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# The Current and Future State of the Sharing Economy

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# The Current and Future State of the Sharing Economy

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# **Key Insights**

- The sharing economy is "the peer-to-peer based activity of obtaining, giving, or sharing access to good and services". Alternative names for this phenomenon include gig economy, platform economy, access economy, and collaborative consumption.
- The sharing economy is estimated to grow from \$14 billion in 2014 to \$335 billion by 2025. This estimate is based on the rapid growth of Uber and Airbnb as indicative.
- Data shows that private vehicles go unused for 95 per cent of their lifetime. Together with the fact that there are fewer requirements to drive for Lyft, Ola and Uber than for a taxi company means greater supply of rides. Prices of shared services are also falling as indicated by Airbnb rates that are between 30 and 60 per cent cheaper than hotel rates around the world.
- More information shared on an online platform can lead to greater trust between users, but it can also lead to racial and gender bias. Sharing economy companies must work to combat bias on their platforms, both in their algorithms and their users. Removing some identifying information from profiles lowers risk of bias.
- It is difficult for any one company to form a monopoly since the cost for customers to switch between sharing economy services is quite low.

## **Policy Recommendations**

- Role of regulations in the sharing economy should be to lower barriers to entry for startup companies, which raises competition for incumbents.
- Sharing data and algorithm with government is one way that sharing economy companies can build trust with regulators.
- Consumers should be able to control how businesses use their data.

# Summary

The sharing economy will inevitably become a major part of the global economy. In this report we examine the current state of the sharing economy, investigate the underlying economic, technological, social, and political factors that lead to the rise of the sharing economy and predict the growth of this sector in the coming years. The sudden emergence of the sharing economy has introduced many unforeseen challenges for consumers, incumbent businesses, regulators and policy makers. We identify these challenges and provide recommendations on how sharing economy platforms should address them.

## 1. Defining the sharing economy

Seventy-four years ago, Joseph Schumpeter predicted that competition from "the new commodity, the new technology, the new source of supply, the new type of organization" would be more relevant than perfect competition. He described this as competition which "strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives." (Schumpeter, 1990, p.84) His prophecy has certainly come true. The sharing economy, generally defined as "the peer-to-peer-based activity of obtaining, giving, or sharing the access to goods and services, coordinated through community-based online services" (Hamari et *al.*, 2015, p.1) will soon be an inseparable part of our economy.

Many have suggested alternative names (Chandler, 2016) for this phenomenon, such as gig economy, platform economy, access economy, and collaborative consumption. Given the novelty of the concept of the sharing economy, it is not surprising that a Pew Research Center report from May 2016 found that 73 per cent of Americans were unfamiliar with the term "sharing economy" (Smith, 2016a, p.1), but 72 per cent had used a "shared and on-demand online service" (Smith, 2016b, p.1). Examples of the sharing economy are not limited to Uber and Lyft and include a wide range of other services as discussed below.

The Pew survey included buying second-hand goods on sites such as eBay and Craigslist (both founded in 1995) in their definition of the sharing economy. This sector had the greatest penetration, with 50 per cent of survey respondents saying they had used these services. The survey also inquired about expedited delivery services such as Amazon Prime (launched 2005), which 40 per cent of respondents had used. More traditional sharing economy categories such as ride sharing (Uber) and room sharing (Airbnb) had 15 per cent and 11 per cent penetration respectively.

Meanwhile, hiring labour and renting products for a short time sat at the bottom of the list at four per cent and two per cent penetration respectively. These low percentages suggest that very little sharing of goods and services occurs among peers. Most rental occurs from a company that owns the assets, such as Zipcar and Rent the Runway. In this sense, true sharing comprises mostly to ride and room sharing services. When asked their opinions about rideshare services, most respondents viewed rideshare services as software companies that connect riders with independent drivers, and a majority thinks that these services should not be subject to taxi regulations. In addition, only 22 per cent of respondents had any awareness about debate over taxing room sharing at the same rate as hotels, but a 52 per cent majority believes that they should not be taxed like hotels.

Twenty-two per cent of those surveyed participated in crowdfunding, but the most successful projects used it to solicit donations from friends and family: 63 per cent of crowd-funders give to an acquaintance, 62 per cent to a close friend or family member, and only 28 per cent give to a stranger. Fifty-six per cent of respondents agreed that crowdfunding sites contain a lot of frivolous projects, and most have donated to less than five projects, giving \$11 - \$50 to each project. There was also a large divide between giving to a person in need versus funding a new product: 68 per cent to 34 per cent of crowd-funders. Stanko and Henard (2016) offer recommendations for entrepreneurs raising money through crowdfunding: be transparent with ideas to attract a large number of small donors, and crowdfund early in the development process so that backers can participate from the beginning.

