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*How do firms react to the
growing aversion towards
ownership? A better look at the
sharing economy of the
transportation industry in the
US.*

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Summary

This research has the aim to uncover how incumbent and entrepreneurial firms have influenced the evolution of business models. This is done by using secondary data in a qualitative research, whereby a distinction is made between three sectors: B2C, P2P, and for-hire service. In short, the sharing economy has ushered in a new age where underutilized assets become P2P services for hire, enabled by the Internet and smartphones. Especially Uber is already very big and probably here to stay. They are likely to become bigger, better, and more varied in the services they offer. Traditional companies in these markets are not likely to go out of business, but they cannot stand still. They must adapt and compete based on their own unique advantages—or they will become much-diminished versions of what they used to be. The main objective is to seek for what customers value, and this study has shown that it has grown towards an S-D view, in which intangibility, exchange processes, and relationships are central themes. This research also provides sufficient evidence that the servitization has not only a B2B character, but that B2C and P2P also get a foot on the ground. This is showed by taking into consideration the new way of thinking: a car is still a good, but the automotive manufacturers are no core suppliers rather suppliers of personal transportation: the focus is on the service they deliver. Also, the shared economy has proven itself as a good example of a circular economy by taking into consideration the value-in-use. However, if the sharing economy follows the pathway of corporate co-option it appears unlikely to drive a transition to sustainability, firms like Uber and Lyft strive others out of the market. Co-option in the shared economy means that it develops mainly with a commercial focus. With this co-option strategy, the shared economy will not become the sustainable economy as it could be, which results in unfair competition, whereby other organizations are doomed to fail. It is the time that the governmental institution starts making more laws and do not underestimate the influence of the new shared economy. Tracking further developments in business models within the shared economy is worth follow-up investigation, research might investigate how digital technologies has enabled firms like Uber to rapidly establish a presence in hundreds of cities across the globe, to an extent outpacing regime resistance. Next, looking beyond the field of sustainability transitions, there is a considerable need to develop the nascent sharing economy literature. In particular, the priority should be empirical research which critically analyses the nature and impacts of the sharing and collaborative economies in their many and varied forms. Even though the sharing economy alone cannot bring about a sustainable society, it should be explored in detail. Especially the co-option like mentioned in the discussion should be more investigated. As for last, quantifying the net impact of P2P platforms remains an interesting direction for future research.

Keywords: Shared economy, collaborative consumption, servitization, value-in-use, business model, car industry

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1 Introduction

The urban challenges are huge in the US. The need for answers to America's traffic gridlock problem becomes acuter each year. In much of the nation, traffic congestion has increased to alarming levels, with associated costs estimated at \$121 billion, equivalent to slightly more than 1 percent of all annual US personal consumption. The average American spends about 34 hours every year sitting in traffic. That is a whopping 5.5 billion hours for all commuters (Viechnicki, Khuparkar, Fishman, & Eggers, 2013). The economic opportunity cost is staggering: \$330 million daily, or about \$124 billion every year. If nothing changes, this cost could grow to \$186 billion by 2030. Moreover, that is just the cost to individuals. Every mile we drive costs governments 7.5 cents, and at almost 3 trillion vehicle-miles traveled per year; those miles add up. If the cost of congestion, air pollution, or even lost property value near roadways is added, the total estimated external cost of driving runs between 27 cents and 55 cents per mile (Inrix, 2014). A solution which could solve the urban challenges in the United States is carsharing. Though aspects of carsharing have existed since 1948 in Switzerland, it was only in the last 15 years that the concept has evolved into a mobility solution in the United States. In that time, the carsharing market has grown from a largely subsidized, university research-driven experiment into a full-fledged for-profit enterprise, owned primarily by traditional car rental companies and auto manufacturers. Today, Zipcar (owned by Avis Budget Group), car2go (owned by Daimler), Enterprise CarShare and Hertz 24/7 control about 95% of the carsharing market in the U.S (Brown, 2015). Four years after the introduction of the project City CarShare in the San Francisco, Bay area in California, 29% of carshare members had gotten rid of one or more cars, and 4.8% of members' trips and 5.4% of their vehicle miles traveled were in carshare vehicles. Matched-pair comparisons with a statistical control group suggest that, over time, members have reduced total vehicular travel. However, most declines occurred during the first 1 to 2 years of the program; 3 to 4 years after City CarShare's inauguration, earlier declines had leveled off (Cervero, Golub, & Nee, 2007).

The sharing economy presents both tremendous possibilities and significant threats for emerging as well as incumbent businesses. As of today, it is unclear whether this economy is merely another ephemeral trend in consumption or whether we are experiencing a real shift in how goods are accessed, distributed, and used (Kathan, Matzler, & Veider, 2016). However, it can be expected that many firms and industries— particularly those in retail, automotive, technology, hospitality, media, finance, and travel—will remain affected in one way or another by this new mode of consumption (Ismail, Malone, Van Geest, & Diamandis, 2014). Furthermore, little is known about how existing business models are affected by the sharing economy (Kathan et al., 2016). This research tries to enlighten this popular phenomenon more. Despite a growing literature on the evolution of business models (Demil & Lecocq, 2010; Teece, 2010), there is still limited understanding of how incumbent and

entrepreneurial firms contribute to business model innovation and evolution in unique ways (cf. Hockerts & Wüstenhagen, 2010). The author addresses this gap by exploring the following question: What is the impact of consumers averse to ownership on incumbent and entrepreneurial firms' evolution of business models in the automotive transportation industry? Based on a qualitative analysis of car sharing projects of key industry players, since the rise of the first vehicle companies in the shared economy, the aim is to identify the main competing business models in the automotive industry and trace their evolution over time and see whether they differ between incumbent and entrepreneurial firms. By contrasting the historical background, and the impact of critical events, the objective is to uncover how incumbent and entrepreneurial firms have influenced the evolution of business models, and thereby also shed light on processes that shape the development of a (future) dominant business model.

This study will begin with a short explanation based on prior research of the fundamental literature used in this research: the shared economy, business models, and the S-D logic. This will be followed by the method section, whereby in detail will be described which firms will be investigated, how the data is gathered, and how these findings are analyzed. Next, the findings will be described, and those will be discussed in the next chapter. Lastly, the conclusion will be made with its coherent implications, limitations and further research directions in the last sections of this thesis.

2 Literature

2.1 Business model

Despite many writings in journals about business models, their meaning and characteristics, there is still not one general definition of a business model. There is still a debate going on in the strategy literature and it does not come to one general agreement. Osterwalder, Pigneur, and Tucci (2005) see a business model as a building plan that allows designing and realizing the business structure and systems that constitute the company's operational and physical form. In their review of the literature about the term business model shows one side of authors using the term to simply refer to the way a company does business (Galper, 2001; Gebauer & Ginsburg, 2004) and others to emphasize the model aspect (Akkermans & Gordijn, 2003; Osterwalder, 2004). These two viewpoints differ because the former generically refers to the way a company does business, whereas the latter refers to a conceptualization of the way a company does business in order to reduce complexity to an understandable level. Zott and Amit (2010) give a business model managers and researchers a language, concrete tools and a tight framework for business model design that can foster dialogue and promote common understanding. Secondly, they highlight business model design as a key task of the entrepreneurial manager. Lastly, they emphasize the importance of system-level design, as opposed to partial optimization. The Economist Intelligence Unit (2005) reports that the majority of business executives are identifying the design of new business models as a greater source of competitive advantage than new products and services. Despite all these disagreements, scholars and practitioners do agree that the fastest growing firms in this new environment appear to be those that have taken advantage of structural changes to innovate in their business models through which they consequently can compete 'differently' (Casadesus-Masanell & Ricart, 2010). Firms face the challenge of how to develop a business model that transforms this attribute into sources of economic value creation. An appropriate business model can increase the market attractiveness of technology, improve the full value capture of innovation and lead to a competitive advantage (Björkdahl, 2009). It is unclear, however, what an appropriate or 'right' business model is (Chesbrough, 2010). In case of emerging technologies the right business model is not yet apparent (Teece, 2010) and requires a process of experimentation based on several alterations (Chesbrough, 2010). That is, "one needs to distill fundamental truths about customer desires, customer assessments, the nature and likely future behavior of costs, and the capabilities of competitors when designing a commercially viable business model" (Teece, 2010, p. 187). A business model, therefore, evolves overtime (Morris, Schindehutte, & Allen, 2005; Teece, 2010) through "progressive refinements to create internal consistency and to adapt to its environment" (Demil & Lecocq, 2010, p. 228). This possible advantage for a firm emphasizes the importance of business models.

Thinking about how a business currently earns money and how it must change to continue making money turns out to be difficult even though it is the bottom line

for strategic management (Betz, 2002). The entrepreneurs who (1) understand 'deep truths,' and (2) can figure out what customers want, can design a better way to satisfy customer needs and build sustainable organizations to address these needs. According to Teece (2010), are that kind of entrepreneurs business pioneers. They may or may not use new technology, but they must understand customer needs, technological possibilities, and the logic of organization. Put differently; a business model articulates "the underlying business or industrial logic of a firm's go-to-market strategy" (Teece, 2010, p. 188). Factors such as the emerging knowledge industry; outsourcing; and offshoring of business activities; the worldwide restructuring of the financial service industry; but in particular the internet and e-commerce, have only recently led to an explicit increase in public consciousness regarding business model concept (Teece, 2010; Zott, Amit, & Massa, 2011). Chesbrough (2010, p. 354) emphasizes the importance of business models in his opinion: "a mediocre technology pursued within a great business model may be more valuable than a great technology exploited via a mediocre business model." Unless a suitable model can be found, these technologies will yield less value to the firm than they otherwise might. In addition, if others outside the firm uncover a business model more suited for a given technology, they may realize far more value from it than the firm that originally discovered the technology. A good business model yields value propositions that are compelling to customers achieves advantageous cost and risk structures and enables significant value capture by the business that generates and delivers products and services. Designing a business correctly, and figuring out, then implementing commercially viable architectures for revenues and costs are critical to enterprise success (Teece, 2010). In other words, the design of the business model is a key decision for an entrepreneur who creates a new firm - and a crucial perhaps more difficult - task for general managers who are charged with rethinking their old model to make their firm fit for the future (Zott & Amit, 2010). By making a business model, an entrepreneur makes implicit assumptions about customers, the behavior of revenues and costs, the changing nature of user needs, and likely competitor responses. It outlines the business logic required to earn a profit and, once adopted, defines the way the enterprise goes to market (Teece, 2010). Taking into consideration that assumptions are subjective, the strategic choices and expectations of entrepreneurs bear a certain amount of risk. It has been realized that companies which have been successful for some time run the risk to fail if they continue doing for too long what used to be right, without adapting their business model, to changes in the competitive situation (Doz & Kosonen, 2010). Business model, change is essential for success. Not only to take advantage of new value-creating opportunities, but also as such an approach reduces the risk of inertia to change which often occurs when a company has been successful with its business model, over some time (Achtenhagen, Melin, & Naldi, 2013). Tactics are important, as they play a crucial role in determining how much value is created and captured by firms. Therefore, not only does a firm's business model, determine what range of tactics are available to it, but also its tactics play a central role in how much value the firm will be able to create and capture at the end of the day (Casadesus-

Masanell & Ricart, 2010). Each of these tactic choices involves a fundamentally different business model. They imply a different set of activities, as well as the resources and capabilities to perform them - either within the firm or beyond it through cooperation with partners, suppliers or customers (Zott & Amit, 2010).

Innovation in a business model is more than mere product, service or technological innovation. It goes beyond single-function strategies, such as enhancing the sourcing approach or the sales model. Innovation becomes business model innovation when two or more elements of a business model are reinvented to deliver value in a new way (Lindgardt, Reeves, Stalk, & Deimler, 2009). The business model employed by a firm determines the tactics available to the firm to compete against, or to cooperate with, other firms in the marketplace. Therefore, business models tactics - the residual choices open to a firm after choosing its business model - are crucial in determining firms' value creation and capture and tactics are intimately related (Casadesus-Masanell & Ricart, 2010). Even with great capabilities, entrepreneurs still need to set up the boundaries of the business and define the product/service to offer (Trimi & Berbegal-Mirabent, 2012). A business model could assist in this as it is a reflection of a organizations strategy (Casadesus-Masanell & Ricart, 2010). Trimi and Berbegal-Mirabent (2012) state that the usefulness of business model innovation helps managers to make more informed decisions which should increase the probability of success. In order to let business model innovation be successful, not only the importance of it must be acknowledged, but an effective business model innovation process must be implemented within the organization as well (Gassmann, Frankenberger, & Csik, 2014). A good business model will provide considerable value to the customer and collect (for the developer or implementer of the business model) a viable portion of this in revenues (Teece, 2010). As part of its positioning within the value creation network, the firm must establish appropriate relationships with its network neighbors and stakeholders: suppliers, partners, and customers (Dyer & Singh, 1998). According to Gassman et al. (2014), this means to involve open-minded team members from different functions; the involvement of industry outsiders supports thinking outside the box.

The issues related to good business model design are all interrelated, and lie at the core of the fundamental question asked by business strategists: how does one build a sustainable competitive advantage and turn a supernormal profit (Teece, 2010)? A good business model will provide considerable value to the customer and collect (for the developer or implementor of the business model) a viable portion of this in revenues (Teece, 2010). It follows that business model innovation involves a more systemic change than product or process innovation because it involves changes to the customer value proposition, value creation and value capture (Velu, 2015). Alternatively, like Markides (2006) stated, business model innovation involves the discovery and adoption of fundamentally different modes of value proposition, value capture and value creation to an existing business. Coupling competitive strategy analysis to business model design requires segmenting the market, creating a value

proposition for each segment, setting up the apparatus to deliver that value, and then figuring out various ‘isolating mechanisms’ that can be used to prevent the business model/strategy from being undermined through imitation by competitors or disintermediation by customers (Harreld, O’Reilly, & Tushman, 2007). Even if it is transparently obvious how to replicate a pioneer’s business model, incumbents in the industry may be reluctant to do so if it involves cannibalizing existing sales and profits or upsetting other important business relationships, like business-to-business partnerships. When incumbents are constrained in this way, the pioneer of a new business model may enjoy a considerable period of limited competitive response. Notwithstanding these constraints, competition is likely to be vigorous because other new entrants, similarly unconstrained by incumbency and cannibalization anxieties, will be equally free to enter (Teece, 2010). However, it has been realized that incumbent companies which have been successful for some time run the risk to fail if they continue doing for too long what used to be right, without adapting their business model to changes in the competitive situation (Doz & Kosonen, 2010).

