

# THE SHARING ECONOMY: Is It Good for the Environment?

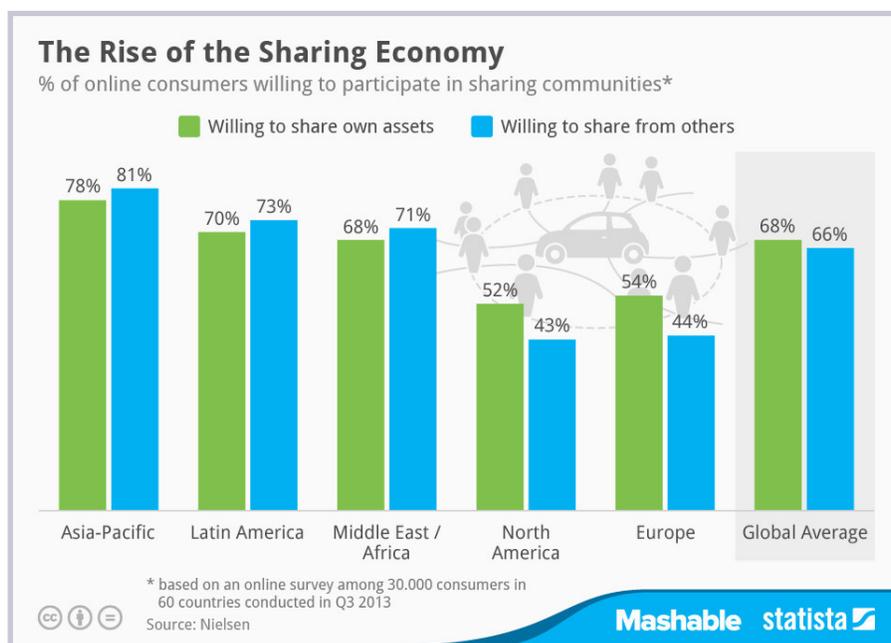
case study | personal consumption unit

It's summer vacation time. You and a few friends decide to get a vacation house together near the beach for prime relaxation. You travel there in a van large enough to hold beach chairs and umbrellas, equipped with a rack to hold the surfboards you pick up near your destination. Your surfing is a little rusty, but luckily a local legend is available to give you morning lessons.

Your vacation is a dream, replete with surfing, bicycle rides, several home-cooked meals, and new friendships. What made it even better was that it all was arranged quickly via your mobile phone. No need to deal with rental agencies or make new purchases. The house is rented directly from the owner via a website. The van comes from a peer-to-peer car-sharing service, and a crowd-sourced app tells you the best route to drive to avoid traffic and road repair crews. The bicycles are borrowed for a small fee paid by swiping a credit card at stocked kiosks along the boardwalk. And you find the surfboards, beach chairs, umbrellas, the surf master, and even the home-cooked meals from sharing sites on-line. A free article on the internet gave you great tips on how to do all this, along with pointers on which beaches to hit for great waves. Welcome to the sharing economy.

## What is the sharing economy?

This beach vacation was made possible by many of the features people think of when they hear the term "sharing economy": peer-to-peer lending facilitated by the internet and smart phone apps. On-line peer-to-peer platforms facilitate the matching of "wants" and "haves" for bicycles and skate boards, cars and parking spots, handbags and ball gowns, tools, toys, and tubas, even pets. Think of almost anything you can imagine someone owning but not always needing to use, and there probably is a site allowing it to be easily "shared" or rented on-line. Sharing can also be business-to-peer, where a business owns assets that members share, such as bike sharing or car sharing, or business-to-business, such as the sharing of office space or commercial production facilities or distribution.



