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SUSTAINABLE URBAN LIVING

Sustainable urban living is about more than energy-efficient buildings, mass transit, and green spaces. A growing aspect of sustainable urban living is the "sharing economy." Sharing has always been a part of urban life (e.g., public libraries and community spaces), but in the past few years, cities have seen a significant revival and acceleration in sharing activity and innovation. In cities around the world, people are now welcoming guests into spare rooms, sharing tools and equipment, and paying for rides in cars of people they don't know. According to a National League of Cities (NLC) survey, more than half of cities in the United States indicated that they have seen some growth in the sharing economy, with 16 percent classifying this growth as rapid (DuPuis and Rainwater 2015, 5). The size and scale of leading companies operating within the sharing economy, most of which didn't exist a decade ago, now rival that of some of the world's largest businesses in transportation, hospitality, and other sectors.

From innovative technologies and business models to redefined concepts of equity and safety, the sharing economy is starting to change our cities. Cities have many resources that can easily and effectively be redistributed and shared. By allowing people to consume less and own less, thereby using fewer resources, the sharing economy promotes urban sustainability (Hirshon et al. 2015). The sharing economy can lead to more sustainable consumption while remaining compatible with economic growth. According to Kurt Matzler and his colleagues, the sharing economy "seems to hold the potential to unite cost reduction, benefit augmentation, convenience and environmental consciousness in one mode of consumption" (Matzler, Veider, and Kathan 2014). However, sharing economy services have also presented cities with unprecedented, complex questions. The greatest challenge for cities is finding a balance between embracing these platforms, as well as the various benefits they offer to residents and visitors, and regulating them to ensure safety and responsibility. With more types of sharing businesses entering the market, and the rising popularity of these new applications and services, city leaders have been forced to address these issues all at once (DuPuis and Rainwater 2015, 5).

In this case study, I will look at two mainstream platforms within the sharing economy: Airbnb and Uber. Both companies have achieved success by democratizing and creating access to two of the largest assets people have: their homes and cars. Airbnb is now valued at $25 billion, rivaling large hotel chains, while Uber is valued at $65 billion, similar to major car companies (Slee 2016). I'll provide a short overview of the sharing economy, then brief backgrounds of both companies, including the benefits and challenges presented in cities.

WHAT IS THE SHARING ECONOMY?

The sharing economy, or collaborative consumption, "is the peer-to-peer–based activity of obtaining, giving, or sharing the access to goods and services, coordinated through community–based online services" (Hamari, Sjöklint, and Ukkonen 2016, 2047). It is a system built around the utilization of unused or underused resources (Bond 2015, 77). The sharing economy dates back to the 1990s with the founding of online marketplaces eBay and Craigslist, which allow for the recirculation of goods. But the modern sharing economy looks slightly different, fueled by information and communication technology and the proliferation of Web–based communities, stemming from the tech-driven culture of Silicon Valley (Hamari, Sjöklint, and Ukkonen 2016, 2048). According to an analysis by PricewaterhouseCoopers (PwC), by 2025 the five main sectors of the sharing economy—transportation, accommodation, finance, music/television/video streaming, and online staffing—could represent $335 billion in revenue worldwide (PwC 2015, 14).

The rapid growth of these peer-to-peer platforms has been enabled by innovations in technology, which have streamlined entry into the market for suppliers, facilitated easy access to searchable listings for consumers, and kept overhead costs low (Zervas, Prosperio, Byers 2016). As a result, sharing assets is cheaper and easier than ever before and, therefore, possible on a much larger scale. Before the Internet, renting a good or space from someone else was feasible, but not easy to do. Now websites match up apartment owners and renters; smartphones with GPS let people see where the nearest rentable car is parked; social networks provide a way to check up on people and build trust; and online payment systems handle the billing (*Economist* 2013). Just as YouTube disrupted television and blogs compete with mainstream media, the sharing economy replaces the industrial model of companies owning and people consuming and allows everyone to be both consumer and producer.

The sharing economy has emerged as a way for people to utilize an item or service without having to own it. The idea of ownership is changing—today's generation doesn't see ownership as a privilege, like their parents did, but sometimes as a burden. A 2011 survey completed by BAV Consulting showed that 66 percent of consumers (and 77 percent of millennials) prefer a lifestyle with fewer possessions (PwC 2015, 14). We're moving away from a world organized around ownership to one organized around access to assets. Instead of showing off possessions, people now want to show off the places they have traveled to and the experiences they have had. The sharing economy allows people to spend less and still have quality experiences. In some cases, it even allows them to gain access to new services they wouldn't have been able to afford previously. This new trend of "dis-ownership" gives individuals and families more choice and opens the door to a more efficient lifestyle. One example I've heard frequently is that a power drill is used, on average, for only 12 to 13 minutes in its entire life. So why buy one when you can rent or borrow it instead (Botsman and Rogers 2010)?