2.2 Sharing Economy

During the global financial and economic crisis of the last decade, alternative perspectives on capitalism and consumerism have been voiced. Between the poles of “repairing” and improving regulation of the existing “system” and radical alternatives to a capitalist market society, a third perspective has gained attention. The concept and practice of a “sharing economy” and “collaborative consumption” suggest making use of market intelligence to foster a more collaborative and sustainable society (Heinrichs, 2013). Historically, ownership has been proclaimed as the normative ideal among consumption modes, as it not only provides security but also has been perceived to be cheaper in terms of capital accumulation. Nevertheless, now the stigmatization of sharing as an inferior option has experienced a shift in the sociocultural politics of consumption (Bardhi & Eckhardt, 2012), users change attitudes towards product ownership (Botsman & Rogers, 2010). People do not find ownership central to their identities; most things valued by people today are not necessarily physical but rather ‘virtual’ in nature, such as knowledge or reputation (Garcia, 2013). During the past several decades, markets have given way to alternative modes of consumption that increasingly challenge sole ownership as the dominant means of obtaining product benefits (Lamberton & Rose, 2012). This sharing economy phenomenon is characterized by nonownership, temporary access, and redistribution of material goods or less tangible assets such as money, space, or time. Furthermore, these systems heavily rely on new information and communication technologies, making this form of consumption highly accessible, flexible, and easy to share (Botsman & Rogers, 2011) and facilitate the sharing of overcapacity or underutilization, increasing productivity and user value creation (Lacy, Keeble, & McNamara, 2014). Due to its numerous inherent costs, the burden of ownership often bears no relation to the actual benefits

anymore. In addition, consumers are often faced with several risks and costs inherent with ownership, such as financial, performance and, at times, even social hazards (Moeller & Wittkowski, 2010). This is the starting point of the change of business models, as the new strategic game of manufacturers is originated. Earlier, firms had the purpose to sell as many as products as possible, without taking into consideration the liveability of the goods. As an example, huge part of their income was based on repairing these defect products. However, in the circular economy the focus will lay more on using the resources as long as possible and in a circular way (Lacy et al., 2014). Prominent examples of the sharing economy are bike- and carsharing schemes as well as web-based peer-to-peer platforms covering a broad range of activities from renting rooms to sharing gadgets and swapping clothes. Due to the confluence of the economic, housing, and banking crises, the increase in maintenance costs of ownership over time—as well as the uncertainties in labor markets and social relationships – renders the popularity of ownership less attainable and more precarious (Cheshire, Walters, & Rosenblatt, 2010). This trend is also mirrored in the latest consumption studies. If owning and sharing are both perceived as providing equivalent product benefits when seen as substitutes, consumers nowadays opt for sharing rather than possessing (Hennig-Thurau, Henning, & Sattler, 2007). Also the growing concern about climate change and a yearning for social embeddedness by localness and communal consumption (Albinsson & Perera, 2012; Belk, 2010; Botsman & Rogers, 2010) have made the earlier mentioned collaborative consumption or sharing economy (the P2P-based activity of obtaining, giving, or sharing the access to goods and services, coordinated through community-based online services) an appealing alternative for consumers (Hamari, Sjöklint, & Ukkonen, 2016). Past literature shows that people are turned away from ethical consumption because of economic and institutional reasons (Bray, Johns, & Kilburn, 2011; Eckhardt, Belk, & Devinney, 2010), yet with the development of new ways of consumption through the sharing economy, these issues are addressed and potentially overcome. The sharing economy is an emerging economic-technological phenomenon that is fuelled by developments in information and communications technology, growing consumer awareness, the proliferation of collaborative web communities as well as social commerce/sharing (Botsman & Rogers, 2010; Kaplan & Haenlein, 2010; Wang & Zhang, 2012). Due to its relative newness, research on the relationship between business and sustainability theory in the context of a sharing economy is scarce. More specifically, despite the growing demand and opportunity for sustainable mobility solutions from the private sector, there is a surprising dearth of research in the public policy and management disciplines regarding factors influencing the adoption and success or failure of collaborations between the private sector and cities in solving urban sustainability challenges (Alexandrescu, Martínát, Klusáček, & Barke, 2014). This is something which influences the opportunities for a shared economy as well: Where are entrepreneurial

taxi drivers allowed to drive? Where can a shared car be parked? Does the government promote these collaborations? Beyond novelty and the pull of new technologies, participants tend to be motivated by economic, environmental, and social factors. Sharing economy solutions are generally lower in cost than market alternatives are. Particularly with P2P, the value can be redistributed across the supply chain to producers and consumers and away from “middlemen,” in part because producers’ costs are lower (Schor, 2014). Over the past several years, a number of altogether new and different businesses have emerged. What their underlying business models have in common is that they operate in sharing economies of collaborative consumption (Botsman & Rogers, 2010), where people offer and share underutilized resources in creative, new ways (Cohen & Kietzmann, 2014). Business model innovation is particularly important for new firms because it influences their competitive position and, hence, chances of survival (George & Bock, 2011). New business models inspired by the sharing economy, platform thinking and disruptive technologies are ushering in an exciting new age in transportation: the era of smart mobility. The arrival of on-demand ride services like Uber and Lyft, real-time ridesharing services such as Zimride, carsharing programs such as Zipcar and car2go, bike sharing programs, and thousands of miles of new urban bike lanes are all changing how people get around. Commuters no longer need to own a car to have one at their disposal. Especially the on-demand and ridesharing firms are working is a platform: it operates on a two-sided market, markets in which one or several platforms enable interactions between two or multiple user groups and try to get them on board by appropriately charging and governing users on each side of the platform (Rochet & Tirole, 2006). People don’t have to pre-arrange carpools to share a ride with others headed in the same direction. They needn’t wait for a ride home when it’s pouring down rain and there’s not an empty cab in sight (Viechnicki et al., 2013).

For companies in a growing number of industries, it is no longer sufficient if digital technologies are leveraged to rationalize and optimize the internal production. An increasing number of individuals who may not have considered ridesharing or renting a room in private residence as their vacation domicile a few years ago now prefer such sharing models to mainstream alternatives (Cohen & Kietzmann, 2014). If the business relies on a model of consumption that is inefficient for their consumers, the chances are that there’s already a new sharing economy marketplace that is looking to streamline it for them (Sundararajan, 2013). While some of these sharing models might have resulted from a need for frugal spending after the global economic recession of 2008, their success was also driven by a growing environmental consciousness combined with the ubiquity of Internet and associated information and communication technologies which make sharing possible at scale (Cohen & Kietzmann, 2014). Together, these developments have started to challenge traditional thinking about how resources can and should be offered and consumed, supporting

arguments that incremental improvements in our existing production and consumption systems are insufficient to transform our global economy toward sustainability (Lovins & Cohen, 2011; Stead & Stead, 2013). The emergence of P2P platforms, collectively known as the sharing economy, has enabled individuals to collaboratively make use of under-utilized inventory via fee-based sharing (Zervas, Proserpio, & Byers, 2017). Consumers have so far enthusiastically adopted the services offered by firms such as Airbnb, Uber, Lyft, and TaskRabbit. The rapid growth of peer-to-peer platforms has arguably been enabled by two key factors: technology innovations and supply-side flexibility. Technology innovations have streamlined the process of market entry for suppliers, have facilitated searchable listings for consumers, and have kept transaction overheads low. Supply-side flexibility is another hallmark of these platforms: Uber drivers can add or remove themselves from the available supply of drivers with a swipe on an app, and similarly, other suppliers can readily list and de-list the selection of goods or services they have on offer.

2.3 Service-dominant Logic

Over the past 50 years, marketing has been transitioning from a product and production focus to a consumer focus and, more recently, from a transaction focus to a relationship focus. The common denominator of this customer-centric, relational focus is a view of exchange that is driven by the individual consumer's perceived benefits from potential exchange partners' offerings (Vargo & Lusch, 2004). The service-centered view implies that marketing is a continuous series of social and economic processes that are largely focused on operant resources with which the firm is constantly striving to make better value propositions than its competitors. The orientation has shifted from the producer to the consumer. The academic focus is shifting from the thing exchanged to one on the process of exchange (Vargo & Lusch, 2016). The service-centered view of marketing is customer centric (Sheth & Parvatiyar, 2000). This means more than simply being consumer-oriented; it means collaborating with and learning from customers and being adaptive to their individual and dynamic needs. A service-centered dominant logic implies that value is defined by and co-created with the consumer rather than embedded in output. Important to remember is the difference between co-production and co-creation. Co-creation is how resources of actor A (supplier) are combined with the resources of actor B (customer), to gain more value in total. Sharing-economy startups also reflect the broader "servitization" trend (Vargo & Lusch, 2004). Here, instead of selling products outright, companies can expand their potential markets by renting access to products that people used to buy. In S-D logic, goods and service are not alternative forms of products. Goods are appliances (tools, distribution mechanisms), which serve as alternatives to direct service provision. Service, then, represents the general case, the common denominator, of the exchange process; service is what is always exchanged. Goods, when employed, are aids to the service-provision process (Vargo & Lusch, 2008b). The division between goods and service is not central anymore, it is how the resources (goods and services) are used to create value for the customer. Important to acknowledge, Vargo and Lusch

(2004) do not say directly that products must be offered as services, this is a result which rises from their logic. Instead, they say that we must think about how to use these products to create value for the customer. This can be done by selling products, delivering services or a combination of both. Examples include everything from Salesforce.com selling software as a service instead of as a product to automakers like Daimler and BMW, following the lead of Zipcar (now owned by Avis Rental Cars) and offering transportation as a service instead of selling automobiles (Cusumano, 2014).

There can be stated, that in using a product, the customer is continuing the marketing, consumption, and value-creation and delivery processes. A firm must think about how to deliver the best service, with and for the consumer. So, how does the customer experience the service? What works for the customer, what builds trust? These are fundamental questions which are central in the customer value literature, how customers see value influences what they will do in the marketplace (Woodruff, 1997). Creation of value for customers is a critical task for marketers, particularly when developing new products and services or starting new businesses (Smith & Colgate, 2007). The creation of customer value has long been recognized as a central concept in marketing (Woodruff, 1997). However, this is not complete and the servitization tries to explain this. It's true that firms need to understand what is important for customer, but firms do not create value by themselves, they create value propositions. This value in use corresponds not just to collective, organizational goals but also to individuals' goals (Macdonald, Kleinaltenkamp, & Wilson, 2016). A solution's value proposition is not proposed by the supplier alone, but is jointly designed by the supplier and the customer; it depends on the quality not only of the supplier's resources and processes but also of customer resources and processes as well as of the joint resource integration process; and the value that arises is not predetermined and simply verified (Storbacka, 2011) but is, rather, continually optimized by both parties. Shifting toward solutions therefore involves far more than pricing a product and service bundle (Macdonald et al., 2016). So, without a detailed understanding of the customer's requirements and preferences, and what it is worth to fulfill them, firms may stress points of difference that deliver relatively little value to the target customer. Each of these can lead to the pitfall of value presumption: assuming that favorable points of difference must be valuable for the customer (Anderson, Jain, & Chintagunta, 1992). In this study, the amount of value that consumers perceive is a fundamental part of the shared economy as a functional system. Firms like Uber, Lyft, Zimride, Getaround, and Turo stimulate consumers and owners to provide feedback on the delivered service. This results in a situation whereby profiles can be built of both parties, based on experiences of others. This makes people to trust the other more because they can rely more on the past and build relations. The customer value is also a fundamental part of the servitization, however it does not capture it completely. Most important part is a general zooming out to allow a more holistic, dynamic, and realistic perspective of value creation, through the exchange, among a wider, more comprehensive (than firm and customer) configuration of actors (Vargo & Lusch, 2016). This orientation also implies several

other things. First, it confirms that value creation takes place in networks since it implies that the resources used in service provision typically, at least in part, come from other actors. Second, it implies a dynamic component to these networks, since each integration or application of resources (i.e., service) changes the nature of the network in some way (Vargo & Lusch, 2016). Moreover, as Dickson (1992) suggests, organizations that do the best are the ones that learn most quickly in a dynamic and evolving competitive market. The firms which are analysed in this research are the bigger ones who did survive. Many others, (e.g., Flexcar and Wheelz) went bankrupt or like in this case, have been bought by the rival.

Service, as a unifying concept, also points the firm toward focusing on social and economic processes and co-creation of value. Vargo and Lusch (2004) pay particular attention to the importance of social and economic processes in the development of the S-D logic of marketing. Clearly, both the centrality of service in S-D logic, with all of its connotations, has implications for macromarketing and societal well-being. This is because S-D logic can be a framework for:

- 1) value defining and creation in society
- 2) resource expansion in society
- 3) fostering sustainability
- 4) informing public policy (Vargo & Lusch, 2008b).

