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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,



A handwritten signature in black ink that reads "Matthias Heutger".

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Senior Vice President Strategy,
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A handwritten signature in black ink that reads "Markus Kückelhaus".

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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 Tasks 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.

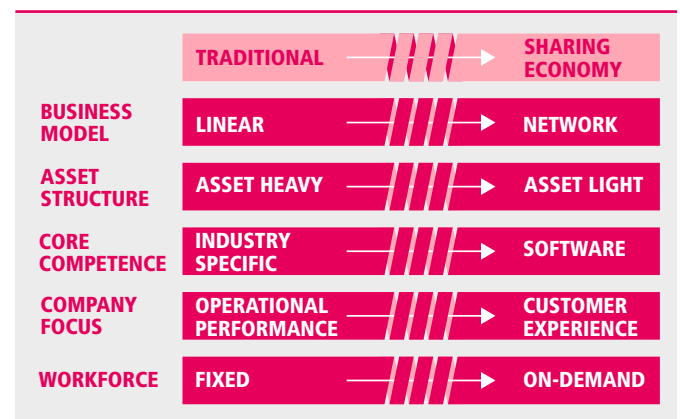


Figure 2: Comparison of traditional and Sharing Economy models; **Source:** DHL Trend Research

SHARING ECONOMY BUSINESS MODEL

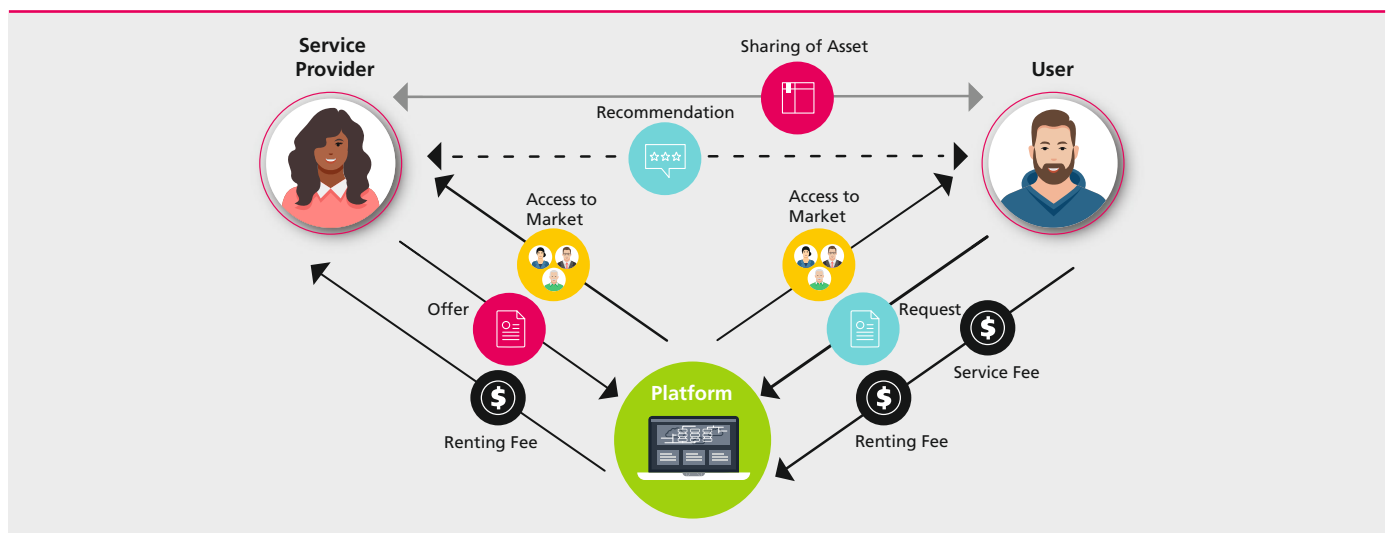


Figure 1: The Sharing Economy business model; **Source:** Business Model Toolbox

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 billion⁴ 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

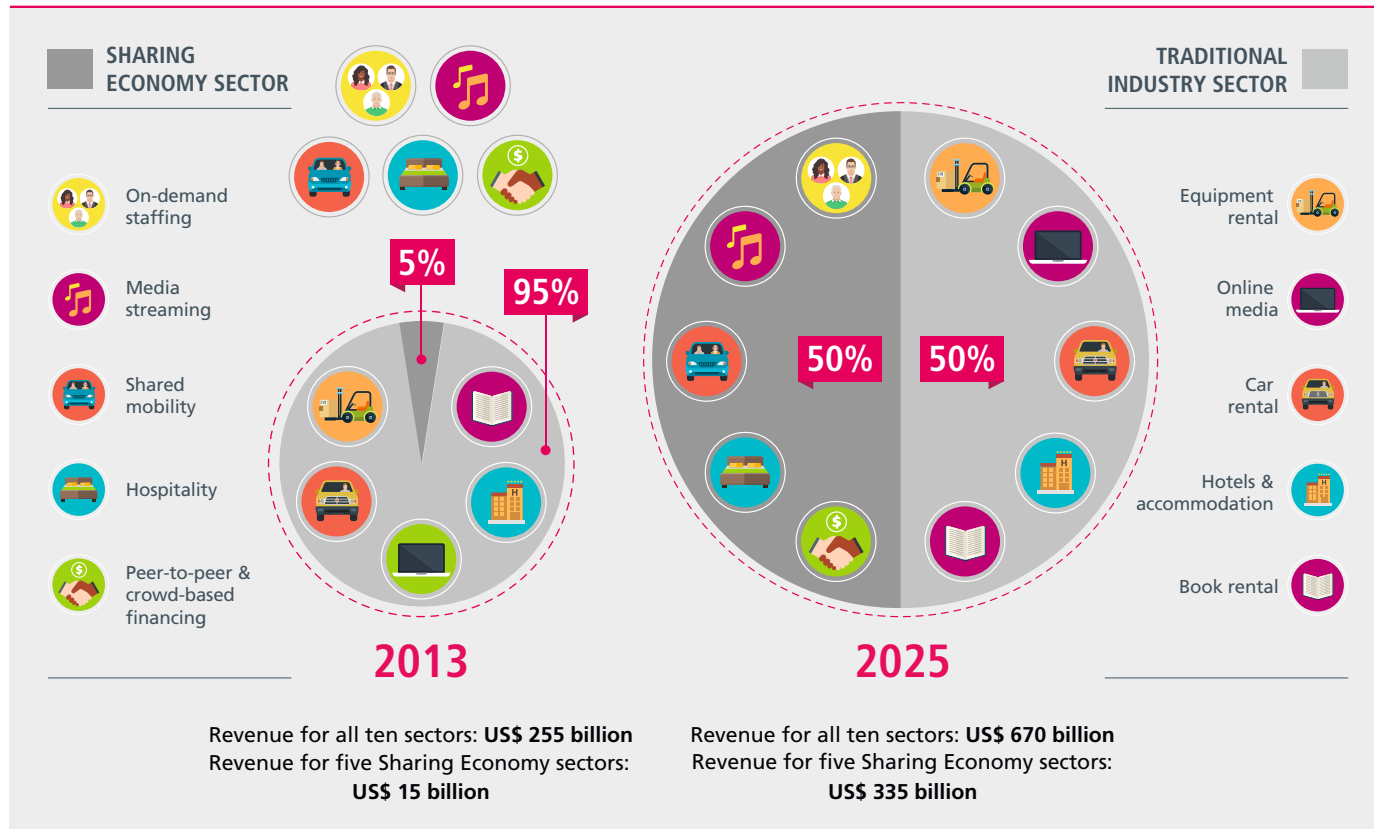


Figure 3: Illustrative revenue potential across five traditional and Sharing Economy sectors; **Source:** PWC – The Sharing Economy

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).

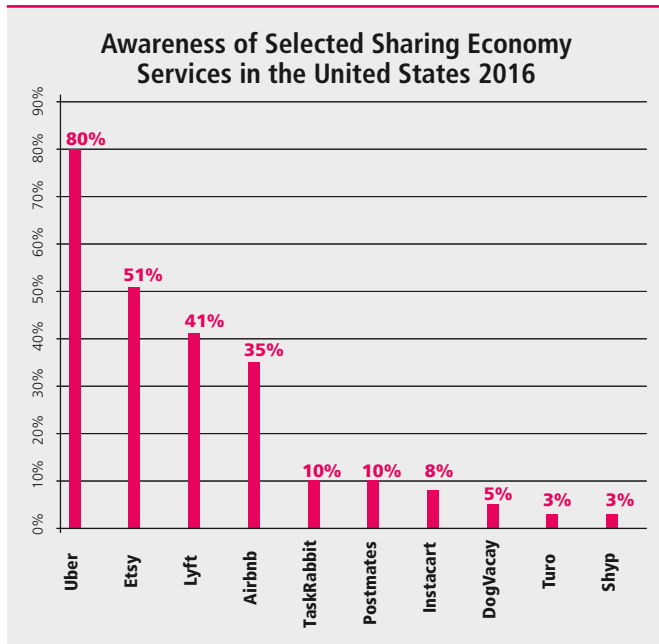


Figure 4: Awareness in the U.S. of selected Sharing Economy and on-demand services; **Source:** Statista

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.

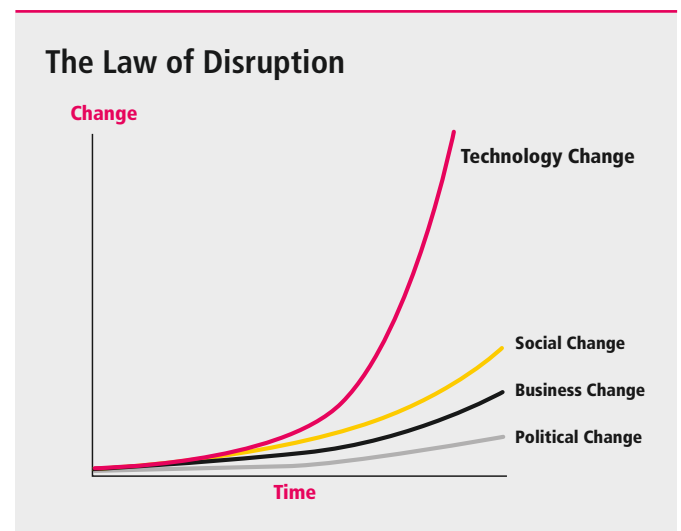


Figure 5: Rate of change comparison from Larry Downes’ ‘Laws of Disruption’; **Source:** Downes, L.

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

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 check-out processes from startups Stripe and Braintree that can be embedded in mobile apps.

