,000 to date (reportedly paid for by Uber on their drivers'

behalf) and is continuing to increase enforcement (Atfield, 2014). The difficulties that different jurisdictions have had in banning Uber signals that it represents not only a disruptive competitor to powerful established lobby groups, but a direct challenge to the integrity of the law.

In response to these challenges, Uber now asserts that it 'wants to be regulated' by appropriate authorities (Guo, 2015). Explicit standards of regulation bring not only legitimacy, but some measure of protection from future peer-economy competitors. Uber's evolving marketing campaigns are increasingly focusing on convincing various stakeholders that it is a strong and effective regulator of drivers (and consumers).[2] The appeal it is making to state authorities is now framed in the terms that the expensive systems of regulation familiar to the industry are not needed, and that it can meet targets set by regulators through its own socio-technical governance systems. In making this argument, Uber is confronting regulators with a new set of regulatory choices that they still are not well equipped to evaluate.

This is ultimately the same argument made by other transnational online intermediaries as they come under increasing scrutiny about how they govern their networks. Google and YouTube, Twitter, and Facebook, for example, are all constantly evolving their standards for acceptable behaviour and their processes for enforcing those standards in response to concerns from governments, the market, their users, civil society groups, and other stakeholders. Their strategy is largely designed to avoid costly direct interference with their operations or governance processes by law, and in order to do this, they must convince stakeholders that their systems represent a good alternative to historical approaches to decentralised regulation.

Ridesharing provides an excellent case study through which to view these regulatory tensions. The taxi industry is particularly highly regulated, and there are perpetual calls to lower to barriers to entry imposed by law. Ridesharing companies like Uber and Lyft have secured large investments from venture capitalists that see a global opportunity to invest in firms that promise to disrupt lucrative existing monopolies.[3] Moreover, the transport industry has a long and fascinating history of regulation and deregulation in response to fears about consumer safety, driver exploitation, technological change, and the anti-competitive capture of regulated markets by private interests. State regulators do not yet have either the methods of the data to properly evaluate these claims.

Data-driven policy analysis in a complex system

The argument for regulation in the taxi industry is predominantly based around avoiding market failure by developing regimes to maintain and enforce minimum standards in an industry. Regulators of the taxi industries typically attempt to develop regimes to devolve the task of enforcing standards to taxi network operators. This degree of public oversight imposes a substantial compliance cost on the industry, which in turn increases the price to consumers. In regulating the taxi industries, regulators face a complex set of interrelated trade-offs. Regulation seeks to ensure minimum standards for consumers while it at the same time seeks to protect drivers and respond to complaints about poor labour relations. These goals are clearly in conflict since increased standards for consumers comes at a higher cost, and ensuring that taxis are available in low-demand periods or are willing to service low-value trips usually

means keeping effective wages relatively low. The regulation of licence supply presents a peak-demand problem, where low barriers to entry enable taxi operators to provide more services in peak times, but drive down effective wages (and potentially quality: OECD, 2007) in off-peak times. Most regulated regimes opt for some compromise, but average utilisation rates can often be as low as 50%, while demand still dramatically outstrips supply in peak periods.

The regulatory challenge is further complicated by the other (non-efficiency based) demands regulators make of taxi networks. Concerns about consumer welfare lead to caps on prices and stringent requirements for taximeters. Taxi regulators often also attempt to impose universal service obligations, requiring network operators to provide a minimum level of service in remote suburbs, in off-peak times, and to passengers with special needs (e.g. wheelchair access and allowing service animals). Standards also impose minimum requirements for vehicle quality and consumer safety.