A growing concern about climate change and future sustainability has made the sharing economy an appealing alternative for environmentally conscious consumers. With sharing, less energy is needed for transportation and production of goods, and less waste is created as everyday products and services are shared among a group (Belk 2010). Some research has indicated that participation in the sharing economy can be ecologically sustainable (Prothero et al. 2011; Sacks 2011). Sarah Cannon and Lawrence Summers found that car sharers report reducing their vehicle miles traveled by 44 percent while surveys in Europe show CO_2 emissions are being cut by up to 50 percent (Cannon and Summers 2014). However, to date, there are no comprehensive studies of the environmental impact of the sharing economy (Schor 2014).

While some cities are embracing the technology, innovation, and new business models that the sharing economy brings, others are resistant to change or have concerns about the safety and responsibility of these new services that aren't regulated under the same conditions as traditional services. The biggest challenge to cities is regulatory uncertainty. The explosive growth of the sharing economy has led to regulatory and political battles in cities all over the world. Governments do not currently have a strong regulatory framework to govern these new services (Posen 2016; Quattrone et al. 2016). Regulating the sharing economy is challenging because existing laws were developed without considering the new issues it presents. These types of companies do not fit industry regulations perfectly and sometimes operate outside the law. Critics, such as yellow-taxicab drivers, landlords, and hotel owners, "argue that operating without regulation gives start-ups an unfair advantage over highly regulated incumbents" (Chang 2014). The city is also forced to respond quickly, with little time or opportunity to develop an effective response, sometimes enacting legislation without substantial stakeholder participation. Policy makers are often under pressure to permit the services their constituents value while also ensuring safety, fairness, and the best interests of the community. According to a recent report, "Many municipal governments are attempting to impose old regulations on these new marketplaces without much thought about whether these laws apply to these companies, and without a complete understanding of the benefits and drawbacks generated by these new services" (Quattrone et al. 2016). There are also questions about the enforceability of new rules. Many sharing services are relatively invisible. In any case, the sharing economy is here to stay, and rules should be designed to facilitate rather than discourage its development.

RIDE SHARING: UBER

Uber, which I discussed briefly in chapter 3, is a service that offers on-demand transportation access through a cell phone application. It provides an excellent example of poorly thought through efforts by government to regulate the sharing economy. Uber was created by tech entrepreneurs Garrett Camp and Travis Kalanick in May 2010 in San Francisco, California, with $200,000 in seed funding. The company originally started as a luxury black car service and launched a lower-cost service called UberX in 2012 that contributed to the company's rapid and widespread growth. Uber currently operates in more than 500 cities worldwide. Between 2009 and 2015, it received $6.61 billion in seed funding from 52 investors (Jin et al. 2016). At this writing, it was valued at roughly $51 billion (Woo and Bales forthcoming).

Uber does not call itself a transportation service. Rather, it is a technology platform that allows users to easily access a ride through a third-party transportation provider. Uber is "in the business of delivering cars." A customer can use an application on his or her phone, request a ride to an exact location, get a fare estimate and estimated time of arrival, and pay automatically through the app with a credit card. The company markets its clear pricing, convenient charging to credit cards, and easy and transparent use. Both driver and rider can also provide a rating on the experience—a prime feature of sharing services in general. UberX, the cheapest of its options, is roughly 40 percent lower in price than the average taxi, although Uber does utilize surge pricing, which raises the price of the ride during high-demand hours. Uber takes a 5 to 20 percent cut of the price of the ride and the rest goes into the driver's account. Drivers have great flexibility in their schedules and use their own vehicles to provide rides, and anyone can drive for Uber with a few requirements regarding background checks, vehicle ownership, and car insurance. There are other benefits as well. Some studies have looked at the impact ride sharing has on drunk driving rates: one study found that between 2009 and 2014, UberX resulted in a decrease in drinking and driving–related deaths of between 3.6 and 5.6 percent in Californian cities where the service is offered (Stevenson 2015).

