JYU DISSERTATIONS 1

Taneli Vaskelainen

The Emergence of the Sharing Economy Industry

Insights from the German Carsharing Industry

JYVÄSKYLÄ UNIVERSITY
SCHOOL OF BUSINESS AND ECONOMICS

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ABSTRACT

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Over the past decade, the concept of the sharing economy—the services that exploit unutilized assets—has become mainstream. There is a vibrant academic discussion regarding the topic, but so far, very little research has been conducted on the emergence of the sharing economy industries. My dissertation contributes to this research area by conducting a phenomenon-driven longitudinal analysis into the forces influencing the emergence and development of the German carsharing industry, ranging from the establishment of the first professional carsharing organization in 1988 to it becoming a thriving industry in year 2015. I have collected a rich dataset on the topic that I analyze both qualitatively and quantitatively in three articles. In the articles, I focus on the forces influencing the business model development and market categorization.

My dissertation shows that the actors in the German carsharing industry—corporate joint ventures and small companies and cooperatives that stem from the social movement that first started carsharing in Germany—are embedded in different business logics. The differing logics inhibit the actors from directly copying each other's business models, resulting in numerous models in the market. It is further demonstrated that the business models thrive in different geographical environments, and as a result, it is not expected that one of them would supplant the others in the short term. For market categorization, I demonstrate that because of the hype surrounding the mainstreaming of carsharing, the media has held a lot of power in the categorization: it has pushed new corporate-driven services to the carsharing category, even though all the producers have resisted it.

My dissertation makes several contributions to the literature. For the business model literature, institutional logics are presented as a moderating factor of the business model development. For the market categorization literature, the roles of the media, social movement, and corporations are clarified in the specific case of the corporate co-optation of a social movement initiated category. For research on the sharing economy, it is suggested that the sharing economy should not be discussed as a monolith and that the communality identified as one of the foundational cores of the phenomenon does not necessarily mean resorting to non-market mechanisms in transactions. Instead, it is useful to perceive this as an institutional logic driving the actors.

Keywords: sharing economy, carsharing, business models, institutional logics, market categories, co-optation

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Writing a dissertation for me has not only been about learning the ropes of doing scientific research, but a professional identity project as well. I applied for doctoral studies in Corporate Environmental Management at Jyväskylä University School of Business and Economics in the spring of 2013 motivated by the burn to do something for the major environmental issues such as the climate change. Coming from the private sector and having studied strategy and international business, I had little clue on how to write a good research proposal. Needless to say, the first proposal written over a week taken off from my job then was something of a mess. Looking back at it now that I have recently started in a tenure track position in the Copernicus Institute of Sustainable Development at Utrecht University fills me with a deep feeling of gratitude. The support that I have received from senior academics, colleagues, friends, family and different institutions has been overwhelming and without it I would surely not have been able to finish my dissertation let alone pursue my academic career.

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Utrecht, June 2018
Taneli Vaskelainen

FIGURE

TABLE

CONTENTS

1 INTRODUCTION

"We wrote this book because we believe we are in an optimistic and momentous time of change around our consumer system. We hope this period will be regarded as the transition away from the consumption for consumption's sake, and away from the fear of what will happen to the economy when this ethos is abandoned."

Botsman and Rogers (2010, p.223)

"*I wrote this book because the Sharing Economy agenda appeals to the ideals with which I and many others identify; ideals such as equality, sustainability, and community... The Sharing Economy is invoking those ideals to build massive private fortunes, to erode real communities, to encourage a more entitled form of consumerism, and to create a future that is more precarious and more unequal than ever.*"

Slee (2016, p. 16)

The above quotes are from books concerning the sharing economy, which is an umbrella term referring to the services that make use of underutilized assets such as cars, apartments or clothes (Botsman & Rogers 2010). The popularity of these services has increased rapidly, and it has been estimated that they will disrupt many industries in the near future. The revenue of sharing economy services is estimated as growing from 15B$ in 2015 to 335B$ in 2025 (Vaughan & Daverio 2016). The services have already ventured into the mainstream. For example, a recent poll conducted by Time magazine showed that 42% of Americans have used sharing economy services and 22% have worked as producers (e.g., shared their apartment in Airbnb) (Steinmetz 2016). Despite the major impact to the current economic system, the sharing economy is undertheorized, and as the quotes above illustrate, the discussion concerning it is afflicted by the dichotomies of either being presented euphorically as cure for old ills or as a manifestation of hyper-capitalism.

In recent years, a vibrant academic discussion has arisen regarding the sharing economy. Scholars have examined people's motivation to take part in the sharing economy as consumers or producers (Hamari, Sjöklint & Ukkonen 2016, Möhlmann 2015, Wilhelms, Henkel & Falk 2017, Parguel, Lunardo & Benoit-Moreau 2017), the design and governance of sharing economy platforms (Bardhi & Eckhardt 2012, Hartl, Hofmann & Kirchler 2016), the consequences of a sharing economy industry to incumbent actors and society (Zervas, Proserpio & Byers 2017, Campbell & Brakewood 2017, Edelman, Luca & Svirsky 2017, Greenwood & Wattal 2017), and the framing of the sharing economy in public discussion (C. J. Martin 2016, Laurell & Sandström 2017). While this research makes a valuable contribution to understanding the phenomenon, it also leaves many questions unanswered. There is very little research focusing on sharing economy organizations (Martin, Upham & Budd 2015, Muñoz & Cohen 2017), and there is especially few studies that examine the organizations on a long term. Therefore, the research done so far has done little to theorize the forces that drive sharing economy business model development or comment on, what is the role of different kinds of actors in the industry emergence and development. Considering the rapid growth and the substantial expected impacts of the sharing economy, it is important to understand these issues in detail. Thus, recent calls have been made for longitudinal studies on the dynamics of sharing economy industry emergence (Mair & Reischauer 2017, Laurell & Sandström 2017).