A December 2014 report from PricewaterhouseCoopers (PwC) added music and video streaming to their definition of the sharing economy, but excluded crowdfunding, expedited delivery, and buying of used goods (PricewaterhouseCoopers, 2015a). Using this definition, 19 per cent of surveyed consumers have engaged in a sharing economy transaction, while 44 per cent were familiar with the term sharing economy. The main service providers within the industry make up seven per cent of the U.S. population and stem predominantly from the 25-34 age range. Eight per cent of all U.S. adults have interacted with some form of automotive sharing. While initial numbers are small, PwC emphasises the potential for growth in the sharing economy: between the five key sharing sectors (automotive, hospitality, finance, staffing, and media streaming), \$14 billion in revenue was generated, a figure slated to grow to \$335 billion in 2025.

In countries such as India, there is a significant push toward digitisation by the national government and at the central and local levels. This policy priority has led to major expansion in the scale and scope of digital businesses. In India, there are new startups being registered every week which offer new products and services using digital platforms. This policy has proven to be enormously beneficial to the sharing economy.

### 2. Future growth of the sharing economy

The world has witnessed a steep rise and penetration of the sharing economy facilitated by the growing digital platform and willingness of consumers to try mobile apps that facilitate peer-to-peer business models, shared entrepreneurial enterprises etc. We are moving from the 20th century model where the corporation accumulates resources and produces goods and services toward the 21st century model where we can avail certain platforms. These platforms are large companies but draw resources from a distributed crowd with digital spaces on the rise. Sharing economies allow individuals and groups to make money from underutilised assets. We are moving toward an economy where physical assets are shared as services. People have shown a robust appetite for all ranges of services provided by sharing economy in hospitality and dining, automotive and transportation, labour, delivery, short-term loans, and retail and consumer goods. In the future, this crowd-based capitalism model is expected to penetrate into many sectors. Although the healthcare sector is traditionally sluggish in responding to digital advancements, many digital platforms offering non-emergency, low-end health services are emerging and can be read as a marker of the future development a sharing economy might promise.

As the global sharing economy reaches new heights, its impact on the way we view part-time work and reputability has been profound. As reported by Hathaway and Muro (2016) at the Brookings Institution, the number of non-employer businesses in the United States has grown from 15 million in 1997 to 24 million in 2014. Researchers at PwC analysed ten different industry sectors and estimated that within ten years, the five major sharing economy sectors, including peer-to-peer lending, online staffing, peer-to-peer accommodation, car sharing, and music and video streaming will generate more than 50 per cent of the total global revenue, up from only five per cent of their current share (Vaughan & Hawksworth, 2014). While 68 per cent of the workers in the sharing economy are between 18 years and 34 years old, their users are spread across all age ranges. According to Pew Research Center (Smith, 2016), 72 per cent of Americans believe that they will use services through the sharing economy in the next two years. The UK Office for National Statistics, using a variety of metrics ranging from the value of online purchases to amounts payable for marketing services, found that in 2015, 275 European "collaborative platforms" (Office for National Statistics, 2016, p.3) generated £4 billion in revenue (\$5 billion USD) and facilitated £28 billion of transactions (\$35.5 billion) (Office for National Statistics, 2016).

In order to understand the future of a sharing economy let us consider a study from Professors Arun Sundararajan and Scott Galloway at New York University.



Source: "The sharing economy-sizing the revenue opportunity," (Hawksworth et al., 2014)

As the figure above shows, in the next ten years, the increase in revenues from the traditional rental industry will be modest in comparison to the explosion in revenues in the shared economy. The PwC report from 2014 disaggregates this growth across sectors. And as shown in the next figure, the growth projections from the shared economy is significantly higher in sectors such as crowdfunding, online staffing, car sharing, and others. The growth projections are significantly lower in traditional sectors such as equipment, cars, and DVD rentals.



Source: "The sharing economy-sizing the revenue opportunity," (Hawksworth et al., 2014)

The rapidly growing valuation of Uber and Airbnb, two of the leading firms in the sharing economy, is an indicator of the potential of this sector. Both these firms have witnessed trebling of their valuation in the last three years. These massive increases, however are also indicative of the nascent stages of a firm's life cycle. Such increase in valuations can only be sustained through fundamental innovations in their businesses. Given the global nature to these firms, their future growth potential will also depend on their ability to adapt to local conditions.



Source: "The sharing economy-sizing the revenue opportunity," (Hawksworth et al., 2014).

There are multiple reasons for the growth of sharing economy platforms. In the following sections, we discuss them in detail.