One of the challenges provided by Uber is how ride sharing should be regulated. The largest voice against Uber has come from the taxicab industry—which had been highly regulated in U.S. cities. In New York City, regulation of cabs that are allowed to respond to "street hails" is based on a medallion system; the taxi medallion itself is a small metal plaque that is affixed to a vehicle, and it is illegal to operate certain types of taxis without one. The city controls the number of medallions. Some wonder whether Uber drivers should be subject to the same regulations that taxi drivers are subject to. Taxi drivers must meet licensing and training requirements, must undergo background checks, have licenses reviewed, and must regularly have cab inspections. Taxi drivers have complained that Uber has taken away business by offering the same services but with lax regulation. The argument is that by not owning taxi medallions, Uber skirts compliance costs, dilutes the market, and unfairly competes with taxis (Posen 2016). And according to a working paper from the New York University Marron Institute of Urban Management, "sharing firms have proven remarkably resistant to regulatory pushes to limit their growth, displaying uncanny abilities to rally consumers as political advocates" (Rauch and Schleicher 2015, 3).

How Are Cities Responding?

Some cities have attempted to ban Uber and similar ride-sharing services. Cities from Vancouver to Rio de Janeiro consider Uber illegal, and even whole countries such as Italy and Spain have banned the service (Goodyear 2015). Rio de Janeiro was the first city in Brazil to announce such a ban. Mayor Eduardo Paes signed legislation in September 2015 banning Uber and similar technologies, and drivers can receive fines of nearly $500 (AP 2015). However, Uber continues to operate in Rio under a court injunction.

Vancouver in British Columbia, Canada, seems like a likely place for Uber to flourish, considering it has a thriving tech scene that employs thousands of young people. However, British Columbia's Passenger Transportation Board (PTB), a six-member board that sets fares and rules for the taxi, black car, and limousine industries, categorizes Uber as a limousine service (De Vynck 2016). The PTB told Uber that it must follow the rules of limo services, which means setting a minimum fare of $75 in order to keep them from competing with taxis. In the view of the PTB, Uber was a limousine company breaking the law. Uber left Vancouver 6 months after it began operating there.

Uber began operating in San Antonio, Texas, in April 2014 but then threatened to close operations in the city 8 months later because legislators wanted Uber drivers to submit to fingerprinting and random drug tests—requirements that Uber thought was too burdensome for drivers. Uber and the city were engaged in confidential negotiations, and the city thought they were near a deal when Uber made good on its threat to exit in April 2015 (Griswold 2015). The company stated in a blog post that: "City officials have created a regulatory climate that makes it impossible for us to meet the high standard of service that riders from over 170 cities across the U.S. have come to expect" (Uber Newsroom 2015). In the end, Uber returned to the city after the city agreed to Uber's terms. A 10-fingerprint background check is now optional for drivers operating through ride-share apps, although it is required for taxis and pedi-cabs. One article in *Slate* called Uber "a company accustomed to steamrolling local governments" and one that plays "a brash brand of politics" (Griswold 2015).

But other cities are embracing the ride-share model, recognizing that Uber and similar companies offer a service that people want and increasingly demand. Washington, D.C., passed legislation embracing ride sharing: its city council passed the Vehicle-for-Hire Innovation Act (VIAA) in 2014, which does not require ride-share services to comply with the same licensing requirements as taxicabs. It instead sets a minimum insurance requirement and background check, registration, and operating requirements (Posen 2016). The act essentially legalizes Uber in Washington, D.C., and gives the District's Taxicab Commission the task of enforcing regulations (Aratani 2014).

Responses by city governments are far from uniform. In San Francisco, according to the San Francisco Municipal Transportation Agency (SFMTA), within 18 months of Uber's introduction there was a 65 percent decline in taxicab use. The California Public Utilities Commission is the regulatory body that oversees ride-sharing services in the state of California. The state adopted ride-share regulations in 2013 when it coined the term "transportation network company" (TNC) to create a new class of companies that provide transportation services but don't technically own cars or employ drivers (Goodyear 2015). While the state regulates ride-sharing networks, municipalities in California regulate taxis.