With my dissertation, I address the aforementioned calls by examining the emergence of the German carsharing industry, analyzing it from the founding of the first carsharing organization in 1988 to it becoming a booming industry by the year 2015. Carsharing services are membership-based schemes operating in mainly city areas and providing temporary access to cars on an on-demand basis (Shaheen et al. 2015); it is also one of the most celebrated sharing economy sectors (Botsman & Rogers 2010), probably because promises of the sharing economy's pro-environmental effect (Frenken & Schor 2017). Therefore, it is a good research context to take a stand on the dichotomies riddling the sharing economy discussion. If the carsharing industry is developing in a way that will let down its environmental promises, then the sharing economy is not creating a pro-environmental transition in the society, which then will give support for the pessimistic predictions concerning the development trajectory of the sharing economy.

The German carsharing industry is a good one for studying industry emergence because of its long history. Very few other sharing industries in the sharing economy have an almost 30-year-long history. Additionally, there is a variety of actors operating various kinds of business models in the market (Wikipedia 2017). Cooperatives and small companies operate the so-called station-based model based on round-trips: after the rental, the cars must be returned to the same place where they were taken from. Corporation joint ventures operate the so-called free-floating model, which is based on one-way trips: at the end of the trip, cars can be left at any free parking spot within the opera-

tional area of the service. Finally, there are technology start-ups working with the peer-to-peer model, which resembles the station-based model; however, the cars are not owned by the company, but rather by private individuals. In this model, the carsharing company works only as a market mediator between the renter and the rentee. The variety of actors and business models enables answering the recent calls for research in the different aspects of the emergence of the sharing economy industry including the dynamics of the co-existence of actors embedded in different institutional logics (Mair & Reischauer 2017), the design of the sharing economy business models (Laamanen et al. 2016, Mitchell & Strader 2016), and the categorization efforts of the sharing economy actors (Vergne & Wry 2014).

Because of the lack of scientific knowledge on the sharing economy industry emergence, I have adopted a phenomenon-driven abductive research approach. In phenomenon-driven research, the research task should be defined broadly to enable the researcher to perceive the nuances of the novel phenomenon (Eisenhardt & Graebner 2007). Here, the main research task is *to understand how the carsharing industry in Germany has emerged and developed*. The research task is broad and does not initially commit to any particular theoretical viewpoint of the studied phenomenon. However, the current dissertation aims at answering the many recent calls for research on theorizing the sharing economy (Laamanen et al. 2016, Yonggui et al. 2017, Mitchell & Strader 2016). Theorizing on new phenomena in their early stage favors an abductive approach (von Krogh, Rossi-Lamastra & Haefliger 2012), where a former theory is used as technical literature to conceptualize the studied phenomenon (Dubois & Gadde 2002).

According to Van de Ven et al. (2015, p. 2), abductive reasoning *"begins when data call attention to some surprising anomaly, problem or unexpected phenomenon."* Following this principle, there are two main research questions that guide the dissertation's articles: 1) *why do so many business models co-exist in the German carsharing market,* and 2) *why have free-floating services been categorized as carsharing in Germany?* These questions arise from the discrepancies between the patterns emerging from the data and expectations set by the theory. Therefore, the current dissertation also partially answers what is new about carsharing for management and organization studies. The justification for choosing the main research questions is presented in Chapter 3, along with a presentation of the theories and comparing them to the studied phenomenon.

In my dissertation, for the first research question, I demonstrate that the plurality of business models stems partially from the economic viability of the models themselves and partially from the institutional logics that the carsharing actors are embedded in. For the second research question, I indicate that the primary force pushing the free-floating services into the carsharing category is the press, which is powered by the hype around the mainstreaming of carsharing. I also show that the social movement that started the carsharing services sowed the seeds for this process. With these findings, I make contributions to the research on business models and market categories. Furthermore, I argue

that a sharing economy should not be discussed as a monolith because of the hype around the topic and the very different services that are associated with the label; this leads to oversimplifications, where strong arguments are made for the whole phenomenon based on only a few actors. In the light of my results, I discuss recent efforts in structuring the discussion.

This dissertation is divided into two parts. Part one (this part) presents the introductory chapter, and part two includes the three original papers that compose this dissertation. The original papers each have their own theoretical streams to which they contribute. In the introductory chapter, I mainly focus on the implications of the discussion on sharing economy as a phenomenon. Besides summing up the findings of the articles, I discuss the discoveries made by bringing those findings together.

This introductory chapter continues as follows: Chapter 2 presents the conceptualization and scholarly discussion on the sharing economy and presents the research context: the German carsharing industry. This lays the groundwork for the contribution of the introductory chapter because the research on the sharing economy is discussed from the point of view of the findings made in the dissertation. Chapter 3 presents the theoretical discussions that this dissertation uses to conceptualize and explain the studied phenomenon and presents the two main research questions using abductive reasoning. Chapter 4 presents the methodology, including the scientific philosophy guiding the work, reflections on the validity of the study, and broad lines of data collection and analysis. Chapter 5 presents the summaries of the articles of this dissertation. Finally, Chapter 6 concludes the dissertation by presenting the main contributions.