Another term for this is “**collaborative consumption**,” which Rachel Botsman, co-author of the 2010 book *What’s Mine Is Yours: How Collaborative Consumption is Changing the Way We Live*, defines as the “maximum utilization of assets through efficient models of redistribution and shared access.”<sup>1</sup> *Time* magazine’s Joel Stein focuses on the commercial side of sharing when he asserts that “The sharing economy – which isn’t about sharing so much as ruthlessly optimizing everything around us and delivering it at the touch of a button – is the culmination of all our connectivity, our wealth, our stuff.”<sup>2</sup> On-line profiles and five-star rating systems allow users to build trust enough to hand over their house keys or garage door openers to perfect strangers.

Some definitions of the sharing economy go broader and more aspirational than monetized transactions for access to consumer goods. According to Benita Matofska, “Chief Sharer” of The People who Share organization, “The Sharing Economy is a socio-economic ecosystem built around the sharing of human, physical and intellectual resources.” There’s the free sharing of information, time, and talents; true cooperatives and co-housing; and collaborative finance (like Kickstarter) or microlending (like Kiva). There’s also collaborative education, like the Massive On-line Open Courses, or MOOCs, that bring classes from some of the world’s highest ranked universities to the masses, for free.<sup>3</sup> By this definition, the sharing economy, now in its infancy, could just become a rebuild of what we know of as “the economy.”

## Is the sharing economy good for the environment?

At first glance, sharing seems like an environmental no-brainer. If people shared the products that they would otherwise each own, it could mean less mining, drilling, manufacturing, and synthesizing. This is important when the growing global population of over 7 billion is thought to be consuming the Earth’s resources 50 percent faster than they can be replenished.<sup>4</sup>

A 2015 study by PricewaterhouseCoopers found that three quarters of American adults who were familiar with the sharing economy believed that it was beneficial for the environment. Unfortunately, there is not enough evidence yet to say whether this is actually true. Because how people get around is one of the key determinants of their impact on the environment, examining new sharing economy innovations in transportation can provide some clues.<sup>5</sup>

## Bike-sharing: one of the fastest growing forms of transit



On the environmental plus side, one of the fastest growing modes of transportation today is bike sharing. Bike sharing, which got its start in 1965 with a few dozen white bicycles scattered around Amsterdam for use free of charge, has evolved in recent years. Modern systems allow for instant access via credit card to bikes stationed at electronic docks or locked to regular bike racks with “smart” locks. As of the start of 2017, some 1,175 cities in 63 countries had modern bike-sharing systems, offering up the use of close to 2 million bicycles, quadruple the number from five years earlier.<sup>6</sup>

Research shows that getting more bicycles on the road encourages additional bike riding and makes roads safer for both cyclists and motorists. Shared bikes can increase the use of public transportation by helping to solve what is known as the last-mile problem: that last inconvenient mile or so between peoples' homes or work places and established transit routes that prompts them to commute by car. When people switch from a car to a bicycle, there are clear environmental benefits. The switch saves materials (compare a one-ton car to a 30-pound bicycle), reduces land use (you can park 20 bicycles within a car parking spot, and need far less road space for them to maneuver), and cuts both fuel consumption and carbon emissions.

What makes it hard to definitively say that bike sharing improves the environment is that the majority of people choosing to share bikes are not doing so to replace cars. Research of modern bike sharing systems shows that in their early years, bike-for-car substitution accounts for just 2 percent of trips in London or 21 percent in Brisbane, Australia, with many cities, including Washington, DC, and Minneapolis/St. Paul, Minnesota, falling in between. More car-to-bike switching is more likely to come in the future as bike-sharing systems expand and mature.<sup>7</sup>

## Wheels when you want them

In the United States, the car has long been king. There are currently more than 3 cars for every 4 people (including children) in the country. Yet younger generations are far less immersed in the car culture than their parents and grandparents. They are more likely to live in a city and delay getting their drivers licenses or are forgoing car ownership all together.