One city where Uber is highly regulated is New York City, where Uber has caused the price of taxi medallions to decline: in 2014 the average price was 17 percent below its peak in 2013 (Bond 2015, 90). The Taxi & Limousine Commission (TLC) has regulated the taxi industry in New York City since the 1970s (Posen 2016). Ride-sharing drivers in New York City have to gain TLC commercial licenses, which is the only U.S. city that requires this step. Uber drivers must have an eligible vehicle with TLC plates, must provide a social security card, a state driver's license, Department of Motor Vehicle registration, insurance card, and certificate (Kunkle 2016). According to a report by the city of New York: "In New York City, these companies face added requirements under the TLC's for-hire vehicle legal and regulatory framework; drivers are professionals and must hold a commercial license, as well as undergo more rigorous background checks and training. Though drivers may operate their personal vehicles, those vehicles must submit to City inspection" (City of New York 2016b, 3). Taxis have a $0.50 surcharge per ride that supports the Metropolitan Transportation Authority (MTA), but instead ride-share passengers pay 8.875 percent sales tax, of which 4.5 percent goes to the city and 0.375 percent goes to the MTA (Meyer 2016). Although Uber has so far complied with city regulations, in summer 2015 New York City Mayor Bill de Blasio proposed setting a cap on the number of for-hire cars operating in the city, citing congestion and pollution issues. Yellow and green cab fleet sizes are capped at roughly 15,237 and 18,000, respectively, while livery, black car, and limousines, including e-dispatch ride shares, have no such restrictions. The city estimates that there are roughly 148,000 licensed for-hire vehicles in New York City (City of New York 2016b, 8). This led to a study on the impact that ride-sharing companies have on the city, which was completed by McKinsey for roughly $2 million and published in early 2016 (Meyer 2016). The report found that the decreased traffic speeds in Manhattan could not be attributed to ride sharing. The study also found that ride sharing has increased transportation options for low-income, outer-borough New Yorkers. Areas such as Astoria, Harlem, Jackson Heights, and Washington Heights experienced more than

1,200 percent growth in monthly UberX rides throughout the course of 2014 (Meyer 2016).

Other Issues

Uber reported $1.27 billion loss in the first half of 2016, and the company attributes these losses to driver subsidies, especially in China (Somaney 2016). In order to build a strong customer base when Uber enters a new city, the company provides subsidies to drivers to offer promotions, such as discounts and free rides. Uber was spending about $1 billion a year in China to build its customer base through these promotions, but this was holding up its stock offering as well as expansion into other global markets. Uber has been profitable in the United States and Canada, but the substantial losses in 2016 underscore the difficulties faced when companies try to build and expand. Uber didn't face regulatory challenges in China, but when it entered the Chinese market in 2014, there was already a strong ride-sharing market dominated by two Chinese companies: Didi Dache and Kuaidi Dache. In 2014, Didi was the largest ride-hailing service in China, averaging 5.22 million ride requests per day (Yang, Su, and Fang 2016). In February 2015, Didi and Kuaidi merged to form one company: Didi Chuxing. Uber spent the first 2 years in the Chinese market fighting with these companies and in August 2016 agreed to sell its subsidiary company, Uber China, to Didi Chuxing (Isaac 2016).

Uber has also introduced some new programs that might actually deter people from using public transit. For example, in New York City, Uber began offering UberPool rides for a $5 flat rate, valid only on weekdays between 7 a.m. to 10 a.m. and 5 p.m. to 8 p.m. in Manhattan below 125th Street. In addition, Uber offered a promotion with Gilt City (a lifestyle website that sells discount offers for experiences) for "Commute Cards" that grant unlimited rides during rush hour for a flat rate; $49 for 2 weeks, $79 for 4 weeks, or $159 for 8 weeks. Both of these options essentially make commuting via car cheaper than taking the New York City subway, assuming riders are using an unlimited subway pass twice a day on weekdays only.

While Uber continues to operate and expand, a number of questions remain. Should drivers be considered independent contractors or employees? Should they be allowed to form unions? How much insurance coverage should be required? Should sales tax revenue they generate go toward mass transit? These are the types of questions and issues that ride-sharing operations have generated.

HOME SHARING: AIRBNB

Airbnb, the largest and most well-known home-sharing platform, is an online marketplace that for a small processing fee connects people with spare rooms or vacant homes to those seeking accommodations. Since it was founded in 2008, the San Francisco–based company has served more than 60 million guests and become practically synonymous with the sharing economy. In late 2007, founders Brian Chesky and Joe Gebbia were having trouble paying their high rent in San Francisco so they put up a website, Airbnb.com, to advertise their floor space for a small fee. After hosting several people in the first week, Chesky and Gebbia realized the business potential and decided to build a bigger site with more listings. In 2009, the company received $600,000 in seed funding, allowing it to increase its offerings and expand internationally. By the end of 2011, Airbnb had more than 2 million total nights booked around the world. Today, the company operates in more than 34,000 cities and 191 countries. It is reportedly valued at $25 billion, more than most traditional hotel chains, including Hyatt and Wyndham (Airbnb 2016; Geron 2013).