2 THE SHARING ECONOMY AND CARSHARING

This chapter places the studied phenomenon (emergence of German carsharing industry) within a wider context (research on sharing economy) to create a basis for discussing the contribution of the current dissertation in Chapter 6. I begin the chapter by defining what the sharing economy is and what is new about it as a phenomenon. Next, I present an overview of the business and organization studies literature on the sharing economy. Finally, I present the target of my investigation: the German carsharing market. I present a short history of the market emergence, present the focal actors, and introduce the key terminologies.

2.1 What is the sharing economy?

Sharing is a distinct form of human behavior that is usually constrained to family or one's close circle of trust. Sharing is mundane and does not include a transfer of ownership. This deviates from gift giving, which is ceremonial and does include a transfer of ownership. For example, a child might need permission to use the family car, but usage is likely to be commonplace, and no debt of gratitude is expected. On the other hand, giving a car as a gift to a child is probably done on a special occasion, and the receiver of the gift is expected to be thankful for it. Sharing is also nonreciprocal and does not usually include monetary transactions. For example, borrowing a hammer to a roommate usually entails no payment or direct favor in return. However, if the hammer is sold, the roommate then must pay for it. (Belk 2009)

There is nothing new about sharing per se: it is an ancient form of human behavior, and it can be found in distinct cultures, ranging from the Western world to Asia and to the aborigines of Australia (Belk 2007). However, at least two aspects of the sharing economy are clearly novel. First, unlike traditional sharing, it is not just confined to the close circle of trust. A distinct characteristic of the sharing economy is trust among strangers: people who do not have a relationship before dealing over sharing economy platforms (Botsman & Rogers

2010, Frenken & Schor 2017). Sharing services include reciprocal evaluation mechanisms and contracts that define the terms of the sharing and that help people in crossing the chasm of trusting a person they do not know. For example, after every stay in Airbnb, the host and guest can rate each other. This can root out the "bad apples" because they are likely to be given bad reviews, which serve as a warning to new hosts or guests. On the other hand, both the renter and the rentee must agree to the terms and conditions set by Airbnb, and the renter is insured for possible property damages caused by the rentee. Second, the sheer volume of the sharing economy makes it a novel phenomenon. In the Western world, a market exchange is the dominant form of conducting transactions while sharing has been constantly losing its foothold, even within immediate family (Belk 2007). As mentioned in the introduction, sharing services already threaten the foothold of the incumbent players in many markets. This raises the question of whether ownership is losing its foothold to sharing or renting as the primary form of obtaining access to certain goods.

It is near impossible to find a consensus in what belongs in the sharing economy and what does not (Acquier, Daudigeos & Pinkse 2017). One of the reasons leading to the vagueness of the term is probably that the books that had a major stake in mainstreaming the phenomenon, such as *What's Mine is Yours* by Botsman and Rogers (2010) and *The Mesh* (2010) by Lisa Gansky[1] collected many different kinds of services under a single umbrella. Consequently, and also in academic discussions, the sharing economy is defined in highly diverse ways (see e.g. Schor 2014, Frenken & Schor 2017, Belk 2014), and there seems to be no consensus on which companies belong to it and which do not. What would seem to be common among almost all definitions is that they include peer-to-peer platforms that share physical resources in the sharing economy and that require some sort of compensation for it. Therefore, for example, Airbnb can be considered a sharing economy across the various definitions. However, for example, some definitions (Frenken & Schor 2017) do not see Uber as belonging to the sharing economy because nothing is actually "shared." Most Uber drivers do not share their rides, but rather, they work more like taxi drivers who make on-demand transportation services for a fee. This is a stark contrast to the public's view of the matter, where Uber is usually the most referred to example of the sharing economy (Laurell & Sandström 2017).

The picture is further blurred by the fact that many sharing services have existed long before the sharing economy went mainstream. For example, the history of carsharing in Germany goes back to the end of the 1980s, and the service was given the "sharing" label early on. However, according to the definitions of Belk (2014) and Frenken and Schor (2017), most carsharing organizations do not belong to the sharing economy because the companies own the cars instead of individuals. Of the about 150 German carsharing companies, only a

[1] Actually, Botsman and Rogers referred to the phenomenon using the term "collaborative consumption" and Gansky with the term "the mesh," but later on, "the sharing economy" has gained a foothold as the most commonly used term regarding the phenomenon. Some use the terms interchangeably, but some make a distinction between them.

couple are peer-to-peer sharing platforms. Therefore, considering this from the supply side, nothing is "shared" because the company that is offering access to a resource for a fee is usually termed renting. The story is different from the demand side, however. There is strong scientific backing showing that joining carsharing services leads to many people abandoning their private cars and using a carsharing car (Martin & Shaheen 2011, Nijland & van Meerkerk 2017). Therefore, the users move from using an owned asset to using a shared asset. For many people, this is likely not to be a small step, considering the fact that a car is a very emotionally laden object (Steg 2005).

