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SHARING ECONOMY LOGISTICS

RETHINKING LOGISTICS WITH ACCESS OVER OWNERSHIP

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PREFACE

DHL's foundations lie in the Sharing Economy. In its early days, DHL offered free plane tickets to private travelers in exchange for giving up their baggage allowance to transport critical documents needed to clear ocean freight cargo at the destination. In this way, DHL allowed the original bill of lading documents to arrive long before containerized ocean shipments made port, a problem at the time where containers were increasing the speed and volume of ocean freight. Once on the ground, a network of couriers brought the documents to their final destination.

Today it is time to revitalize the concept of Sharing Economy logistics. Traditional sources of competitive advantage came from deep industry knowledge and acquiring assets to build, distribute, and sell a product or service. In recent years the tremendous power of digital sharing platforms and crowd-based access to existing assets has started to rewrite the rules of business for many industries.

From our roots as a courier service in the 1960s, we know that sharing is not new. What is new are the tools and attitudes with which people are sharing: smartphones and mobile technologies combined with shifting societal values are allowing companies with new business models to proliferate at unprecedented speed, scale, and valuation.

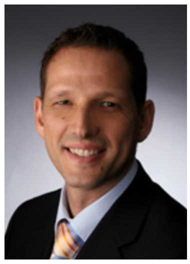
We have seen the mobility and hospitality industries fundamentally changed by Sharing Economy incumbents, with other industries like staffing, heavy industry, and logistics not far behind. As leaders in logistics, it is time to rethink our industry in the context of the Sharing Economy. To support you in navigating your organization through this new world, our trend report will help you understand the following:

- **What is the Sharing Economy?**
- **What best practices from other industries can be applied to logistics organizations?**
- **What new business opportunities can the Sharing Economy create for your organization?**

Looking ahead, observing the abundance of idle assets, infrastructure, and knowledge, sharing instead of owning will become the new normal. Logistics can be one of the core drivers of this development. From helping people to share their products and services, to using innovative sharing platforms to fully utilize our logistics networks and assets, together we can achieve new levels of efficiency and value creation.

We hope you find this an insightful read, and we look forward to collaborating with you on how to embrace Sharing Economy logistics in your organization.

Yours sincerely,



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1 UNDERSTANDING THE SHARING ECONOMY

1.1 The Sharing Economy: A Paradigm Shift

For many years, business ran on a linear logic: manufacturers manufactured, distributors distributed, and customers bought goods, owning these for all of their useful life. That paradigm has started to change. From about 2008, people have begun to subscribe to a new model of consumption, where temporary access to goods and services is preferred over actual ownership. A new breed of digitally native companies that sit on top of vast supply systems and own only the mobile user interface are driving this significant shift in value.

This phenomenon is often referred to as the Sharing Economy, a term best defined as the economic activity of digital platforms that facilitate transactions where users are given temporary access to a service provider's otherwise underutilized asset, service, or skill (see figure 1). These transactions incur no change in ownership of the goods or service. In contrast to traditional industry players, Sharing Economy companies are characterized by network-based business models that take a small commission per transaction. The primary value of these sharing platforms lies in the use of software to drive customer experience surrounding a given asset.

This contrasts with traditional business models in which companies focus on building industry know-how to produce the best assets for use (see figure 2). For example, Uber essentially provides average cars in a premium way but owns no cars.[1] Airbnb makes everyday apartments look luxurious on its site to drive higher booking rates.[2] TaskRabbit exposes performance metrics on its Taskers to help users get the best service for low-skilled tasks.[3] Figure 2 outlines five key business factors that starkly contrast traditional and Sharing Economy players.

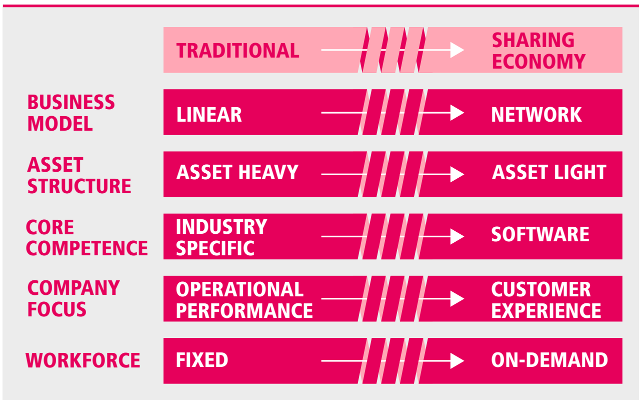

Figure 2: Comparison of traditional and Sharing Economy models; **Source:** DHL Trend Research