Airbnb labels itself as the "world's leading community-driven hospitality company" (Airbnb 2016, 2). Its popularity stems from its ease of access, customer-centric approach, and affordability. The user-friendly site allows people around the world to connect with little more than a few taps of their smartphones. The platform's searchable marketplace and transparent availability calendar are easily accessible and give travelers a wide range of lodging options, often at much lower costs than that of hotels in the same neighborhood (Jonas 2016). Unlike traditional businesses, the founders didn't have to build any infrastructure—it already existed in the world's cities. All the company needed was the Internet. This allowed Airbnb to very quickly build up a greater choice of rooms in terms of location, price, and amenities. With more than 2 million listings worldwide, Airbnb hosts offer almost every type of overnight accommodation imaginable: apartments, condominiums, houses, inns, mansions, castles, tents, teepees, and even yachts. In addition, guests get to enjoy the experience of living like a local and staying in the heart of the city (McNichol 2015).

Airbnb has helped pioneer a market that is radically changing consumer hospitality preferences and behaviors (PwC 2015, 23). Founders Chesky and Gebbia wanted to be entrepreneurs, but neither wanted to "create more stuff that ends up in a landfill" (Kirkland 2014). They created a company that at its core is based on sharing, just as the sharing economy itself was proliferating. According to Chesky, "We never considered the notion we were participating in a new economy. We were just trying to solve our own problem. After we solved our own problem, we realized many other people want this" (Geron 2013). For some, the appeal of Airbnb is that it embraces a sense of community and offers the opportunity to interact with others. The site allows travelers to connect with local hosts and receive travel tips in a personalized fashion. Some contend that Airbnb is helping to close critical gaps in the sharing hospitality industry; namely, issues of friction and trust (PwC 2015, 23). Airbnb is also perceived to be more environmentally sustainable. An Airbnb-funded study conducted by Cleantech Group (CTG) found that traveling on Airbnb results in significant reduction in energy and water use, greenhouse gas emissions, and waste and encourages more sustainable practices among both hosts and guests (Airbnb 2014). However, several environmental advocates questioned the study's findings, accusing the company of greenwashing. I think that if the result of Airbnb is that fewer new hotel rooms are constructed, it might have a positive impact on the environment, but that would depend in part on the carbon and environmental impact of the home now being more fully utilized.

Similar to Uber, a major issue with Airbnb is how it should be regulated. Until recently, Airbnb operated without much oversight, and its hosts were not subject to traditional hotel regulation (Chafkin and Newcomer 2016). However, the rapid rise of Airbnb has sparked a public debate in cities worldwide about the real-world consequences of this online marketplace. Proponents claim that in many cities, the surging popularity of Airbnb is bringing tourists into neighborhoods they never visited before, creating new economic opportunities for residents and local businesses

(Anderson 2016). They also argue that Airbnb promotes better resource allocation and contributes to smart, sustainable cities. Critics, in contrast, claim it is fueling a lucrative underground economy, promoting the evasion of taxes, and contributing to an acute shortage of affordable housing (Herman 2014). Some also see a threat to safety, affordability, and residential character of local communities (Jonas 2016, 221). The biggest problem for Airbnb as it expands stems from landlords pressuring tenants to move out so they can turn their apartments into illegal hotel units. These concerns have prompted local and state governments to try to regulate Airbnb's services.

How Are Cities Responding?

The primary concern of many cities is that Airbnb and its hosts are reducing tax revenue and operating illegally, and a growing number of cities are taking action to regulate Airbnb's operations (Herman 2014). The stiffest opposition to Airbnb has come from the cities of New York and San Francisco. In 2014, New York Attorney General Eric Schneiderman filed a suit against Airbnb for refusing to provide the names of its New York hosts, some of whom regulators suspected may not have paid taxes on income and may be violating New York housing laws (Harpaz 2016). It is illegal in New York to rent out an apartment for less than 30 days without the occupants present. Airbnb fought back, claiming protection of customer privacy, but lost the ruling and was forced to submit the data. The attorney general's office analyzed Airbnb's bookings from 2010 to 2014 and found that as many as 72 percent of the Airbnb listings in the city—totaling around 36,000 at the time—might be illegal. The report also found that property owners using the site evaded millions of dollars in annual hotel taxes (Dingman 2015; New York State Office of the Attorney General 2014). In June 2016, New York State legislators passed a law that would subject Airbnb and other short-term rental site hosts to heavy fines for allowing rentals that violate the state's short-term rental laws (Clampet 2016).