Robin Chase, co-founder of the car-sharing company Zipcar notes in her book *Peers Inc* that “for people...who live in cities and don't need a car to get to work, both car ownership and car rental mean getting more car than they actually use.” She cites research showing that “personally owned cars sit idle 95 percent of the time” representing millions of tons of unnecessary steel and plastic and other materials. Car-sharing solves this over-capacity problem by giving people convenient car access without the fuel and maintenance costs and hassles that come with ownership.<sup>8</sup>

Zipcar's tagline, “wheels when you want them” nicely sums up the business model. In 2000 Zipcar brought to the United States the Swiss-pioneered technology that allowed many people to use the same set of cars without the hassle of passing around physical keys. People pay for annual membership and for the time when they are using the cars. What differentiates car sharing from traditional rental models is that the cars are generally decentralized, with vehicles stationed around a community, like at apartment complexes and train stations, instead of at a single rental office in a town.

Zipcar's success has pushed car rental companies into this distributed model. Indeed, Zipcar itself was acquired by mainstream car rental Avis in 2013. By then, Zipcar had 760,000 members in the United States, Canada, and the United Kingdom. Other car-sharing schemes were taking off as well, with an estimated 3.5 million drivers worldwide. The Frost and Sullivan research group projects that this number will grow to 26 million by 2020.<sup>9</sup> This could be good news for the environment if members are forgoing their own private cars to join. Research shows that car-sharing members do indeed drive less and that each shared car replaces at least 9 and perhaps as many as 32 private vehicles.<sup>10</sup>



## More sharing, more cars?

Ride-sharing companies, like Uber and Lyft in the United States, use a different model to give people access to four-wheeled transportation, serving as a sort of on-demand taxi service. Uber was born in 2009. By 2016 the company could be found in more than 60 countries and had a value of \$68 billion. It became so popular that many new “sharing economy” ventures call themselves “the Uber of” whatever market they are in.<sup>11</sup>

Ride-sharing’s environmental effects are even more in question than car-sharing or bike-sharing. In New York City, for instance, the influx of ride-sharing cars on city streets has been linked with nearly 8 percent reduction in traffic speeds in the central business district. The ride-sharing vehicles, which now outnumber traditional yellow taxis two-to-one, block lanes, busways, and bikeways as they pick up and offload passengers.<sup>12</sup> New York is not alone. San Francisco’s transportation agency estimates that 15,000 cars have been added to city streets with the advent of ride-sharing, worsening congestion. Other cities are also seeing more cars on the road in recent years, beyond the increase that one would expect with an economic recovery.<sup>13</sup>

More city traffic jams means less-efficient travel for everyone, resulting in higher **greenhouse gas** emissions. Compounding this effect is the fact that the convenience that makes ride-sharing so attractive has drawn people who would otherwise take public transit or walk into a motor vehicle. While ride-sharing companies tout their environmental benefits, the University of California Transportation Center found that close to half of San Francisco ride sharers surveyed elected to book a car ride in cases when they otherwise would have walked, biked, or taken public transportation.<sup>14</sup>

## A change in mindset

One benefit of shared transportation services is that they help people redefine their needs. Instead of “needing” a car, people are discovering that what they “need” is mobility. Sharing services allow them to choose the mode that will best suit their needs at any given moment, factoring in price, speed, and convenience. The danger, however, is that as people become more used to a car on demand, they may start to divert their dollars and their political voice away from environmentally friendly public transportation.

On the other hand, the sharing economy could increase the demand for fuel efficient vehicles, such as advanced electric cars. Roo Rogers, Botsman’s co-author, says that the sharing economy is “going to change the way we design products: they’ll be designed to last longer...and to be serviced and repaired better.” If this trend helps accelerate the shift of the vehicle fleet from gasoline and diesel to an electric grid capitalizing on the growth of wind and solar markets, this could be good news for the environment.<sup>15</sup>

The sharing economy also has the potential to build resiliency, something that is increasingly important as global warming threatens to increase the severity of storms, flooding, and other natural disasters. BlaBlaCar, the Europe-based long distance ride-sharing company with 40 million members globally, received media attention when in 2007, soon after its launch, it became a travel solution during the French train strikes. After the 2010 Icelandic volcano eruption that temporarily paralyzed European air travel, ride-sharing effectively became emergency transportation. Outside of transport, the home-sharing company Airbnb waived its fees and allowed for free listings of shelter in the Philippines near areas affected by Typhoon Haiyan in 2013.<sup>16</sup>