SHARING ECONOMY BUSINESS MODEL

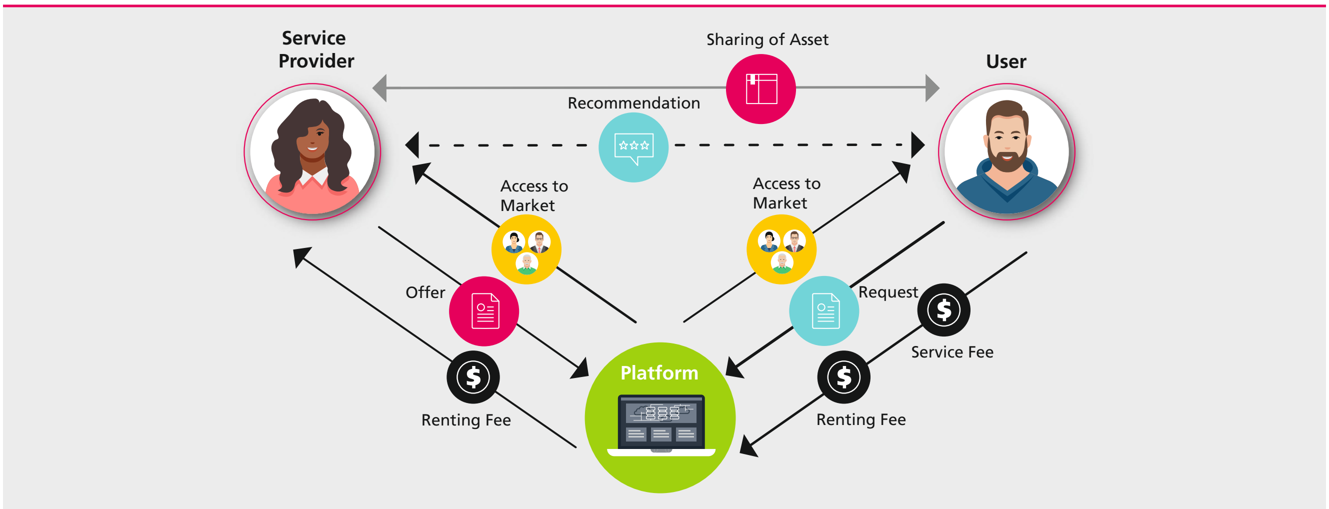

Figure 1: The Sharing Economy business model; **Source:** Business Model Toolbox

[1] Goodwin, T. (2015).
[2] Crook, J. / Escher, A. (2015).
[3] TaskRabbit Inc. (2017a).

For clarification, the Sharing Economy has many synonymous names, often being referred to as the collaborative economy, gig economy, access economy, and on-demand economy. Regardless of terminology, the Sharing Economy is here to stay and will experience significant growth in the near future. According to a report by PricewaterhouseCoopers, five key sharing sectors (travel, car-sharing, finance, staffing and music/video streaming) have the potential to increase global revenues of the Sharing Economy from $15 billion USD in 2014 to an estimated $335 billion by 2025 (see figure 3).

Popular examples of the potential for disruption are Airbnb in the hospitality industry and Uber in the mobility industry. Both have demonstrated that online platforms can be used to orchestrate access to (and usage of) assets at global scale. Both companies have already surpassed an estimated $1 billion in revenue within less than a decade of their founding, and have reached market valuations of $30 and $66 billion[4] respectively without owning a single room or vehicle.

As of May 2015, Airbnb had on average 500,000 nightly guests in 191 countries, and, as of September 2016, Uber had completed over 2 billion rides in 70 countries.[5] Their success has passed a participation tipping point, which has invited new entrants in other industries to participate in the Sharing Economy.

As the popularity of this new way of doing business grows, it is estimated that since 2014, nearly 50% of North Americans have become familiar with the Sharing Economy and over 110 million people have used Sharing Economy platforms.[6] An impressive 22% of American adults, or 45 million people, have already offered some product or service in the Sharing Economy.[7] Awareness also varies by platform participating in the Sharing Economy. As seen in figure 4, the top five Sharing Economy companies with U.S. consumers include ride sharing giants Uber and Lyft, personal crafts marketplace Etsy, room sharing leader Airbnb, and on-demand errand and delivery services TaskRabbit and Postmates.