Airbnb's hometown, San Francisco, has also struggled to regulate the growing home-sharing platform. San Francisco's policy is similar to New York's: Airbnb rentals are allowed only if hosts are full-time residents and rentals are capped at 90 days. However, it is estimated that more than a quarter of San Francisco's Airbnb properties listed on the site violate the city's 90-day annual limit on such rentals. In February 2015, San Francisco enacted a new rule requiring Airbnb hosts to register with the city, but a vast majority have not complied. As of March 2016, only about a fifth of the estimated 7,000 hosts had registered their properties (Said 2016). Now, the city is holding Airbnb responsible for its hosts and will impose a fine on the company of $1,000 per day for each unregistered listing that the city discovers (Slee 2016).

Cities in the United States and around the world are trying to figure out how to regulate home-sharing services. In 2016, Chicago enacted a house rental law that sets various kinds of limits for short-term rentals (Byrne 2016). Housing officials in Paris, one of Airbnb's most popular vacation destinations with an estimated 40,000 listings, began cracking down on secondary apartments set up specifically as short-term rental units, with officials fining violators up to $30,000 each (Schechner 2015). Iceland recently began to require registration for all hosts. In 2015, Barcelona became the first city to penalize Web platforms, including Airbnb, for advertising illegal "unlicensed tourist accommodations" (Garcia 2016). Beginning May 1, 2016, Berlin banned landlords from renting out apartments to short-term visitors, with only a few exceptions. The penalty for breaking the law can be as high as a $100,000 fine on the hosts (O'Sullivan 2016). Amsterdam and London, however, have been far more receptive to Airbnb than other European destinations. In February 2014, Amsterdam became the first city to pass so-called Airbnb-friendly legislation, a cooperative effort in which the city will levy a tourist tax on rentals, while Airbnb will work to ensure potential hosts are aware of all pertinent rules and regulations (Van Daalen 2014). And Londoners interested in renting out their properties on Airbnb have benefited from a new amendment to the city's housing legislation passed in Parliament in March 2015, which allows homeowners to rent out their house, flat, or spare rooms for up to 3 months a year.

Airbnb is not pleased with the new regulations. Airbnb maintains that it has a positive impact on cities and continues to present its business as low-impact, made up of everyday hosts occasionally renting out their own homes (Slee 2016). The company also argues that it's not responsible for hosts that don't comply with the law. However, as more and more cities begin to tighten regulations, Airbnb is trying to work more with city governments. “We are less confrontational, and we try to more pro-actively open a conversation with cities,” says co-founder Nathan Blecharczyk (Dingman 2015). In 2015, Airbnb launched the Community Compact, a document based on the company’s core principles and informed by the lessons they’ve learned about how best to partner with cities (Airbnb 2016, 2). Airbnb announced it would start to investigate and remove people running illegal hotels in New York and San Francisco. In Europe, which makes up 70 percent of its revenue, the company has tried to woo government officials, offering to pay tourism taxes, encouraging new laws that bless its activities, and commissioning studies showing it boosts local economies. In 2016, it detailed new measures to encourage hosts in Europe to pay income taxes on rental revenue (Byrne 2016).

Recognizing that their own pace of innovation has moved faster than the pace of regulation, Airbnb has begun lobbying to change those laws so that the revenue generated through their peer-to-peer home-sharing model is taxed appropriately. So far, a few early adopters, including San Francisco, Portland, Ontario, Alabama, and Florida, have taken the lead on making deals with Airbnb and are now collecting tax revenue from the company on behalf of property owners. Airbnb has also reached an agreement with Paris on collecting a tourist tax on behalf of the city. Others have been less enthusiastic. The Santa Barbara City Council banned Airbnb-style short-term vacation rentals and, in Virginia, proposals promoting home sharing were postponed largely due to strong opposition from hotel groups (Harpaz 2014).

In 2016, a coalition of 10 cities across the globe came together to collaborate on a framework that will provide these companies with ground rules to abide by. The coalition, which includes New York, San Francisco, Paris, Seoul, Athens, Barcelona, Amsterdam, and Toronto, are jointly preparing a unified “rule book” in an effort to leverage their combined size to promote clearer ground rules. The move will help to normalize the experience of both users and businesses who are frequently caught up in the hodge-podge of current regulations. While there’s no policy drawn up yet, multiple city representatives met for the first time in May 2016 to discuss the issue (Mawad, Fouquet, Goldman 2016).

Other Issues

Other problems that city governments and state regulators foresee with Airbnb include potential influxes of travelers who will transform residential neighborhoods into hotel districts and a current lack of oversight and accountability over Airbnb-related adherence to zoning laws. Affordable housing advocates have now joined the conversation, saying that sites like Airbnb are contributing to the crisis.