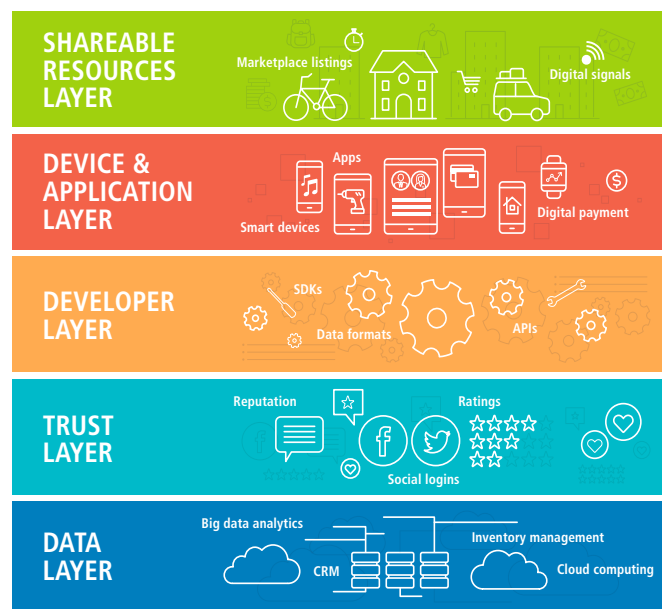


Figure 7: Technology stack powering the collaborative economy;
Source: Owyang, J.

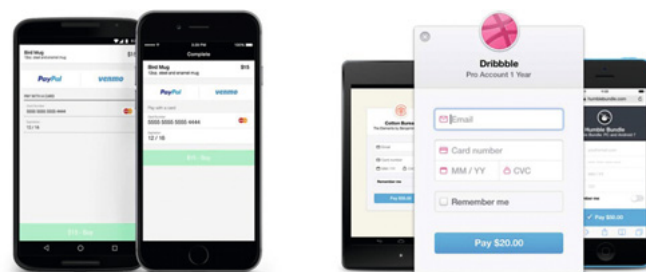


Figure 8: Comparison of digital payment platforms – Stripe and Braintree's checkout services; **Source:** SitePoint

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

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).



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).

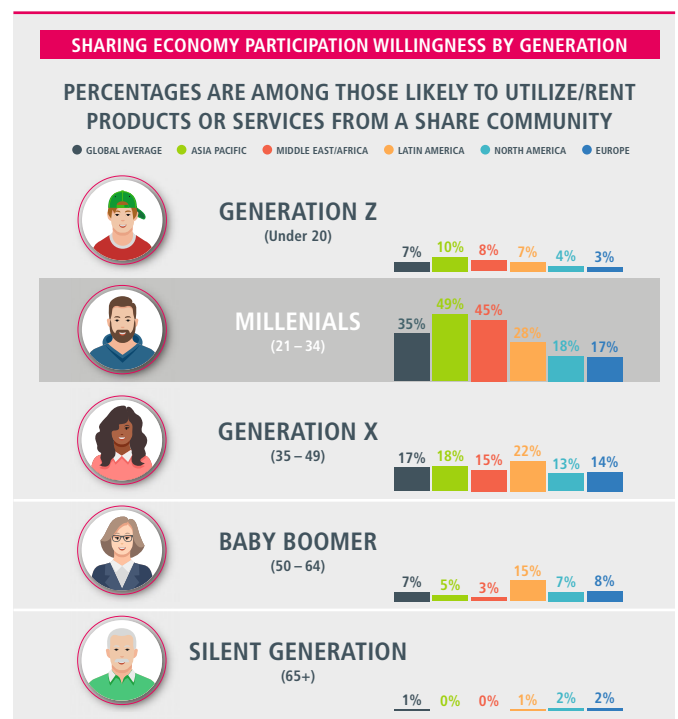


Figure 10: Willingness to participate in a sharing community by generation; **Source:** Nielsen

Millennials also feature unprecedented lows in the number of first-time car and home purchases compared with the preceding Generation X and baby boomer generations.

Accelerating Demand for Convenience: Convenience is also a significant social driver of the Sharing Economy. In the post-mobile app world of real-time communication, same-day delivery, and always-on consumption, those living especially in cities have come to expect instant gratification from e-commerce platforms, social media, and on-demand services. This demand for convenience can further drive adoption of Sharing Economy services.

Environmental Awareness: Sharing has environmental benefits for society. Car sharing leads to higher utilization of vehicles already on the road. It also tends to discourage car ownership and an overall reduction in car ownership directly correlates to a reduction in carbon emissions. According to a Deloitte study on the future of mobility, higher utilization through car sharing could lead to a 40% reduction in carbon emissions. Looking ahead, the predicted benefits of driverless car technology could grow this figure to a 90% reduction in carbon emissions from automobiles, compared with current standards of car ownership.²⁰ Figure 11 shows a per-mile summary of cost calculations in various future scenarios of car sharing and autonomous vehicles.

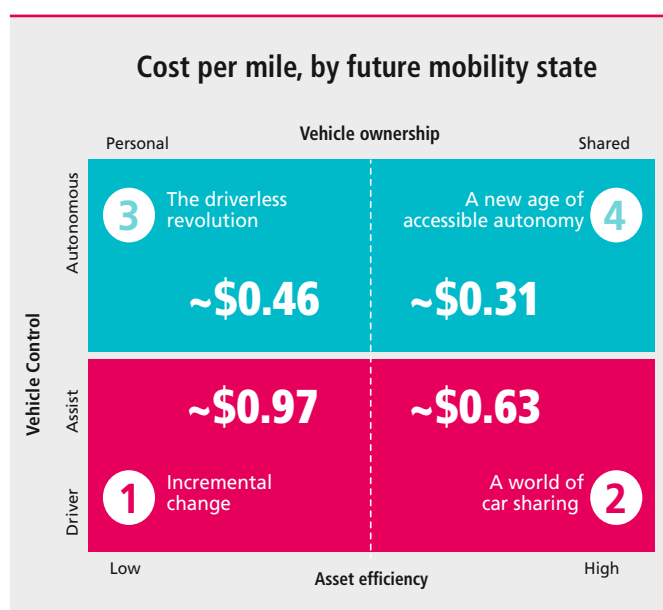


Figure 11: Per-mile summary cost calculations for a future mobility state; **Source:** Deloitte University Press



Figure 12: The Sharing Economy presents opportunities but is fraught with volatility; **Source:** NCVO

1.3 Challenges in the Sharing Economy

As the image in figure 12 suggests, the rise of the Sharing Economy is not without obstacles. Behind the well-known success stories, many startups have failed. Some key concerns arise as people increasingly share their personal belongings and space, and seek employment in the Sharing Economy. Among the most prominent unresolved challenges within the Sharing Economy to date are maintaining trust and transparency (which directly contributes to platform participation), liability and insurance, and workforce protection.

Trust and Transparency: Bilateral trust must be maintained between all parties in the Sharing Economy in order to ensure a high quality of service, mitigate disputes, handle payments securely and, most importantly, encourage engagement of users and service providers on the platform. Some Sharing Economy companies have begun to master this challenge. As noted earlier, the combination of profile systems and online reviews establishes a transparent reputation for each user. In the case of Couchsurfing and Airbnb, both parties involved in the transaction must submit reviews for each other to allow self-regulation of the community. French ride-sharing platform BlaBlaCar²¹ goes further, moderating reviews to ensure quality and maintain site integrity.

²⁰ Deloitte University Press (2015).

²¹ BlaBlaCar / Comuto SA (2017a).

Government regulation and intervention play an integral part in vetting potential service providers. Uber and Lyft drivers must pass a criminal background check to complete the on-boarding process. In the case of UberTAXI, a fingerprint may be requested.²² The German on-demand house cleaning platform Helpling requires a police clearance as part of the registration process to become a service provider.

For transparent service quality, anonymized user data can be utilized as a powerful indicator of performance or quality. On-demand work platform TaskRabbit openly shows the performance metrics of its Taskers over the past 30 days. Rates for task completion, no show, and late cancellation give an idea of the reliability of each provider.²³ This transparency of performance gives users the information needed to make objective decisions about which product or service to select.

Liability and Insurance: The Sharing Economy can be fraught with risks and liability. For the recipient, there is risk that the goods or services being shared are of a lower standard than expected or, worse, could potentially cause physical harm. For the service provider, the highest risk is theft, loss, or damage to personal property. Since the platforms do not own the assets, there is little incentive initially for the platform providers to insure goods or services. Today, users and service providers must typically insure themselves, asking their insurer to find the best individual solution.

This creates a significant entry barrier for new participants. To overcome this barrier, some Sharing Economy platforms like BlaBlaCar²⁴ and Helpling²⁵ in Europe provide group insurance policies through AXA.²⁶ In the case of BlaBlaCar as seen in figure 13, 20 million drivers and riders in six European countries are provided with personal property and injury coverage of up to €50,000 (about \$53,000).

Other big players such as Uber²⁷, Airbnb²⁸, and TaskRabbit²⁹ have developed their own custom insurance policies, providing insurance cover of up to \$1 million per incident. Still, there is much room for improvement in liability coverage in the Sharing Economy, especially among newer players in the market.



Figure 13: AXA provides new insurance policies to help protect BlaBlaCar riders and drivers; **Source:** AXA

Workforce Protection: Perhaps the most hotly debated issue with the Sharing Economy today is the minimal support that service providers receive from platforms. Most providers are hired as independent contractors and therefore do not receive benefits such as sick days or retirement plans. Compounding this is the potentially volatile demand for their goods or services. It is often difficult or impossible for those working in the Sharing Economy to secure the equivalent of their national hourly minimum wage. As with traditional industries, the newness of the Sharing Economy and the fast growth experienced by its leading players have outpaced proper legislation to protect workers.

To date, there has been little collaboration between Sharing Economy companies to form trade consortiums that could influence government regulation. However, individual companies have experienced many single lawsuits; these have established some negative precedents for the Sharing Economy. Most notably, courts in Belgium, France, Germany, Italy, and the Netherlands have declared illegal any ride-sharing services that use non-professional drivers, such as Uber's uberPOP service (a re-named version of the globally popular UberX service), and therefore banned these services to varying extents in those countries.³⁰

²² Uber Technologies Inc. (2017a).

²³ TaskRabbit Inc. (2017a).

²⁴ BlaBlaCar / Comuto SA (2017b).

²⁵ Helpling GmbH (2017b).

²⁶ AXA AG (2017).

²⁷ Uber Newsroom (2014).

²⁸ Airbnb Inc. (2017).

²⁹ TaskRabbit Inc. (2017b).

³⁰ McKinsey (2015).