I deem it unlikely that the discussion on the boundaries of the sharing economy will reach a consensus. However, I concur with Acquier et al. (2017) that finding a common definition is not important, but instead, researchers should acknowledge their empirical and contextual biases. Acquier et al. (ibid) present three organizational cores that can be used to sort the different sharing economy actors: access economy, platform economy and community-based economy. The access economy refers to organizations *sharing underutilized assets (material resources or skills) to optimize their use* (ibid: 4) (e.g., public libraries). The platform economy refers to organizations that *intermediate decentralized exchanges among peers through digital platforms* (ibid: 5) (e.g., Uber). The community-based economy refers to organizations *coordinating through non-contractual, non-hierarchical, or non-monetized forms of interaction* (ibid: 6) (e.g., timebanks). Many of the sharing economy initiatives belong to many of these organizational cores. For example, Airbnb can be seen as part of both the access economy and platform economy. I will use this framework to discuss the applicability of my findings in the sharing economy more widely in Chapter 6 while presenting the conclusions of the dissertation. However, the current chapter goes on by presenting the sharing economy research streams to present the literature, to which this dissertation contributes.

2.2 Research on the sharing economy

This dissertation contributes to the empirical work on the sharing economy from the business and management perspectives. The novelty of the sharing economy enables a review of all empirical work in these fields. There was little discussion on the phenomenon before the beginning of 2010s because most of the actors have emerged only during the last 10 years or so. The biggest, and arguably the most well-known actors, the home sharing platform Airbnb and the ride-hailing platform Uber, were founded in 2006 and 2009, respectively. It seems likely that earlier especially within the context of business schools, there was little interest in the services because they were mostly local, small community initiatives.

The discussion on the sharing economy has only emerged as the phenomenon has become more mainstream. Consumer behavior scholars have been the first ones to become interested in it and have mainly focused on consumer mo-

tivation when using sharing economy services. The main finding of this stream of research is that people are motivated to use sharing economy services mainly out of self-interest (Hamari et al. 2016, Bardhi & Eckhardt 2012, Möhlmann 2015, Wilhelms et al. 2017, Parguel et al. 2017). This stands in stark contrast to the early framing of the sharing economy, which showed it as prosocial and pro-environmental form of consumption (Gansky 2010, Botsman & Rogers 2010) or even as a form of anti-consumption (Ozanne & Ballantine 2010).

Another stream of research concerns the trust and governance of the sharing services. This line of research has concluded that the users of the sharing services appreciate active governance and that this decreases unwanted behavior (Bardhi & Eckhardt 2012, Hartl et al. 2016). The reason for this is that the users feel that people cannot be trusted; therefore, governance mechanisms are necessary. Interestingly, it has been found that users tend to misuse the resources of the sharing economy services and expect this kind of behavior from others as well. Therefore, they do not even mind the big brother type of governance, such as, for example, surveillance cameras in carsharing cars (Bardhi & Eckhardt 2012). This further corroborates the argument of sharing economy consumers primarily using the services for pro-social reasons.

One further stream of sharing economy studies focuses on the consequences on other industries and society. There is initial evidence of sharing economy industries eating away the revenues of the more traditional industries. For example, Airbnb has been indicated as reducing hotel revenues, especially for low-cost hotels (Zervas et al. 2017) and bike sharing as reducing the number of bus fares (Campbell & Brakewood 2017). On a societal level, the results and the research topics are somewhat counterintuitive and surprising. For example, Airbnb has been accused of increasing racial discrimination (Edelman et al. 2017), and Uber has been indicated as reducing drunk driving, mainly by making taxi fares more affordable (Greenwood & Wattal 2017).

Some scholars have focused on, how the sharing economy is framed within the public discussion (Martin 2016, Laurell & Sandström 2017). These articles have found the focus on the tensions that afflict sharing economy: on the one hand, the sharing economy is presented as a more sustainable form of consumption and as a possible pathway to a more sustainable economy. On the other hand, people are worried, even angry, about the unethical winner-takes-all types of practices that some of the sharing economy players demonstrate. The framing discussions also talk about the unclear regulatory issues within the sharing economy, such as taxation.

Both the research on consumer motivation and on trust and governance describe the boundary conditions that the sharing economy companies have to live with. The findings emphasize that people's motivations to take part in the sharing economy stem from a self-interest, meaning that sharing economy companies not offering increased convenience, increased status, or economic benefits to their users are unlikely to succeed on the large scale. Research on governance and trust describes how sharing economy platforms should be designed to make them attractive for the customer and functional for the provider.

However, this explains only a part of the forces that shape sharing economy industries. This is indicated, for example, by the fact that the same sharing economy sectors are organized very differently in different countries (Mair & Reischauer 2017).

Research on the consequences of the sharing economy is important for understanding how sharing economy industries shape society. The framing studies, on the other hand, inform what the public pays attention to and hence what issues policy makers are likely to be pressured to address. However, without the knowledge of what drives the sharing economy organizations, this stream of research is bound to be reactive in nature because the consequences are visible only after they have happened. This is aggravated by the fact that the sharing economy companies are reluctant to give data away, even for research purposes (Frenken & Schor 2017).