SHARING ECONOMY SECTOR AND TRADITIONAL RENTAL SECTOR PROJECTED REVENUE OPPORTUNITY

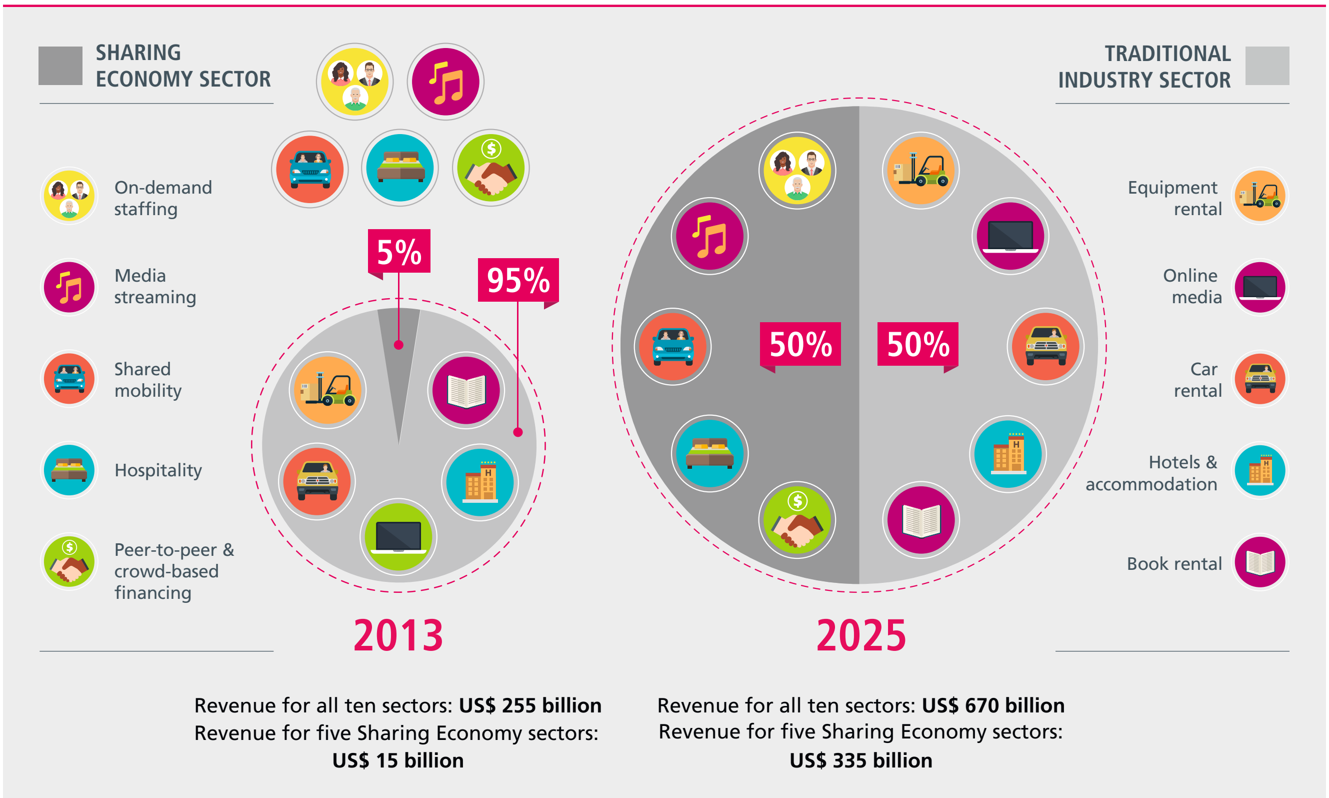

Figure 3: Illustrative revenue potential across five traditional and Sharing Economy sectors; **Source:** PWC – The Sharing Economy

[4] Crook, J. / Escher, A. (2015).
[5] Smith, C. (2016a), Smith, C. (2016b).
[6] PricewaterhouseCoopers Consumer Intelligence Series: The Sharing Economy (2015).
[7] Steinmetz, Katy (2016).