Figure 14: San Francisco Mayor Ed Lee signs legislation legalizing the use of short-term rental services such as Airbnb in the city; **Source:** SF Gate

Even in the United States where Sharing Economy companies are most prevalent, legislation supporting Sharing Economy businesses has often succeeded only at city level, such as the legalization of short-term rentals in the city of San Francisco (see figure 14).

Like many disruptive innovations, while the Sharing Economy has gained significant momentum, it is also challenging established industry practices and regulatory frameworks, and driving new consumer behavior. The need for greater transparency, liability coverage, and workforce compensation remains critical to the long-term success of the Sharing Economy.

1.4 Sharing Economy Logistics: Why Now?

The Sharing Economy has proved highly disruptive to several industries that are asset-heavy in nature, such as mobility and hospitality. But the technologies and business models enabling the Sharing Economy can be applied to any industry, and logistics (with all its heavy assets and infrastructure) is no exception. In fact, inroads into Sharing Economy logistics are already being made: 41% of U.S. consumers have used programs offering same-day, expedited, or on-demand delivery services.³¹ On-demand delivery company U.S.-based Postmates currently leads in this Sharing Economy category (figure 15).



Figure 15: Postmates on-demand bicycle couriers in San Francisco; **Source:** Postmates

Logistics as an industry can be disrupted, and logistics providers have an essential role in facilitating the growth of the Sharing Economy. They can use their complex know-how to streamline the pick-up and delivery of shareable assets, lower transportation costs, and thereby grow the overall demand for logistics services (see figure 16).



Figure 16: Complex transportation know-how contributes to the growth of the Sharing Economy; **Source:** DHL

The next chapters examine best practices from Sharing Economy players in four other industries, and apply these practices to the logistics industry, deriving use cases that create new value for logistics customers.

³¹ Statista (2016a).

2 BEST PRACTICES FROM OTHER INDUSTRIES

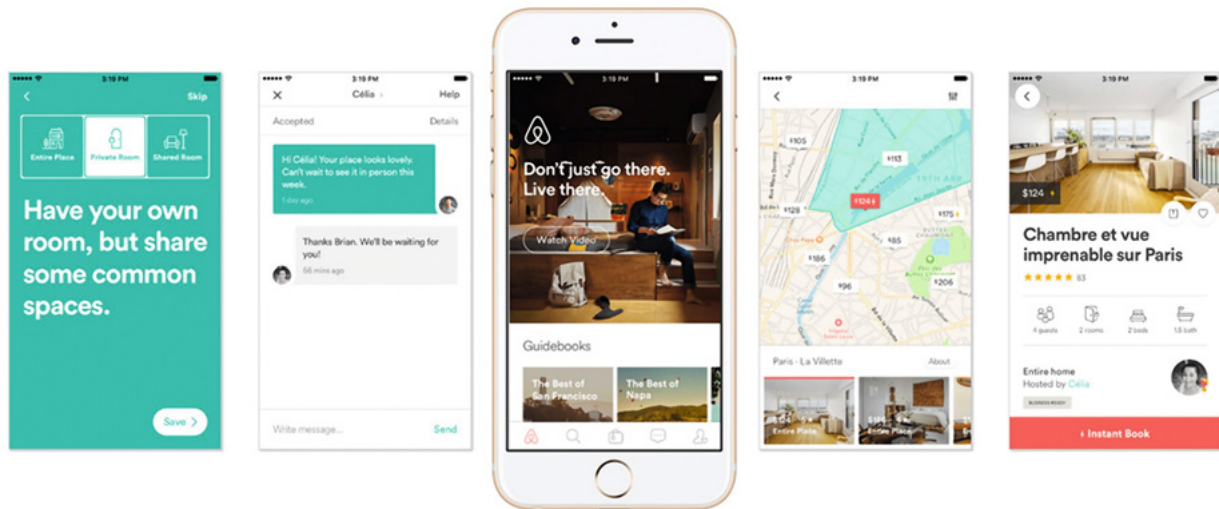


Figure 17: Airbnb mobile app user interfaces; Source: Airbnb

To capture opportunities and hedge against challenges presented by the Sharing Economy, this chapter reviews best practices from other industries – these can inform future direction within logistics. Hospitality, staffing, heavy industry, and mobility demonstrate most prominent examples of the disruptive and value-creation potential of Sharing Economy logistics.

2.1 Hospitality: How Airbnb Changed the Game and Grew the Market

Within seven years of founding, Airbnb achieved a nightly average of 500,000 stays, surpassing established brands such as Hilton without owning a single room.³² From the beginning its mission was clear: users save money by booking private rooms over more expensive hotel rooms; providers make money by renting out their rooms and they share culture by giving guests a local experience over a typical hotel chain experience.³³

The appeal is immediately economic yet also community oriented. Part of the company's commitment to its community of users is a heavy emphasis on good design (see figure 17).

In 2010 Airbnb was off to a slow start, struggling to grow its user base and number of nights booked. Co-founders Brian Chesky and Joe Gebbia flew to New York to go door-to-door taking professional photographs of their providers' listings. Booking rates of the professionally photographed listings immediately rose by a multiplier of 2-3 times. A professional photography program was offered to providers, and usage of the platform suddenly grew rapidly.³⁴ The subtle lesson for the Sharing Economy is that good design is a critical driver for the growth and adoption of a digital platform.

Equipped with a new business model, a community-focused culture, and good design, Airbnb became immensely successful at lowering the cost of travel accommodation and inviting new customers to the market. In New York, Los Angeles, and San Francisco (today the top three U.S. cities where Airbnb operates), active Airbnb listings account for 19.5%, 13.3%, and 12.5% respectively of all city hotel room supply.³⁵

This is still only the beginning. In 2015, 10.3 million users in the U.S. participated in the hospitality Sharing Economy sector; this is expected to nearly double in 2020 to 19.3 million users.³⁶

³² Crook, J. / Escher, A. (2015).

³³ Shontell, A. (2011).

³⁴ Crook, J. / Escher, A. (2015).

³⁵ Statista (2016b).

³⁶ Statista (2016c).



Figure 18: Professional apartment photos on Airbnb; **Source:** Shutterstock

Even with Airbnb owning a large part of the hospitality market share, renters generally offered lower prices comparative to hotel rates, which increased overall demand for accommodation, as more people perceive they can afford to stay in once prohibitively expensive cities. This is one example where the Sharing Economy can in fact grow the market for an entire industry. In addition, given the success of private space sharing in the hospitality industry, similar applications can be predicted for sharing commercial and industrial space.

2.2 Staffing: The Rise of Freelancing and On-demand Labor

The Sharing Economy is far broader in scope than physical asset sharing. Today, specialized skills and personal time can be offered and accessed via Sharing Economy platforms. In the past, online staffing platforms and professional social networks were reserved for higher wage level professions. But today, Sharing Economy platforms such as TaskRabbit in the U.S. and Helping in Germany have created alternative income streams for people offering comparatively lower skilled labor.

Already in the U.S., 53 million Americans, or about 34% of the U.S. workforce, are working as freelancers. Today this collective freelance contribution adds \$715 billion to the economy, and this will only grow as the number of freelancers or 'contingent labor' reaches 43% of the U.S. workforce in 2020.³⁷ One of Asia-Pacific's biggest recruitment agencies, Hays, said almost a third of employers in the region now use temporary or contract staff on an ongoing basis. Its guide (based on a survey of more than 3,000 employers across the Chinese mainland, Hong Kong, Japan, Malaysia and Singapore that represents over 6 million employees) shows 19% of organizations plan to increase their use of temporary and contract staff this year.³⁸

These figures reveal a fundamental shift in attitudes about flexible workforces. If done correctly, this model can afford people greater flexibility, as they can increasingly control when, where, and what they do for work and additional wages. For businesses, this presents significant opportunities to cover spikes in labor demand for low- to medium-skilled work with unprecedented speed.



Figure 19: Mobile workforce; **Source:** Shutterstock

³⁷ Freelancers Union / Elance oDesk (2014).

³⁸ Wilson, K. (2016b).

2.3 Heavy Industry: Sharing Critical B2B Assets



Figure 20: Heavy machinery to share; **Source:** DHL

So far, the Sharing Economy has brought significant disruption in the B2C (business to consumer) context, with sharing platforms offering convenient services to consumers in new ways. But the Sharing Economy also has significant potential in the B2B (business to business) environment.

Agricultural industry players have been engaging in co-opetition (cooperative competition) for many years. With online leasing platforms such as MachineryLink Solutions, farmers have been able to share expensive farming equipment to reduce fixed costs and idle time, and earn incremental revenue in the form of rental commissions. Last year the Mahindra Group in India rolled out Trringo, a mobile sharing platform for renting tractors, combines, and other complex farming equipment on demand. The company offers both company-owned and privately-owned tractors for 400 to 700 rupees (about \$6 to \$11) per hour.³⁹

Trringo was launched in Fall 2016 in the state of Karnataka with the intention of expanding into other farming regions in India, including Gujarat, Madhya Pradesh, Maharashtra and Rajasthan.

A similar approach can be found in the construction industry. Construction companies aren't making the most of their assets, as contractors' equipment sits unused 70% of the time. To this end, construction equipment rental is already a nearly \$40 billion industry annually.⁴⁰ An American startup called Yard Club is facilitating sharing of over 700 pieces of construction equipment today. Its platform allows vetted members to lend or rent machines to other contractors. The company takes 20% of each transaction, depending on the equipment. Caterpillar is a key investor in Yard Club, taking a front seat in disrupting its own business.⁴¹

These examples from the agricultural and construction industries provide fascinating examples of how would-be competitors can engage in co-opetition to share fixed costs, increase asset utilization, and reap the benefits of greater efficiency and a new revenue stream from equipment sharing.



Figure 21: Trringo gives farmers pay-per-use access to expensive farming equipment; **Source:** Sharma, K./Trringo

³⁹ Graham, C. (2016).

⁴⁰ Consumer News and Business Channel (CNBC) (2015).

⁴¹ Caterpillar Inc. (2015).

2.4 Mobility: Urban Orchestration beyond Ride Sharing

Mobility is one of the major catalysts of the Sharing Economy movement. Eight years ago, the taxi industry was slow to embrace technology, lagging behind other industries. Vast numbers of idle cars were owned by millions of people worldwide. Together these two things represented a unique opportunity that was spotted early on by ride-sharing giant Uber. By using technology to match private users with rides in privately owned and otherwise idle vehicles, Uber has achieved a valuation of \$66 billion, coming within reach of Volkswagen Group's market capitalization of \$72 billion by March 2017.⁴²



Figure 22: Rush hour traffic polluting the cities; **Source:** Shutterstock

Established auto industry giants are also rethinking whether in the future their cars will be sold to one individual or will be used as shared assets. Daimler and BMW have embraced the rise of shared mobility and have developed the car2go and DriveNow car sharing platforms. This B2C car sharing model gives consumers access to fleets of Daimler- and BMW-owned cars for on-demand point-to-point trips billed by the minute. Today car2go and DriveNow have over 2.2 million registered users and over 14,000 vehicles in operation across Western Europe and the U.S.⁴³

What makes mobility such an interesting and significant part of the Sharing Economy is not the hypergrowth and sky-high valuation of companies like Uber and Lyft, or that established companies are shifting their focus to car sharing, but rather the ability of these companies to create entirely new products and services leveraging user metadata.