The regulatory system is inherently complex with conflicting goals and agents that make it difficult to determine an appropriate level of public oversight. An 'optimal' condition is thought to be based on some balance between competing stakeholder goals, including the quality of service, safety standards, industry costs, consumer protection and the welfare and working conditions of drivers. There is no known optimal regulatory solution in the context of ridesharing and the 'disruption' of the taxi industry. In the analysis of the effectiveness of different regulatory options it is necessary to take a holistic perspective of the system including incomplete information, irrational behaviour and dynamic indirect effects. For instance, lowering driver wages might be expected to increase the number of cars on the road during low-demand periods. However, an indirect consequence of low wages might be increasing driver turnover and lowering service quality. This may lead to decreasing consumer satisfaction, and, eventually, decreasing consumer demand as consumers choose other transportation options. Thus far, traditional command-and-control models of governance have sought to limit new entrants and disruptive technologies, but a solid empirical assessment of ride-sharing is yet to be made. Assessing an optimal condition for ride-sharing will be a powerful tool given that the traditional regulatory solution in the taxi industry has often been based on strong centralised fleets that have the resources and incentives to monitor and enforce regulatory standards. This implies an unusually complex regulatory analysis, since lowering barriers to entry and increasing competition may substantially reduce the ability of these intermediaries to ensure compliance in their networks.

These debates have been playing out in taxi industries worldwide in one form or another for at least the last hundred years. In some ways, the concerns over ridesharing now mirror concerns over unlicensed jitney[4] cabs in the early twentieth century. These were typically private vehicles with ad hoc modifications designed to increase passenger capacity that transported passengers like buses along a set route. While this less polished or organised 'sharing' model was cheap and convenient, concerns for consumer safety and lobbying from incumbents eventually led governments to ban the practice (Schwantes, 1985).[5] Since then, taxi industries have gone through many cycles of deregulation and re-regulation designed to balance concerns about monopolisation, labour conditions, and consumer welfare (Miller, 2015; Sohn, 2014).

The pressures brought in response to Uber and other firms are merely the latest in a long cycle of regulation and deregulation around the world.

Globally, the regulatory debate about taxi regulation is highly polarised, and the economic modelling frequently conflicts with observed reality (Dempsey, 1996, p. 100–1). Despite widespread economic modelling that suggests that consumers should benefit from reduced barriers to entry into the taxi market, the empirical results of deregulation is equivocal (Moore & Balaker, 2006). While some studies have found that deregulation can reduce fares in larger cities (e.g. Gaunt, 1995), others have found that increased competition and substantial numbers of new entrants have not increased demand and instead resulted in decreased overall productivity (e.g. Gärling, Laitila, Marell, & Westin, 1995). In an extensive recent report, the OECD concluded that the outcome of deregulation is highly dependent on the initial, pre-deregulation position (OECD, 2007, p. 35–7).

Uber and Lyft have attempted to shift this polarised debate. The argument that these companies make is not the classic one of regulation vs deregulation. The key to understanding the dispute over the entry of Uber and Lyft into the taxi market is that these models are – or claim to be – qualitatively different mechanisms of regulating the industry. The claim made by Uber is not that deregulation of entry necessarily leads to better outcomes, but that their system achieves better outcomes at a lower regulatory cost. The argument is fundamentally about whether market-based systems that rely on consumer ratings to monitor quality and algorithms to set pricing can deliver better social outcomes than the more formal co-regulatory structures of aim the existing taxi industry. The core argument is a technocratic one: that new networked technologies allow a scale-free mechanism of regulation.

In other words, the opportunity to learn from the history of deregulation in taxi industries' is limited without data to test different systems of governance. Regulators would benefit from a new approach to policy development that considers the dynamic complexities of traditional taxicabs and transportation network companies by tapping into the large sets of data now available from market actors and intermediaries. The ride-sharing debate is intensifying rapidly, and there is a pressing need for better empirical testing of deregulation in order to ground divergent regulatory approaches, and ultimately, decision-making processes, with quantifiable results and market-based outcomes. Until such initiatives are embraced by regulators, the battle between the new entrants and the incumbents continues. In the next Part, we explore the communicative practices that Uber employs to promote the advantage and superiority of its system in the absence of validated empirical work.

The ongoing struggle for regulatory legitimacy

The 'peer economy' is often understood as another manifestation of the liberating power of the internet. The standard story is one of disintermediation: cheap communication networks allow individuals to transact directly, rather than through the powerful gatekeepers of the pre-digital era. This is narrative of disintermediation is familiar. This is the same narrative of empowerment that accompanies the rise of blogs and social media, allowing ordinary users to become publishers and producers (Bruns, 2008). It is also the narrative that saw Time Magazine name 'You', the user, as its Person of the Year in 2006, celebrating an "explosion of productivity

and innovation" that brought "millions of minds that would otherwise have drowned in obscurity […] into the global intellectual economy" (Grossman, 2006). The democratisation of access to communication networks has been characterised as a massive potential step forward for both free speech (Netanel, 1996; Volokh, 1995) and economic productivity (Hippel, 2005). Kassan and Orsi (2012, p. 4) capture the sense of optimism that pervades this narrative: "The sharing economy is being built from the ground up by every individual and group that chooses to begin consuming, transacting, or making a livelihood in a new way."