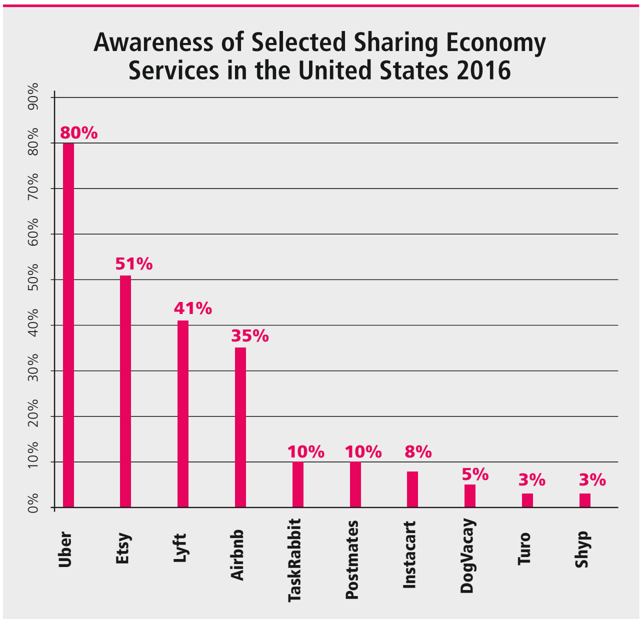

Figure 4: Awareness in the U.S. of selected Sharing Economy and on-demand services; **Source:** Statista

China is also leading the Sharing Economy revolution, with estimates that around 50 million Sharing Economy workers in China are servicing over 500 million consumers.[8] In other regions, awareness is lower but growing. As platforms scale and mature globally, more consumers and even businesses are likely to engage with the "Uber for X" model across multiple industries.

1.2 Sharing Isn't New: The Confluence of Technology and Social Trends

It is important to note that sharing isn't new. What is unique about the Sharing Economy is the timing of technology development and social trends that allow sharing at global scale.

According to Larry Downes' 'Laws of Disruption', shown in figure 5, technological change grows at an exponential rate, whereas social change grows at a relatively linear rate. The additive value of these two combined explains the disruptive potential of the Sharing Economy as it is underpinned by both factors.

In the past, peer-to-peer networks were limited to direct social networks defined by personal relationships within communities. With the advent of the mobile web, the only limitation to share goods and services is the scale of the global smartphone user base. At the same time as the technologies enabling the mobile web came to market, significant social change was on the rise. The combination of a global recession, accelerating demand for convenience and instant gratification, the millennial generation coming of age, and unprecedented environmental awareness provided the ideal catalyst for the Sharing Economy to prosper. The next section takes a deeper look at the individual technologies and social drivers enabling Sharing Economy platforms.

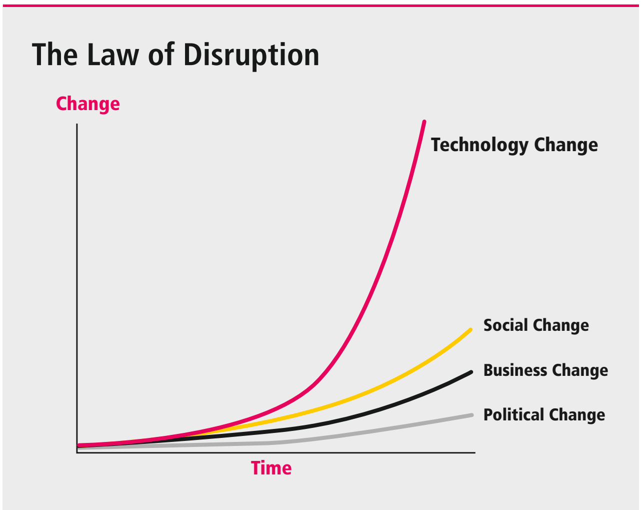

Figure 5: Rate of change comparison from Larry Downes' 'Laws of Disruption'; **Source:** Downes, L.

1.2.1 Technologies Enabling the Sharing Economy

Mobile Devices: Today the world is approaching 3 billion smartphones in use globally; it is becoming increasingly difficult to imagine a world without the convenience of mobile apps.[9] Across ten countries worldwide, the average smartphone user has 27 apps installed on their smartphone, with some countries like Sweden, Switzerland, and South Korea averaging close to 40 apps per smartphone.[10]

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[8] Wilson, K. (2016a).
[9] Evans, B. (2016).
[10] Statista / Mashable (2013).