## Looking forward

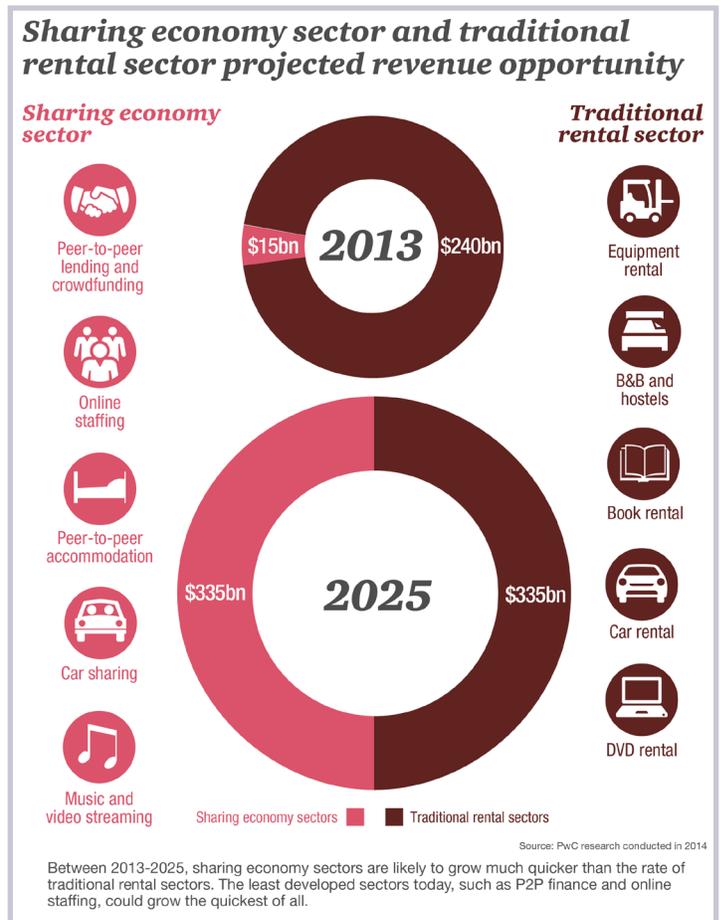
As the sharing economy is evolving quickly, it is having growing pains. For instance, as Uber globalizes, it is facing resistance both from traditional taxis, as would be expected, but also some city governments. Ride-sharing competitors are also banding together in attempt to control local markets. Regulations, licensing requirements, and contractors' wages are being debated. Taxes are a major bone of contention. At least in their early years, car-sharing and home-sharing companies have been spared from paying the taxes faced by their traditional counterparts (like taxis and hotels). This is somewhat ironic considering that taxes are one of the oldest and most institutionalized forms of sharing in modern society, allowing for the social supports that help the poorest most directly but benefit society as a whole.

Insurance providers unequipped to deal with occasional lending of assets will need to develop new offerings. The treatment of workers is also receiving scrutiny. Most ride-share drivers and many other workers in the sharing economy are considered contractors, not employees, and thus do not receive benefits. Sociologist Juliet Schor of Boston College calls the sharing economy and freelance society the "post-industrial peasant model" or the "share the crumbs economy." Yet she notes that it has the potential to go deeper, beyond the commercial models to something more akin to the true meaning of sharing:

"Couchsurfers stay at each others' homes without payment. Gifting sites such as Freecycle and Yerdle enable people to offer free stuff to each other. Other true sharing sites include time banks, landsharing (which pairs would-be gardeners with people who have land), seed and tool libraries, and locally based, emerging forms of production and consumption like food swaps and pop-up repair collectives. Innovative practices of this type, based on social solidarity, ecological consciousness, and open access, are proliferating." What is needed is for these endeavors to "take full advantage of the digital technologies" and "figure out the economic models that will yield robust and growing volumes of trades and reciprocal relations." With transportation, groups like the Institute for Transportation and Development Policy are studying how shared mobility can be improved to help low income people access opportunities.<sup>17</sup>

In the long run, a sharing economy could be good for both people and the planet, but that will depend on the choices participants and communities make and the evolution of policies and practices. If developed with equity and the environment in mind, the sharing economy has the potential to represent a democratization of wealth, power, and ideas.