The first two are broadly discussed in this study, however the third deserves more attention. Beyond the focus on environmental protection and regulation, the concept of sustainability has provided a new conceptual framework to handle complex, interlinked economic, social and environmental developments (Grunwald & Kopfmüller, 2006). It is important that new pathways to foster sustainable development must be explored (Heinrichs, 2013); basic environmental and sustainability approaches, such as the “holy trinity” of efficiency, consistency, and sufficiency remain indispensable (Huber, 2011). However, they need to be more cautiously reflected regarding their potential and limits for societal transformation (cf. Leitschuh et al., 2013): efficiency strategies must be checked rigorously regarding the rebound effect. A guiding vision which possibly fosters sustainability and has been extensively described in this study is emerging: the sharing economy (Heinrichs, 2013). The concept and practice of a sharing economy suggest making use of market intelligence to foster a more collaborative and sustainable society: the sharing economy has the potential to serve as an umbrella concept that may bring together and reframe older and recent alternative forms of economic activity and their academic conceptualization, like Vargo and Lusch’s servitization. This does not inherently imply a complete non-ownership of goods and products; it does shift the emphasis to providing service flows rather than selling goods (Vargo & Lusch, 2004). The selling of service flows can foster sustainability because it focuses the firm on providing these flows while efficiently maintaining and recycling tangible operand resources. Thus, the firm will need to explicitly consider the lifecycle and total costs of tangible goods,

rather than trying to maximize profit and cash flow by selling large quantities of tangible stuff, while ignoring the customer's lifecycle and total costs of ownership (Vargo & Lusch, 2008b). Eventually, in line with the vision of Vargo and Lusch, a shared economy can be seen as a circular economy. In a circular economy, growth is decoupled from the use of scarce resources through disruptive technology and business models based on longevity, renewability, reuse, repair, upgrade, refurbishment, capacity sharing, and dematerialization. Companies no longer focus mainly on driving more volume and squeezing out cost through greater efficiency in supply chains, factories and operations. Rather, they concentrate on rethinking products and services from the bottom up to “future proof” their operations to prepare for inevitable resource constraints – all the way through to the customer value proposition (Lacy et al., 2014). A representation of the theory can be found in Figure 1.

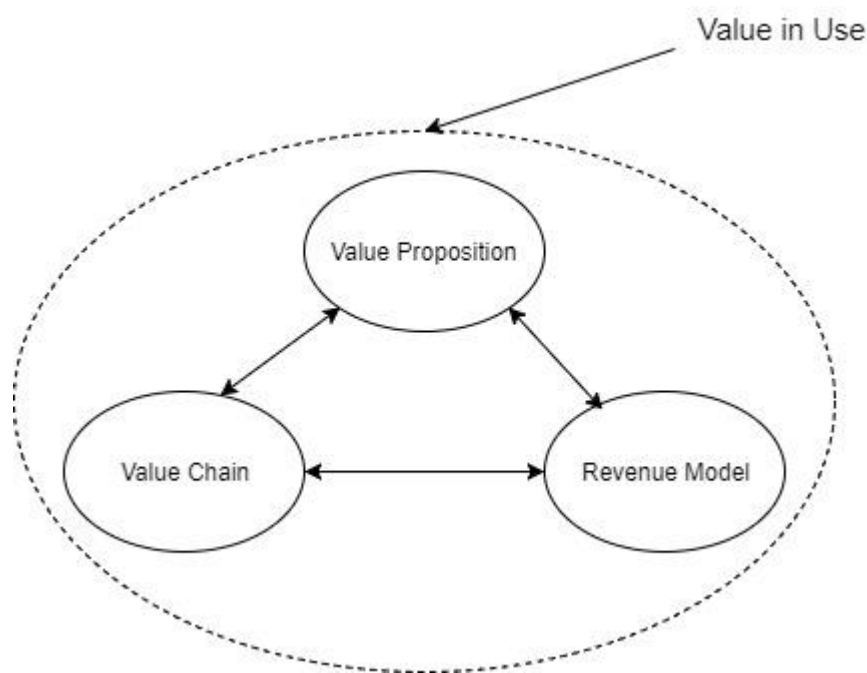


Figure 1: Representation of the literature

Important to remember, is that the S-D logic was meant for B2B. However, the theory has been extensively used as a fundament in this study, which focuses on B2C and P2P. Nevertheless, this logic fits into the shared economy as a service. As first, S-D logic broadens the perspective of exchange and value creation and implies that all social and economic actors engaged in exchange (e.g., firms, customers, etc.) are service providing, value-creating enterprises; thus, in this sense, all exchange can be considered B2B. From this perspective, the contributions of B2B marketing (and other sub-disciplines) can be seen as applicable to ‘mainstream’ marketing (Vargo & Lusch, 2011). This generic, actor-to-actor (A2A) orientation, in turn, points toward a dynamic, networked and systems orientation to value creation. The A2A designation, taken together with another of S-D logic's tenets — value is always co-created — point away from the fallacy of the conceptualization of the linear, sequential creation, flow, and destruction of value and toward the existence of a much more complex and dynamic

system of actors that relationally co-create value and, at the same time, jointly provide the context through which value gains its collective and individual assessment (Giddens, 1984, p.25; Slater, 2002, p.60). This combination and collaboration of the various actors, in this study the driver, owner, and passenger create together value in the world of collaborative consumption, which is, in this case, the shared economy of transportation. Next to this, there is a big comment about the term “consumer” in the B2B and B2C naming. Vargo and Lusch initially picked ‘B’ because, given the most commonly used designations of ‘B’ (business) and ‘C’ (consumer), economic (and social) actors come closest generically to what is captured by ‘business,’ rather than ‘consumer.’ Stated alternatively, a business is thought of as enterprising, a characterization that we also find more fully captures the activities of those with whom they exchange, than is implied by ‘consumer’ — which has rather passive, final connotations of a ‘target’ with a primary activity of using stuff up, rather than creating and contributing (Vargo & Lusch, 2011). However, the consumer as it is stated above does not exist in the S-D logic. This makes clear the B2B as ‘we know it’ is not the B2B they are writing about, because in that case “it is all B2B” (Vargo & Lusch, 2011, p. 181). The author of this study does not want to imply that the shared economy is exactly what Vargo & Lusch meant with their S-D logic, however, it is one of the stimuli which made it a working mechanism.

This study follows the perception of Vargo & Lusch (Vargo & Lusch, 2004, 2008a, 2011, 2016), whereby a service-centered view is inherently customer oriented and relational. From this view of creating value with a heavy focus on continuous processes, the consumer is always involved in the production of this value. Even with tangible goods, production does not end with the manufacturing process; production is an intermediary process. As mentioned before, goods are appliances that provide services for and in conjunction with the consumer. However, for these services to be delivered, the customer still must learn to use, maintain, repair, and adapt the appliance to his or her unique needs, usage situation, and behaviors (Vargo & Lusch, 2004).

3 Method

Shared mobility is an innovative transportation strategy that enables users to gain short-term access to transportation modes on an as-needed basis. The term shared mobility includes various forms of carsharing, bike sharing, ridesharing (carpooling and vanpooling), and on-demand ride services. It can also include alternative transit services, such as paratransit, shuttles, and private transit services (called micro transit), which can supplement fixed-route bus and rail services (Shaheen, Cohen, & Zohdy, 2016). To gain more focus in this research, within the automotive industry only transport by car in the U.S. will be investigated. This excludes bike sharing and alternative transit service like mentioned by Shaheen et al. (2016). A qualitative methodology was deemed appropriate as it facilitates understanding of complex phenomena (Yin, 2013). Qualitative research has the aim to produce findings arrived from real-world contexts where the topic of interest “unfold naturally” without making use of statistical methods, or other quantification means (Golofshani, 2003). According to Ritchie and Lewis (2003), good qualitative research consists of a clearly defined purpose with coherence between the research questions and proposed research approaches. By conducting qualitative research, this study sets out to understand how firms react on the averse towards ownership. The required data of this research will be attained by using secondary data. Secondary analysis involves the re-use of pre-existing qualitative data derived from previous research studies. These data include material such as semi-structured interviews, responses to open-ended questions in questionnaires, field notes and research diaries (Heaton, 2008).

3.1.1 Data sample

Shared mobility has become a ubiquitous part of the urban transportation network, encompassing a variety of modes ranging from public transportation, taxis, and shuttles to carsharing, bike sharing, and on-demand ride and delivery services. Shared mobility includes various service models and transportation modes to meet the diverse needs of users. This section shows incumbent and innovative services and defines the five service models and the modes offered within each. Broadly, there are two ways to view shared mobility in the larger ecosystem of surface transportation modal options. Shared mobility can be viewed as emerging or innovative in contrast to existing core and incumbent services, and it can also be understood in the context of their underlying service models. Fundamentally, these service models can be categorized into five groupings:

- 1) Membership-based self-service models
- 2) P2P self-service models
- 3) Non-membership self-service models
- 4) For-hire service models
- 5) Mass transit systems (Shaheen et al., 2016).

This research will take membership as a characteristic of the revenue model of a business. So, membership-based models are not an attribute which makes it a group on itself, but it is a way of income for the firm and says something about their revenue model. With this taken into consideration, this combines two of the earlier mentioned groups and will be named Business-to-Consumer (B2C). Furthermore, mass transit systems, like public transport and shuttles, will also be excluded from this research, whereas these business models are less comparable with the others due to the big influence of governmental policy. All of the three service models will have three firms to seek whether their characteristics are. For B2C are the biggest two car sharing companies (Zipcar and Car2Go) chosen, because they have covered almost the whole U.S. with their service. As a comparison, the general private leasing service will be investigated. This is not one particular firm, seeming the fact that one species does not cover the service. However, various examples will be given to create a better understanding. In the P2P service model will be two firms (Turo and Getaround) who cover the market for private car-sharing companies, seeing the fact that they are the biggest as well. As a comparison, the only leftover in drive sharing (Zimride) will be acknowledged. The for-hire service model will be covered by taking the two biggest entrepreneurial firms (Uber and Lyft) as a comparison, and this will be parallel with a software service for incumbent taxis (Flywheel).

3.1.2 Data gathering

Blocks of different business models will be created by the kind of service they deliver (car sharing; private lease; ride sourcing). This research aims to find out whether the averse to ownership of cars leads to changes in business models of incumbent and entrepreneurial firms in the car transport industry of the US. The characteristics of the various elements will come up, the specific business model characteristics of various firms will be pointed out to be able to conduct a complete research. Seeing the fact that this research has a central role in the sharing economy, it would be logic to search for data from the year the sharing economy began, 2002 (Brown, 2015). However, the most data will come from the year 2008 until now, because the shared economy did get a big boost since the start of the economic crisis (Heinrichs, 2013). To make this research measurable, various business models will be compared by three business model dimensions. The attained information will be labelled as referring to business models when it had a connection to general characteristics of value creation and value capture (Chesbrough, 2007; Teece, 2010) and structured it by distinguishing between three main components – i.e., value proposition, value network/chain, and revenue/cost model– derived from existing frameworks (Chesbrough & Roosenbloom, 2002; Demil & Lecocq, 2010; Morris, Schindehutte, & Allen, 2005; Osterwalder, Pigneur, & Tucci, 2005). The author limited to three main components to maintain a certain simplicity,

needed to trace the changes in each component and the interaction between them over time (Demil & Lecocq, 2010).

3.1.3 Data Analysis

The shared economy will be researched by taking a good look at the current business models. Business modelling is a conceptualization of an organization which includes 3 key aspects (Chesbrough, 2010; Osterwalder, 2004): (1) How key components and functions, or parts, are integrated to deliver value to the customer; (2) How those parts are interconnected within the organization and throughout its supply chain and stakeholder networks; and (3) How the organization generates value, or creates profit, through those interconnections. The first dimension describes what is offered to the target customer, or, put differently, what the customer values. According to Vargo and Lusch (2004), firms cannot create value by themselves, they need others (customers) to make this happen. However, they could make propositions what in the end will become of value. This notion is commonly referred to as the customer value proposition (Johnson, Christensen, & Kagerman, 2008), or, more simply, the value proposition (Teece, 2010). It can be defined as a holistic view of a company's bundle of products and services that are of value to the customer (Osterwalder, 2004). It reflects explicit choices along the dimension target segment and product or service offering. Central questions will rise, like which customer does the organization choose to serve and what are their needs which the organization seeks to address; and what is the firm offering to the customers to satisfy their needs (Lindgardt et al., 2009)? This includes the positive outcomes and benefits the customers like to have, how the products will alleviate specific customers pain, before, after and while the job is done. Which of all the customer's pain is addressed by eliminating or reducing them? This could be undesired costs, negative emotions and risk, but also the other side: functional utility, cost savings and positive emotions (Osterwalder, Pigneur, Bernarda, Smith, & Papadakis, 2014). To build and distribute the value proposition, a firm has to master several processes and activities. These processes and activities, along with the involved resources (Hedman & Kalling, 2003) and capabilities (Morris et al., 2005), plus their orchestration in the focal firm's internal value chain, form the second dimension within the design of a new business model. Key questions to ask are like, how is the firm configured to deliver on customer demand? What part will be done in-house and what part will be outsourced? Next to this, the organizational aspect rises difficult choices: How does the firm deploy and develop their employees to sustain and enhance the competitive advantage (Lindgardt et al., 2009)? The third and last dimension explains why the business model is financially viable, thus it relates to the revenue model. In essence, it unifies aspects such as the cost structure and the applied revenue mechanisms, and points to the elementary question of any firm, namely how to make money in the business (Gassmann et al., 2014). More concretely, how does the

firm get compensated for their offering and how are the assets and costs configured to deliver the earlier mentioned value proposition profitably (Lindgardt et al., 2009)? A summary of the three dimensions and their corresponding variables are given in Table 1.