To an extent, the narrative of decentralisation is of course correct. Uber's rhetoric in this debate is that its systems can simultaneously provide better outcomes for consumers and drivers. Through its algorithms and market principles, Uber asserts that it is able to create a system that autonomously ensures an optimal balance between consumer and provider interests. This is neoliberal free-market ideology writ large: because Uber's system is all about choice, anyone who chooses to use it, driver or rider, must by definition be satisfied. By framing the debate in this way, Uber hopes to drastically reduce the need for expensive ongoing government supervision.

But at the same time, this narrative obscures a competing set of concerns. This cannot be understood as disintermediation – Uber's search for regulatory legitimacy actually depends upon it demonstrating that it is a better regulator than taxi networks. This rhetorical battle is carried out on in different ways with different interest groups. In this Part, we sketch the work that is being undertaken on a number of different fronts, including the rhetoric of flexibility in labour relations, a preferencing for the technocratic allocation of resources through algorithms, a neoliberal preference for bottom-up ratings and market systems over top-down governmental intervention designed to uphold standards, and a communitarian vision of the prosocial and environment benefits of participating in the 'sharing economy'.

Labour relations: Flexibility and choice

The two primary promises that Uber offers its 'driver partners' are greater flexibility and a better share of income. Like other peer economy systems, Uber markets itself as an innovative disruptor, shaking up the monopolies of the incumbent taxi industry (Swisher, 2014). In this way, it clearly positions itself apart from heavily regulated taxi industries, where drivers are usually required to enter into bailment agreement with the owner of the taxi or taxi licence. These bailment agreements typically require drivers to agree to either a set hiring fee up-front or to share, usually around 40%, of their income with the Taxi operator (OECD, 2007). Uber, by contrast, offers drivers the ability to pay a flat fee to use the service -- approximately 20% of every fare. Bailment agreements are also relatively restrictive, and often require drivers to hire the cab for eight to twelve hours a day, working set shifts over the week. Uber, then, offers drivers the promise to set their own hours, enabling them to choose to work only in periods of peak demand or as a part-time job around other commitments. For example, Uber has promoted ride-sharing as way to "Make Major Moolah" (Faulkner, 2014), and touts figures that 71% of driver-partners report that their income is better and 61% believe that their financial security has improved as a result of driving for Uber (Benenson Strategy Group, 2015).

Uber's rhetorical work in this regard straddles a set of classic labour concerns. The ideal of autonomy can quickly turn into a dystopia of precariousness. While Uber continues to enjoy a competitive advantage over regulated taxi incumbents, it may well be able to offer drivers higher profits and increased autonomy. But this is actually quite controversial; as Uber's strength continues to grow, the flexibility it offers can easily be construed as delivering disempowerment and encouraging casualisation. These tensions are being made explicit as Uber's positive marketing of driving conditions are increasingly challenged by large-scale protests by drivers in several key cities. Uber's promotional materials make a claim that New York City drivers earn an average of $90,766 a year -- far in excess of average wages for taxi drivers (Hall & Krueger, 2015). Critics, however, note that the marketing materials make no mention of the overheads incurred by Uber drivers (who, unlike taxi drivers, are responsible for the capital costs of the vehicle and ongoing maintenance, insurance, and fuel costs) or the hours they are required to work to achieve such a wage (McFarland, 2014). Drivers have been complaining particularly about low effective wages, centralised control over pricing, the lack of union protection, and the lack of due process or transparency in rating systems and the termination of accounts (Huet, 2014). This is a set of concerns in constant contestation; recent statistics from Uber-funded research presents some evidence that effective hourly wages for Uber drivers appear to be roughly equal with that of taxi drivers once overheads have been taken into account (Hall & Krueger, 2015). Importantly, the figures also show substantially greater rates of participation for women, students, and part-time and intermittent participants in the workforce (Hall & Krueger, 2015). Ultimately, this preliminary analysis suggests that Uber may be addressing classic labour concerns better than expected, although its share of the markets are still small and its revenue models are still young.