#### Flexibility

One of the unique characteristics of sharing economy platforms is the level of flexibility that they provide to their contractors. The U.S. Office of the Chief Economist focuses on this aspect of the sharing economy platforms and defines them as "digital matching firms" (Telles, 2016, p.1) that use IT and user-ratings to provide self-employed workers with flexible schedules (Telles, 2016). 2.7 million Americans currently work as independent contractors (i.e., 15+ hours/week) via such firms, a 4,700 per cent increase since 2012. This massive growth is reflected in Uber's 2015 valuation at \$62.5 billion, which would have put it in the top 20 per cent of firms in the Standard and Poor's 500 index had it gone public. While explosive, the growth should come with little surprise, given the industry's rates; across the globe, Airbnb offers rates that range from 30-60 per cent cheaper than traditional hotels.

Sharing economy platforms usually have unintended benefits far beyond those that they were initially developed for. As a single car sharing vehicle can reduce household greenhouse gas emissions by up to 40 per cent, the sharing economy provides a potent solution to India's environmental mandates. Firms such as Uber and its local competitors have capitalised on the sharing economy's moral implications, with the former offering 30,000 jobs to the unemployed in Tamil Nadu and the latter setting aside training programmes for over 50,000 women throughout the country.

#### Low entry barrier for workers

The New York City Taxi Application requires applicants to be 19 years old with a valid social security number and a chauffeur-class or equivalent driver's license (NYC Taxi & Limousine Commission, n.d.). Additional documentation requirements include a state driving record, certificate of completion for a defensive driving course, and a medical exam. All drivers must complete a drug test, background check, training, fingerprint and photo submission. Military veterans must submit their discharge papers. There is a \$252 non-refundable application fee.

Uber and Lyft drivers must be at least 21 years old with a three-year history on driving record, a valid instate driver's license, auto insurance, and vehicle registration (I Drive With Uber, 2015; Lyft, 2016). Drivers must pass a background check, and own a qualifying vehicle. Cars must be a fourdoor sedan capable of holding four passengers, model year 2001 or newer (2011 in New York City [NYC]). In addition, cars must pass a vehicle inspection from Uber or a third party. Additional requirements for Uber and Lyft drivers and vehicles vary by city and state. Drivers must have a current smartphone with a data plan to use the apps, and a bank account to receive payments for rides.

NYC Taxi Medallion prices substantially increase the overhead for taxi owners (Holodny, 2016). Sale prices reached a peak of \$1.3 million in 2014, but asking prices for medallions have fallen as low as \$250,000 in October 2016. The average asking price on medallions is currently around \$500,000 (NYCITYCAB.com, 2017).

Research conducted by Jonathan Hall and Alan Krueger on Uber's labour market uncovered significant demographic and earnings-related data (Hall & Krueger, 2015). Compared to traditional taxi drivers, Uber drivers are, on average, less diverse, better educated, and far younger. Indeed, whereas white individuals only make up 26 percent of taxi drivers, they make up 40 percent of Uber drivers--at the cost of reduced minority representation across the board. The skew of Uber drivers' average ages is opposite that of taxi drivers, with the former's distribution decreasing with

age and the latter's increasing with age. It should be noted that while women make up a minority of Uber drivers, at 13.8 percent, the rate is double that of the rate found amongst taxi drivers. In terms of earnings, the researchers found that while over half of all Uber drivers across U.S. cities drive 1-15 hours/week, the greatest per-hour compensation is achieved when driving between 15 hours/week and 34 hours/week.

Ernst & Young's (EY) October 2015 report on the Indian sharing economy stressed the burgeoning market potential to be had there (Ernst & Young, 2015). India has one of the lowest car ownership rates among BRICS nations, coming in at 7.2 per cent, compared to Russia's 38.8 per cent, Brazil's 22.1 per cent, and China's 18.7 per cent. Moreover, the nation's 19.2 per cent internet penetration rate has established a user base of over 240 million individuals.

# *Diffusion of smartphones; a shift from valuing ownership to renting; and growing digital trust*

Smartphone users in the U.S. numbered 207 million in 2016, or 64 per cent of the total population (Statisca, 2016a, 2016b). Smartphones now account for 79.3 per cent of the mobile market (comScore, 2016). Digital technologies now enable sharing by lowering transaction costs. Nica and Potcovaru note that sharing has long been a way for communities with few resources to spread those resources among its members. Now, the sharing economy allows a community to share their resources by choice rather than out of necessity (Nica & Potcovaru, 2015).