So far, there have been only a few empirical studies that have focused on sharing economy organizations (Muñoz & Cohen 2017) and even fewer studies that have focused on how the sharing economy organizations have evolved (Martin et al. 2015). No studies thus far have taken a longitudinal view on the sharing economy industry development. Calls for this kind of research have been recently made to reveal the institutional dynamics (Mair & Reischauer 2017) of the sharing economy industries and the tensions between non-market and market practices (Laurell & Sandström 2017) in the emergence of sharing economy industries. I contribute to this area by longitudinally examining the emergence of German carsharing industry. This dissertation continues by next introducing carsharing as a service in general and the German carsharing industry in particular.

2.3 Research context: Carsharing in Germany

Carsharing is one of the oldest sharing economy sectors, and its roots go well before the term sharing economy even existed. The first professional carsharing organizations were founded in Switzerland and Germany at the end of the 1980s (Shaheen, Sperling & Wagner 1998). Even before this, there were different kinds of pilot companies with this service in different countries, but they were quite short-lived (Petersen 1995). The long history of German carsharing makes it an especially good context for a longitudinal investigation.

Because of the pro-environmental promises of carsharing, it has stirred scholarly interest outside of the business schools before the sharing economy became mainstream. Transportation scholars have demonstrated that the growth of carsharing services leads to reduced traffic-induced problems such as CO2 and other particle emissions and congestion (Chen & Kockelman 2016, Nijland & van Meerkerk 2017). This is because many people joining the carsharing schemes give up their private cars and hence use cars only for trips where cars are absolutely necessary (Chen & Kockelman 2016). Furthermore, the emissions of the carsharing cars tend to be lower than average (Loose 2010).

Although carsharing is discussed of as a single industry, it contains actors using very different kinds of business models. Cohen and Kietzmann (2014) have categorized carsharing actors into four different kinds of business models: B2C point-to-point, B2C roundtrip, cooperative/non-profit, and peer-to-peer. These models are described in Table 1. Most types of companies work with the roundtrip logistical model. In this model, the cars are always returned to the same place from where they were rented. The other logistical model is the point-to-point model. In this model, the customers can leave the cars at their destination. The point-to-point services operate in a restricted city area to avoid the scattering of the cars across broad areas where there are few customers. Most companies operate with a for-profit financial model, with cooperatives and non-profits being the exception to the rule. In most business models, the carsharing organizations own their fleet of cars. The exception is the peer-to-peer model, in which private individuals own the fleet and the carsharing company works as a market mediator between the car owners and the customers.

Table 1. The carsharing business model types (Cohen & Kietzmann 2014).

	Owner of the fleet	**Financial model**	**Logistical model**	**Referred in this dissertation as**
B2C point-to-point	Company	For-profit	Point-to-point	Free-floating carsharing
B2C round-trip	Company	For-profit	Roundtrip	Station-based carsharing
Cooperative /non-profit	Voluntary organization	Non-profit	Roundtrip	Station-based carsharing
Peer-to-peer	Private individuals	For-profit	Roundtrip	Peer-to-peer carsharing

From this point on, I refer to these business models using the same terminology as the carsharing organizations in Germany. I do this to avoid confusion because I have used this terminology in the articles. The B2C point-to-point model is referred to as the free-floating model, and the B2C roundtrip model is referred to as the station-based model. If the distinction is not expressly made, the station-based model also entails the cooperatives because the only difference between B2C roundtrip model and the cooperative/non-profit model is that the former operates on for-profit and the later on non-profit basis; therefore, the value proposition, at least in the German market, is the same. The term for peer-to-peer carsharing remains unchanged in this dissertation.

In Germany, all of the aforementioned business models are present. The free-floating business model operates with some 8,000 cars in the largest German cities: Berlin, Hamburg, Köln, Munich, Stuttgart, Frankfurt, and Düsseldorf (car2go 2016, DriveNow 2016). The station-based model is geographically much more dispersed, and it operates with more than 9,000 cars in 597 different-sized German cities (Bundesverband CarSharing 2017). Peer-to-peer car-

sharing has thousands[2] of cars dispersed all across Germany (Carsharing News 2017). Compared to the other two, the peer-to-peer model is quite different in terms of its geographical presence. Station-based and free-floating carsharing organizations predominantly have an office in the cities they are present in where they do back-office activities such as registration, customer service, and maintenance. Peer-to-peer companies operate virtually, and they do not have local offices at all. Therefore, they have a geographical presence in a city as long as a car owner registers to their service there.

Station-based carsharing has been in Germany for a long time. The first organization using this type of business model was founded in 1988, and already in the beginning of 1990s, there were tens of station-based carsharing organizations all over the country (Loose 2014b). Nowadays, station-based carsharing is being operated by 150 companies and cooperatives. The other business models are much more novel. The two companies that rule[3] the free-floating carsharing market—car2go and DriveNow—were founded in 2008 and 2011, respectively (Loose 2014b). Compared to the station-based carsharing organizations, the free-floaters are quite different. They are car manufacturing and rental corporation spin-offs: car2go is a daughter company of Daimler and Europcar and DriveNow that of BMW and SIXT. Peer-to-peer carsharing is even more novel and is being operated by yet another type of organization; here, the companies are technology start-ups, the first of which were founded in 2010 (Wikipedia 2017).