	Definition	Elements	Key questions
Value Proposition	Bundle of products and services that are of value to the customer	Positive outcomes and benefits the customers like to have How the products will alleviate specific customers pain	Which customer does the organization choose to serve and what are their needs which the organization seeks to address? What is the firm offering to the customers to satisfy their needs
Value Chain	The processes and activities, along with the involved resources and capabilities with their orchestration in the firm's internal value chain	The collaborations of a firm The suppliers the firm has The (social) network which is used by the firm	How is the firm configured to deliver on customer demand? What part will be done in-house and what part will be outsourced? How does the firm deploy and develop their employees to sustain and enhance the competitive advantage?
Revenue Model	The cost structure and the applied revenue mechanisms	Pricing strategy	How does the firm get compensated for their offering? How are the assets and costs configured to deliver the earlier mentioned value proposition profitably?

Table 1: Definition, elements and key questions per business model element

3.2 Business-to-Consumer

In B2C service models, vendors typically own/lease and maintain a fleet of vehicles and allow users to access these vehicles via membership and usage fees (Shaheen et al., 2016). The first principle which fit in the B2C service model is carsharing. Carsharing allows consumers the benefits of a private vehicle while relieving them of the costs of purchase and maintenance. Users can access vehicles owned by car-sharing companies as part of a shared fleet on an as-needed basis. Members typically pay an initial or yearly membership fee and usage fees by the mile, hour, or a combination of both. Carsharing launched in Canada in 1994, and this was followed by numerous programs throughout the United States starting in 1998. Individuals gain the benefits of private vehicle use without the costs and responsibilities of ownership. Individuals typically access vehicles by joining an organization that maintains a fleet of cars and light trucks deployed in lots located within neighborhoods, public transit stations, employment centers, and colleges/universities and sometimes also using on-street parking. Typically, the carsharing operator provides insurance, gasoline, parking, and maintenance (Shaheen et al., 2016). B2C carsharing service models include roundtrip and one-way carsharing. In roundtrip carsharing, the vehicle must be returned to the original location, while in one-way carsharing the car typically can be parked anywhere within a designated service area, allowing point-to-point trip making

(Stocker & Shaheen, 2017). The roundtrip business model generally relies on both membership fees and fees per mile and hour driven. By January 2015, almost 36% of North American fleets were one-way capable, with about 31% of carsharing members having access to these one-way vehicles (Shaheen & Cohen, 2015). In the same year, four companies were operating one-way carsharing programs in 14 different cities and regions. One-way pricing models typically charge an upfront membership fee and a cost per minute, hour, or day. The other service model contains a private lease.

3.3 Peer-to-peer

In Peer-to-Peer (P2P) service models, companies supervise transactions among individual owners and renters by providing the necessary platform and resources needed for the exchange. P2P service models differ from B2C models since the company typically does not own any of the assets being shared under a P2P model. There are carsharing operators that use a P2P model, including Getaround and Turo (formerly RelayRides). In the fractional ownership model, multiple individuals lease a vehicle owned by a third party. Each of these individuals takes on a portion of the expenses for access to the shared service. This could be facilitated through a dealership and a partnership with a carsharing operator, where the car is purchased and managed by the carsharing operator. This provides the individuals with access to vehicles that they might otherwise be unable to afford (e.g., higher-end models), and can also offer additional income sharing when the vehicle is rented to non-owners. An example of this model is “Audi Unite,” which launched in Stockholm, Sweden in 2014 and offered multi-party leases between two to five individuals (Stocker & Shaheen, 2017). Not only B2C carsharing exists, but also P2P carsharing is feasible. This model employs privately-owned vehicles made available for shared use by an individual or member of a P2P carsharing company. Insurance during the rental is typically covered by the P2P carsharing organization. The operator generally keeps a portion of the rental amount in return for facilitating the transaction and providing third-party insurance (Shaheen et al., 2016). For example, Turo takes a 25% commission from the vehicle owner and 10% from the renter. Getaround takes 40% of the owner for their services. FlightCar is another P2P carsharing company that provides free airport parking and compensation on a per-mile basis to owners who agree to share their vehicle while on their trip. P2P carsharing companies are gaining momentum in North America (Stocker & Shaheen, 2017). Another P2P service model is ridesharing, like Zimride. Ridesharing services facilitate shared rides between drivers and passengers with similar origins and destinations. Ridesharing includes vanpooling and carpooling. Vanpooling is the grouping of seven to 15 individuals commuting together in one van, and carpooling involves groups of smaller than seven traveling together in one car. Ridesharing is classified under different categories: 1) acquaintance-based, 2) organization-based, and 3) ad hoc. Acquaintance-based ridesharing consists of carpools that are formed by people who already know each other. Organization-based carpools typically require participants to join the service online or through a mobile application. Ad hoc ridesharing includes casual carpooling, also known as “slugging.”

Carpooling differs from resourcing services (e.g., Lyft or Uber) in that the trip is incidental, meaning it would have happened regardless of a passenger match. In this sense, the driver is typically the party in control of passenger pickup and drop-off decisions, and the driver ultimately sets the preferred origin and destination of the trip (Stocker & Shaheen, 2017).

3.4 For-hire service models

For-hire services involve a customer or passenger hiring a driver on an as-needed basis for transportation services. For-hire vehicle services can be pre-arranged by reservation or booked on-demand through street-hail, phone dispatch, or e-Hail via a smartphone or other Internet-enabled device. The earlier mentioned ridesourcing services provide both pre-arranged and on-demand transportation services for compensation by connecting drivers of personal vehicles with passengers. Rides are typically booked via smartphone, and mobile applications are used for booking, payment, and driver/passenger ratings. Ridesourcing services first launched in San Francisco, CA in Summer 2012 (Lyft and Sidecar) and had expanded rapidly around the world with other major international players emerging including: Grab (Southeast Asia), Ola (India), and Didi (China). These services typically charge a combination of a base fare, a rate per minute, and a rate per mile, which varies based on type of service, location, and time of day (Stocker & Shaheen, 2017). Most ridesourcing companies claim to take about 25% commission on each ride for their services, although one study showed this could be as high as 54% for shorter rides (Perea, 2016). The other for-hire service model contains taxis. Taxis are a type of for-hire service in which a driver gives a ride to one or multiple passengers. Taxi services can be pre-arranged or on-demand. In the U.S. taxis are typically regulated by local authorities, which set rates using a metered fare including an initial charge and a per mile or time rate (Stocker & Shaheen, 2017). This is a type of for-hire vehicle service with a driver used by a single passenger or multiple passengers. Taxi services may be either pre-arranged or on-demand. Taxis can be reserved or dispatched through street hailing, a phone operator, or an “e-Hail” Internet or phone application maintained either by the taxi company or a third-party provider. Since late-2014, there has been a rise in the application of e-Hail services in taxi fleets, particularly in major metropolitan areas using predominantly third-party dispatch apps, such as Flywheel and iTaxi (Shaheen et al., 2016).

4 Findings

4.1 B2C

4.1.1 ZipCar

Zipcar is the world's largest car-sharing service, giving the driver convenient access to vehicles located in cities, airports and campuses all over the world. Reserve cars by the hour or day, all for one low rate, is what they mention on their website (Zipcar, 2017a). Its model depends on an assortment of in-car technology. "This is the first large-scale introduction of the connected car," claims Scott Griffith, the firm's chief executive. Zipcar's available vehicles report their positions to a control center so that members of the scheme can find nearby vehicles through a web or phone interface. Cars are unlocked by holding a card, containing a wireless chip, up against the windscreen. Integrating cars and back-office systems via wireless links allows Zipcar to repackage cars as a flexible transport service. Each vehicle operated by Zipcar is equivalent to taking 20 cars off the road, says CEO Griffith, and an average Zipcar member saves more than \$5,000 dollars a year compared with owning a car (Sanders, 2009).

4.1.1.1 Value Proposition

Zipcar is able to expand its presence in key markets due to the variety of vehicles it offers. Currently, the company offers over 50 different makes and models. These vehicles include hybrids, SUVs (sport utility vehicles), pickup trucks, luxury vehicles, minivans, and cargo vans. There are special Zipcar spots where the car can be brought and picked up, this does not have to be the same as the one where the trip started (Parker, 2016). For companies, car sharing is a way to reduce rental costs, fleet size or use of car livery services. The hourly rentals, with gas, insurance and parking included, can also help businesses bolster their green credentials by offering hybrids as well as electric plug-in cars (Olson, 2010).

4.1.1.2 Value Chain

Zipcar merged with Seattle-based rival Flexcar in October 2007 to expand its geographical footprint across North America and bought London-based Streetcar in April 2010 to establish a base for its future expansion in Europe. Zipcar also teamed up with local retailers to target its marketing to the specific character of each neighbourhood (Keegan, 2009). Cars which are in possession of Zipcar are only allowed to park on specific Zipcar parking spots. Only one exception, because the cars of Zipcar potentially take some privately-owned cars off the streets. The parking spots aren't for free, though. This is the case in Boston, the 80 municipal spots would be made available for \$3,500 per car annually in the downtown area, and for \$2,700 in other neighbourhoods. The 150 free-floating permits go for \$3,500 per car annually, or \$525,000 a year for all 150. A salient detail: Car2go refused this offer (Chesto, 2015). However, many universities all over the US cooperate with Zipcar to create the earlier mentioned parking spots on the campus. Due to this cooperation, students pay a lower fee (Tune, 2017). Zipcar has also contracts with various collaborations with other

companies, like petrol and malls, where users get a small discount if they use Zipcar. This is also the case with some insurance companies (Funk, 2013).

4.1.1.3 Revenue Model

To use Zipcar services, customers need to purchase its monthly or annual membership plan. After the purchase, customers receive a membership card that allows members to access Zipcar vehicles. As an alternative, customers can also use the Zipcar mobile application to get access to the vehicles, which are typically parked in spaces throughout cities. Zipcar also takes care of major vehicle-related expenses including gas, insurance, maintenance, and parking. Customers can choose to pay on an hourly or daily basis, depending on their need. Currently, the company charges \$70 per year or \$7 per month for a membership, excluding \$8.25 per hour for each trip (Parker, 2016). However, if a user breaks a rule, like smoking in the car, an additional fee will be charged (Zipcar, 2017b). There are special contracts with bigger firms, so that the employees can use the cars with a discount. Employees reserve online, unlock the door with a programmed card and drive away. Companies and their workers, even on personal errands, typically pay the same hourly rate. And these per-trip renters avoid lines, lengthy contracts and confusing insurance options at the auto rental counter (Olson, 2010). As last, on 50% of their cars, Zipcar allows other firms to advertise on their cars for a monthly fee per month per car (Funk, 2013).

4.1.2 Car2Go

Car2go is flexible carsharing without fixed rental stations, instead the driver can rent and park the car everywhere in the home area of your city. All for a (low) price per minute – including parking, refuelling, and insurance (Car2Go, 2017).

4.1.2.1 Value Proposition

Founded in 2008, car2go is based in Stuttgart, Germany. In terms of services, car2go's business model is quite similar to Zipcar, as car2go also owns its fleet of vehicles. However, it only provides one car model, Daimler's two-seater Smart Fortwo hatchback. Customers can opt for four-seater vehicles in a few cities only (Parker, 2016). Take the expanding Car2go service from Daimler, the German luxury-car maker and charges customers by the minute instead of the hour (Steinberg & Vlastic, 2013). Car2go is a joint venture between Daimler and Europcar. car2go provides three types of services: one-way trips: customers can choose to begin their trip from "Point A." After the trip is complete, they can simply leave the car at "Point B" in any legal on-street parking spot within the company's "Home Area."; on-demand: customers can hail a car on the spot without any prior reservations, or reserve it up to 30 minutes prior to the journey with the on-demand service; and by-the-minute: car2go customers can make reservations ahead of time (Parker, 2016).

Car2Go is pushing drivers towards an environment friendly behaviour. Next to the decrease of cars on the road by sharing, do they stimulate to have as minimal fuel consumption as possible. Their "EcoScore" monitors how environmentally friendly car2go members drive by measuring the accelerations, the overall driving style, and

the decelerations. Each of those three categories is represented by a scored value of for environmentally friendly driving behaviour and a tree representing that value through growth and surroundings including birds and squirrels (Saunders, 2012). “Flexible carsharing reduces traffic volumes in towns and cities, frees up valuable parking space and improves the quality of the air. Car2go therefore contributes to an increase in the quality of life while at the same time precisely meeting the mobility requirements of those who live in the towns and cities”, according to Olivier Reppert, CEO car2go Group GmbH. The decisive advantage, according to the Daimler website: After the online registration, they no longer have to go in person to a car2go contact point and show their driver's license and identity card. Because only after validation are they entitled to use a car2go vehicle (Daimler, 2017).

4.1.2.2 Value Chain

Car2go is a joint venture of Daimler and Europcar. Daimler's car2go service illustrates how an established global enterprise like Daimler can adapt and expand its business model from selling products to selling the use of the product in order to take advantage of the sharing economy. However, this collaboration was necessary to become successful in the first place (Matzler, Veider, & Wolfgang, 2015). One of Car2go's big selling points is free parking. But there will be many parking spots, where a 'regular' car has to pay for, and so does Car2go. They made deals with various local governments to pay for the parking spot for a longer period, for example a year. As an example, in Washington Car2go paid \$2,890 per vehicle to the District of Columbia for free use of metered spaces. And in some cities, including Miami, the company also rents spaces in parking garages (Steinberg & Vlasic, 2013).

4.1.2.3 Revenue Model

Car2go's chief executive, Nicholas Cole, said Daimler used the latest technology to provide cars almost instantly to members. For a \$35 registration fee, Car2go members can locate and reserve a blue-and-white Smart microcar within 15 minutes. Members pay only a per-minute fee for the rental, and can park free in legal parking spaces in Washington and other participating cities. Car2go also lets members leave the car nearly anywhere in the city it is rented in (Steinberg & Vlasic, 2013). However, Car2go lists other fees that can be incurred (Hepler, 2015), \$100 for parking in an unauthorized area or \$400 for a lost key (Car2go, 2017).