Car ownership among millennials is increasing, given that commuting to work outside of large cities still requires a car (Bershidsky, 2016). Millennials are the most numerous generation, quickly catching up to baby boomers in number of car purchases. The home ownership rate for buyers under 35 is 34.2 per cent in Quarter 1 2016, down from 39.8 per cent in 2009 (Sean Williams, 2016). This age group is now more likely to live with their parents than with a spouse (Cohn & Passel, 2016). In general, millennials are putting off marriage and having children until later in life, which also delays the need to buy a home. However, economic factors are also at play: according to Zillow, few renters can afford a median-price home where they live (Svenja Gudell, 2016). Younger home buyers have lower credit scores, making home loans expensive or unobtainable.

Proponents of the sharing economy state that it builds trust among strangers through ratings systems and feedback for providers and consumers. Rebecca Elliot cautions that "ratings systems are not analogous to regulations and should not replace them, especially not in markets where public safety is at risk." (Elliott, 2015). Other critics say that the social nature of the sharing economy has been co-opted by corporations that seek to profit from it. Kenney and Zysman compare sharing economy platforms to not-for-profit ones, noting that Uber and Airbnb are far

removed from the community built by volunteer Wikipedia editors (Kenney & Zysman, 2016). In this sense, Uber is very different from the sharing economy ideal of drivers giving a friend a ride, or drivers getting to know their passengers beyond one ride.

In the broadest sense, the sharing economy represents a transformation of products, once bought outright by consumers, into services that can be accessed on demand. Michael Munger observes that "people don't fundamentally want stuff. What they want is the stream of services that stuff provides over time." (Munger, 2016, p.391) A commonly cited example is a power drill: "I want a hole in the wall, not the power drill itself." Wanting the service that the product offers would lead someone to rent that product for a short period of time. Until recently, the transaction costs of sharing goods for short periods of time between peers were greater than the costs of buying them outright. Peer-to-peer sharing makes the most sense for expensive, underutilised items like cars and spare rooms.

In the *Alternative Journal* article, "Ours is Better than Yours," Ray Tumulty (2014) describes the sharing economy as a distinctly urban phenomenon. Sufficient population density is required to achieve economies of scale for many sharing economy services. Furthermore, these services are seen as one of many options, not necessarily replacing traditional sectors. Ride sharing is used along with public transportation in cities, for example.

Tumulty goes on to say that millennials do not view cars the same way as their parents did (ibid). Rather than needing a car to meet up with friends as in previous generations, millennials can now use social media to stay in touch.

#### Lax Regulations

Kenney and Zysman note that platforms with a first-mover advantage seek to "remake existing law by creating new practices on their platforms." (Kenney & Zysman, 2016, p.1) Online platforms perhaps benefit from ambiguity about how they should be regulated. Internet companies that exist solely online are subject to one set of regulations, while transportation companies like taxis are subject to another. Thirty-nine states now have laws that apply specifically to transportation network companies (TNCs) such as Uber and Lyft (PCI, 2016; R Street Institute, 2016). California, home to many sharing economy companies, was the first state to pass a TNC law in September 2014.

Critics complain that companies such as Uber and Lyft are skirting regulations that represent significant costs for traditional taxi companies. Dave Sutton, a spokesman for the 'Who's Driving You?' anti-ridesharing campaign, estimates that between 35 per cent and 40 per cent of

operational costs for taxis come from regulatory compliance (Notte, 2014). To overcome the disparity in regulations, Rebecca Elliot recommends that app-based companies work with regulators to balance innovation with public interest. In addition, taxi commissions should look for ways to lower the costs of regulatory compliance to better compete with TNCs. No one will invest in taxi licenses if the costs of regulation exceed the value of the license.

Though they avoid these costs, it is unclear that TNCs are anti-competitive from a consumer standpoint, given that riders can easily switch between apps and taxis. Uber does have a grievance process for its drivers and riders: it offers in-app support, a website, local office hours, and an emergency telephone number available in 22 cities (Campbell, 2016; Uber, n.d.; Hawkins, 2016a).

#### **Operational Efficiency**

Transportation economist Donald Shoup estimates that private vehicles go unutilised for 95 per cent of their lifetime (Knack, 2005). In a study of private vehicle usage in Montreal, Morency et al. (2015) estimated that 48-59 per cent of the current car fleet in Montreal could satisfy the total demand for access.



Unsurprisingly, the Airbnb model diverges from trends in the hotel industry in a number of categories. On average, Airbnb accommodations have occupancy rates that are a fraction, ranging from one-half to two-thirds, of their city's average hotel occupancy (Haywood, 2016). As hotels range from 70 to 85 per cent occupancy across large cities globally, the average Airbnb

accommodation will find itself book for around four to six months of the year. In the majority of these cities, however, with San Diego, Nashville, and Austin remaining notable exceptions, Airbnb accommodations tend to beat hotels in price (Busbud, 2012).