As presented in Figure 1, over the last few years, the growth of carsharing has been very rapid. The user count in the beginning of the year 2017 was 1.7 million[4] (Bundesverband CarSharing 2017). The number of users has grown in double-digit numbers for almost every year since the start of the millennium, but it has been especially rapid since the emergence of the free-floating companies. Although most new customers have been free-floating customers, station-based carsharing companies have enjoyed double-digit growth each year. It should be noted that even though the free-floaters have three times as many customers as the station-based actors, the businesses are most likely roughly of the same size because the number of carsharing cars work as a better proxy of the size of the business.[5]

My dissertation focuses mostly on the station-based and free-floating carsharing actors. This is because the dissertation is based mostly on conducting a longitudinal analysis, and the peer-to-peer actors have a short history (the first

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[2] There is no knowledge of the exact number because the peer-to-peer companies do not announce this.

[3] According to the data, the companies operate more than 90% of the free-floating carsharing cars.

[4] This number does not entail peer-to-peer carsharing customers because there is no statistic of their number. Also, including them in the same picture might give the wrong impression because unlike in other forms of carsharing, registering for the service is free of charge in peer-to-peer carsharing. Therefore, the number of customers is likely to be incommensurable with other forms of carsharing.

[5] For an analysis on the proxies of carsharing business size, see the research design in Article 1.

ones started in 2011), and hence, they so far have had only a marginal effect on the carsharing business.[6] This being said, the relationship of the peer-to-peer model to the other models is discussed in Article 1.

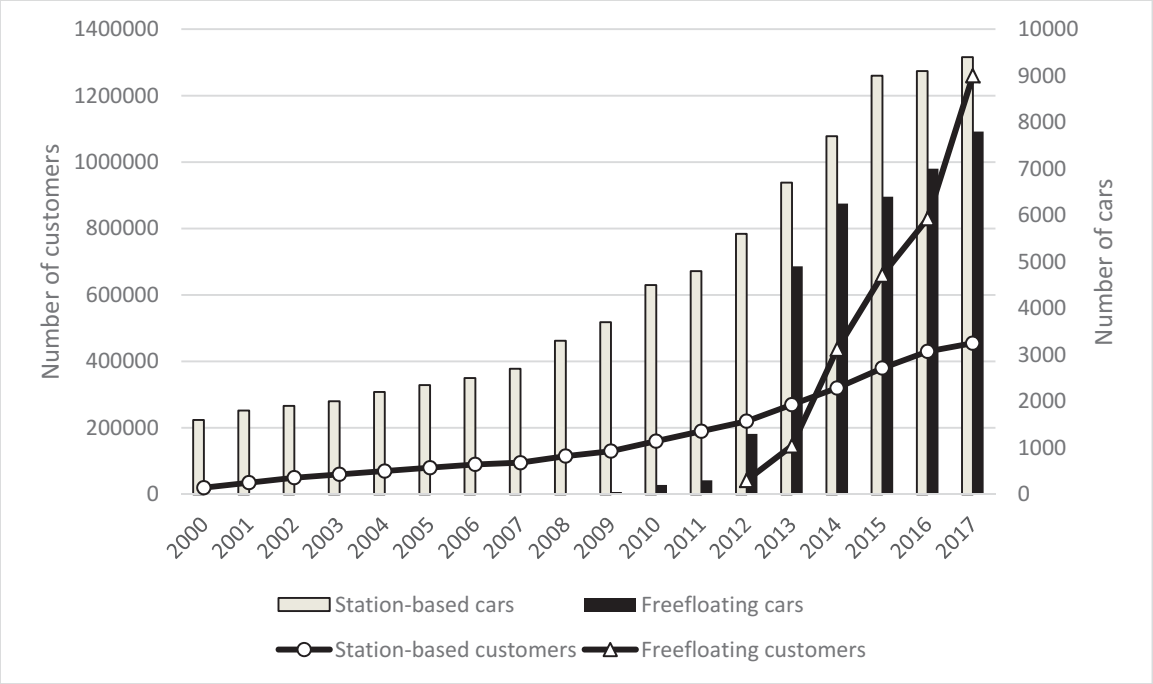

Figure 1. The growth of carsharing in Germany.

[6] Using knowledge from expert interviews, I've estimated the size of the business to some percent of that of station-based carsharing or free-floating carsharing. Additionally, the peer-to-peer actors were hardly mentioned in the interviews, and they have received limited attention in the press.

3 THEORETICAL DISCUSSIONS AND THEIR RELATION TO THE STUDIED PHENOMENON

This chapter explains the main theoretical streams that were used to conceptualize and explain the studied phenomenon. The main research task—*to understand how the carsharing industry in Germany has emerged and developed*—is phenomenon driven and does not tie the dissertation to any specific theoretical stream. The goal of the current dissertation is not to create a conclusive picture of the forces influencing the development of the carsharing industry. Therefore, this dissertation represents an opportunistic research design that is typical for studying phenomena in their early phases, where the specific research topics emerge from the available data (von Krogh et al. 2012). Therefore, the studied aspects of the industry's development can be boiled down to two generic questions that were asked throughout the research process: 1) what can be answered (i.e., what emerges from the data) and 2) what needs to be answered (i.e., what is interesting in the studied phenomenon)?

Very early on, when familiarizing myself with the data, I noticed that there were many cues in the data regarding two issues: how the business is conducted and what kind of a service carsharing is. This led me to conceptualize the development of the carsharing industry using two main constructs: business models and market categories. The definitions of these constructs, as well as examples of the cues provided in the data, are presented in Table 2. A more careful relationship between the data and the constructs is presented in Section 4.4.2 concerning the data analysis and in Section 4.5.3 concerning the construct validity. The current chapter will continue by presenting the literature streams associated with the constructs.