Airbnb says it contributes to local economies, in part, by attracting travelers who might not stay at hotels. According to an Airbnb report, "over 75 percent of Airbnb listings are outside main hotel districts, and typically up to 50 percent of Airbnb guest spending occurs in neighborhoods where they stay" (Airbnb 2016, 4). It also claims that its service is adding billions to spending in cities, with its own figures purportedly showing an economic impact of roughly \$500 million in New York City, \$300 million in London, and \$150 million in Barcelona alone (Herman 2014). However, in some of these neighborhoods, there can be an unfortunate side effect—an influx of tourists, and the money they bring, can lead to higher rents and retail prices and the displacement of locals who can no longer afford to live there (Anderson 2016). In cities like Vancouver, London, and New York, sites like Airbnb are diverting rental stock that could have been rented to local, long-term tenants instead (Anderson 2016).

One concern with Airbnb is its effect on local housing prices. In high-rent cities like New York and San Francisco, Airbnb is often portrayed as helping cash-strapped individuals bring in extra income to afford their rent. However, in the long term, some believe it will likely exacerbate the city's housing crisis by allowing landlords to charge more in rent because their tenants can turn to this secondary market to make up the difference (Herman 2014). While Airbnb makes claims to the contrary, two important studies have found that hosts who rent a single room in their home are no longer the norm. One study of 90,000 hosts in 18 cities found that 40 percent had multiple listings, while another one commissioned by the *San Francisco Chronicle* newspaper found that nearly 5,000 listings in that city were for entire apartments or houses (Herman 2014). Affordable housing advocates have joined forces with the hotel industry and labor unions to demand tighter regulation. Airbnb says it is aware of the concerns of residents in neighborhoods with high amounts of hosts and is committed to working with cities and communities to prevent this. The company also argues that there are many other factors at play, such as long-standing city policies around housing (Said 2016).

The company has also had to deal with discrimination issues. Studies by Harvard University researchers released in 2014 and 2015 suggest that black Airbnb hosts make less money than white hosts and that black users are sometimes refused service on the basis of race (Chafkin and Newcomer 2016).

Thanks to Airbnb, the concept of home sharing is now well entrenched in urban life. The challenge now is how cities effectively regulate its services in a way that benefits a wide array of interest groups—from Airbnb's loyal customer base, to neighborhood residents, to affordable housing advocates, to hotel groups, and more. Policy makers and tech leaders need to work together to craft enforceable regulations that protect public interest as well as innovation. With modern technologies, the intersection of urban space and cyberspace provides an unsurpassed platform for a more inclusive and environmentally efficient sharing economy.

Conclusion

The sharing economy has the potential to transform both business and cities in unprecedented ways and to boost urban resilience and sustainability in the process. It is a new way of consuming: using without owning. The car you drive, or are driven in, is not your own. The place you visit is someone else's property. All members of the sharing economy—participants, entrepreneurs, policy makers, and other leaders—have an essential role to play in making this happen (Chang 2014). According to Rachel Botsman in a *Harvard Business Review* article: "The real power of the collaborative economy is that it can serve as a zoom lens, offering a transformative perspective on the social, environmental, and economic value that can be created from any of a number of assets in ways and on a scale that did not exist before. In that transformation lie threats—and great opportunities" (Botsman and Rogers 2010). Rachel Hatch, research director at the Institute for the Future, a nonprofit based in Palo Alto, California, and a regular Airbnb host herself, adds: "If I were to forecast it for the next decade, cities that will thrive will be the ones that pause to consider how to leverage their sharing economy, while preventing gentrification and leveraging the city's character" (Anderson 2016).

In a global economy, a distinct sense of place is difficult to maintain. If the hotel you stay in due to a loyalty club looks the same on every continent, you can easily forget where you are. However, if you stay in someone's home, each dwelling has some element of local to offer. While the America-first ideology we sometimes see in American politics is attempting to push back globalization, the technological and economic force of globalism will be too strong to resist. Rather than resist the tide, the sharing economy provides a way to ride with it: using the technology that brought us a global economy in order to borrow and use the distinct local elements that an individual prefers.