Perhaps the best example of a data-driven mobility product in the market today is Uber Movement (figure 23). Leveraging anonymized GPS data from hundreds of thousands of connected Uber drivers, city governments and businesses can analyze traffic flows and road network performance to improve infrastructure and mitigate urban congestion. The ability to aggregate and harness insight from big data analytics in real time presents an opportunity to optimize existing transportation networks, as well as discover new ones.

The growth of ride sharing with companies like Uber, Lyft, and Didi Chuxing, and the growth of car sharing with platforms such as car2go and Zipcar (as well as urban bike sharing) is now giving rise to a new class of mobility network orchestrators – companies that can move people and goods in highly efficient ways. For consumers, this will mean planning daily commutes, vacations, and business trips with the benefit of real-time and historical traffic analytics with greater degrees of accuracy than at present.

Businesses will be able to plan opening hours, advertisements, and pick-up and delivery times based on optimal traffic patterns. City governments and real estate developers will be able to optimize urban planning to eliminate congestion and redistribute the flow of people and goods to new or underutilized areas. In future, decisions about where, how, and when societies live and work will be informed by platforms such as Uber Movement. Established delivery networks that were once regarded as a significant source of competitive advantage for logistics providers could become vulnerable to these digital shared mobility platforms.

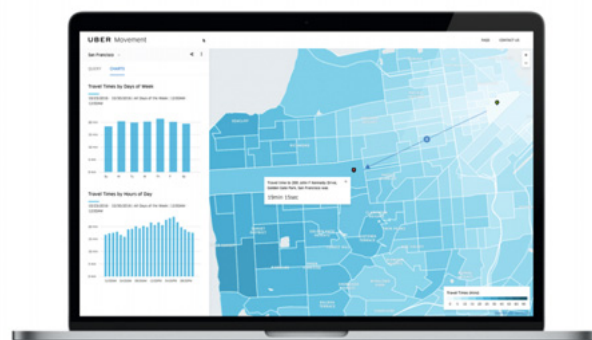


Figure 23: Uber Movement dashboard for traffic data analysis; **Source:** Uber Newsroom

⁴² Statista / Bloomberg / Morningstar (2017).

⁴³ PR Newswire Association LLC. (2016), Friedel, A. (2017).

3 SHARING ECONOMY LOGISTICS USES CASES

As outlined in the previous chapters, the Sharing Economy has disrupted many industries over the past few years. By adapting and applying new principles and business models, companies can identify valid Sharing Economy use cases in the logistics industry as well.

In this chapter, we will explore some of the opportunities arising in warehousing, transportation, and last-mile delivery, as well as completely new areas of value creation. A framework is provided at the end of this chapter for assessing your organization's readiness to adopt the Sharing Economy.

3.1 Truly Shared Warehousing

Multi-customer warehouses like the one pictured in figure 24 enable third-party logistics (3PL) providers to achieve valuable economies of scale. By operating one site (instead of two or more sites in the same area), the logistics provider can use fewer resources to meet the needs of several customers.

But today, space allocation in multi-customer warehouses is generally inflexible; a fixed amount of space is allocated for a specified period of time, all on a contractual basis, often without considering actual utilization of the space during the contracted period. By embracing concepts of space sharing from the hospitality sector, 3PLs can increase productivity and cut costs in the multi-customer warehouse environment.

The concept of truly shared warehousing suggests allocating excess warehouse capacity on a digital sharing platform, and enabling pay-per-use billing of space in the multi-customer warehouse. Next-generation inventory level management tools including drones and Internet of Things technologies (see figure 25) can provide unprecedented levels of inventory visibility to warehouse managers.



Figure 24: DHL's integrated supply chain management of multiple customers within a single warehouse site; **Source:** DHL

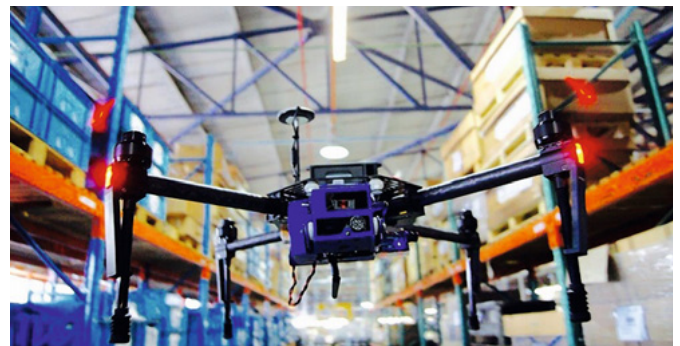


Figure 25: South African startup DroneScan is using autonomous drones to measure inventory levels in warehouses across Europe; **Source:** DroneScan

This information combined with dynamic billing infrastructure and processes moves logistics operations from a static billing model to a responsive one. This increases billing accuracy and opens a marketplace for excess warehouse space to new customers located near the warehouse.

With the dual goal of reducing vacant warehouse space and reaching customers in a new way across mainland Europe, the Middle East, and Africa, DHL Supply Chain has pioneered a platform called DHL Spaces to broker unused warehouse space. Customers can search for warehouse space on a location basis using a web browser or the DHL Spaces mobile app. The platform shows users the exact location of the space and how many square meters are available, and provides contact information for booking the space.

The vision for this platform is that customers will also be able to receive a quotation for the space and book it directly through the app.⁴⁴ Combined with its end-to-end transport capabilities and value-added services in warehousing operations, DHL is able to provide highly customized, integrated solutions for warehouse space sharing.



Figure 26: The DHL Spaces mobile app allows customers to better utilize vacant warehouse space; **Source:** DHL

DHL is not alone in the warehouse space sharing marketplace. American Seattle-based startup Flexe has also developed a marketplace for excess warehouse space that includes a network of over 370 warehouses across 45 markets, creating access to over 400,000 rentable pallet spaces in North America.⁴⁵ Flexe enables warehouse operations to monetize unused warehouse space using an on-demand and usage-based pricing model. To get started using Flexe, there is a 50-pallet, 30-day minimum requirement or expenditure of \$500 or more (the platform takes 20% from each transaction). This model is especially valuable for retailers or seasonal businesses requiring short-term storage (a few months, as opposed to a year or more).

By using platforms such as DHL Spaces and Flexe, retail and e-commerce companies can operate a more flexible omnichannel warehousing strategy. Visibility into available space in a particular warehouse allows customers to distribute critical or fast-moving inventory across multiple warehouses closer to demand, enabling expedited or even same-day delivery.

3.2 Urban Discreet Warehousing



Figure 27: The United Nations expects population growth and urbanization to add 2.5 billion people to cities by 2050; **Source:** United Nations / DHL

The United Nations predicts over 6 billion people, or about 66% of the global population, will be living in cities by the year 2050.⁴⁶ The effects of this trend, while largely centered in the Asia-Pacific region, can already be felt in the Western and Southern hemispheres as increasing numbers of urban dwellers put a premium on real estate prices and personal space. For consumers and businesses, finding and managing sufficient storage space for personal belongings and excess inventory is already a challenge, and this will become more difficult in the years ahead as cities like the one depicted in figure 27 grow more crowded and complex.

The concept of urban discreet warehousing is the sharing of personal storage space in urban homes, back offices, garages, and vacant rental properties via a mobile and web platform. It addresses the lack of storage space in urban areas by monetizing unused urban space with a usage-based, per-item, or membership-based fee structure.



Figure 28: Urban retailers have challenges maintaining sufficient inventory space; **Source:** DHL

⁴⁴ Dangelard-Dalongeville (2017).

⁴⁵ Soper, T. (2016).

⁴⁶ United Nations (2014).

Users of a discreet warehousing platform can browse image-based listings of storage options in their area uploaded by the service providers' mobile phones, and the platform can recommend pickup and delivery options in an on-demand way. This is one method by which logistics providers can help consumers to manage their personal belongings more efficiently with limited space.

From the perspective of retailers, urban discreet warehousing allows companies to maximize showroom floor space; it can enable flexible and nearby handling of inventory. Imagine being able to go into a store, try on and purchase a garment from a retail showroom selection and later that day find an identical garment awaiting your arrival at home.

From a consumer perspective in the U.S., New York-based startup MakeSpace and San Francisco-based startup Omni are leading the way in urban discreet warehousing.⁴⁷ As suggested in figure 29, their on-demand platforms for



Figure 29: Startup Omni enables on-demand storage, pickup, and delivery of personal items; **Source:** SF Chronicle

storage, pickup, delivery, and even rental of personal items can help urban dwellers “live lighter” with personalized management of belongings.⁴⁸ Together these two companies serve four cities in the U.S., so there is still significant growth potential to develop this concept further and reach worldwide size and scale (see figure 30).