Algorithmic neutrality: better living through economics

Uber is also carrying out a great deal of work in promoting increased participation from part-time drivers as a natural solution to the peak-demand problem. For potential drivers who already have a car, Uber presents an attractive option: with very low fixed costs, an ordinary individual can enter the taxi market to supplement their existing income. In off-peak periods, these individuals presumably return to their day jobs or leisure. Uber's surge pricing undoubtedly helps here: when there are not enough drivers to meet demand, consumers are charged at a higher rate. This neatly increases the incentives for more drivers to get on the road at the right time -- and also likely reduces demand.

Uber adopts the language of algorithmic neutrality of supply and demand to justify its pricing systems. This is strategy relies on Uber convincing its stakeholders that the rates it sets are dictated by the market, and both drivers and consumers are rational agents who voluntarily choose to use the system. This is rhetorically powerful in resisting regulation - the neoliberal assumption leads to a policy position that the system must be working effectively if drivers and riders choose to use it. This positioning can also backfire, however - where Uber unilaterally intervenes to cut driver wages in attempts to undercut the competition, for example, or is seen to not intervene quickly enough to prevent algorithmic surge pricing from turning into price gouging.

Uber is apparently becoming more sophisticated in the way that it manages the positive and negative associations of regulation by faceless algorithms. Successive complaints over its surge pricing, particularly in times of emergency, have led it to publicly limit the operation of its algorithms. In some jurisdictions, this came about as a result of a negotiated agreement with public authorities, backed by a threat of direct regulation (Holmes, 2015). In other cases, it has adopted a strategy to respond to emerging public relations problems. For example, during a recent siege by an armed gunman in Sydney, Uber's surge pricing peaked at a record of approximately AU$9.59 per kilometre (Tucker, 2014). In response to complaints, and with alacrity in a way that demonstrated that it had learnt from similar previous blunders, the ride-sharing company offered free rides for passengers trying to leave the city and a full refund to passengers who were charged the surge price.

The algorithms that underpin Uber's particular mode of regulation present both strengths and weaknesses. Algorithms, of course, are never neutral in their operation (Gillespie, 2014). When the embedded assumptions within the algorithms conflict with consumer expectations, Uber's task of convincing its stakeholders that its new methods of self-regulating are a better than traditional regulatory structures becomes much more difficult. These tensions manifest in concerns that Uber's model encourages discrimination, the loss of universal service, and an elitist experience. Uber's polished marketing elides deep anxieties about the fairness of ratings systems and a real fear about algorithms that operate with little transparency or human oversight. Uber has also come under significant criticism for the privacy trade-offs that it requires in order to deliver its data-driven algorithmic services and, like many online intermediaries, appears set to position itself largely as a data brokerage company (Hirson, 2015).

Uber's regulatory claim is that it can achieve everything that existing regulatory systems do through a star rating system and pre-screening processes. Importantly, however, both consumers and drivers have expressed deep-seated anxieties about rating systems, and particularly policies and ratings that are not transparent. Uber has opted for a ratings system that deliberately sacrifices transparency for simplicity. In doing so, it has become vulnerable to claims that its mode of regulation is not *fair* - particularly for drivers, who are anxious about being deactivated from the system losing their income source without any clear explanation or due process. There are also major concerns that these rating systems may exhibit serious patterns of discrimination; little is really known about how Uber's rating system works and what degree of manual intervention the company exercises.

The challenge Uber and similar companies face here is in being able to rely simultaneously on conflicting rhetorics of algorithmic neutrality and control. On the one hand, Uber relies on the dispassionate operation of the algorithm to set conditions and prices in reaction to the 'natural' forces of supply and demand, without appearing to directly intervene. On the other hand, it must carefully ensure that it still has the ability to intervene when the operation of the algorithm is not tolerated by consumers. Events like the Sydney siege demonstrate that it is beginning to handle this task with increased sophistication, although certainly not perfectly.