4.1.3 Private Lease

Leasing was once reserved for corporate customers and luxury car buyers, but now it's found in every segment of the car industry, from college grads leasing subcompacts to families leasing full-size SUVs. As vehicle prices continue to climb, so does the number of people who lease. Leasing now accounts for nearly one-third of vehicle sales in the US. There are two kinds of lease corporations, ones which is affiliated with a vehicle manufacturer (e.g. BMW and Mercedes-Benz), and ones which are independent (e.g. Leasco) (Leasco Automotive, 2017; Manheim, 2014).

4.1.3.1 Value Proposition

When a car is being leased, the renter does only have to pay for the portion of the vehicle's life that it is in his possession. At the end of the lease, it is returned to the dealer and enter into a new lease for the next car, or in some cases you are allowed to buy the car which has already been used by the renter. So, the renter is only paying for a part of the vehicle's life, each monthly payment is almost always lower than if it was purchased and (externally) finance the car. Nearly all lease contracts come with strict mileage limits. Go over, and there has to be paid a substantial penalty. Many lease contracts charge 15 to 25 cents for each mile someone drives over the limit (U.S. News, 2017).

Most lease terms are equal to or shorter than the basic warranty provided by the vehicle manufacturer, so a significant mechanical failure is likely to be covered. Most lease contracts will require customers to purchase GAP insurance to protect the leasing company, which is technically the vehicle's owner, for example if someone steals it. The incumbent firms which are affiliated with manufacturers, have often a lower amount of choice: only their brand is available. However, the contract can diminish the inventory of the firm: they get it directly delivered by the manufacturer. As a result of the contract, is the price often lower compared with the price without a cooperation. The ones which are not affiliated with any vehicle manufacturer or dealer, will give a more unbiased advice, best suited to the needs of the consumer. As a result of the number of cars the non-affiliated firms deliver to the clients each year, the purchasing power of the firm allows them complete and transparent access to vast dealer inventories on all new makes and models, foreign or domestic, in every available iteration (Laanen, 2017).

4.1.3.2 Value Chain

Like said before, some have contracts with manufacturers. This will limit them to a certain brand, but helps them with the delivery of cheaper a car which has a discount. This means also, that the contract can diminish the inventory of the firm: they get it directly delivered by the manufacturer. There is a lot dispute in the way the car is being sold. As a fact, a lot advertising happens on the internet. However, word-to-mouth hyping is also a frequent way of selling: "The majority of business comes from satisfied clients who gladly refer their family, friends, colleagues and customers. We are committed to providing every one of our valued clients with excellence in service, through honestly, integrity, reliability and trust" (Leasco Automotive, 2017, website).

4.1.3.3 Resource Model

Often a monthly rent is being paid to the dealer. This various per individual deal, there are variables like duration of the lease, the balance between on-forehand pay and monthly pay, and the yearly distance which the renter is allowed to drive. There are several other ways of income for the dealers within a lease deal:

- **Mileage Allowance:** This is the number of miles someone can drive during the lease period without penalty. It is stated in terms of monthly allowance, or the total cumulative mileage. Typical are the penalties 15-20 cents per mile.
- **Acquisition Fee:** This is a fee charged by leasing companies and banks to cover various costs of administering the lease terms. They average about \$400 and are very seldom negotiable.
- **Adjusted Capitalized Cost:** Simply put, this is the amount that is being financed in the lease. This is the cost of the car which is leased, including the tax, title, and license, minus any down payment, trade allowance, or rebates.
- **Closed-end lease:** A lease that doesn't require the consumer to buy the vehicle at the end of the lease for the predetermined residual value. Closed-end leases, which are by far the most common type, usually allow lessees to buy the car if they want, as opposed to walking away from it, or trading it in.
- **Money factor:** A fractional number used to calculate a lease fee or charge. The money factor is not an interest rate; it is based on a formula that lessors devise to determine their profit (McCarthy, 2014).

Next to leasing itself, the firms get income by doing other services as well. These are other trades of cars, finance and insurance products (e.g. warranties and maintenance), after market accessories (e.g. window tinting and remote engine starting systems), and auto body & paint repair (e.g. reconditioning service and auto detailing) (Leasco Automotive, 2017).

A summary of the overall business models of the B2C firms can be found in Table 2.

	Value Proposition	Value Chain	Revenue Model
ZipCar	Keeping other cars of the road Big variety of cars available Reserve a car before leaving Unlock car with card or phone Only one type of service: one-way station model Saving money compared with having a car Consumer does not have to care about vehicle related expenses	Team up with local retailers Contracts with other firms (e.g., petrol, insurance, malls) Contracts with universities Big network due to being world's largest Merge with Flexcar to become bigger	Annual or monthly membership fee Hourly based pay Extra fee if breaking a rule Advertisements on car Discounts for employees partnered firms
Car2Go	Keeping other cars of the road One type of car available Relatively cheap Various types of service: one-way station and floating model Able to park on every (legal) spot Possibility to reserve a car Environment friendly behaviour	Joint venture between Europcar and Daimler Contracts with local governments for parking spots	(Small) registration fee Charge per minute of use Extra fee if breaking a rule
Private Lease	Almost all possible vehicles are available Only pay for portion vehicle is in possession Consumer does not need to take care about selling and normal maintenance Possibility to buy car afterwards Small inventory if direct contracted with manufacturer	Short lines with manufacturers, sometimes even contracts	Start investment Monthly rent Fees if consumer drives more than agreed Delivering other services

Table 2: Concluding business model per B2C firm

4.2 P2P

4.2.1 Turo

Turo essentially turns anyone with a set of wheels into a rental service, they are often named the Airbnb of auto-rental, together with GetAround. Members can rent their cars for several days at the price of their choosing. Their listings (complete with photos and vehicle info) are scanned by customers who decide on a deal and book it online. Car owners manage to make a few bucks, says CEO Andre Haddad. “On average they make around \$200 per active owner per month—more than offsetting the cost of your vehicle” (Strauss, 2014).

4.2.1.1 Value Proposition

Turo bought off-the-shelf technology to transform its vehicles for renting. It equips the customers with membership cards, and places card-readers in the cars, much like Zipcar does. Turo also offers in-vehicle consoles that immediately gather user feedback on the condition of the vehicles, and allows users to extend their hourly reservations. Customers can sign up for the service online, and also rent wheels on a mobile version of the site. Car-owners set their own rates for borrowers. The system had capped the maximum price range for rentals at \$15 an hour, but Clark says the pricing system could provide an interesting play of supply and demand (Kutz, 2010).

Turo is a genuine peer-to-peer car rental marketplace which tap into the existing (and massive) installed base of cars that people already own. These marketplaces don't need to carry inventory. Their business model advantages are clear — the “fleet” renews itself naturally, there are no parking or logistics issues, geographic expansion and scaling is more seamless. Reputation systems and active supplier screening maintain quality, and the need for insurance keeps customers from bypassing the marketplaces (Sundararajan, 2013). To keep the personal and none-business culture, a letter is left in each car to remind drivers that they are in a private individual's car, not a company-owned car. Likewise, owners are encouraged to keep up with their cars' maintenance and repairs: drivers rate cars they borrow using a five-star system similar to Yelp (Belson, 2010). However, the face-to-face meeting is important and something the company is now encouraging more than before. Turo has found that satisfaction is highest on both the owner and renter side when they meet in person and exchange keys. For owners it makes them feel more trust in the renter, while for renters they get help on how to use the car and therefore have less confusion using the car. There is also probably less chance of abuse of a car if the renter has met the owner face-to-face. This is another point to show how important the social interaction and community is to the sharing economy. "When a car is anonymous you don't treat it the same way as when you know the owner," current CEO Haddad says. "The social pressure on the renter means they take better care of the cars when they meet and exchange keys with the owner. There's fewer issues, complaints and disputes" (Geron, 2013b). Haddad is convinced Turo's model of having car owners interact with renters is preferable to the more sterile protocols offered by established agencies. "It's a very different and a much more human and warm experience" (Strauss, 2014).

4.2.1.2 Value Chain

The company has attracted vehicle owners and renters with word-of-mouth and on-the-ground marketing initially, but Clark (former CEO) sees the fleet of Turo cars organically gaining momentum in the future. Car owners will encourage others to enlist their vehicles to attract more customers to the system, and a larger fleet of vehicles in more locations will further attract greater customer traffic (Kutz, 2010). Turo is now nationwide in the US, part of the reason it could do that is a partnership with GM and the automaker's OnStar service. The partnership enables users with GM cars to instantly make their cars available through Turo, and let users rent them with

a minimum amount of hassle. While GM owners will still have to agree to renting their vehicles, they won't even have to meet a potential renter to exchange keys — thanks to an integration with OnStar, the renter will be able to instantly open the car either through Turo's mobile apps, its mobile web experience, or by SMS. It doesn't even have to be a new car — anyone who has a GM car since 2005 will be able to connect his Turo and OnStar account. That means Turo has a potential 15 million cars that can be added instantly, on top of the thousands that are already in its marketplace (Lawler, 2012).

There's consolidation afoot in the peer-to-peer car rental space. Turo has gobbled up fledgling competitor Wheelz. That includes all the assets, IP, and about 10 employees from Wheelz, which launched about four years ago. But Turo believes that it can accelerate that growth by bringing on the assets and the technical expertise of the Wheelz team. Unlike Turo, which enables car owners to list their cars and hand off keys, Wheelz requires that they install a piece of hardware into their cars. Its proprietary 'DriveBox' technology would then enable renters to unlock the vehicles and get access to them without having to meet owners to hand off keys (Lawler, 2013). Turo has listings associated with more than 200 airports and almost 2000 cities. Turo's airport listings are posted by car owners who have agreed to meet a traveller at the airport to hand off the car to the traveller. The one exception to that is at San Francisco International airport, where the company has a system for travellers going to SFO to park their cars for free, and Turo in turn rents them out to travellers visiting San Francisco. Competitor FlightCar also has this park-and-rental system. Turo has not decided (or is not saying) if it will roll out this parking-rental model to other airports to compete more directly with FlightCar. Haddad says the existing peer-to-peer model where an owner who is not traveling (as opposed to one who wants to park at the airport and catch a flight) and who rents out to a traveller at an airport is still a good model. "We see those two products offerings as two different value propositions for two different people," Haddad said. "They can coexist. They're complementary" (Geron, 2013b).

4.2.1.3 Revenue Model

Car owners take about a 65 percent cut of the cost of each rental of their car. Turo puts 20 percent toward the cost of insurance, and keeps 15 percent as its profit margin. Car owners in the system can earn between \$2,500 and \$7,500 per year, depending on the quality of their cars and the frequency they rent (Kutz, 2010). However, since its launch, the company has undergone an interesting evolution: Increasingly, the platform is used by "power users" — people who, rather than rent out their personal vehicle when they're not using it, have a dedicated fleet of cars that are owned only to be rented out on Turo. Traditional car rental services, in other words. Most Turo car owners (the company calls them "hosts") are still ordinary users — just 15% of hosts are "power users," CEO Andre Haddad told Business Insider. But nearly 60% of the company's revenues come from that 15% of professional power hosts. "We've expanded from the individual owner which was just the very start of the company to

the entrepreneur enthusiast,” Haddad said (Rice, 2016). Next to these percentages, there is an extra fee if the fuel replacement was missing, late return, pet in the car, etc. (Turo, 2017).

4.2.2 Getaround

4.2.2.1 Value Proposition

Getaround enables car owners to “un-idle” their cars and offset the cost of vehicle ownership by sharing with friends, co-workers and neighbours, while people seeking cars are provided easy, affordable access to vehicles everywhere. Getaround differs from other car sharing services by offering an open marketplace that gives owners total freedom over their vehicle’s pricing, availability and selection of renters (Angell, 2011). Additionally, the Getaround Carkit and iPhone app together make it easy for members to conduct entire transactions using only their smartphone. The car kit is really unique because it's easy to install. And it's way lower cost than typical fleet management technology. It tracks the car, so we can find it and so the renter knows where to pick it up. It also allows the renter to unlock the car really easily. However, if the owner wants to meet the renter for the first time, they can do that (Dickinson, 2012). The service provides community and financial benefits to both owners and renters “Since our inception, Getaround has viewed the city of Portland as a perfect place for our service. Residents here have a reputation for being early adopters of innovative ways to solve transportation problems in the U.S., including traffic and pollution,” said Getaround co-founder and CEO, Sam Zaid. “We look forward to bringing the Getaround experience to Oregon to reduce car overpopulation while empowering people to turn a costly asset—which on average sits idle 22 hours per day—into something that can generate sustained revenue” (Angell, 2011). According to Getaround, people should value accessing a car, covering owning it: “Transportation is a major problem. There is an over-population of cars. Cars sit idle 92 percent of the time. The total number of cars will double to two billion cars. There's no reason to put another billion cars on the road. It is our goal to make Getaround a global company.” Next, people in the Getaround community become friends: “We noticed recently that a lot of people become repeat renters of a certain car or owner. We've had people become friends through the service. You find a few cars that you like and you like their owner and you just share with them.” Owners make enough to cover their monthly car payments: “Owners, on average, make about \$300 a month. We make sure they are getting rentals, so they keep sharing their car.” Renters save money too: About \$8,000 a year. “One of the major differences between us and fleet-based car sharing like Zipcar is that we can operate all over a geography. So, Zipcar really only plays in the densest areas like downtown San Francisco (Dickinson, 2012).

4.2.2.2 Value Chain

The Federal Highway Administration selected Getaround to participate in a joint project with the city of Portland starting in February 2012. The project also includes a launch at Portland State University. It's the first federal grant for car-sharing. Getaround is now taking sign-ups from Portland residents. Getaround is also working

with the Oregon Transportation Research and Education Consortium to research peer-to-peer car-sharing with the aim of a wider nationwide roll-out. Oregon passed a law, Oregon HB 3149, which adjusts insurance rules so that car owners can rent out their cars and not be affected by potential accidents of borrowers. California has also passed such a law (Geron, 2011). Also, Larry Page (co-founder Google) gave her permission to launch at Google. Getaround didn't do that because Google had a lot of transportation options, and Getaround wanted to offer the service to a campus or city that needed it a lot more. So, they started it in Mountain View, which had no car sharing options" (Dickinson, 2012).