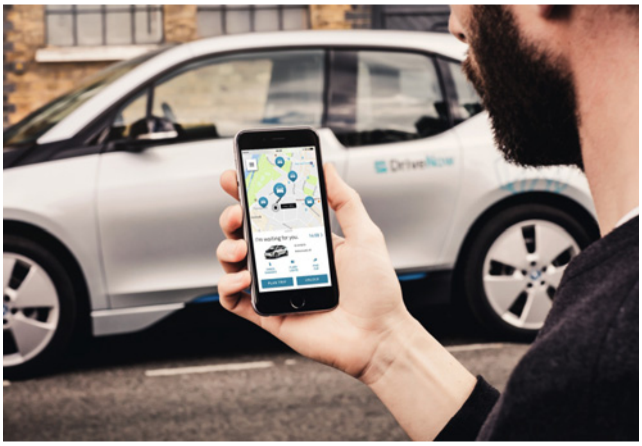

Figure 6: The DriveNow app is used to access a BMW i3, © DriveNow; **Source:** Car Sharing News

Most significantly, mobile apps are becoming increasingly accepted as shopping and transaction portals, especially in the Asia-Pacific region where 40-55% of consumers in countries like South Korea, China, and the United Arab Emirates made a mobile purchase in the year 2016.[11,12] As mobile begins to represent a greater share of e-commerce transactions globally, users will be more likely to engage in the Sharing Economy as most of the platforms that enable it are built around mobile-centric consumption experiences.

Shareable Connected Assets: Shared assets today such as spaces, cars, and equipment are predominantly offline. However, these assets are usually managed or operated by a person with a smartphone that allows basic connectivity, communication, and transactions. Figure 6 above shows how the DriveNow app can connect the user with a car from its owned fleet of floating vehicles for by-the-minute use.[13] With the advancement of connected cars, low-power wide area networks, beaconing technology, Bluetooth 5.0, and emerging Internet of Things standards, these assets will become even more transparent and accessible to users via their mobile phones.

Verified User Profiles and Online Reviews: These form a basic pillar of any online marketplace, as they establish trust and transparency across a distributed network of buyers and service providers. The profiles can either be native to a platform, where the user creates an account when they sign up, or leverage an existing social network profile such as Facebook, Google, or LinkedIn by using a third-party login feature.

In addition to establishing a verified identity, online reviews associated with these profiles empower users of the platform with the transparency needed to set expectations around a purchase or booking decision.

Digital Payment Infrastructure: This enables secure online payment via stored credit card or bank account information. At the developer layer in figure 7, application programming interfaces, or APIs, from third-party software developers can be integrated into any mobile application to add secure payment capabilities. In addition to handling the transaction, this enables user-friendly payment features such as image-based credit card capture and Apple's Touch ID payment. Figure 8 shows examples of the payment checkout processes from startups Stripe and Braintree that can be embedded in mobile apps.

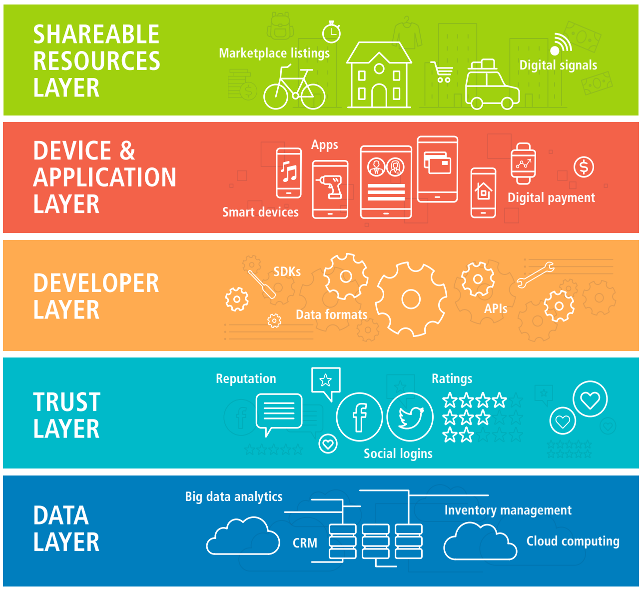

Figure 7: Technology stack powering the collaborative economy; **Source:** Owyang, J.