Represented from Source: BJH Advisors LLC, "Short Changing New York City: The Impact of AirBnb on New York City's Housing Market."

#### Average cost difference between hotel and airbnb accomodations



Cities where AirBnbs are cheaper than Hotels

Recreated from Source: BJH Advisors LLC, "Short Changing New York City: The Impact of AirBnb on New York City's Housing Market."

In London, Paris, and New York City, for instance, average savings could total over \$100 a night. Lagging occupancy rates appear to be more a function of Airbnb's target market (tourists instead of business customers, millennial demographic, and part-time business model) than as a result of an unreceptive market.



As of July 2016, however, the hotel industry and Airbnb industry have been trending in opposite directions, with the former's growth outpacing the latter in nearly every market, aside from New Orleans (Haywood, 2016). Airbnb's sluggish growth in recent months can be attributed to the pushback it has seen from a number of city governments, most notably in New York City and Los Angeles. In New York City, fines have been put in place for short-term renters (residencies less than 30 days) due to concerns that high listing concentrations throughout Manhattan and Brooklyn push vacancy rates below five per cent, distorting the rental market (BJH Advisors LLC, 2016). The same concerns ring true in Los Angeles, where 90 per cent of Airbnb traffic runs through lessors with leasing companies, removing 7,316 units from the rental market or the equivalent of seven years of affordable housing construction (Samaan, 2015).

When comparing the relative efficiencies of Ubers and taxis, the capacity utilisation rate serves as the determining factor to measure the fraction of time a driver has a fare-paying passenger in their vehicle. Research has found that this measurement is significantly higher, both in terms of time and distance, for Uber drivers than it is for taxi drivers (Cramer & Krueger, 2016).



This difference is most noticeable in San Francisco, where Uber drivers can expect capacity utilisation rates of 54 per cent on average, 16 percentage points higher than their taxi driving counterparts. This efficiency gap is attributed to the scale, surge-pricing, passenger-driver matching algorithm, and lack of regulation that Uber benefits from. Indeed, the inability for taxi systems to coordinate system-wide data sharing on when and where potential passengers tend to be results in fleets 50 per cent larger than what is needed for sufficiency(Zhan et al., 2014). While the vast majority of Uber drivers are part-time, taxi drivers are mostly full-time, suggesting that taxi drivers may be more susceptible to diminishing returns on efficiency.

# 3. Regulatory challenges

In the following, we discuss some of the most challenging regulatory issues specifically in regards to ride sharing services.

## Privacy and data ownership

Data that the ride sharing services collect consists of two parts. The first part is the data that they own or can successfully argue that they own. For example, the route that their drivers choose to take the passenger to its requested destination is determined through electronic maps and GPS services that they either own or have subscribed for; the route is not determined by the passenger.

They could also argue that they own data on the origin and destination of each trip as it has been collected by their drivers through their mobile applications, despite the fact that identical data elements are also being provided by the passengers.

The second part of the data is *processed* and is more in the form of inferred information. For example, they can infer the locations of their passengers' work places and homes from historical data. They could also infer the highest price that a specific passenger is willing to pay for a specific ride. While this processed data can be used to increase the efficiency of the services, they may also be used in practices such as price discrimination against some passengers.

Some have argued against the collection and mining of data that could belong to passengers. Uber has already added a clause in their privacy agreements that asks passengers for permissions to use their data (Uber Privacy Statement, 2015). More importantly, major parts of the data do not belong to passengers to begin with. Data are being collected from drivers and not from passengers and therefore can be mined even without the consent of passengers.

#### Price discrimination

Targeted coupons are a form of price discrimination, but they are much less controversial than what we see in the sharing economy. Machine learning algorithms allow for price discrimination with a high degree of accuracy, but how much price discrimination is fair? (Tanner, 2014)

There is no empirical evidence to suggest Uber sets prices based on user characteristics (including cell phone battery charge (Jabbari, 2016 n.d.). Location is the largest factor in surge pricing, with large variations observed within small areas within cities where Uber operates. According to Uber board member Bill Gurley, only 10 per cent of Uber rides occur during surge pricing(Gurley, 2014). Due to earlier backlash about surge pricing, Uber has begun to remove notices of surge pricing in favour of quoting fares up front (Hawkins, 2016b). Most of this backlash to surge pricing comes during severe weather, when some riders consider it price gouging (Surowiecki, 2014). In addition, Uber fares never fall below the base amount, making increases harder to accept. As a compromise, Uber could give surge fares to drivers, instead of taking its standard 20 per cent cut of each fare.

