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ABSTRACT

The sharing economy has grown from a minor phenomenon to a considerable business in its own right. While start-ups have taken the lead in incorporating sharing economy principles in their business models, this article argues that incumbent firms with traditional hardware-based business models also have an opportunity to respond to the needs of the sharing economy. Based on a conceptual framework and case examples, this article delineates four strategies traditional incumbents can draw on to keep reins on the sharing economy.

The sharing economy is gaining increasing interest in management practice and academia alike. The major idea behind this phenomenon is that sharing products is more efficient than owning them individually (Eckhardt/Bardi 2015). In the present article, we seek to delineate strategies for traditional incumbent firms to respond to the needs of the sharing economy and pre-empt potential sharing economy firms from entering established markets. To do so, we build on the broader **underlying paradigm** of the sharing economy, which we define as the search for an “increased efficiency in the use of resources with the aim to lower costs or create new value through the means of shared consumption”.

It has been acknowledged that there are several triggers for the sharing economy, such as customers’ increased feelings of financial constraint and the desire to live in a more sustainable way. But the modern ideas of urban life, including travelling, part-time work and freelancing in combination with a cosmopolitan lifestyle, residential mobility within and between cities, towns and regions (Marcellin 2014) have also contributed to this phenomenon. The main enabler, however, has been the development of the internet with its decreasing marginal costs and platform ecosystems. Popular examples of the sharing economy address the needs of these customers, mostly in the housing and transportation sector. AirBnB offers temporary housing in all sorts of qualities and varieties; the car sharing platforms Mitfahrgelegenheit.de and Uber Pop allow people to advertise and find spare seats while ZipCar offers the entire car. Countless websites connect, on a peer-to-peer basis, people with spare resources of almost any kind (e.g. time, knowledge, space or fixed assets) with the needs of others searching for these resources. Online reviews serve as quality control and help sharers to gain trust and reputation. The main enablers of collective consumption – as the sharing economy is sometimes referred to – are information technology and internet connectivity, which allow efficient peer-to-peer contact (The Economist 2013). In the early days of the sharing movement, users shared their resources with others free of charge. However, in recent times, a large proportion of users have discovered sharing as a potential source of income, which is at the root of the legal issues companies of the sharing economy face in many countries.

The underlying paradigm of the sharing economy is closely related to the “redistribution market”, which emerges when original customers become resellers or lenders of products they initially bought for themselves. The concept itself is by no means new. Bookstores have sold second hand books for centuries, antiquaries have sold old and used furniture, and car garages have specialized in the second hand market. So why are an increasing number of executives

concerned by this new phenomenon as opposed to traditional second hand trade? Should they be concerned at all? Our view is that they should, because the sharing economy is different from the traditional second hand market in two main respects. First, the sharing economy has a global scope. The internet has turned the world into a global village (Farivar 2011) where sharers do not only share with their immediate neighbors but with the global community. Secondly, and more importantly, sharers start to share their products much earlier in the products' lifecycle compared to conventional second hand markets. In other words, the modern sharing economy facilitates **parallel sharing** (i.e. while the original owner still owns and uses the resource) and **sequential sharing** (i.e. reselling/lending used products to new users) on a global scale. Firms with traditional business models therefore have to take measures to take part in, or at least keep reins on, the sharing economy in their markets.

In the following, we will develop a conceptual framework based on mechanisms for the exploitation and exploration of value (March 1991) in the sharing economy and on the nature of the product (digital vs. physical). Building on case examples, we show how incumbent firms can adapt or create new business models to respond to the needs of sharing economy customers.

Conceptual framework

Exploitation and exploration in the sharing economy

The underlying paradigm of the sharing economy is that users aim to increase resource-use efficiency to either lower costs or to create new value by offering their resources to others at times when they do not use them themselves. Most of the cases reported in the popular press belong to the category of lowering costs.

Online trading platforms such as Napster or eMule were amongst the first that provided users with a shared access to digital music and videos. It was possible to download these digital products from lenders on the platform for free, and in many cases, uploading and downloading happened simultaneously (i.e. the files downloaded on someone's PC served as new files to be downloaded by the next user)¹ – this constitutes the very essence of the sharing economy. Airbnb or Uber Pop are very similar, only differing by the fact that they facilitate the shared use of physical products (i.e. rooms or spare seats in cars) and that sharers on these platforms do not share their resources for free.

Whenever lenders offer the use of their resources to others at lower costs (to subsidize the lender's initial investment) or free of charge, we refer to this as “exploitation”.

¹ We acknowledge the fact that these websites do not exist anymore or needed to change their business model for legal reasons. However, as examples they explain the underlying mechanism.