Sharing is nice: the warm glow of the sharing economy

The main outlines of the debate over ridesharing services tend to focus on normative conflicts about implications for consumers and drivers. But underlying the utilitarian claims, there is a struggle over the way in which ridesharing is conceptualised. In order to offset some of the negative perceptions of the liberal claims they make, many peer economy firms seek to leverage a sense of community in the way their systems are marketed. This strategy explicitly adopts the rhetoric of the 'sharing economy', explicitly positioned against the excesses of consumer culture and the disenfranchisement of employment relationships. 'Sharing' is a prosocial good; the 'sharing economy', then, is a political claim that these systems are normatively superior to the sterile business models of incumbents.

Peer economy systems are able to leverage the 'warm glow' associated with sharing (Andreoni, 1990) to increase their legitimacy. The massive influx of capital investment in sharing economy systems creates an explicit tension here with the 'grassroots' communal vision of 'true' sharing. Neither Uber nor AirBnB can really claim the same level of positive affect or shared social responsibility that is associated with much smaller sharing arrangements like neighbourhood car pools, weekend football practice pickup runs, or a spare bedroom at an old friend's distant home.

Seen in the best light, the sharing economy represents a fundamentally positive shift away from the excesses and relentless waste of disposable consumer culture. Sharing platforms enable a much larger number of individuals to contract directly for goods and services, and this decentralisation fundamentally alters the regulatory landscape. The ratings systems employed by these systems are designed to build not only a more scalable mode of regulation, but to infuse the systems with a currency of trust that plays a crucial framing role (Botsman & Rogers, 2010; Shirky, 2008). Most importantly, the sharing economy is explicitly positioned as diminishing the power of traditional, hierarchical business models and empowering consumers through a bottom-up. This is a vision that is particularly powerful in the post-sub-prime economy for its promise to transform scarce goods into shared assets.

At the same time that peer economy firms try to position themselves to exploit this vision of prosocial sharing, they have had to explicitly distance themselves from the risks associated with it. The risks of sharing with strangers are particularly visible in common perceptions of dangerous hitchhiking, awkward car pools, or sleazy couchsurfing. Peer economy firms are in part successful because they have been able to sanitise sharing through a commodified business model, with the benefits of certainty, safety, and service that are associated with commercial transactions. In the same way that AirBnB has made couchsurfing reputable, Uber and Lyft have brought low-scale 'sharing' into the commercial mainstream (Ranchordas, 2014). But in doing so, they are necessarily limiting their ability to position themselves to take advantage of the warm glow associated with less 'sterile' or more 'authentic' transactions.

This tension is negotiated with different extents of success in different peer economy systems. AirBnB, for example, very explicitly positions itself as a community of sharing households and travellers. In a recent redesign, the company apparently undertook "very serious semiotics work" (Lanks, 2014) to ensure that its new branding would successfully convey a sense of 'belonging' to this community. The work done here by AirBnB seems crucial to positioning

itself as anything more than a system for renting hotel rooms and dorm beds -- and therefore resisting the impulse that they should be regulated in the same way as other providers.

Uber has not invested as heavily in positioning itself to align with prosocial sharing values. In fact, a great deal of its public relations work revolves around limiting the damage it has suffered from aggressive business tactics. It has been heavily criticised for flouting the law; for price-gouging; for anti-competitive behaviour (Newton, 2014); for high profile misuse of personal information, nonchalance towards sexual assault and misogynistic marketing (Lacy, 2014b); and for an explicit strategy of bullying journalists who write negative articles (Makarechi, 2014). Uber's chief competitor, Lyft, appears to be attempting to exploit this positioning by marketing itself as a warmer, friendlier service (Lacy, 2014a).

This process is still ongoing, and Uber occasionally appears, sometimes clumsily, to be attempting to buy a degree of goodwill. These attempts include UberSleigh, an annual Christmas toy drive for children, and even a service to deliver kittens directly to users for a cute and fuzzy play date. These have not always been received well – complaints about the kitten experiments range from disappointment that the odds of actually receiving a kitten are extremely low to cynicism and concerns that Uber is transparently using potentially distressed kittens for self-promotion.