Unlike industries with fixed supplies that use dynamic pricing to decrease demand, Uber uses dynamic pricing to increase supply. Technological efficiency in the transportation industry will mean paying market rates, but not necessarily lower fares (Lowrey, 2014). This makes overall consumer surplus an important part of the case for justifying dynamic pricing. Cohen et *al.* (2016) attempted to measure consumer surplus for Uber users and determined that the company could be charging

users much more for rides than they already do (Worstall, 2016). The researchers estimated total consumer surplus for Uber riders in the U.S. to be \$6.8 billion.

In summary, it is a reasonable request to ask for disclosure of the pricing algorithm, or at least the elements that affect the outcome of the algorithm. The fact that taxis must disclose their pricing method (it is posted on the window of every taxi) makes it much easier to argue for the same regulation for Uber and Lyft.

We are not sure that Uber or Lyft have actively engaged in price discrimination. The existing evidence is very anecdotal and unreliable. Even if there were evidence of price discrimination, it is difficult to say whether it would be illegal, given the current legal definitions, especially when the vendor is providing services and not goods (Federal Trade Commission, n.d.). Even if price discrimination is illegal, Uber and Lyft could offer the same prices to everyone but apply discounts and coupons to some customers only. This would be an indirect form of price discrimination that is very hard to prove illegal.

#### Racial discrimination

Using names and photographs in profiles can foster greater trust in online transactions, but it can also lead to gender and race-based discrimination (Ray & Luca, 2016). Identical products were purchased for lower prices on eBay when displayed with a black hand vs. a white hand in a photograph (Ayres et *al.*, 2015). A Harvard study determined that renters with African-American sounding names were 16 per cent less likely to be accepted by hosts on Airbnb (Edelman & Luca, 2015). The company has since hired former Attorney General Eric Holder to help combat bias on the site (Bhattarai, 2016).

Algorithms can reflect and amplify human biases when making recommendations and returning search results (Ray & Luca, 2016). Companies should accept the possibility for discrimination on their platform and be transparent when it occurs; providing data on discrimination can mark progress toward eliminating it. Withholding sensitive information, or making it less prominent, can prevent some forms of discrimination, and automating transactions can remove decision points where bias can occur.

#### Security concerns and redressing grievances

Consumer safety is one of the major concerns that companies face with sharing economy business models. Traditional firms are subjected to regulations that are often not applicable to emerging sharing economy business models. This leads to a larger question of who takes the responsibility

if anything goes wrong. Airbnb for example, offers safety recommendations for its listed properties but does not inspect them. In 2011, a host's home was completely trashed and burglarized by her Airbnb guests while she was away (Arrington, 2011) In another incident, a woman died of carbon monoxide poisoning in an Airbnb accommodation in 2013 (Lieber, 2015). Uber also faces liability challenges and is involved in many lawsuits. Uber was banned from Spain and New Delhi in December 2014. Uber continues to be involved in disputes with several governmental bodies, including local governments in the U.S. and Australia. Questions of employment law, consumer protection, unfair commercial practices, tax law, and insurance are a common occurrence.

Third party intermediaries such as Airbnb, Uber and Lyft offer feedback and ratings systems that allow consumers to share their experience and give ratings to the service provider. But the question still remains, whether these ratings alone are enough to build trust.

The ride sharing services have already implemented a very efficient system for customers to communicate their grievances through mobile apps. We would argue that the system is faster, more efficient and more convenient than the traditional methods implemented by taxi companies. The reason that Uber and Lyft do not have physical office space in most cities is primarily cost efficiency; to mandate a physical office location in each city, one should first establish its necessity. Are there any cases where grievances were not handled through the mobile applications? And if there are, could they be handled through a physical office? Taxi companies have a physical office because they run their business and, in some cases, handle customer grievances out of their office. In other words, they do not have this office specifically for customer grievances and therefore, why should Uber and Lyft also be forced to meet that requirement?

Most businesses no longer have a physical location for handling consumer grievances in each of their market locations. Like other parts of the customer relationship process, grievances are all managed through a central location/office.

#### Monopoly and competition: How to allow other platforms to compete?

The sharing economy has turned traditionally underused assets into competitors to established industries. This is seen as a threat to incumbent industries, especially in sectors that face challenges around quality, transparency and pricing. The sharing economy at present has a widespread effect on the hotel and taxi industries. Wallsten used data from the New York City Taxi Commission to show that Uber has created an alternative for consumers who would have otherwise complained to the regulator and encouraged taxis to improve their own service in response to the new competition (Wallsten & Wallsten, 2015).