4.2.2.3 Revenue Model

Getaround doesn't share stats on number of trips booked, but its rental fleet is growing, which likely means that there's good business in it for the people who rent their cars (Dickey, 2015b). As Getaround states on their website, "Signup for free with no monthly or annual fees, no more lines or paperwork. They take a 40% commission on rental earnings. This enables us to cover costs like insurance, roadside assistance and 24/7 helpdesk (Getaround, 2017a). However, there are other fees, like a commission if you're younger than 25, administration costs, or a bill if you have an accident or smoke in the car (Getaround, 2017b).

4.2.3 Zimride

Like mentioned before, carpooling is part of P2P services as well. The traditional word-to-mouth carpooling still exists, but this is a non-profit deal and does not have a business model. Even though, some firms have tried to establish a non-profit carpooling organization, like City CarShare, Philly Care Share and I-Go-Chicago. All of them do not exist anymore, due to the sustainability of the firms: City CarShare was bought by Getaround (Said, 2016), and Philly CarShare and I-Go-Chicago became part of Enterprise Car Sales (Nusca, 2011; Wernau, 2013). They all became a part of their new bigger organization and the special focus on carpooling disappeared. The only one who survived was the founder of Lyft, Zimride. Zimride offers an application on Facebook Platform, inviting users on the same network to meet each other and share a car trip. Users can also visit the service on its website and find trusted users through Facebook Connect. After entering their current location and their destination, Zimride will generate a list of potential matches arranged by how far out of the way each one wants to travel. Users can also post a destination they'd like to travel to some time down the line, and receive alerts through Email when a match pops up (Kincaid, 2009).

4.2.3.1 Value Proposition

Zimride provides an essential service to universities, both in bolstering universities commitment to the Climate Action Plan, working toward carbon neutrality and helping to counter the tight parking situation on campus, says Scot Vanderpool, manager with the Office of Parking and Transit Services. Carpooling enables people to better share the cost of parking permits on campus, gas prices and car maintenance (Rodoski, 2014). For quite some time, Zimride was in the midst of an identity crisis.

After years of selling enterprise licenses to universities and businesses, it decided to go after the consumer market and opened its platform for anyone to book a carpool (Lawler, 2014). Zimride has been sold to Enterprise Holdings, and they shuttered the portion of ride-sharing service Zimride's business that is open to the general public and will keep operating its university and business accounts. With the proliferation of on-demand car services such as Uber and Lyft as well as services such as Zipcar, there is bound to be an acceleration of the shakeout in the ride-sharing business, and this step back by Zimride reflect these market forces. Christy Cavallini, a spokesperson for Enterprise, which owns Enterprise, National, Alamo and Zimride, says "we want to focus on our core business and this allows us to do just that". Cavallini says Zimride's Web-based ride-sharing and carpooling network includes more than 130 universities and corporate campuses, and the company will focus on this aspect of the business rather than promoting its services to the general public. "When we purchased Zimride, one of the things that was attractive to us was the technology and the private university and business ride-matching services that align closely with Enterprise Holdings' total transportation solution, including local car rental, car sharing vanpooling," Cavallini says. "This allows us to offer our accounts a total transportation solution. This business continues to grow for us, but we want to focus on our core business" (Schaal, 2015).

4.2.3.2 Value Chain

Zimride mitigates risk by holding users accountable for their reputation through peer review, by requiring a Facebook login to ensure user identity, and by displaying the verified networks the user is a member of. This all results in a system that naturally rewards users who share more personal info and roots out users who aren't trustworthy. You also have the option to communicate directly with users before booking a ride. As a Zimrider, you always have a choice of who you ride with (Green, 2009). In fall 2006, Facebook released the first version of its API, giving third-party developers a chance to create applications based on its identity tools. Logan began playing with it to build an online platform for users to find and make carpools available to others. Through Facebook, Zimride added a level of identity and trust to carpooling that was previously unavailable. Unlike Craigslist and other online bulletin board systems, users on Zimride could connect a face with a name before they got into a car with someone (Lawler, 2014).

4.2.3.3 Revenue Model

The service is offered for free for up to 50 members per school or company network, but once it crosses that threshold Zimride seeks out the network owner and asks them to pay a subscription fee if it wants to continue allowing its students or employees to use the service. While this sounds a bit risky (Zimride stands a chance at pissing off students if their school decides not to join), COO John Zimmer says that institutions have generally been very receptive to the idea. The company works with transportation departments and student governments at universities and large companies, and charges universities \$9500 a year for the service (Kincaid, 2009). Like

said before, they had for a while a more consumer market orientation. But this carpool platform was only temporary, due to less interest of consumers.

A summary of the overall business models of the P2P firms can be found in Table 3.

	Value Proposition	Value Chain	Revenue Model
Turo	More flexibility due to no car inventory Screening and feedback maintains quality Car “fleet” renews automatically No specific target segment necessary Meeting between borrower and car owner for social interaction Car owners earn extra money with their own car Car owners set their own rates Less idle time for cars Not restricted to densest areas	Word-of-mouth promoting Cooperation with GM Technical expertise of Wheelz Cooperation with airports	No membership fees 20% insurance cost per deal 15% per deal as profit Extra fee if breaking a rule
Getaround	More flexibility due to no car inventory Car “fleet” renews automatically No specific target segment necessary Meeting between borrower and car owner possible, not a must Car owners earn extra money with their own car Less idle time for cars Not restricted to densest areas	Joint projects with government and universities	40% commission per deal No membership fees Extra commission if the consumer is riskier Extra fee if breaking a rule
Zimride	Shared costs of having a car Only for students on the campus Trusted users through Facebook Connect More flexibility due to no car inventory Less idle time for cars	Facebook Platform Many firms have been merged into Zimride Only contracts with universities	Only a yearly fixed fee for universities

Table 3: Concluding business model per P2P firm

4.3 For-hire service

4.3.1 Uber

Uber is an on-demand transportation service which has brought a revolution in the taxi industry all across the world. The business model of Uber has made it possible for people to simply tap their smartphone and have a cab arrive at their location in the minimum possible time. Uber is not any traditional taxi business because it doesn't employ any taxi drivers or owns any taxi, and the dispatching of taxis and the ride matching of ridesharing works very differently, because a match could occur between a passenger and several potential drivers (Sun & Edara, 2015). Uber basically connects the passenger and driver and takes a percentage of the fee from the fare (Laidre, 2015). Another difference between Uber drivers and Taxi drivers is that Uber drivers are not restricted from picking up passengers in one particular jurisdiction that Uber drivers can simultaneously work for Lyft and other ride sharing services (Cramer & Krueger, 2016).

4.3.1.1 Value Proposition

Customers for Uber are those who do not own a car, do not want to drive themselves to a party or function, like to travel in style and want to be treated as a VIP or want a cost-efficient cab at their doorstep (Guest, 2015). Uber offers the following benefits to the riders. As first, simplicity and convenience. The riders can easily book a ride using the Uber mobile app, so no need to wait for a taxi for long times. The driver comes to the pick-up location and the rider can track the approaching driver over the map on the mobile app. These pickups are safe: When matched with a driver, a rider can see the driver's name, license plate number, driver's photo, and driver's rating score. This helps the riders know who will be coming to pick them up. Also, the cashless payments give the consumer a safer feeling. Also, the professional experience of Uber contributes to the safety. The Uber experience is consistent across the globe. Uber encourages drivers to provide high quality of services in order to receive higher ratings from the riders. To keep the quality standard high, riders and drivers are able to give feedback on each other. Uber provides a two-way rating system. Drivers can also rate the riders after every trip. Riders who violate Uber terms of service can be prevented from using Uber (Cramer & Krueger, 2016). Not only for the riders offers Uber benefits, also the drivers have benefits. As first, they have flexible timings. Uber drivers can work when they want to work and how much they want to work. If Uber drivers work for certain number of hours a week or complete certain number of rides, then they can get assured income or bonuses. Uber also provides referral bonuses to them when they introduce new drivers. If the traffic slows, the drivers get extra money for the ride because Uber uses both distance and time in the fare calculation formula. As last, the cashless transactions will result in less robberies. Uber drivers spend a significantly higher fraction of their time, and drive a substantially higher share of miles, with a passenger in their car than do taxi drivers. Four factors likely contribute to the higher capacity utilization rate of UberX drivers: 1) Uber's more efficient driver-passenger matching technology; 2) the larger scale of Uber than taxi companies; 3) inefficient taxi

regulations; and 4) Uber's flexible labour supply model and surge pricing more closely match supply with demand throughout the day (Cramer & Krueger, 2016). Next to their flexibility, Uber has not limited itself to a particular segment of cars or to a particular segment of people. There is Uber X, Uber Black for those who love to travel in a black car, Uber Taxi for those looking for cost-efficient solutions and Uber SUV for those who want luxury. They even take into consideration special occasions, like Uber Kids and Uber Senior Citizen (Guest, 2015).

4.3.1.2 Value chain

Uber has search engine giants Google Ventures and Baidu (mainland China's biggest search engine) among its array of investors, making it a first-choice search result for ride-sharing (Rideshareapps, 2017). Uber has a good integration with other firms. For example, within their Google Maps applications, is a suggestion of the potential price of a UberX taxi (Rahematpura, 2017). Among the many other brands currently running partnerships with Uber is Starwood, which awards passengers hotel points for each ride they take. There's also Capital One, which gives Quicksilver cardholders 20% back on rides. Other partners include Amex, Hilton, and PayPal (Silbert, 2015). Uber added Spotify integration in 2014, giving riders the ability to control drivers' sound systems (Newton, 2017). As one of their partners state, "Since Uber is a software based platform that combines real-time, mobile, and social, it's a catalyst for a new model for collaboration" (Silbert, 2015). It has many collaborations, a big funding network and many of their investors contribute with the aim to make Uber greater than it is now.

Uber has come a long way from cabs. It now offers boats, helicopters as well as some other transportation means on demand. Uber recently launched a motor-cycle-pickup service in Paris, a delivery service in San Francisco, and an ice-cream-truck-delivery service in 7 other cities (Cramer & Krueger, 2016). However, these means are available in selected geographical locations and will not be taken into consideration of this study.

4.3.1.3 Revenue Model

Uber business model is a good example of a multi-sided platform that connects two different types of users: Riders and Drivers. Uber offers mobile app to the riders to help them request the rides. The driver-side version of Uber mobile app helps the drivers know about the different ride requests and enables them to confirm their availability to deliver the ride. Uber does not offer corporate discounts or charges additional fees for the use of the platform (Kedmey, 2014). Instead, drivers use their own cars when providing taxi service and Uber gets 20% of the fare. Even after a 20% pay cut, the taxi drivers earn more than the traditional taxi services. In some cities Uber had to reduce its percentage because of competition from similar companies like Lyft, but still, Uber sets the taxi fares (Laidre, 2015). The fare is based on car type, travel time, distance cost, waiting time of the driver and since June 2017 Uber has started charging what it internally calls "Appetite Fee" – this is what Uber thinks the customer can pay depending on his previous data with Uber (Unicornomy, 2016).

Variation in cab fares according to situation is an important aspect of Uber's business model. Whenever the demand increases, per mile prices are automatically increased. The new price depends on the number of available drivers and the number of requests made by people who want to travel. Uber has applied for a price surge technology patent in the US (Guest, 2015). Uber's pricing algorithm automatically detects situations of high demand and low supply and hikes the price in increments, depending on the scale of the shortage. Those higher prices are supposed to make drivers more likely to bite, putting more Uber cars on the road when they're most needed. Uber board member Bill Gurley pointed out that the company would hazard a far worse form of publicity if it cancelled surge pricing: Chronic shortages of drivers. Better to weather the odd storm, he reasons, than risk a stream of complaints from "tons and tons of unsatisfied customers" (Kedmey, 2014). However, one thing that's frequently missing from the conversation about its inevitable dominance over virtually every facet of our lives is the answer to a fundamental question: Does it make money? According to internal financial documents obtained by Gawker, the answer is a resounding no. Uber has lost tens of millions of dollars since 2012, and the documents suggest that CEO Travis Kalanick's boasts about the company's exponential revenue growth may be overblown. The Journal noted only that "the company hopes to attract enough drivers and passengers that its business model becomes profitable" (Biddle, 2015).

4.3.2 Lyft

Lyft is an on-demand transportation service and focusses especially on the US. Lyft has a multi-sided business model, with two interdependent customer segments that are both needed in order to operate: consumers who need to be driven and drivers who can transport them (Cleverism, 2017).

4.3.2.1 Value Proposition

Lyft offers four primary value propositions: accessibility, convenience, risk reduction, and brand/status. The company creates accessibility by offering a broad range of options. It is available in 68 cities across the U.S., as well as in Indonesia, Malaysia, Singapore, Thailand, The Philippines, and Vietnam. It also offers variety in terms of vehicle choices, which are Lyft Line (shared rides in which riders have the same destination, enabling them to split the cost), Lyft (personal rides that passengers can use individually or with a few of their acquaintances) Lyft Plus (personal rides that utilize larger vehicles (six seats) for a high number of passengers) and Lyft Premier (personal rides that utilize high-end vehicles for occasions such as business trips). The firm offers convenience by making its service easy to use. Customers can order a ride using a mobile app on their phone. Because the firm utilizes local drivers, they often arrive within minutes. After the ride, customers can pay for it using the app, preventing the need for cash or cards (Cleverism, 2017). The organization reduces risk by maintaining high standards through the following policies, like critical response line; background checks; vehicle inspections two-way ratings and an insurance protection plan. Very important for Lyft, and there they distinguish themselves a lot

from Uber, is the personal vibe which exists. People had been carpooling for years, they had been riding with strangers in taxis and black cars their entire lives. If anything, they argued, sitting next to the driver and actually talking with their him would create a better user experience and that's what Lyft offers (Lawler, 2014).