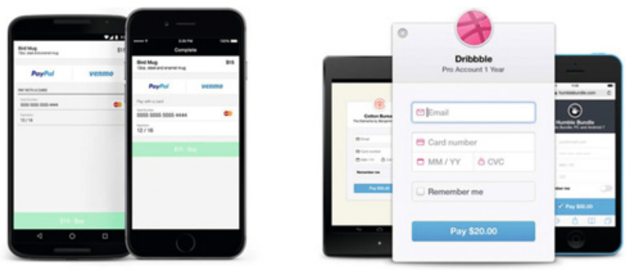

Figure 8: Comparison of digital payment platforms – Stripe and Braintree's checkout services; **Source:** SitePoint

[11] Statista / Hootsuite (2017).
[12] Statista / Mashable (2013).
[13] Fleet News / DriveNow (2016)

Communication APIs: Today, what used to be stand alone phone and messaging apps are simply becoming features of other apps. To enable this, again at the developer layer, application programming interfaces from third-party software developers allow basic communication features such as SMS and phone calls to be integrated to any app. For example, when you hail an Uber car, the messaging between your phone and the driver's phone leverages infrastructure from a software communication company called Twilio (its APIs are built into the Uber app).[14] The same goes for an anonymized phone call between you and your Uber driver as you coordinate your ride, or the messaging feature between you and your Airbnb host.

Location Services: Real-time location tracking provides security and transparency in the Sharing Economy. This is enabled by the combination of mobile phone GPS sensors, software operating system-level location services, rich mapping apps such as Google and Apple Maps, and APIs that expose their data to third-party applications.

Platform-specific Algorithms: These are basic algorithms used to illicit a desired action from a user, such as a purchase decision. Examples of such algorithms include the matching of a rider and driver, service listings ranked by lowest price, surge pricing during times of high demand, and a purchase recommendation based on historical booking trends.

1.2.2 Social Drivers of the Sharing Economy

Global Recession and the Need to Share: The U.S. housing market crash in September 2008 contributed to dragging the global economy into the worst economic recession since The Great Depression in 1929. Unemployment in the U.S. soared to a high of 10.2% in October 2009.[15] Many people were forced to seek thrifty ways to acquire the resources needed to avoid foreclosure and bankruptcy. Others simply wanted to provide for themselves and their families by, for example, sharing their assets in their communities or selling skills on the market. Fast forward to the present day and this need to share has shifted to become a desire to share.[16] In a global survey conducted by Nielsen in 2014, more than two-thirds (68%) of global respondents were willing to share their personal assets for financial gain.[17]

Figure 9: Many families were distressed with financial problems following the 2008 financial crisis

Rise of the Millennial Consumer: The millennial generation of consumers, defined as individuals born between the early 1980s and mid-1990s, are the most actively engaged in the Sharing Economy as service providers. A 2015 survey from Bloomberg shows that 39% of millennials in the U.S. workforce are willing to work in the Sharing Economy model.[18]

Globally, a survey by Nielsen shows that millennials also make up the largest cohort of Sharing Economy participants at 35%, followed by Generation X at 17%.[19] Their consumption patterns indicate lower preference for physical possessions, and suggest perhaps a greater preference for experiences that offer a communal sense of belonging (see figure 10).

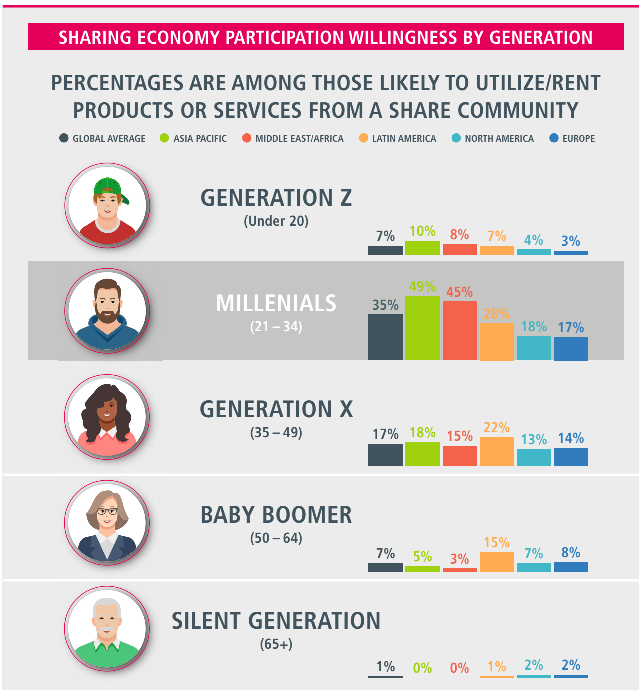

Figure 10: Willingness to participate in a sharing community by generation; **Source:** Nielsen

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14 Twilio Inc. (2017).
15 Goodman, P. S. (2009).
16 PwC Consumer Intelligence Series (2015), Owyang, J. (2015).
17 Nielsen (2014).
18 Rossa, J. / Riley Moffat, A. (2015).
19 Nielsen (2014).

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