According to Shy, networks can be further characterized by externalities (Shy, 2001). This could mean a consumer's demand for a certain product might increase quantity-wise if other consumers have increased purchase of the same product. While this can be a simplistic inference, network externalities would show a positive correlation between the number of consumers using a platform and the value they receive from their own use of this platform (Shapiro & Varian, 1999). This may be relatable as positive externalities but for the sharing economy, network effects are indirect. Generation of an extra value because of the presence of other consumers using a platform, the more their demands are met which increases the value of their use of the platform. From a demand and supply perspective, number of users on one side of the platform allows private suppliers to participate and consequently increase coverage and even demand (Haucap & Heimeshoff, 2014). Such indirect network effects for a sharing economy are a major characteristic of two-sided markets because they are often based on the two aforementioned sides of the platforms for the indirect network effects to occur on both sides.

In continuation to networks, characterises it further by high switching costs between different networks. If these switching costs increase hugely then a so-called lock-in effect can be seen (Shy, 2001). For sharing economy companies, there is a switching cost but not as high as it might be in the case of social networks. For example, let us take a consumer who wants to rent a car to travel during his vacation. He can open free accounts with several platforms that offer car rentals. However, if he were to choose a new platform, he might need to let go of connections to people and companies that previously offered him this service and might need to start afresh re-evaluating the terms, offers, and services of another company. In this sense, lock-in is typical for social networks. In the sharing economy, there is a switching cost that can be seen in three ways: (a) consumer incurs training and learning costs) (Shapiro & Varian, 1999), (b) consumer incurs search costs because it takes time to find a new platform when one is used to the existing platform, and (c) forming a trust mechanism with a new platform is time consuming and experience might be completely different, switching platforms would entail the cost of rebuilding trust (Demary, 2015).

#### Levelling the playing field between old businesses and new sharing economy platforms

Sharing economy businesses such as Airbnb and Uber have had regulatory issues. They face such conflicts with local regulators and incumbent businesses because of their "perceived regulatory advantages." (Einav et *al.*, 2016, p.17) In the U.S., for example, many cities regulate usage and the rental timeline of residential properties, limit the number of rental cars and have specific license requirements and safety rules. In the advent of peer-to-peer markets these requirements have been fringed in the past for which certain regulatory measures had to be taken

by the cities. Tabs on cab drivers, limiting number of cars in ride-sharing services, regular inspections and insurance checks were issued for public safety and the interests of existing taxidrivers with respect to Seattle's city council's response. Speaking of the taxi and hotel business, regulations is to largely protect the interest of the consumer from "unscrupulous operators or adverse market forces" (Leland, 1979) Taxi drivers therefore function within a regulation to avoid unethical conduct such as taking advantage of tourists or use unsafe cars or refuse to serve passengers in need (Leland, 1979).

Contrary to this stand on regulations, there could be a potential increase in the prices of hotels and taxis because of licensing restrictions that "primarily serve the interests of incumbents by limiting competition" (Stigler, 1971). This would additionally raise the need for peer-to-peer entry to make available these services thus creating competition and may even raise service quality that brings forth technological advancements and competition ultimately beneficial to the consumer (Seamans & Zhu, 2013; Wallsten & Wallsten, 2015). Regulatory indexes therefore could be more form-focused as they may result to lengthy licensing and certification processes which in fact peer-to-peer entries tackle with a different approach. Based on consumer feedback and a streamlined system for immediate requirements, peer-to-peer entries can ensure quality standards (Wallsten & Wallsten, 2015).

## 4. Spillover effects of the sharing economy on other markets

Increased mobility of the workforce in the digital age has contributed to trends toward the gig economy. The fluidity of job locations allows independent contractors to create short-term jobs that in turn give way to freelancing choices, and the contractors can hire the best individuals for specific projects. Because of the fluid nature of jobs in a gig economy, companies can save on physical resources and maintain a cost balance which would have, in the traditional setting, included the cost of renting office spaces, and hiring staff. Thus, short term and temporary employment has been on the rise for the past few years. Platforms like Uber and Lyft have changed the very nature of the traditional workspace. In the U.S., the majority of these workers – up to 93 per cent of them in the "rides and rooms" (Hathaway & Muro, 2016, p. 1) industries—are individuals earning income by freelancing or contracting with other businesses such as Uber, Lyft, and Airbnb.