Table 2. The used constructs, their definitions, and cues in the data.

Theoretical construct	*Definition*	*Cues in the data*
Business Model	*"A business model articulates the logic and provides data and other evidence that demonstrates how a business creates and delivers value to customers. It also outlines the architecture of revenues, costs, and profits associated with the business enterprise delivering that value."* (Teece 2010, p. 173)	How does the rental process in carsharing service work? What is the pricing model? What kind of cars are offered? What kinds of partnerships have the companies formed?
Market Category	*"Categories are groupings of entities that simplify our apprehension of what surrounds us, focusing attention on a limited number of dimensions or features, enabling recognition and action.* (Durand, Granqvist & Tyllström 2017, p. 4)	What kind of a service is carsharing? What is it not? Whom is it for? Which companies are in the carsharing market? What can carsharing be compared with?

In the following chapters, I will introduce the groundswell of the research on the business model and market categories. I will then present what kind of research these literature streams have called for within the sharing economy. This is followed by a presentation of the research questions of this dissertation[7] in a way that is fitting for abductive reasoning: I will present a conundrum that arises from what could be expected of the studied phenomenon in light of former theory and what the reality looks like. I then present the theoretical literature of the mechanisms that explain the conundrum, which also presents the main contribution this dissertation provides to the current literature. For the business model literature, the contribution is to present institutional logics as a factor moderating the development of the models. For the category literature, the contribution is to clarify the roles of media, social movements, and corporations in the specific case of the corporate co-optation of a hyped social-movement-initiated category.

3.1 Business models

The first articles on business models were published at the turn of the millennium, and since then, the field has ballooned, with about a thousand articles published each year (Wirtz et al. 2016). The main motivation behind the growth of the literature is the rise of e-business. Business strategy theories before the turn of the millennium were mainly created for an economic system based on indus-

[7] The research questions do not exactly adhere to the research questions of the articles. This is because each of the articles is a stand-alone publication that has been attuned to the requirements of each publication outlet. In this introduction chapter, the questions of the articles are presented in a way that creates a more coherent whole in terms of the contribution of the whole dissertation.

tries that manufactured something concrete and were hence inadequate in understanding how value is created in the virtual markets of e-business (Amit & Zott 2001, Zott & Amit 2008). On the other hand, e-business has created new ways of doing business, for example, with the freemium model, where a company gives away its product or service free of charge, and the value capture is done by other means, for example, by selling advertising space (Teece 2010).

The interest in the sharing economy business model in the recent calls for papers (Laamanen et al. 2016, Yonggui et al. 2017) is similar to the one that put the stream of literature in motion: current management theories are inadequate in explaining the phenomenon. This partially stems from the fact that sharing economy platforms widely employ two-sided markets (Yonggui et al. 2017), where both the producers and consumers are individuals. In these cases, the sharing economy platforms work only as market mediators that match supply with demand. Although these kinds of business models have existed before (e.g., eBay), the volume and breadth of these kinds of services is unprecedented, and they threaten the markets of numerous traditional B2C services. For example, Airbnb has more listings in the world than the recently merged companies Marriott and Starwood (Yonggui et al. 2017).

Another reason for management theories having limited power in explaining the sharing economy is the fact that many sharing economy markets have a high diversity of both for-profit and non-profit actors. For example, in the ride sharing market, there are huge venture-capital-backed giants such as Uber, smaller entrepreneurial actors such as Blablacar, non-profit actors such as mifaz.de, and many Facebook groups without central market mediator. The boundaries of the markets these different organizations serve are blurry, and it is hard to predict how they are going to evolve in the future. As mentioned in Chapter 2.3, the German carsharing market is also operated by very different actors: station based by cooperatives and small companies, free-floating by corporate spin-offs, and peer-to-peer by technology start-ups. This contradicts with the former business model literature for two reasons.

First, no dominant design has emerged despite the 30-year German carsharing history. A dominant design is a superior variant of a product or a service that becomes the de facto standard of the industry because organizations delivering different variants of the product or a service switch to the dominant design or die out (Murmann & Frenken 2006). In the emergence phase, an industry can be expected to be in a state of flux and experimentation, but later, all the business models usually rally around the dominant design of the product or service (Teece 2010). However, in the German carsharing market, there are clearly different services with different value propositions.

Second, even though one would assume that the dominant design has yet to emerge as the industry matures, it does not explain why the different kinds of actors have not imitated each other's business models. Business models are assumed easily imitable; they are usually transparent to the competitors, and unlike technological innovations, they cannot be protected by patents (Casadesus-Masanell & Zhu 2013). There are three possible factors that could

protect business models from competitor imitation: special assets or processes required for delivering the business model, opacity of the business model, or if the new business model has cannibalized the current one (Teece 2010). None of these factors explains the fact that the different carsharing actors have not imitated each other's business models. For example, station-based carsharing is delivered by small cooperatives by a voluntary workforce, and it does not seem to require specialist assets from the delivering organization. The service is not particularly opaque because the value proposition is explained in detail to the potential customer in the carsharing company's websites. As mentioned in Section 2.3., station-based carsharing is growing along with free-floating carsharing, and thus, it does not seem to cannibalize it. Despite all this, the powerful corporation-backed free-floating actors have not imitated the station-based business model.

The odd dynamics of the business models in the German carsharing market present a conundrum, leading to the first main research question of this dissertation.