4.3.2.2 Value Chain

After realizing the potential growth in on-demand mobility services, General Motors (GM) became one of a few automakers to get involved in the business. In January 2016, GM entered into a strategic alliance with Lyft. Currently, these services are available in over 200 cities. GM made a half-billion-dollar investment in Lyft and reserved a seat on Lyft's board of directors. After the alliance with Lyft, General Motors will become the preferred provider of short-term use vehicles to Lyft drivers through GM's rental hubs in various US cities. Automakers often sell or lease their vehicles to car-sharing service providers. Sales data are recorded under fleet sales. Although an automaker's margins from these fleet sales are typically lower than those of its retail sales, they help increase market share. GM also plans to develop an on-demand autonomous (driverless) vehicle network with Lyft. This should help GM with Maven, its personal mobility car-sharing service. Launched in January 2016, Maven provides residential and peer-to-peer car-sharing services. As last, General Motor reserve a seat on Lyft's board of directors (Parker, 2016). Like Uber, Lyft is creating their network by making collaborations with other firms as well (Dodge, 2017). For example with Ford, whereby the focus of the partnership is on laying the groundwork for a future time when Lyft users will be able to open the app and call a car, which will then come from a range of different providers operating their own driverless fleets (Etherington, 2017). Also firms outside the car industry, like Netflix (Otterson, 2017) and Taco Bell: the fast-food chain will test a feature that allows Lyft passengers to push a button to have their driver take them to a Taco Bell drive-thru between 9 p.m. and 2 a.m. (Taylor, 2017).

4.3.2.3 Revenue Model

Lyft has a cost-driven structure, aiming to minimize expenses through significant automation and low-price value propositions. Its biggest cost driver is likely transaction expenses, a fixed cost. Other major drivers are in the areas of sales/marketing and customer support/operations, both fixed costs. Lyft has two revenue streams: revenues it earns from a rider fee and then a commission fee it charges drivers for each completed ride. It currently charges a commission fee of 25% (Cleverism, 2017).

4.3.3 Flywheel

Flywheel, the San Francisco startup that has tried to help taxis keep up with the e-hailing apps, now has devised a 21st century alternative to the meter: a cloud-based GPS system for calculating fares and handling payment, navigation, dispatch, entertainment and advertising. It all runs on an Android phone with a credit-card reader attached. The metering technology, called TaxiOS, will allow cabs to lower rates at certain times, handle package deliveries, improve navigation and let passengers

easily split fares, Flywheel said. “In one fell swoop, we are modernizing the taxi industry and bringing it on par with everything the on-demand cars have,” said Flywheel CEO Rakesh Mathur (Said, 2015). So, Flywheel is not a taxi firm on itself, but it gives the organization the ability to innovate.

4.3.3.1 Value Proposition

Passengers can continue hailing cabs off the street and pay using traditional methods, but will have the option of hailing and paying for a cab through the Flywheel app, like they would an Uber or Lyft. “The existing equipment in a taxi replicates everything a smartphone already has, and all that stuff is more expensive than a smartphone,” Mathur said. “It takes a lot of money to install, it’s inherently unreliable, and 30% of cars have to come into the garage because of problems with those devices, because at the end of the day, you’re dealing with a mechanical device.” In comparison, TaxiOS is a “unified device” that Mathur says opens up all kinds of possibilities for taxi fleets, such as split fares, taxi-pooling, last-mile package delivery and dynamic pricing (Lien, 2015). Flywheel offers two main products: an e-hail app for riders, and a smartphone-based operating system for taxi drivers that replaces the jumble of meters, dispatch, advertising, navigation systems, and credit card readers currently clogging the interior of the vehicle. It’s an aggressive move by Flywheel into a space dominated for over a decade by just two companies, Verifone and Creative Mobile Technologies. And it’s a move the company hopes will eventually help the beleaguered taxi industry better compete with Uber by copying some of the ride-hail giant’s innovations (Hawkins, 2016). Where Uber had many troubles with pressed charges, is this not the case for firms who make use of Flywheel. “We’re part of the fleet infrastructure; we work completely within the regulatory framework,” Humphreys (former Flywheel CEO, current advisor) said. “I don’t know if you need to break the laws in order to provide a service.” Gruberg, a co-founder of SF Green Cab, which he said have “been so disdainful of the regulatory process that they’ve gotten a lot of press. Yet, startups like Flywheel, Taxi Magic, GetTaxi or Hailo that “play by the rules” receive hardly any publicity, Gruberg said. “The taxi industry itself has been remiss in getting the word out that we’re doing the same things,” he said (Evangelista, 2012). Unlike Lyft and Uber, Mathur believes his company has something of an unfair advantage: the taxis are already out there on the streets looking for customers. What Flywheel does is help them find those customers and vice versa (Rogowsky, 2014). “The speed, safety and reliability of the taxi community combined with Flywheel’s ability to provide rides quickly has created a compelling alternative to Uber in San Francisco,” Mathur stated in a release (Buhr, 2014). “The pilot program in San Francisco was a huge success for us,” said Mathur. “We knew our solution was accurate and easier to use than other options but having actual drivers provide feedback on what they see in everyday use was invaluable. Because our system is software based we were able to take feedback and quickly implement it, and will continue to customize our system based on the needs of the industry”. “Our strategy for competing in New York, and in other markets will be our TaxiOS platform,” Mathur said. “It’s not only expensive but time

consuming for companies to install other vendor equipment, when it takes only 15 minutes to install and configure a phone with Flywheel. Additionally, this is a mobile platform which will give drivers access to more flexible cashiering, dispatch options and revenue opportunities such as last-mile delivery. So basically, it's all the functionality of those ugly boxes in the front of taxis, in a single cost-efficient phone, plus new opportunities afford by having a smartphone in every car" (Dickey, 2015a). Importantly, Flywheel has some interesting economics the competition doesn't. It builds the platform which sits there passively waiting for drivers to take advantage when they need it. So, if demand for street hails of taxis is already high, Flywheel can sit idle, perhaps not earning much -- but also not costing much. Then, if the weather turns ice cold and people need a cab but want to wait inside, they open the app and order one and the drivers, not seeing many folks standing on the icy streets are responding in kind. Flywheel is now ringing up profits and helping both sides find each other. Of course, Uber and Lyft do this too, although often at much higher prices. Because taxis are regulated, they become the low-cost option at those moments (Rogowsky, 2014). TaxiOS will enable several features to rival those of Uber and Lyft, like ride splitting, dynamic pricing, navigation and seamless payments. Other advantages include quicker cab handoffs between drivers, and the ability for drivers to work shorter shifts (Said, 2015).

Perhaps the most meaningful change implied by the adoption of Flywheel, is how it consolidates the diverse and often fractious taxi industry into a single unified front against its competitors. Traditionally, calling a cab company will only give you access to that company's fleet, which extends wait times as fewer cabs have to traverse longer distances to reach their fares. Flywheel works across multiple taxi fleets, giving greater density and, ideally, making calling a cab just as efficient as pinging Uber. "I see taxis right now as a single brand. You have Uber, you have Lyft, and you have taxis," said Mark Gruberg of the San Francisco Taxi Workers Alliance. "As long the industry remains fragmented and Balkanized, I really don't see us regaining the market share that we really need to survive and thrive as an industry and for drivers to make a decent living" (Sankin, 2016).

4.3.3.2 Value Chain

To be clear, the Flywheel-branded taxi cabs are owned by FlywheelTaxi, which used to be called DeSoto Cab. Still, Flywheel and FlywheelTaxi are two completely separate entities that simply share the Flywheel name for the purposes of co-marketing. Flywheel is in talks with other cab companies to have more branded cabs in the future (Dickey, 2015a). However, as a new entrant into New York City's rough-and-tumble taxi world, Flywheel is picking questionable friends to ally itself with. In an industry notice, the startup listed a Long Island City address as its New York City headquarters that is also the location of Taxi Club Management Inc., a medallion group operated by controversial taxi mogul Evgeny "Gene" Freidman. Freidman, a flamboyant figure in New York, is said to control upwards of 1,000 taxi medallions — those little tin shields affixed to the hood of taxi cabs that authorizes them to pick up street-hails. But thanks

to Uber, Freidman's empire has been crumbling. He's filed bankruptcy on dozens of his companies, been threatened with foreclosure by the bank, and sued by the state attorney general for failing to pay his drivers properly (Hawkins, 2016).

4.3.3.3 Revenue Model

Flywheel makes money by taking a 10% cut from ride fares through its app and by charging passengers \$1 per ride (Rogowsky, 2014), even though this was earlier only a fee of 60-cent (Evangelista, 2012). And because Flywheel doesn't increase fares based on demand, as Uber and Lyft do, it recently added a feature that lets passengers offer a bigger tip as an extra incentive to be picked up during times of high demand. The feature has led to 85-90% of ride requests getting picked up during the busiest times, versus the usual average of only 50% (Kokalitcheva, 2015). "We can do a split meter system, where drivers no longer pay a lease for the vehicle, but pay a percentage of each transaction," Kim said. Typically, cab drivers pay a daily gate of more than \$100 to lease a medallioned vehicle for up to 12 hours. It takes many hours behind the wheel to cover that rent and gas, and then turn a profit. Having drivers instead pay a percentage of fares to the cab company is the same economic model used by Uber and Lyft, which rely on citizen drivers in their own cars (Said, 2015).

A summary of the overall business models of the for-hire firms can be found in Table 4.

	Value Proposition	Value Chain	Revenue Model
Uber	<ul style="list-style-type: none"> More flexibility due to no car inventory Often cheaper than taxis Cashless payments Various service segments Flexible timings for drivers High utilization rate drivers Safe pickups 	<ul style="list-style-type: none"> Big network from its investors Integration with Google Other collaborations to give consumers discounts 	<ul style="list-style-type: none"> On average 20% of the fare is for Uber, but this percentage differs per city Surge pricing Lots of investments
Lyft	<ul style="list-style-type: none"> More flexibility due to no car inventory High utilization rate drivers Often cheaper than taxis Cashless payments Various service segments Personal experience 	<ul style="list-style-type: none"> Collaboration with GM Other collaborations to give consumers discounts 	<ul style="list-style-type: none"> On average 25% of the fare is for Lyft, but this percentage differs per city
Flywheel	<ul style="list-style-type: none"> Unified device for paying "Playing by the rules" Making use of reputation of taxis Various services for consumers Merge various taxi centres with one entrance 	<ul style="list-style-type: none"> Two offers: the taxi firm and the software Open TaxiOS platform 	<ul style="list-style-type: none"> 10% cut of ride fares \$1 fee for passenger per ride

Table 4: Concluding business model per for-hire firm

5 Discussion

This research has the more general aim to uncover how incumbent and entrepreneurial firms have influenced the evolution of business models, and thereby also shed light on processes that shape the development of a (future) dominant business model. Based on a qualitative analysis of car sharing projects of key industry players, since the rise of the first vehicle companies in the shared economy, the more specified aim is to identify the main competing business models in the automotive industry and trace their evolution over time. Results indicate that the global crisis of 2008 one of the main external events was that affected business model evolution in the shared economy, especially for the P2P services (Kathan et al., 2016). The surge of P2P sharing services in the aftermath of the financial crisis is sometimes seen as a “post-crisis antidote to materialism and overconsumption” (The Economist, 2013). To resume, decreased consumer trust, increased unemployment rate (both outcome of the earlier mentioned global crisis), and the increased availability of technology for hosting an online market drives the growth of sharing economy (Daunorienė, Drakšaitė, Snieska, & Valodkienė, 2015). At the moment, a classic creative destruction is happening: Even though there might be some negative short-term effects of a shared economy (e.g., people buying fewer cars), long-term economic gains will ultimately pay off (Geron, 2013a). The way firms think about value has moved from a G-D view, in which tangible output and discrete transactions were central, to an S-D view, in which intangibility, exchange processes, and relationships are central (Vargo & Lusch, 2004). The S-D logic is in accordance with the results of this research. In this study, the goods are the cars which have been used. These goods are not anymore a central theme; it does not matter anymore who owns the car, this defines only the type of service: if it is the firm, it becomes B2C, and if it is an individual (consumer) it is part of the P2P industry or the for-hire service. On the contrary, the type of car is unaltered important. Lyft, Uber and Zipcar have different services with corresponding prices for various types of car. They vary from a small car to an SUV or even a limousine. This does not directly imply that the good is still the central theme, only that the consumer who prefers luxury and status is not deserted. For this kind of consumer is the P2P service also a beneficial outcome, there are possibilities enough to hire a Porsche or a Tesla for a day or longer. Despite this plushy consumer, there can be stated that the good, in this case the car, becomes a service: it is a way of transport. Still, customers do not buy goods or services: they buy offerings which render services which create value, like stated before. Therefore, a value proposition is not about a company’s features or offerings but about the customer’s experience in terms of their needs and wants (Barnes, Blake, & Pinder, 2009). In line with the results of this study, the traditional division between goods and services is outdated. It is not a matter of redefining services and seeing them from a customer perspective; activities render services, things render services. The shift in focus to services is a shift from the means and the producer perspective to the utilization and the customer perspective (Gummesson, 1997, p.250). Like mentioned before, for these services to be delivered, the customer still must learn to use, maintain,

repair, and adapt the appliance to his or her unique needs, usage situation, and behaviors. This is also an indirect result of this research: if the consumer is not able to understand and work with the technology that Uber, Zipcar, and Lyft use, then these firms would not have been as successful as they are right now. Essential parts of the mechanisms would not work, as the unlocking of a car, the call for an Uber or deliver the feedback after a drive.