Inclusive of the sharing economy, the gig economy is growing fast. However, it does not fully replace consistent payroll-based employment, although that situation can change (Hathaway & Muro, 2016). The figure below shows the percentage change in non-employer firms and employment by sector from 2010 to 2014 in the rooms and rides sectors in the U.S. The sharing economy has flourished in metropolitan cities where online gigging adhered to the upkeep of demand in rides and rooms businesses (81 per cent of the four-year net growth in non-employer

firms in the rides sector took place in the 25 largest metros, while 92 per cent occurred in the largest 50 metros.). Where the gig economy is certainly growing fast, the upsurge of online platforms creates innovative job options and democratises the process of employment. Companies in the non-employer status organise services majorly in the metropolitan areas where rapid growth rate is seen in the years 2010-2014 and promises to rise higher. The following figures show the change in non-employer firms and payroll employment in select passenger ground transportation industries and select traveller accommodation industries in the U.S. (ibid)



Source: Brookings analysis of Census Bureau and Moody's data



Source: Brookings analysis of Census Bureau and Moody's data

It is important to scrutinise the impact of new platforms on other parts of the economy. There is a need to better understand the impact of ride sharing on car manufacturing. There is anecdotal evidence to suggest that people defer their decision to buy new cars in cities after the entry of ride-sharing options such as Uber, Ola (Indian ride sharing firm), or Lyft. This is likely to affect sales of cars in the cities where the reach of ride sharing platforms are extensive. While the exact nature of the relationship between a sharing economy platform (Uber) and a specific sector (car sales) needs to be established empirically through analysis of data, there are deeper concerns of congestion, pollution, and employment in local economies.



Source: Brookings analysis of Census Bureau and Moody's data

### 5. Recommendations

The uniqueness of the sharing economy poses several new challenges for regulators in countries across the world. The inherent objective of regulating such sectors is to encourage competition that will eventually lead to innovation, lower costs, and better products and services.

# *Regulators are inherently reactive, and very slow to respond to changes in the sharing economy. They play a catch-up role*

In the digital age, technological advancements bring increasing efficiency. However, existing regulatory organizing bodies lack coordination between the different levels of the government. The lack of a collaborative system results in confused mixes of policies that trickle down through official levels. One such example is Uber being branded as an illegal "bandit taxi-service" in the city of Ottawa. Municipal employees are not provided reimbursement if travelling by an Uber, even though their travel allowance covers licensed taxis. In the Canadian federal government, policy responses are not yet concrete even though they are aware that their own employees take Uber to get to work

(Willing, 2015). Political parties have not identified an approach to regulating the sharing economy (Salman & Long, 2015).

In India, the High Court of Delhi has asked the government of India to develop guidelines for regulating taxi cab aggregators. This is an important exercise which needs to be based on real-world data and also needs a simple enforcement mechanism. The more stringent the regulatory guidelines, the higher the regulatory capacity must be to monitor and enforce these guidelines.

# Regulation should only be changed when there is an immediate need, such as market failure. There is no such need for the sharing economy

Commercial activities in the sharing economy blur lines between the personal and professional. For example, most Airbnb hosts are not professional hoteliers, and a large fraction of Lyft and Uber drivers are not professional drivers and are only active on the platform fewer than fifteen hours per week. Applying a regulatory regime to these businesses might create an entry barrier. Absence of regulations, on the other hand, can lead to more part-time supply and that forms part of a self-regulatory solution (Lyons & Wearing, 2015).

Prior to government intervention, self-regulatory policies should be introduced in sharing economy companies. Self-regulation does not mean no regulation, but a reallocation of oversight to stakeholders other than the government. Responsiveness and flexibility bring value to the peer-to-peer companies' consumers. In such cases where the consumer-seller relationship is fluid and somewhat redefined, traditional regulatory standards for safety and consumer rights might be difficult. In that case, self-regulatory approaches should encourage the 'use of crowdsourced consumer feedback' and thus devise a system where quality service remains constant (PriceWaterhouseCoopers, 2014).

Educating consumers about the risks and nature of peer-to-peer transactions can be viewed as a component of self-regulation. Additionally, sharing economy companies should ideally be willing to share more of their business data with governments to establish trust between these companies and regulatory bodies (Hawksworth et *al.*, 2014).

#### Further transparency

Some regulatory challenges facing peer-to-peer markets could come from the huge amount of user data they collect and use. User data should never be made available for sale; consumers should have the right to limit the ways in which businesses access their information and share buying history, individual feedback, or customer ratings. In the housing and consumer finance sectors, regulations guard against discrimination or discriminatory practices. For example, lenders cannot

reject loans or increase loan interests depending on the applicant's class, gender, or ethnicity. Peer-to-peer markets, for their part, should administer algorithms that would do away with such variables that might lead to discriminatory factors. As much as this may be a plus, users may also choose to provide ratings or feedback. When a taxi driver receives negative feedback even though he completes his duty, it may cause economic harm, since individual data can influence other consumers to abstain from taking the similar service or product. A deeper economic analysis can look at this issue from a regulatory perspective on sharing and the use of individual data (Einav et al., 2016).

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