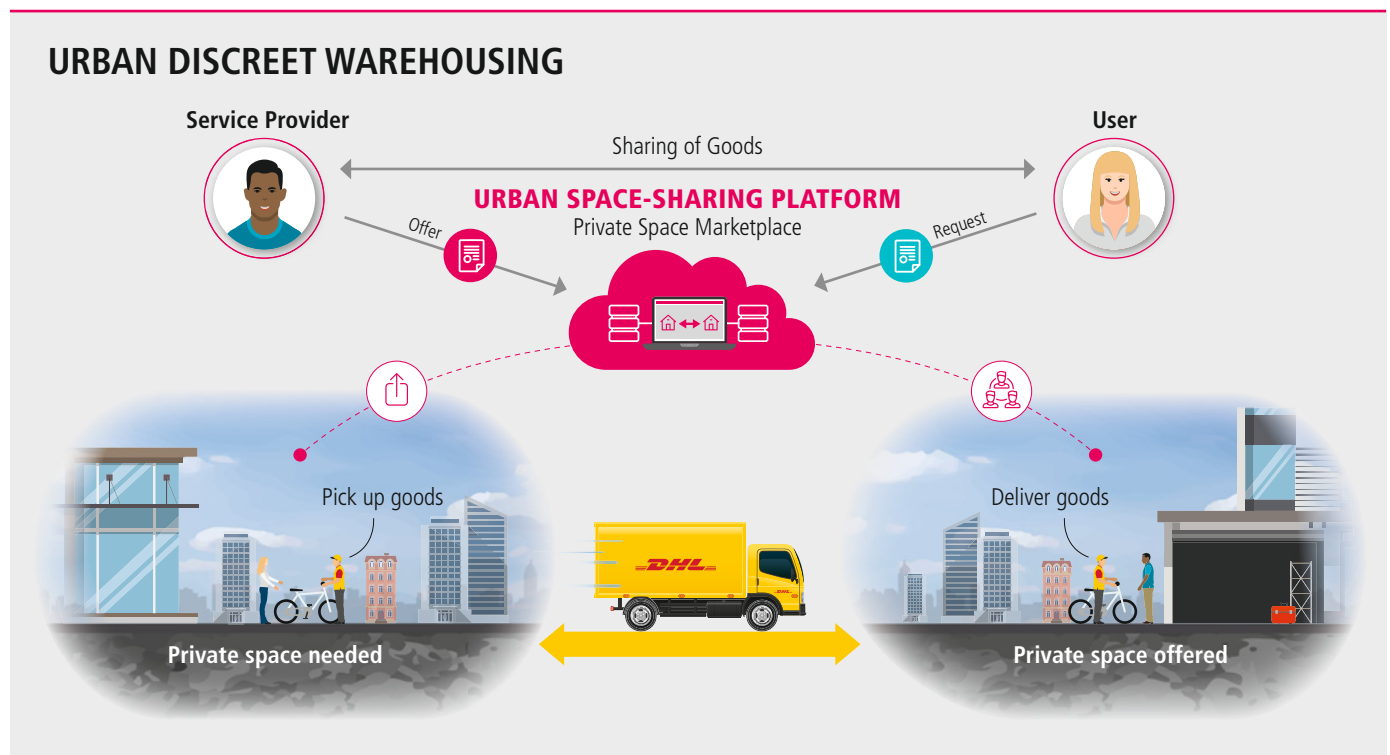


Figure 30: People lacking necessary storage can manage personal belongings more efficiently by using an urban discreet warehousing platform.; **Source:** DHL

⁴⁷ MakeSpace (2017).

⁴⁸ Omni (2017).

3.3 Community Goods On-demand

To date, the best known examples of the Sharing Economy in the consumer world have involved relatively expensive assets such as cars, which are mobile by definition, and rooms, in which case people transport themselves to a physical location to receive the booked service. Now, however, people are starting to successfully share items of medium to low value that must be collected. In dense urban areas around the world, household items are available on online platforms.

Similar to San Francisco-based startup Omni, Dutch startup Peerby has pioneered a peer-to-peer (P2P) goods sharing platform that allows users to share or request items from people in their neighborhood. Peerby CEO Daan Weddepohl estimates that we use 80% of our belongings just once a month.⁴⁹ To enable community goods sharing, users must create a profile, indicating which household goods they own from a recommended list of popular items as seen in figure 31. Users who need a certain item are then matched with item owners to arrange the meet up and exchange. Owners of the items take a small fee for the rental, which is split with the platform. Following its successful founding in Amsterdam in 2012, Peerby today has over 250,000 users across the Netherlands and in major European and U.S. cities, with around \$1 billion worth of products available on the platform.⁵⁰

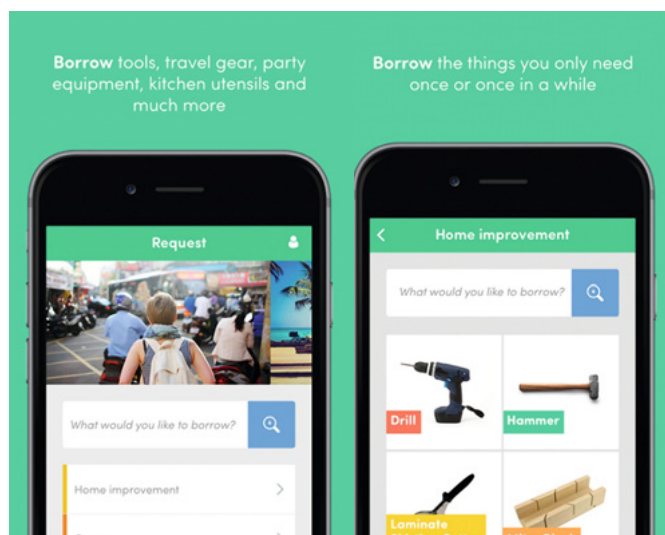


Figure 31: Peerby allows users to share and request personal items from people in their neighborhood; **Source:** iTunes

In the U.S., Los Angeles-based startup Joymode has a different approach to providing community goods on demand. Joymode lets urban residents live lighter by providing a membership-based service to access equipment and supplies needed for a wide variety of weekend adventures such as a beach trip, backyard movie night, or camping expedition, as seen in figure 32. It also offers more utilitarian packages such as cleaning supplies. An annual fee of \$99 covers the on-demand delivery and pick-up of a set number of packages; additional or individual packages can also be purchased individually. Once the specified rental period ends, the items are picked up by Joymode staff and stored in a central warehouse.



Figure 32: Joymode rents supplies on demand so you don't have to; **Source:** Thrillist

In both examples of community goods on demand, whether the transactional P2P model of Peerby or the subscription-based model of Joymode, we see a shift in consumer behavior to preferring experiences over possessions. Both cases also illustrate the opportunity for logistics providers to use their unique know-how and existing assets to provide even better experiences for these consumers.

For example, the logistics provider could offer a network of on-demand couriers and a staffed central warehouse to manage the pickup, storage, and delivery of items between sharing platform users. This would remove the friction of arranging meet ups for item exchange; it would also eliminate many customer hassles related to shipping a shared item (see figure 33).

⁴⁹ Belton, P. (2016).

⁵⁰ Wharton (2016).

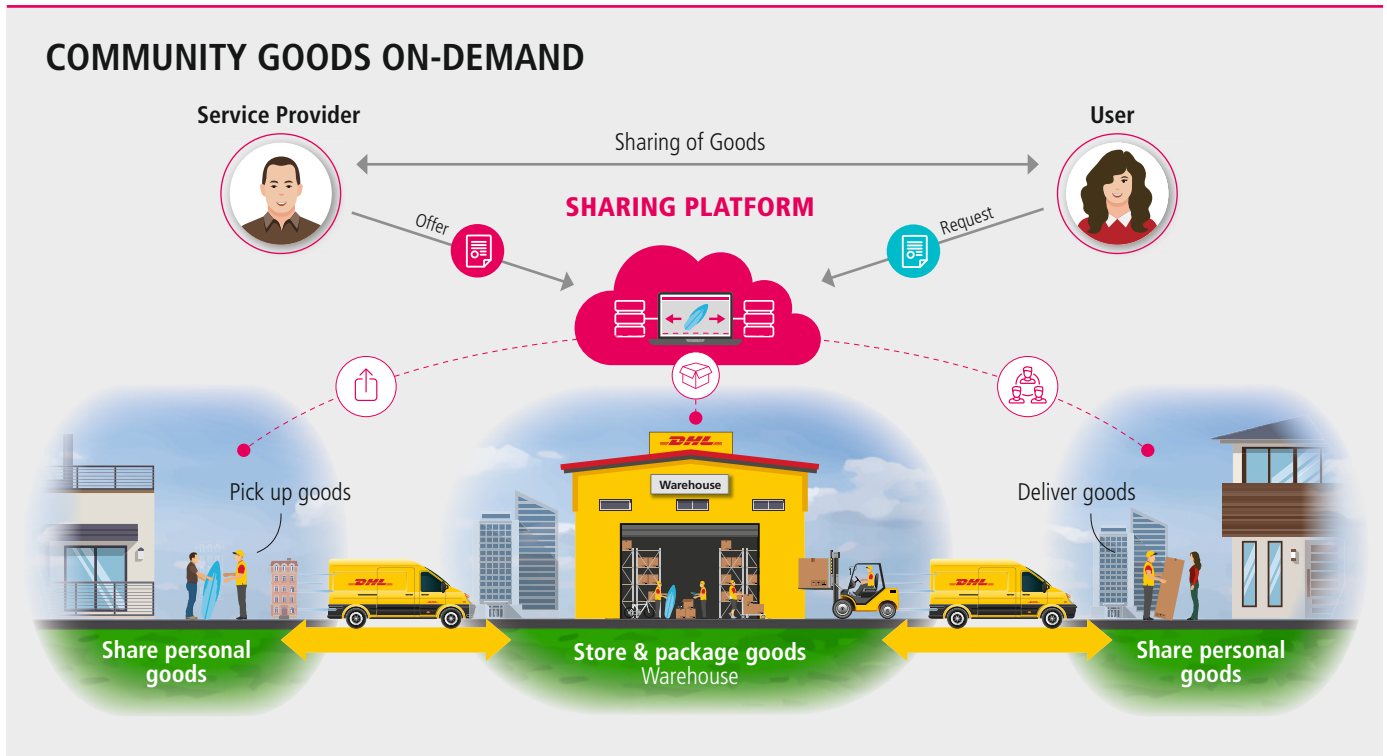


Figure 33: Urban residents can live lighter using a community goods sharing platform; Source: DHL

In addition to helping urban residents to live lighter, figure 33 shows how logistics providers can remove the tedious tasks of finding packaging material, packing the item, printing a shipping label, and waiting in line at a local post office to give back the shared item. American startup Shyp offers a helpful service – upload a photo of an item to the Shyp app and an on-demand courier will arrive within an hour to package, pickup, and ship the item to its destination at the lowest rate, thanks to a dynamic pricing algorithm and partnerships with a broad range of transportation providers. Such logistics services can be greatly expanded to further facilitate community goods sharing platforms.



Figure 34: Shyp's image-based platform for on-demand packing and shipping services; Source: Shyp

3.4 Logistics Asset Sharing

Drawing on lessons learned in the mobility and heavy industry sectors, logistics fleet operators can leverage sharing business models to optimize asset utilization and produce new rental fee revenue streams. Today it is estimated that privately owned vehicles are driven an average of 6 hours per week, which means they are parked the remaining 162 hours.⁵¹ In the construction industry, heavy equipment such as bulldozers, diggers, and earth movers sit idle about 70% of the time.⁵²

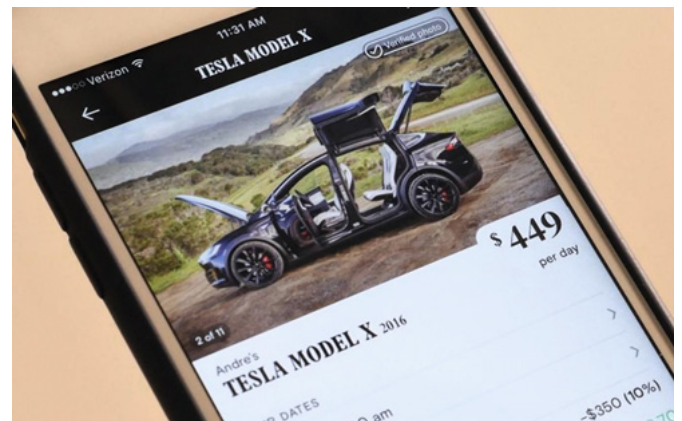


Figure 35: Turo allows users to rent personal cars at daily rates; Source: Forbes

⁵¹ Barter, P. (2013).