Conclusion

Uber's work to gain legitimacy highlights a rich set of narratives aimed at convincing different groups of stakeholders. Black's (2009, p. 14) model of the contest for regulatory legitimacy identifies three sets of reasons for social acceptance: pragmatic, moral, and cognitive. Large scale sharing economy firms have so far been successful in large part because of the pragmatic benefits it provides to individual providers and consumers. Especially in the initial stages, they are able to promise providers more money and flexibility while also promising consumers savings and convenience. This has enabled firms like Uber and AirBnB to attract a sufficiently large user base to grow very rapidly, despite often operating in contravention of legal standards. These firms do face some challenges with cognitive acceptance -- in some jurisdictions (but not all), regulated industries may be seen as more natural and safe than the potentially more chaotic services provided by peer providers.

Ultimately, as these firms have grown, satisfying the pragmatic interests of their direct users is not sufficient. The stakeholders they need to convince in their 'regulatory communities' encompass public officials, powerful incumbents, and different groups of the public with often very different interests. As these firms have grown, the intensity of complaints and concerns about the implications of the sharing economy have also grown. They have had to pivot from addressing primarily their core user-base to justifying their very existence to a broader group of stakeholders. The key task now appears to be the normative component of legitimacy -- convincing stakeholders that these systems represent *better* modes of regulation than the systems used by incumbents.

Significantly more research is required to understand this normative claim. The existing conceptual models used by policy-makers are not well-suited to analysing the fundamental shift in regulatory approach represented by the peer economy -- these still, all-too-often, assume a

public choice between regulated industries and unregulated markets, without taking into account the extremely important regulatory work carried out by private firms in both systems. The data that are currently available are also not sufficient to really evaluate the trade-offs between different systems, particularly given the complex interrelationships between actors in these markets. More work is needed on the regulatory theory, too -- territorial governments have not yet come to terms with the different mechanisms of exerting influence on transnational actors. Moving beyond questions of mere efficiency, there are serious unexplored tensions around the morality of different systems of regulation. Little is still known about the way that algorithmic systems work and are employed in practice by peer economy firms, and what effects these might have in the medium to long term on measures of service quality, safety, labour relations, and equality. As these struggles continue to evolve, these questions will continue to grow in importance to regulators, stakeholders directly affected, and the public in general.

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Notes on contributors

Alice Witt is a Research Assistant and a fellow of the QUT IP & Innovation Law research program, where she researches on the regulation of the peer economy. Alice graduated from QUT in 2014 with a Bachelor of Business (Distinction) and Bachelor of Laws (Hons).

Dr Nicolas Suzor is a Senior Lecturer in the Law School at Queensland University of Technology in Brisbane, Australia. He researches and teaches on issues at the intersection of law, society, and technology. His research examines the peer economy, the governance of social networks and other online intermediaries, and emerging commons-based models for the production of cultural goods.

Associate Professor Patrik Wikström is a principal research fellow at the ARC Centre of Excellence of Creative Industries and Innovation, QUT. Patrik's research is primarily focused on innovation and learning in the creative industries. He is the author of '*The Music Industry: Music in the Cloud*' at Polity Press. He has served as a faculty member at Northeastern University (Boston, USA), Jönköping International Business School (Jönköping, Sweden) and Karlstad University (Karlstad, Sweden) and he has been a visiting scholar at Nanyang Technological University (Singapore).

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[1] 47 U.S.C. § 230. Note that the safe harbour is technically limited to liability for 'information provided by another' person, but it is likely to apply to operators of peer economy networks as long as the relevant transactions are structured so that consumers contract directly with the providers of the goods or services.

[2] See, for example, how Uber (2015a) promotes 'Safety by Design: Going the Distance to Put People First.' Uber (2015b) is also collaborating with *SafetiPin* to pilot a map-based mobile safety app in New Delhi in response to serious concerns over safety.

[3] Uber raised around $1.2 billion in funding at a mid-2014 $18.2 billion valuation, while its foremost competitor Lyft raised around $250 million during the same period with a valuation of $700 million (Rusli & MacMillan, 2014).

[4] A colloquial term for a five-cent nickel that was also, usually, the cost of a single ride (Schwantes, 1985).

[5] Schwantes (1985) describes jitneys bringing convenience and economy came together: "In the popular mind the jitney was with few exceptions the underdog, a spunky fighter against monopoly, a boon to the average citizen."