There is also a new category of value that may emerge when sharers do not merely exploit existing resources but explore new value. These explorer strategies often stretch the narrow definition of parallel shared consumption as they allow to share resources over time (not simultaneously), and hence they are studied less thoroughly in the literature on the sharing economy. Consider the example of MonkeyParking. MonkeyParking is an app which addresses car drivers in need of parking space in cities where parking space is scarce. Using this app, drivers that are leaving can offer their parking lot (usually a public one) to other drivers seeking a parking space. The leaving drivers do not own the parking lot, but the valuable information that the parking space will be free as they drive off and thus they can offer this information to other interested drivers. The leaving driver creates an additional market for information on free parking space (McMillan 2014). A similar example is ReservationHop, a restaurant booking app in San Francisco¹. The idea is that with ReservationHop people make fake advance reservations in very popular restaurants and sell these rare table reservations to the highest bidders via the app (Kuhn 2014). ReservationHop and ParkingMonkey represent a new kind of digital peer-to-peer arbitrage, where information on scarce shareable resources can be bought – of course for a price premium. Another type of exploration is represented by users who actually re-design original products, give them a new purpose, and resell or lend them to new users. The company Freitag uses this approach to create a market for old truck canvas covers by using them as extremely durable raw material for their recycled products, such as bags (Freitag 2015). Other examples of this “up-cycling movement” (Gardiner 2010) include people that create wallets from used TetraPaks (Zighan 2014) or firms such as GreenSoul Shoes that build sandals from old tyres (GreenSoul Shoes 2015).

Whenever users/lenders enable a new use of existing resources or create new value for other users from existing resources (thus often creating a new market), we refer to this as “exploration”.

The nature of the resource being shared

There is also the need to make a distinction regarding the medium that is being shared, as the characteristics of the medium have an influence on how efficiently sharing may take place. In the present article, we distinguish between physical and digital assets, resources and products. Physical resources include assets such as bedrooms on AirBnB, seats in cars on Uber Pop, or recycled products such as TetraPak wallets or Freitag bags. Digital resources include valuable

¹ ResearvationHop has changed ist business model recently and now helps shift workers to organize and switch shifts more conveniently.

information traded on platforms such as ParkingMonkey or ReservationHop and sharing digitalized knowledge or products in the form of software, music and other media. While this distinction seems obvious at first glance, it often requires a closer examination of what is actually being shared. As a rough guideline, it can be said that a medium is digital if sharers do not own the physical product (e.g. parking spaces on ParkingMonkey) or create digital copies of it (e.g. songs on eMule).

The integration of the two dimensions of value mechanism and type of shared resource leads to the conceptual framework illustrated in Figure 1. This figure shows which of the above-mentioned examples represent explorers or exploiters with either digital or physical products.

Fig. 1: Start-up Companies in the Sharing Economy

Business Strategies and Business Model Adaptions

Incumbent firms with traditional business models competing in markets possibly affected by the sharing movement are facing the challenge of how to respond to or even pre-empt this new generation of start-up firms. In the subsequent section, this article presents four strategies that incumbents with traditional hardware-based business models can employ to address the underlying paradigm of the sharing economy in order to stay competitive in existing markets or to enter new markets.

1. Prevent Your Customer from Becoming an Exploiter of Your Physical Product by Offering a Second, Usage-Based, Parallel Business Model

The most intuitive solution for firms with differing customer requirements in one market is to establish a second business model (Markides/Charitou 2004; Markides 2013). In the context of the sharing economy, this means providing customers with an additional usage-based value proposition. In usage-based business models, customers pay for the use of a product instead of its outright ownership (Gassmann et al. 2014). This eliminates the need for initial investments for the customers and also the emergence of a redistribution market. In most cases, these second business models complement the firm's existing offering by addressing a specific customer segment with its use-based business model. The traditional ownership-based business model remains unchanged. Consider, for example, Hilti's fleet management for construction tools (Johnson et al. 2008; Matzler et al. 2014). With the fleet management scheme, Hilti's customers share the construction tools and only pay for the actual use of the tools (e.g. depending on how many holes they drilled). While this innovative approach has attracted a lot of attention, customers are still free to choose whether they want to buy a machine or opt for the use-based fleet management. Hilti has by no means abandoned its traditional direct sales business model (Hilti 2014).

Car manufacturers have recently also adopted this reasoning and have started to implement an additional sharing-based business model such as BMW's DriveNow or Mercedes' car2go (Matzler et al. 2014). Overall, using this dual **parallel business model approach**, firms may flexibly adapt to differing needs of customer segments while taking advantage of synergy potentials, as the traditional business model continues to operate.

2. Facilitate and support re-use to create additional demand with sequential business models

The second strategy is based on the idea of benefitting from a thriving second hand market. Firms adopting this strategy actively encourage the reseller movement by helping their customers find buyers for their old but still good-enough working products. The rationale behind this approach is that the faster the customers get rid of the older products and the more money they get for them, the sooner they will buy a new original product. Premium machine manufacturers have adopted this approach a while ago. Trumpf, a leading German company in laser and tool manufacturing machines, takes their older generation machines as trade-ins and resells them (refurbished) to new customers who value the older but high-quality machines at competitive prices (Trumpf 2015). Lower-priced products may also be suited for this strategy. IKEA, for example, created a second hand platform called "Köp & sälj" to spur the resale of IKEA

furniture among customers (Dagens Nyheter 2010). The logic behind this is straightforward: when people re-sell their furniture to someone, they have new space and usually buy new furniture to replace it. The Swedish clothing chain H&M also created a reseller platform for their customers (H&M 2015). Naturally, the risk in this strategy is that customers that got rid of their old product might eventually buy the subsequent product from a competitor, or that buyers of the second hand product would otherwise have bought a new product from the manufacturer. Bundled offerings that connect the second hand sale with the purchase of a new product are a good way of overcoming this problem (McGrath 2010).