⁵² Consumer News and Business Channel (CNBC) (2015).

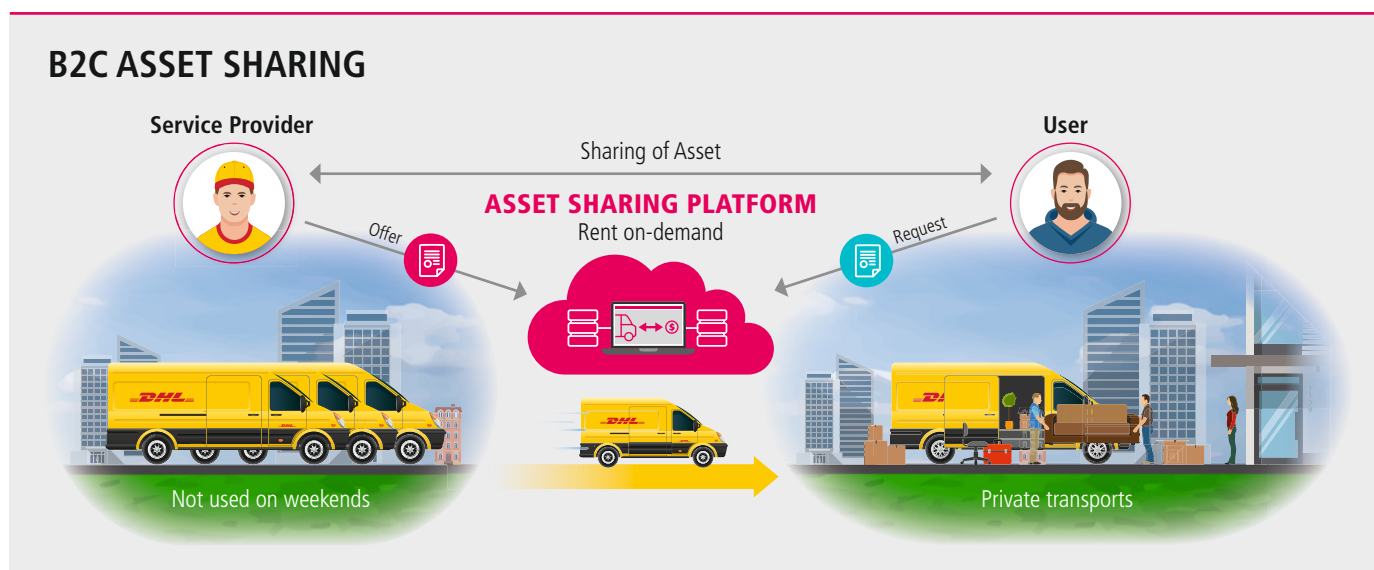


Figure 36: Instead of sitting idle at weekends, vehicles can be rented to individuals on an asset sharing platform; **Source:** DHL

To increase asset utilization in the mobility space, American startup Turo (formerly RelayRides until 2015) provides a crowd sourced car rental service, where private vehicle owners share their vehicles on a per-day basis. Turo's revenues are undisclosed at the moment, but about 60% of the business comes from out-of-town travelers wishing to have a personal car waiting for them on arrival, avoiding the hassle of dealing with traditional car rental companies.⁵³ The Turo platform takes 25% of each rental from the car owners, and another 10% from those renting. In addition to the rental fee, Turo gains incremental revenue from selling insurance alongside each rental. In the context of the logistics industry, a similar opportunity can present itself. Logistics providers often operate fleets

of small to medium-sized delivery trucks that sit idle on weekends and outside normal working hours. By opening up access to these underutilized vehicles using a sharing platform, urban residents could rent these vehicles to assist with weekend moves, household projects, and private events (see figure 36). By providing the platform and renting out the delivery trucks, logistics providers have the opportunity to address untapped demand from urban residents, all the while earning new revenues from what are today idle assets. Similar to the Turo business model, selling insurance through the platform alongside each rental provides not only the security and trust consumers expect when renting a vehicle, but also an opportunity for incremental revenue.

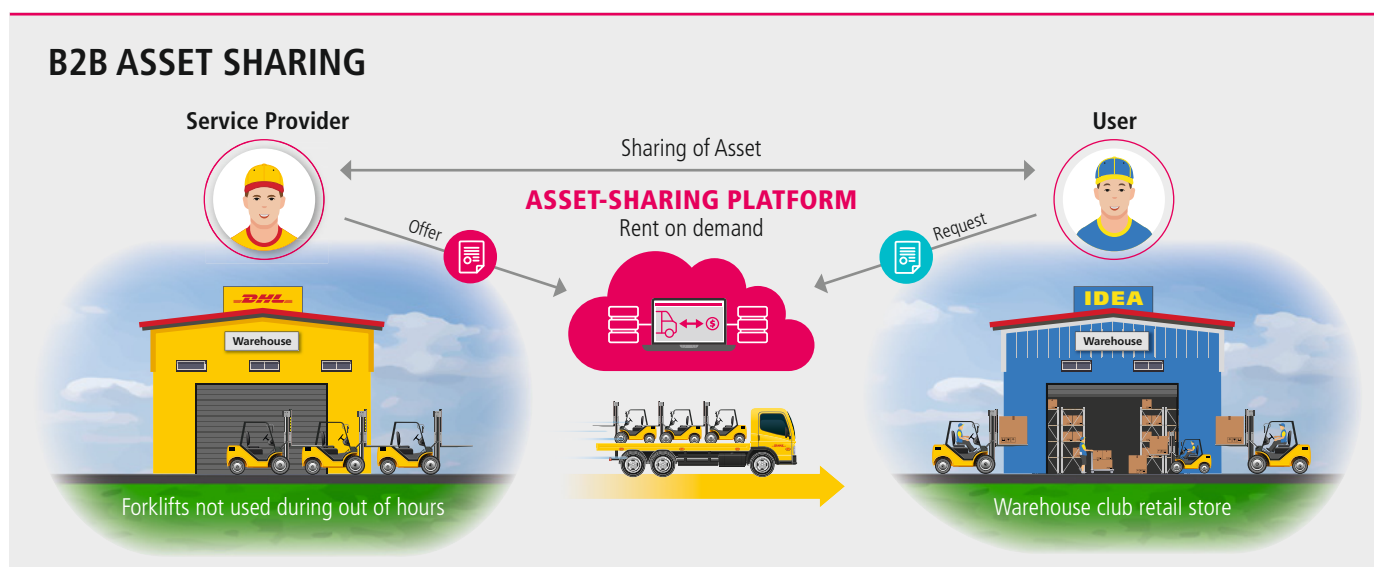


Figure 37: An asset-sharing platform enables businesses to rent specialized equipment on-demand; **Source:** DHL

⁵³ Loizos, C., TechCrunch (2015).

On the business-to-business side of logistics, companies like Yard Club and MuniRent offer valuable examples to follow, where complex heavy machinery is shared between construction companies and local municipalities to share fixed costs and maximize utilization of the capital assets.

Inside every warehouse is a dedicated fleet of forklifts, pallet movers, and complex material handling equipment ready for use by logistics operators during working hours. Unless they are in a 3-shift, 24/7 functioning warehouse, these fleets are bound to sit idle for one or two shifts per day, as well as entire weekends. During these hours, the idle assets could be rented out to warehouse-club style retailers such as IKEA, Wal-Mart, OBI, and The Home Depot. Here logistics providers not only offer the value of market access through the platform, but can also provide advice, leveraging extensive experience and knowledge about transporting complex equipment between locations in a cost-effective way (see figure 37).

In the oil and gas industry, the combination of a sharing platform, business model and extensive logistics industry knowledge would allow complex drilling equipment, earth movers, and similar heavy machinery to be shared between neighboring companies at unprecedented scale. The business model would generate new revenue in the form of rental fees for the asset owner, increased volumes to logistics providers for complex transports, and lower fixed costs for operators.



Figure 38: Complex transportation knowledge can aid the sharing of industrial assets; **Source:** DHL

3.5 Transport Capacity Sharing

Today the rise of digital freight brokerage platforms is reinventing the road freight industry as we know it, taking on the immense inefficiencies related to unused capacity in trucks. A study by Frost and Sullivan shows that 1 in 4 trucks on the road in the U.S. and Europe is driving empty and, among the loaded trucks, typically only just over 50% loaded.⁵⁴ The Chinese Industrial Securities Co. estimates about 2 in 5 (40%) of trucks on the road are traveling empty.⁵⁵ To compound the problem of excess capacity, the road freight industry is plagued with idle time from traffic delays, loading time, communication lag, and process inefficiencies around quoting, pricing agreement, delivery tracking, and payment collection.



Figure 39: Container trucks await loading outside the Port of Shanghai. Most freight in China is moved by independent truckers; **Source:** Carlos Barria/Reuters

Around the world, startups are rushing to address this problem, pioneering freight brokerage platforms to help match shippers and carriers to maximize truckload utilization, decrease deadhead miles, and accelerate shipping times. Leading platforms from around the world include DHL's own Saloodo! in Europe, Freightos, Convoy, and Loadsmart in the U.S., and Huochebang (Truck Alliance) in China.

⁵⁴ Srinivasan, A., Leveque F. (2016).

⁵⁵ Chen, L.Y. (2016).



Figure 40: Saloodo! enables real-time management of less-than-load shipments and excess capacity brokerage; **Source:** DHL

Leveraging the global scale of smartphone users, these digital freight brokerage platforms enable real-time data flow and communication between shippers and carriers, and thus provide seamless matching of loads with available capacity (see figure 41).