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- <sup>2</sup> Stein, J. (2015). Baby, You Can Drive My Car, and Do My Errands, and Rent My Stuff ... *TIME*. Retrieved from <http://time.com/3687305/testing-the-sharing-economy/?pcd=hp-magmod>.
- <sup>3</sup> Matofska, B. (2016). What is the Sharing Economy? *The People Who Share*. Retrieved from <http://www.thepeoplewhoshare.com/blog/what-is-the-sharing-economy>. She goes on to note that "It encompasses the following aspects: swapping, exchanging, collective purchasing, collaborative consumption, shared ownership, shared value, co-operatives, co-creation, recycling, upcycling, re-distribution, trading used goods, renting, borrowing, lending, subscription based models, peer-to-peer, collaborative economy, circular economy, on-demand economy, gig economy, crowd economy, pay-as-you-use economy, wikinomics, peer-to-peer lending, micro financing, micro-entrepreneurship, social media, the Mesh, social enterprise, futurology, crowdfunding, crowdsourcing, cradle-to-cradle, open source, open data, user generated content (UGC) and public services."
- <sup>4</sup> Global Footprint Network, [http://www.footprintnetwork.org/en/index.php/GFN/page/world\\_footprint/](http://www.footprintnetwork.org/en/index.php/GFN/page/world_footprint/).
- <sup>5</sup> PricewaterhouseCoopers. (2015). The Sharing Economy. Retrieved from <https://www.pwc.com/us/en/technology/publications/assets/pwc-consumer-intelligence-series-the-sharing-economy.pdf>.
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- <sup>7</sup> EPI Data for Plan B Update 112; Fishman, E. Washington, S. and Haworth, N. (2014). Bike share's impact on car use: Evidence from the United States, Great Britain, and Australia. *Transportation Research Part D*. 31 (2014) 13-20. Retrieved from <http://mobility-workspace.eu/wp-content/uploads/Bike-shares-impact-on-car-use-3.pdf>.
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- <sup>9</sup> Duhaime-Ross, A. (2014). Driven: how Zipcar's founders built and lost a car-sharing empire. *The Verge*. Retrieved from <http://www.theverge.com/2014/4/1/5553910/driven-how-zipcars-founders-built-and-lost-a-car-sharing-empire>; Chase, R. (2015); Briggs, M. (2014). Future of Mobility: Growth and Investment Sees Carsharing Become Mainstream," *Frost and Sullivan Market Insight*; Martin, E. and Shaheen, S. (2011). The Impact of Carsharing on Household Vehicle Ownership, *ACCESS*, no. 38.
- <sup>10</sup> Analyses on car replacement numbers vary greatly among independent analyses; the numbers that the car-sharing companies claim are generally on the high end. Brown, L. et. al. (2015). *The Great Transition: Shifting from Fossil Fuels to Solar and Wind Energy*. New York: W.W. Norton & Company.
- <sup>11</sup> Johnson, M. (2017). Who Are Uber's Biggest Competitors? *ZACKS*. Retrieved from <https://www.zacks.com/stock/news/229654/who-are-ubers-biggest-competitors>
- <sup>12</sup> Based on analysis by transportation analyst Charles Komanoff, cited in Miller, S. (2015). Uber's Own Numbers Show It's Making Traffic Worse. *StreetsBlogNYC*. <http://nyc.streetsblog.org/2015/07/22/ubers-own-data-reveals-it-slows-manhattan-traffic-9-percent/>.
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