The business model in this strategy is slightly different from the previous one, as it is not parallel, but rather **sequential** – bridging two product generations and creating a pull effect for new products. If the company can retain customers, these models have a self-reinforcing effect (Mahadevan 2000; Casadesus-Masanell/Ricart 2011).

3. Digitalize your hardware business

As the section above showed, the sharing economy is mainly enabled by digitalization and the growth in connectivity through the internet (The Economist 2013). Not surprisingly, digital products are more likely to become a shared good than physical products, as they can be shared very efficiently on a global scale. Some firms have successfully adapted this notion and used it to their advantage by transforming their entire hardware business model into a smart digital business model that is protected against potential exploiters from the sharing economy. Netflix is the poster child for this kind of business model change. After becoming big as an online DVD rental service with huge infrastructure and logistics, they turned their business into the now famous online streaming model using a flat rate pricing scheme (Chatterjee 2013). Doing so, Netflix ensured that their customers could benefit from the reduced manufacturing and distribution costs associated with their digital content, thereby providing a competitive value proposition compared to both legal and illegal competitors.

This strategy most likely requires the biggest change from the established firm's business model, as not only an additional business model is required to address the sharing economy needs, but the existing business model is completely abandoned.

4. Empower your products to collect valuable information arising from collective consumption

Digitalization offers an additional path for hardware-based firms, in that they do not need to abandon their hardware business but just make it smarter. Products become smart with the help of sensors, processing capability (usually in the cloud), and internet connectivity, which enables customers to use their products more efficiently and/or creates additional value. This

phenomenon, known as the “internet of things” (IoT), adds digital value to the physical value of the product (Porter/Heppelmann 2014). This is due to the fact that smart products may not only communicate with other devices of the same owner but also with other devices owned by other customers. The additional information gained through this collective consumption enables firms to create new value for the individual customer and to improve the entire ecosystem.

TomTom navigation systems offer an example of this strategy. Thanks to the large number of customers after the first years of market success, TomTom was able to make use of their large base of devices actually used on the road. Since all devices are connected via GPS, TomTom can detect congestions very easily, whenever cars are collectively not moving with the designated speed. Hence, similar to the examples of ParkingMonkey and ReservationHop (see above), TomTom possesses valuable information about the traffic situation. This information is then made available to TomTom users who are alerted of the congestions almost in real time. A similar mechanism is used by smart home appliances that start operation when it is most efficient for the system (i.e. in times of low demand) and electricity is cheaper for the customer, such as the Whirlpool smart washer and dryer (Alter 2015). Apart from making the additional information available to existing customers (e.g. TomTom users), the owner of the information has a whole range of options to generate new revenue streams. TomTom could, for example, sell traffic information to other navigation systems that have a smaller number of devices on the road and thus less traffic data, but also to other customers willing to pay for traffic information. Similarly, home appliance manufacturers may sell aggregated data about washing behaviors to detergent producers.

Overall, smart products which monitor and optimize collective consumption provide their operators with the opportunity of acquiring additional market intelligence. In business model terms, this would signify the creation of a new business model, possibly in a new business field, but building on the success of the firm’s traditional core business.

Fig. 2: Incumbents’ Strategies and Business Model Innovations for the Sharing Economy

Conclusions, Implications, and Future Research

The present article identifies four strategies and corresponding business model options for incumbents to adapt to the needs and mechanisms of the sharing economy. The analysis suggests that in order to do so, traditional firms may not necessarily need to overthrow their original business model, but should take specific measures to respond to these needs, thus keeping reins on the sharing economy. The range of options is large, as some firms may simply add a second business model, while others might develop new ones for new markets or even abandon the established model in favor of digital models. Overall, this calls for industry- and firm-specific approaches.

While the main aim of this research was to provide managers in traditional hardware-based firms with strategic options to pre-empt sharing economy startups, insights gained from this study also offer new avenues for business model research. For example, very little is known about when to implement change or create a new business model in general, but especially in the context of the sharing economy. In addition, dual business models have so far been assumed to run in parallel, which may lead to the cannibalization of the traditional business model (Markides 2013). The notion of establishing a dual business model “sequentially”, to bridge product generations and fuel the traditional core business model is something that deserves more attention in future research. Moreover, little research exists on whether the sharing economy increases the total value created for society or whether the new value is created at the expense

of those who do not participate in the sharing economy. While this study covers only business models in Western markets, future research may also investigate how sharing economy strategies can help to make products and services more affordable to address resource-constrained customers in emerging markets.

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