The benefits include real-time communication, shipment tracking via mobile GPS, secure payment, and critical document capture, all conveniently conducted within a mobile app.⁵⁶

The business model generally follows the traditional Sharing Economy approach; the platform takes a percentage of each transaction, either from the carrier, shipper or both, in exchange for providing the market access and transaction processing. In addition to driving higher capacity utilization, we see the Sharing Economy setting a new industry standard for real-time shipment transparency and communication as the minimum necessary conditions for freight forwarding players to operate in the future. Where today digital freight brokerage platforms are driving significant disruption in road transportation, the other freight sectors of air, rail, and ocean also stand to benefit. By embracing the openness and scale of transport capacity brokerage platforms can effectively share excess capacity in all transport modes with a greater audience of shippers.

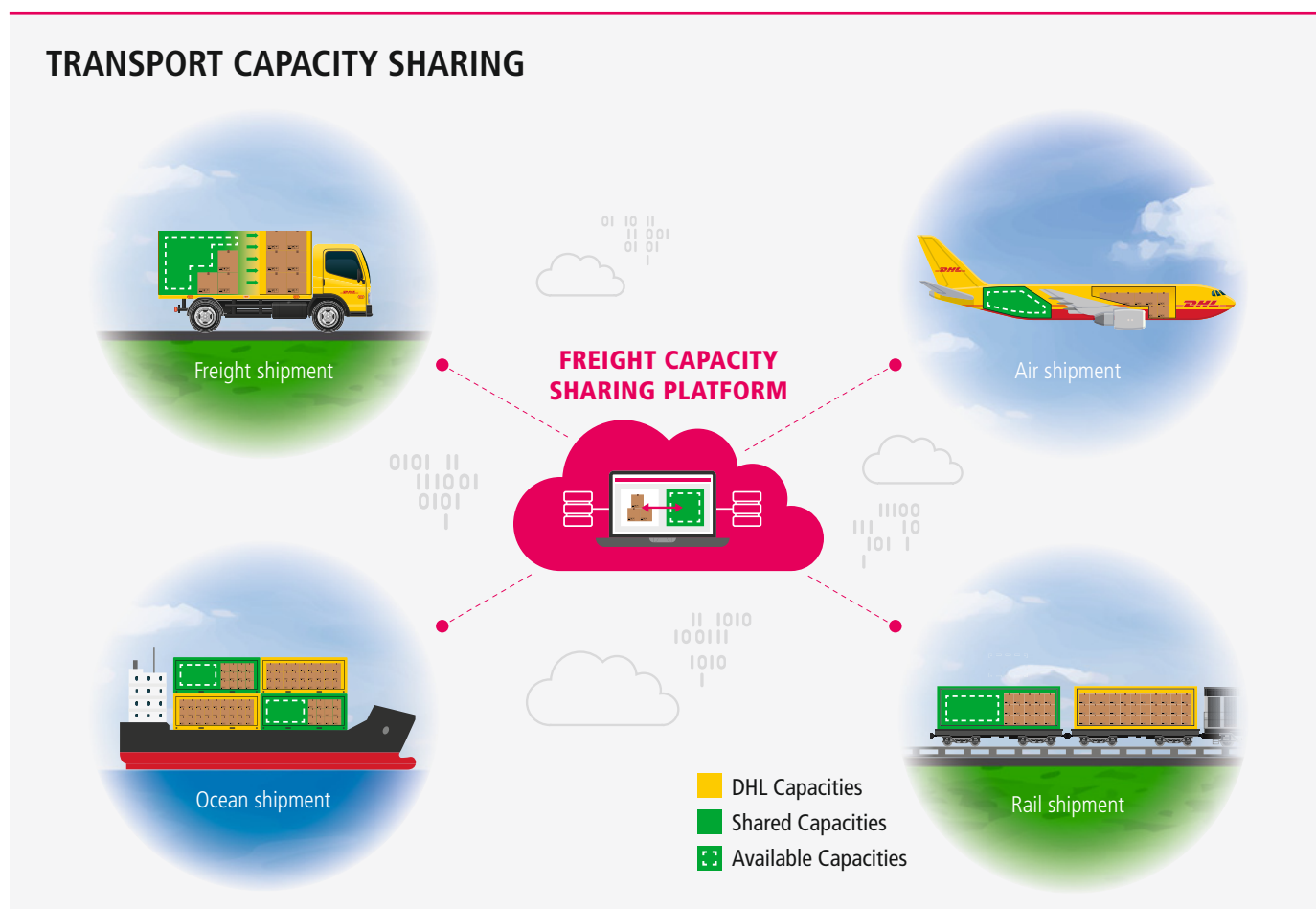


Figure 41: Digital freight brokerage platforms enable real-time data flow and communication between shippers and carriers across different shipping modalities; **Source:** DHL

⁵⁶ Saloodo! GmbH (2017).

3.6 On-Demand Staffing

Labor is and will continue to be the lifeblood of the logistics industry. However, the growing labor shortage in logistics is already challenging; companies often struggle to cover operations during seasonal peaks and spikes in logistics demand. To combat this, the industry is beginning to increase adoption of robotics and automation systems for highly repetitive tasks. Still, there is a wide range of tasks that require the knowledge and dexterity of human workers.

To aid the staffing needs of the logistics industry, a Sharing Economy staffing model would offer the flexibility of on-demand labor recruitment on platforms that digitize the current paperwork, phone calls, signatures, and approvals often associated with contracting temporary labor.

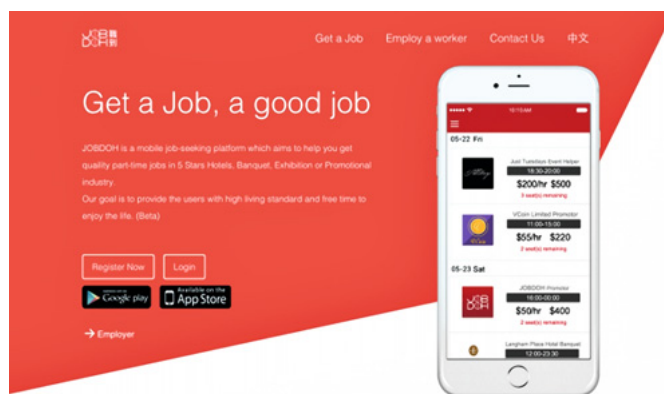


Figure 42: Jobdoh matches companies with on-demand labor via its sharing platform; **Source:** Jobdoh

Hong Kong startup Jobdoh has developed a location-based platform for matching enterprises with quality freelance workers in minutes. Following a pre-screening and profiling exercise, the platform matches verified workers with available jobs in minutes, even allowing companies to do bulk hires, and provides integrated payroll and insurance services.⁵⁷ Jobdoh claims to hire workers across eight different sectors, including personal errands and logistics. Aside from the benefit of meeting labor shortages within enterprises and providing income streams to individuals, on-demand staffing platforms empower workers to become micro-entrepreneurs, setting their own schedules and earning supplemental income according to their needs.

According to a study by McKinsey Global Institute, 70% of freelancers surveyed in the U.S. and Europe who engage in freelancing and supplemental work do it voluntarily rather than out of necessity. The concept of on-demand staffing is ripe for adoption within logistics operations.



Figure 43: On-demand staffing platforms can assist in meeting challenging labor needs in logistics operations; **Source:** DHL

On the business-to-consumer side of logistics, the rise of e-commerce and increasing complexity of customer demands is driving the need for appropriately responsive last- and first-mile services. While the concept of crowd delivery is not new, established logistics providers have a significant opportunity to bring trust and transparency to crowd delivery services in the Sharing Economy. As the users of Sharing Economy apps and services have become comfortable sharing a car with a driver they do not know, or staying in the personal home of someone they don't know, so too are consumers becoming comfortable with people they don't know completing personal errands and deliveries on their behalf, as seen with American startups Postmates and TaskRabbit.

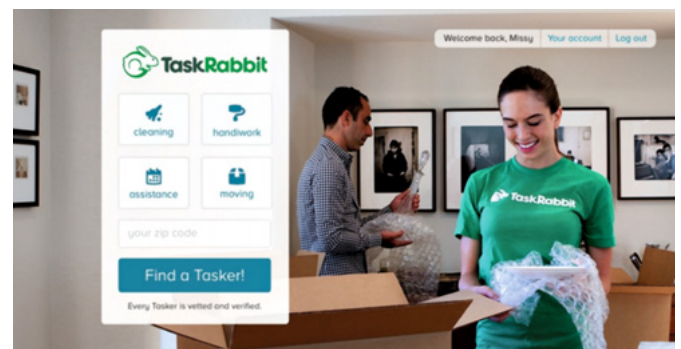


Figure 44: TaskRabbit is an online and mobile marketplace that matches freelance labor with local demand; **Source:** TaskRabbit

⁵⁷ Jobdoh (2017).

Established logistics companies can certify a flexible workforce of ordinary people to do last-mile deliveries, and leverage a sharing platform to match them with deliveries. This asset-light approach gives the added benefit of access to existing personnel seeking project-based work, and who are willing to use their personal assets to get the job done. Established logistics companies can supplement the platform's bilateral online ratings (for customers and for crowd deliverers), real-time communication, and location tracking from a smartphone app, with their own branding. They can promise a better customer experience by ensuring each crowd deliverer passes an accepted certification process. Here logistics providers also play a demand consolidation role so that crowd deliverers have enough deliveries to earn sufficient wages. In addition, they can plan routes in real time to enable on-demand pickup while crowd deliverers are out and about.

3.7 Logistics Data Sharing

As evidenced throughout this report, digital sharing platforms are on the increase, helping city-based consumers around the globe to acquire the resources, skills, and services needed for a higher quality of life. These platforms are all data-driven, harvesting anonymized user data from their respective mobile apps, securely removing any personally identifiable information. This data is aggregated for analysis to gain insight regarding new product or service innovation opportunities. Most importantly, companies are opening access to their data in new and innovative ways to enable cities to become holistically more efficient, resilient, and environmentally friendly.

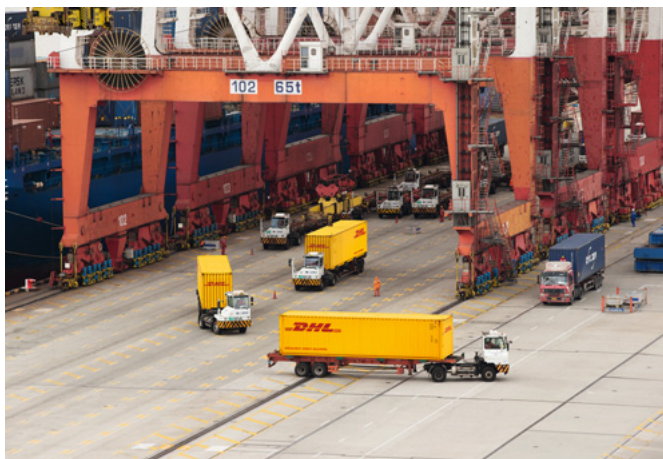


Figure 45: The size and scale of DHL's asset base can provide valuable data for public and private benefit; **Source:** DHL

Logistics providers operate extensive transport and delivery networks that can ultimately provide high-resolution data sources for the benefit of city residents, businesses, municipalities, and city planners.