ANALYSIS OF SUSTAINABLE URBAN LIVING AND THE SHARING ECONOMY: UBER AND AIRBNB

Sustainable Living as an Issue of Values

The sustainable city, its infrastructure, and impact on the planet is in many ways governed by a value construct of people attracted to living in the city. The development of the sharing economy is a major social and cultural phenomenon that should not be underestimated. The connection between consumption, possession, and ownership appears to be loosening. This is especially true of young people. A growing number see resources such as autos as a means toward an end rather than an end itself. They don't want to parade their car around town, but instead post photos of themselves on social media standing in iconic locations. It is a true manifestation of a post-scarcity economy when people can assume they can make use of anything they want whenever they want, without owning it. This changing relationship of people to property is a major paradigm shift in the definition of property.

The value of experience and of social interaction seems to be replacing, for some, the need to own the possessions that facilitate social interaction. Ownership of the latest technology remains important, but even with technology the need to possess the latest iPhone seems to be gradually replaced by the need for the latest software application. It is not that material goods are unimportant, but that they are less important than ideas, events, and experiences.

In addition, polling data indicate that a concern for environmental quality is higher among young people than old people, and strong majorities favor environmental protection. This cuts across ideology and political party and seems to be a function of the sociology of the millennial generation. A concern for healthy food, physical fitness, and wellness is closely associated with positive views of environmental protection. This serves to reinforce the sharing economy by viewing ownership of goods as less essential than access to products for use.

Sustainable Living as a Political Issue

An interesting aspect of sustainable living is that it is a cultural and social phenomenon and largely apolitical. While traditional environmentalism is sometimes associated with liberal politics, and certainly climate change policy appears to be, the sharing economy, renewable energy, energy efficiency, physical fitness, and wellness appear to cut across ideological divides. To the extent there is a political element, it appears to be to keep government away from the sharing economy. Efforts to regulate Uber and Airbnb are resisted, but not so much out of general resistance to regulation, but stemming from a perception that established interest groups and regulators are either misinformed or simply fighting innovation to protect the old economy and the benefits they derive from it.

Sustainable Living as an Issue of Science and Technology

Without GPS, inexpensive computing, cell phones, bar codes, credit card encryption chips, and a host of other technological innovations, the sharing economy would not be possible. To a considerable extent, the new economy is built on technology and is designed to share its benefits. Social media and free videography and photos allow experiences to be widely and instantly shared at no cost to the viewer or the producer.

In a more fundamental sense, the ability to assume that food, clothing, and shelter need not be a focus of our daily attention has been made possible by a wide range of labor-saving technologies from the internal combustion engine, to the tractor, to the electrical grid. Our lifestyle requires energy and technology, which has been used to replace human and animal labor in production. Our knowledge of medical science and the growth of medical technology have enabled wellness and physical fitness to be part of our daily routine.

Sustainable Living as an Issue of Public Policy Design

The sharing economy requires a new form of regulation that allows the public to be protected while limiting restrictions on those leasing their autos, homes, tools, or skills to that same public. The traditional command and control regulation and licensing is not an effective policy design, and so a new form of governance must be developed. Some elements of sustainable living do not require new forms of organization and living, but where the sharing economy is involved, a new governance design and structure will be required.

What has been termed the "gig economy," or short-term work assignments, also seems to be a part of this new lifestyle. People trade off freedom during the workday against job security and employer-funded benefits—particularly for health care, vacation, and retirement. Workers sacrifice the protection of unions and large corporations for freedom of movement. The social safety net will need to be redesigned to protect workers under these conditions. While this is not a prerequisite to the establishment of the new economy, it makes sense to anticipate these problems we are certain to see down the road. It will be interesting to see if the young adherents of the sharing economy change as they age and live in an aging society. Will they become more concerned about security, when mortality and illness become more relevant?

Sustainable Living as a Management Issue

The new organizational routines and incentive systems required for the sharing and gig economy are still under development. We do not know how to build and maintain these organizations. We are unlikely to see deep vertically integrated organizational structures. We do not have enough experience to know if the financing of these organizations and practices will provide an adequate return on equity. We also do not know if talented management can be attracted and retained by future Ubers and Airbnbs. We certainly can assume there will be a great deal of learning over the coming decades as some business and organizational models are abandoned.

Sustainable Living as a Multidimensional Issue

While sustainable living is best understood by examining it against a wide array of conceptual lenses, the most fundamental is to view it as an issue of values. Throughout the history of Western culture, possession of property has been a fundamental value, nearly always equated with the use of property. Separating use from ownership strikes me as a fundamental shift of values and of central importance to understanding an economy that maintains consumption while reducing the use of natural resources. While clearly technology is required to enable this change, people must value the experience of using material over possessing that good. That is central to the sharing economy and the element of sustainable living that it engenders.