Like mentioned before, firms will need to explicitly consider the lifecycle and total costs of tangible goods, rather than trying to maximize profit and cash flow by selling large quantities of tangible stuff, while ignoring the customer's lifecycle and total costs of ownership. This implies that non-profit organizations are useful 'firms' in a shared economy, even though they are underexposed in this study. Admittedly, this is not the purpose of this research. Notwithstanding, the author would like to make an interesting point. In this research, the non-profit organizations like City CarShare, Philly Care Share, and I-Go-Chicago are shortly appointed. All three of them have, after a few years of service, disappeared. Their business model was probably not feasible and sustainable to survive the competition. This, while research on first sight seems to reveal the opposite: the non-focus on maximizing profit and the focus on non-ownership makes them an attractive organization in the shared economy. Especially if someone takes in mind that the shared economy could lead to a new economic opportunity, whereby a more sustainable form of consumption takes place and which develops creating unregulated marketplaces (C. J. Martin, 2016). Even more, Lacy et al. (2014, p.4) emphasize this by saying that a circular economy like the shared economy "is not only about resource supply and use efficiency, but even more about evolving their business models to transform the nature of resource demand from the customer's point of view." With this in mind, one could argue that these results are the opposite of what should be expected. Either way, C. J. Martin, (2016, p.149) rightly makes a critical note which is the basis of the explanation of the failure of the non-profit organizations: "if the sharing economy follows this pathway of corporate co-option it appears unlikely to drive a transition to sustainability." He means with this statement that the shared economy is, in theory, a very sustainable solution for nowadays problem. However, with the price fighting's of Lyft and Uber, they strive other firms out of the market. With this co-option strategy, the shared economy will not become the sustainable economy as it could be, which results in an unfair competition whereby the earlier mentioned non-profit organizations are doomed to fail.

As an answer to the research question, first needs to be stated that the incumbent firms have a role in the shared economy, however the role of entrepreneurial firms is significantly bigger. All the firms which have been analyzed and are key players in collaborative consumption are entrepreneurial ones, except for the private lease sector. Although, some of these entrepreneurial firms have had investments of incumbent firms or are even born due to a joint venture. The entrepreneurial firms use new but different techniques to shape new trends and

opportunities within the car transport. As first, two of the investigated firms (Car2go and Turo) have short connections with incumbent firms. Car2go is a joint venture between Daimler and Europcar, which results in a wide selection of different type of cars. The other one, Turo, has a partnership with General Motors. This resulted in more flexibility for the owners; they will not even have to meet a potential renter to exchange keys — thanks to integration with OnStar, the renter will be able to instantly open the car either through Turo's mobile apps, its mobile web experience. Secondly, the entrepreneurial firm Flywheel gives incumbent taxi firms the opportunity to deliver a comparable service as Lyft and Uber. With their software package, the passenger is able to compare and take a cab firm of his choice, with the corresponding costs, location, and duration. With this in mind, the research question needs an answer. What is the impact of consumers averse to ownership on incumbent and entrepreneurial firms' evolution of business models in the automotive transportation industry? The averse to own a car leads to a complete change of thinking. A firm must now see the car as a way of transport, so the focus is not anymore on the car as a product. This means that the firms need to take into account the perceived value of a car by the customer and as a way to transport, further it needs to make the value proposition service oriented. The new consumer is one who has a growing interest in flexibility but wants to know by forehand what to expect, regarding quality, price, and duration. Moreover, consumers are charmed by using new technologies to gain even more flexibility, like unlocking their car with their phone, and see exactly where all the available cars are parked or driving, which depends on the kind of service they are looking for at the moment. Firms can achieve this by making partnerships with (local) governments, bigger incumbent firms, big institutions like universities and airports and work with platforms to create an app as Uber or Lyft did or make use of an existing one like Facebook. These cooperations will gain flexibility by having various options to park and special offers for students or tourists. Most car manufacturers have conducted major programs to boost productivity and improve operations (Baumgartner & Valdivieso, 2012), which leads to completely new business models. The strategy game whereby the focus lies on selling as many cars as possible is outdated. The focus is now way more on the data analysis and asset utilization, let alone the extensive discussed customer experience (Delaney, 2012). These value proposition related elements of the business model are renewed and this can be reached by good collaborations with other firms, like partnerships. The results show that the value proposition has had major changes indeed: Uber does send their data towards Google with the aim to be able to do data analysis, a Facebook platform who give customers (literally) a mouth, and governments who promote sustainable and green developments. Earlier, the firms had a revenue model which was focused on two parts: selling the car and maintenance the vehicle. Now that consumer does not buy anymore, they have to come up with a new revenue model. Nowadays firms earn their money by renting the car, and mainly make income due to a membership fee, payable by the time it is rented, a vast percentage above the ride, and extra fees in case of breaking the rules. All these aspects being the case, in general, can be stated that the

shared economy is taken as a point of departure, the business models will automatically become more environmentally friendly, due to the sharing of cars (and rides), which results in keeping other cars off the road. Given these points, a small look into the future can be done: if the shared economy grows exponential, as it did for the last decade, probably more technology will be used. Similarly, more flexibility for the consumer can be expected: Uber is already investing in cars without drivers (Stocker & Shaheen, 2017), the same counts for the collaboration between Lyft and General Motors, furthermore, bigger firms like Google are trying to customize their service and offerings even more, now that they have access to data of Uber after several investments (Rahematpura, 2017; Rideshareapps, 2017). Firms will get more creative in ways to offer transport, especially if they have to due to the threat to go bankrupt in case of a new global crisis. Very important side note on these predictions: like C. J. Martin (2016) stated the shared economy is only sustainable if the co-optation is kept out of it. Some firms are trying to become a monopolist in their service industry, which will damage the industry as a whole. Examples are increasing labour market flexibility by eroding workers' rights; commercialising aspects of life that were previously beyond the reach of the market; and, creating paradoxical social impacts, economically empowering some individuals whilst reinforcing structural inequalities. Laws and rules are necessary to keep firms like Uber under control, so in the future, the role of the government in the shared economy will grow, and they have to make boundaries, which are stated by Hamari et al. (2016, p. 2056) as "legal troubles." Learning and appropriate regulation for fair reporting and fraud protection will be central—although it will need a light touch to encourage innovation while still watching for problems (Malhotra & Van Alstyne, 2014). All these possibilities, developments, and threats make the shared economy even more interesting than it already is.

6 Conclusion

This research has the aim to uncover how incumbent and entrepreneurial firms have influenced the evolution of business models. In short, the sharing economy has ushered in a new age where underutilized assets become P2P services for hire, enabled by the Internet and smartphones. However, there are still many uncertainties. Web startups are easy to launch, but many will not survive once their funding runs out. Moreover, network effects lead to positive feedback loops, increasing returns to scale, and winner-take-all shakeouts that favor the bigger platforms—much like Amazon and Google have come to dominate Internet retailing and search (Cusumano, 2014). Especially Uber is already very big and probably here to stay. They are likely to become bigger, better, and more varied in the services they offer. Traditional companies in these markets are not likely to go out of business, but they cannot stand still. They must adapt and compete based on their own unique advantages—or they will become much-diminished versions of what they used to be. The main objective is to seek for what customers value, and this study has shown that marketing has grown towards an S-D view, in which intangibility, exchange processes, and relationships are central themes. The value-in-use mindset is embedded in a circular economy like the shared economy. This research has also provided sufficient evidence that the servitization not only a B2B character has, but that B2C and P2P also get a foot on the ground. With all this said, there can be stated that the transport industry is changing a lot. A car is not a good which is necessary owned by customers. It is meant to an end (transportation) rather than an end in itself. This service leads to completely new business models whereby innovation and technology have a central role, next to the earlier mentioned customer value. However, if the sharing economy follows this pathway of corporate co-option it appears unlikely to drive a transition to sustainability, those firms strive other ones out of the market. With this co-option strategy, the shared economy will not become the sustainable economy as it could be, which results in unfair competition, whereby other organizations are doomed to fail. It is the time that the governmental institution starts making more laws and do not underestimate the influence of the new shared economy. That should be clear after reading this paper.

6.1 Implications

6.1.1 Scientific Implications

As first, with this study, the author aims to contribute to the emergent literature on business models and the urge to investigate “new ecosystems, activity systems, and value chains or value networks” (Zott et al., 2011, p.1038), through an exploration of the influence of S-D logic on the business model evolution in the case of the transportation industry in the US. Secondly, this study responds to two trending phenomena in the world of academics: the servitization and the shared economy. This study tries to combine those and show that the second one derives from the first and this is a new explanation of the essence and the success of the shared economy as a phenome. With this combination, calls for the recognition of the role of service can be

heard throughout the development of economics (Delauney & Gadrey, 1992; Vargo & Morgan, 2005). S-D logic could provide a basis for reorienting theories of society and economic science (Vargo & Lusch, 2008a), like what now has been done with the shared economy. This might be at least partially what Alderson (1957, p. 69) had in mind over 60 years ago when he advocated “What is needed is not an interpretation of the utility created by marketing but a marketing interpretation of the whole process of creating utility.” Next, this study has taken into consideration the mindset of a circular economy, and has found that new business models in such an economy are about creating new value chains and corresponding propositions that decouple growth from the use of scarce and linear resource inputs (Lacy et al., 2014), this all with a customer (value-in-use) focus (Macdonald et al., 2016). Furthermore, this study also sought to contribute to the literature on sustainable technology. It helped to shed light on the way in which technology and firm characteristics – e.g., use of technology, partnerships with institutions, and feedback opportunities – translate into specific components of a business model: its value proposition, value chain, and revenue model (Chesbrough & Roosenbloom, 2002; Osterwalder, 2004). As last, this research attempts to answer the call of Cohen and Kietzmann (2014) to investigate how sharing economy business models differ among startups and incumbent firms.

6.1.2 Practical Implications

As car sharing continues to grow, it is possible that its relative effect may expand. Carsharing represents an attractive alternative to carless households, but such households are a minority in North America. In the future, as carsharing networks become denser and more complete, their attractiveness to vehicle-holding households may increase. Further, carsharing may expand into lower density communities (e.g., suburbs), and effects could expand as well (E. Martin, Shaheen, & Lidicker, 2010). The results have direct implications for transport organizations, passengers, and policymakers. For managers, the competition their firms face from P2P and for-hire platforms has several unique features that differentiate it from competition with other firms. First, both platforms have near zero marginal cost, in that a car can be incrementally added to (or removed from) the platform with negligible overhead. Because of this, firms like Uber can scale supply in a near frictionless manner to meet demand, even on short timescales. As many papers have shown, this unique feature of such a firm has already significantly affected other’s pricing power (e.g., Kedmey, 2014). Second, firms like Lyft, Uber, and Turo have a much easier and wider access to a range of products and services, by automatically “renewing their fleet.” More importantly, because these firms leverage existing cars, it can potentially expand supply whomever someone has a car. Therefore, competition by shared economy firms is potentially harder for incumbents to adapt to, compared to competition by more traditional firms. A very beneficial characteristic, which is integrated within all the firms, is the better understanding for firms of what customers value. A lot of data and feedback generates automatically by the rates users and owners give. Turning to consumers, one of the value propositions which comes back in every service is the

lower price they offer. Other firms have responded to this increased competition by lowering their prices, or become more flexible (e.g., using Flywheel software), what benefits passengers, even those who do not use one of the firms in the shared economy. In addition to reduced prices, consumers also benefit from increased variety provided through P2P and for-hire platforms. Furthermore, consumers on the supply side benefit through additional income generated by providing goods and services via these platforms. Finally, the results have implications for policymakers. Municipal revenues rely in part on tax receipts from well-regulated industries such as taxicabs (Zervas et al., 2017). With demand shifting away from these incumbent firms, and to the extent that regulation and taxation of P2P platforms prove to be more challenging, the bottom line could be hurt in the short run. Of course, P2P platforms can also bring about increased demand, which would provide direct benefit to cities, making the net impact on cities harder to measure.

6.2 Limitations

There were also limitations in identifying all the elements of a business model from the information provided by the magazines and newspaper, as this is not their main aim. To address this problem as good as possible, the author decided to focus on three main elements of the business model – value proposition, value chain and revenue model – which were easier to track. These elements are more used in earlier research (e.g., Bohnsack, et al., 2014; Chesbrough & Roosenbloom, 2002), alleviates the pain. Next, much of the reviewed literature is quite recent and only secondary data, dating back only a decade or so. Third, only a few contributions have appeared in top journals. Fourth, the literature is widely divergent, especially about business models; making sense of it is therefore challenging. The fifth limitation of work is that the properties listed only on the earlier mentioned firms, but not properties available through related vacation rental platforms like Gett and various other private lease firms. As for last, one must recognize that the findings are representative for the US; directly generalizing them to other markets may not be appropriate given the varying of dynamics of supply and demand for accommodation across different national markets.

6.3 Further Research

Tracking further developments in business models within the shared economy is worth follow-up investigation, especially because the number of firms moving into this industry has increased a lot, since a decade. Here, perhaps the most prominent opportunity lies in research developing an understanding of the role of digital technologies in the dynamics of transitions. For example, research might investigate how digital technologies has enabled Uber to rapidly establish a presence in hundreds of cities across the globe, to an extent outpacing regime resistance (C.F. Martin, 2016). Next, looking beyond the field of sustainability transitions, there is a considerable need to develop the nascent sharing economy literature. In particular, the priority should be empirical research which critically analyses the nature and impacts of the sharing and collaborative economies in their many and varied forms. Even though the sharing

economy alone cannot bring about a sustainable society, it should be explored in detail. Since there is no single “golden bullet” to facilitate sustainability, different pathways need to be explored and opportunities seized (Shaheen et al., 2016). Especially the co-option like mentioned in the discussion should be more investigated. As for last, quantifying the net impact of P2P platforms remains an interesting direction for future research.

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