For example, logistics operators can share their own daily movement data along with any accumulated environmental intelligence. This data can be used by various stakeholders in the area such as the city government which can use this data to plan transport and mobility networks more efficiently and to measure environmental impact (e.g., the CO₂ levels in the city).

A central data sharing platform that allows multi-sided market access for government agencies, businesses, and consumers is critical to the success of highly efficient cities. As a premier example, Hitachi's Social Innovation group pioneered its City Data Exchange platform in Copenhagen, Denmark in 2015. In conjunction with a portfolio of IoT solutions around public safety, transportation and parking analysis, the shared data platform developed by Hitachi is intended to use shared public and private data from many different sources to drive innovation and inspire new thinking that will improve quality of life, stimulate business activity, and help to achieve Copenhagen's goal of being carbon neutral by 2025.⁵⁸

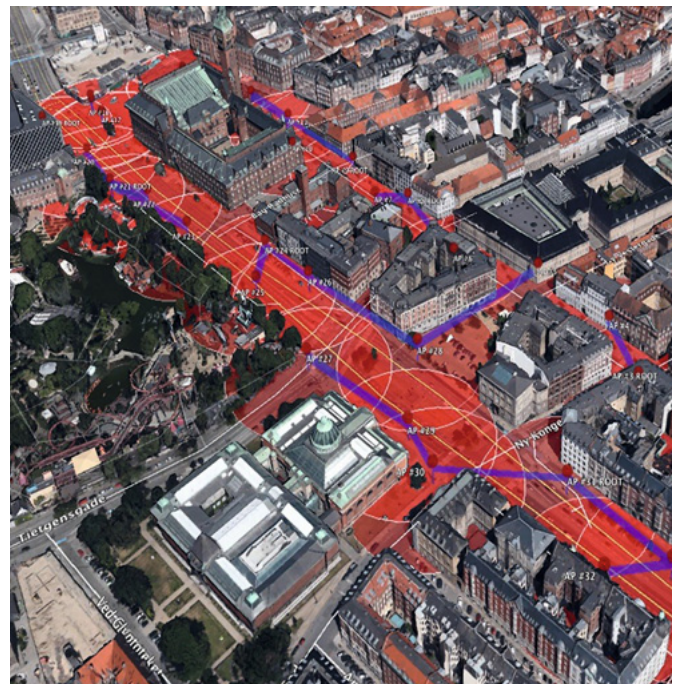


Figure 46: The Copenhagen Street Lab provides a live environment to develop solutions aimed at waste management, air pollution and noise reduction, intelligent parking, and the availability of citywide Wi-Fi; **Source:** Cisco

⁵⁸ Hitachi Insight Group (2015).

3.8 Assessing the Sharing Economy Readiness of Your Organization

The use cases presented in this chapter cover a broad range of Sharing Economy opportunities across all parts of the traditional logistics value chain to increase asset utilization and create new revenue streams. However, to realize a sharing platform in a real logistics environment, companies must undertake a thorough assessment of customer needs and consider the operational environment, IT capabilities, and asset base. Below is a proposed framework to assess how to implement a Sharing Economy model in your company.

Demand Side: Assess Customer Needs

As the Sharing Economy is inherently enabled by commonly used digital technology, customer needs are always at the center of a digital product. What problems are your customers facing that you could help them solve? Instead of direct outlay to acquire the physical means to solve a customer problem, investigate where investments in subscription and rental models can be made instead.

Another step is to assess where customer pain points and friction lie that could be resolved using new services delivered in an on-demand way using private individuals and their assets. Above all, to start a successful sharing initiative you must define (and achieve stringent metrics for) the critical mass of users and service providers required within the same physical location. Peerby did this very well by focusing on acquiring critical mass of non-owned inventory on its platform to share between users. DHL's Saloodo! freight brokerage platform also achieved this by signing up and certifying independent truckers for the platform several months before its official launch.

Supply Side: Share Your Asset Base

Take stock in the tangible and intangible assets your organization has at its disposal. Begin with physical items that have a high fixed cost, and are either movable or stationary, such as heavy equipment or real estate facilities. Next it is worth considering the intangible assets such as the time and skills of the people in your organization. Identify where any spare capacity or underutilized assets lie in your company; are there obvious or discreet customers who could make use of these assets? Here it is very easy to follow B2C sharing models as explored in previous chapters, sharing underutilized assets with both new and existing customers. Once you have clearly identified the

assets and the windows of opportunity for sharing, you can put those assets to work on behalf of your organization, generating a new revenue stream from previously idle time.

Leverage a Network to Provide a Platform

A critical step in the Sharing Economy journey is the decision to develop, partner with, or license access to a sharing platform. Developing and managing your own sharing platform will likely require the most effort, but potentially deliver the greatest reward both in terms of financial wins and long-term customer success. You may need to establish or leverage a network of users whose demands you can supply with owned or third-party assets and services. The alternative approach is to feed into an existing platform and network of users as a provider of shared assets or on-demand services. For organizations that lack the in-house technical resources and budget to create and manage their own sharing platform, this partnership approach provides a leaner financial investment while still reaping the rewards of increased asset utilization and new revenue from rental or service fees.

Obsess Over Customer Experience

From easy-to-use mobile apps with well-designed interfaces, to friendly sharing exchanges between users and service providers in the real world, the most successful Sharing Economy companies today achieved that status by continuously responding to customer needs and delivering great online and offline customer experiences. These experiences in turn incline users to tell their friends to also use the platform. Simply put, great experiences that leave users surprised and delighted by delivering a service quickly and easily are key to acquiring and retaining them. As a general rule for delivering great experiences, to be truly successful a product or service should be 10 times better than the one it is replacing.⁵⁹ Here, the term "better" refers to measurable factors of improvement that customers greatly care about (for example, a product or service is 10 times faster, cheaper, or easier to use).

While the financial and operational incentives for the Sharing Economy are powerful, the human element of creating consistent, exceptional customer experiences is also hugely important to success and should not be underestimated. An outside-in approach to new product and feature development and a culture of responsiveness to customer needs are essential to the long-term viability of any digital sharing platform.

⁵⁹ Thiel, P., Masters, B. (2014).

CONCLUSION AND OUTLOOK

In the Sharing Economy, it has been proven that the rapid pace of technology and social change are powerful drivers of business model and value innovation. Lessons learned from the hospitality, staffing, heavy industry, and mobility sectors provide valuable examples of how to embrace sharing across all parts of the logistics value chain.

In warehousing, the Sharing Economy stands to augment utilization and billing in existing shared customer warehouses. In cities, logistics providers have an opportunity to support the growth of goods sharing and storage with new urban discreet warehousing and by providing community goods on demand. In transportation, established logistics providers need to disrupt their own businesses with capacity sharing platforms before startups do this for them. In addition the Sharing Economy presents new and creative ways to do business and realize internal efficiency gains with on-demand staffing models and logistics data sharing.

While a promising opportunity for new business creation, the Sharing Economy is not without its challenges. Risk liability, insurance, transparency and workforce protection issues continue to hinder the progress of the Sharing Economy. Most difficult of all is that the pace of technological innovation and social change has often outpaced regulatory frameworks, resulting in banned services and protest from those working in traditional industries.⁶⁰

Companies must work together with policy makers to drive the Sharing Economy forward in an equitable way to benefit all parties involved in its exchanges.

Going forward, further acceleration of technological innovation is likely to drive the Sharing Economy into another dimension of efficient allocation of goods and services. The development of autonomous vehicles, specifically autonomous trucks, will drive down transportation costs, increase safety, and shorten transit times, thus rendering obsolete ride sharing and the road freight transportation industry as we know it today.⁶¹

The further development of blockchain, the highly secure distributed ledger technology underpinning next-generation digital currencies, could disintermediate existing sharing platforms; individuals will be able to securely broker, share, and transact their own assets without an intermediary.⁶² Finally, the rapid evolution of artificial intelligence and cognitive computing will revolutionize the digital orchestration of physical goods, material flows, and customer interaction with logistics providers and services.

At DHL, we believe it is time to rethink logistics with access over ownership. We look forward to hearing from you to jointly discuss and explore new opportunities in the Sharing Economy that will create and capture new value for future supply chains.

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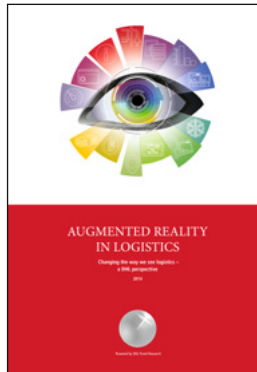
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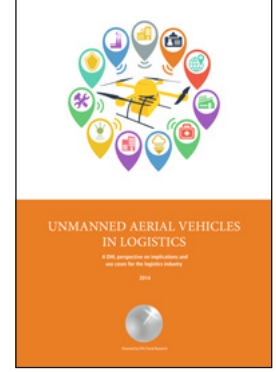
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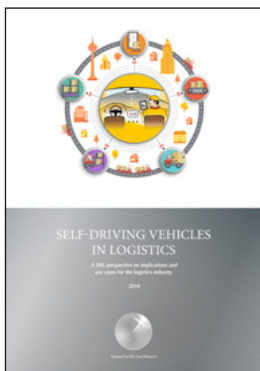
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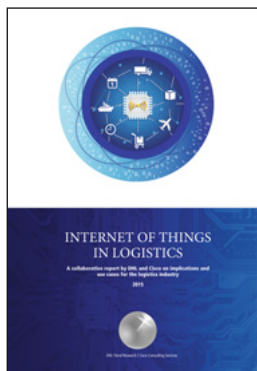
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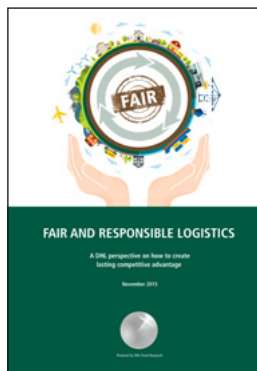
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OMNI-CHANNEL LOGISTICS



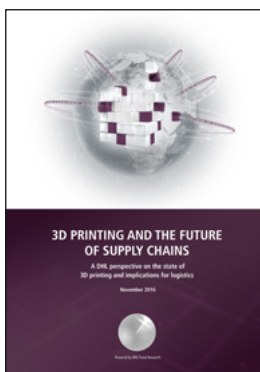
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