RQ1: Why do many business models co-exist in the German carsharing market?

This research question is the motivation behind the first two articles. Answering this question reveals aspects concerning both the carsharing market itself and the institutional forces driving the different actors. The first article will mainly focus on the issues concerning the market and the business models. It focuses on explaining how the models are different and in what kinds of environments they succeed. It shows that all models succeed relatively well in separate environments. However, it does not look at the motivations and activities of the organizations, which is crucial in understanding why the different models are being driven by different kinds of actors. The business models are not created in a vacuum, but rather, they are the result of the decisions of individual organizations and the structural factors that moderate the organizations. The second article focuses on the forces that influence the business model development through a qualitative longitudinal analysis. Its focal argument is that the key to understanding high-level business model development of the German carsharing is to look at the institutional logics that are driving the different actors in the market. These logics work as a company's external force that is empowering certain business model trajectories and inhibiting others. This is a contribution to the business model literature, which usually assumes that the agency of the companies is only restricted only by the cognitive capabilities of the management and the rules of the market. These assumptions and the expected role of institutional logics in the business model development are presented in the next two sections.

3.1.1 Forces influencing business model development

The forces influencing business model development have been studied widely in the literature. The main motivation is the fact that once a business model is

established, it is very hard to change it (Markides & Charitou 2004, Chesbrough 2010, Teece 2010). This is a major problem for the established companies because the strategic renewal that is required when the external environment of the company changes or when a new challenging business model comes into the market almost always requires the current business model to change (Markides & Charitou 2004, Teece 2010). Therefore, many strategic failures of once successful companies can be attributed to their failure in retuning or changing their business models (Markides & Charitou 2004, Tripsas & Gavetti 2000).

One stream of literature attributes the difficulties of business model change to strategic reasons. A new business model can be directly at odds with the current dominant business model that is bringing in most of the company's revenues (Markides & Charitou 2004). For example, it has been very hard for the newspaper houses to answer the customer demand for free online news because this eats away at the revenues of printed media. On the other hand, business model change can be difficult because it violates the partner network that a company has built over the years (Teece 2010). For example, direct e-commerce offers are problematic to many manufacturing companies because e-commerce bypasses the brick-and-mortar retail channels and thus might upset the current retail partners.

Another stream of literature imputes the difficulties of business model change to the cognitive shortcomings of the companies' managers (Chesbrough 2010, Chesbrough & Rosenbloom 2002). Managerial thinking is guided toward solutions that are perceived as being aligned with the current business model. Therefore, managers are often unable to utilize the fruits of their own R&D because the created innovations would require new kinds of business models, ones whose potential is not recognized because of the fixation in the current way of doing business (Chesbrough & Rosenbloom 2002). On the other hand, when customer demands change, the companies might be unable to adhere to the changed situation because of seeing the world through the current business model. A good example of this is Polaroid, which lost its dominant position in the photography business because it tried to enter the digital photography market with a business model that focused on the printing of images (Tripsas & Gavetti 2000). This was because the company's former business model was in traditional photography, which was based on a razor-and-blade model, where the cameras were cheap, and the film was expensive.

A common thread between the two different streams of literature is that they focus on the difficulties of the established companies to change their business model. Entrepreneurial actors, on the other hand, are assumed free to innovate their business model because unlike corporations, they are not burdened with a former business model (Bohnsack, Pinkse & Kolk 2014). However, the literature is silent about the external forces that influences the development of business models. Externally, the development of the business models is expected to be restricted only by the market, which prunes away the business models that do not offer enough value for the customer (Teece 2010).

So far, no attention has been paid to the macro-level factors influencing business model development. For this point of view, institutional theory has a lot to offer because it can show which business models are seen as legitimate and which are not. In their recent review of business model development literature, Foss and Saebi (2017, p. 219) comment on this in the context of the sharing economy: *"For example, the sharing economy provides an illustrative case where the expansion of [business models] of companies such as Uber (transportation) or Airbnb (accommodation) is severely hampered by the country's competition law, as these BMs are considered disruptive to the traditional incumbents in their industries."*

Foss and Saebi (2017) raise the example of the country-level institutional context, where the business model development is hampered by the legislation of the country in which the companies operate. However, I argue that this is not the only institutional force influencing companies' business model development; their development is also influenced by the institutional logics to which a company are committed.

3.1.2 The influence of institutional logics on business models development

Thornton and Ocasio (1999, p. 804) define institutional logics as "*the socially constructed, historical pattern of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality*." The institutional logics then form the cultural groundworks that guide individual action by creating the basis for what is seen as appropriate and desirable. The institutional logics perspective stems from the neo-institutional theory, which studies the effect of cultural structures on individual agency (DiMaggio & Powell 1983, Meyer & Rowan 1977). The seminal argument of the neo-institutional theory is that individual agency is moderated by institutions—collective myths—that empower agency in some directions and inhibit others.

Originally, in the neo-institutional theory, the role of the institutions was seen as coercive, leaving little change for agency. This led to structural isomorphism as individuals, powerless to change the structures, reproduced the structures in their actions (Meyer & Rowan 1977). The institutional logics perspective does not perceive institutional forces as totally coercive, but rather, it talks about embedded agency: individuals are embedded in institutional logics that guide individual action by creating the basis for what is seen as appropriate and desirable, but individuals also have partial autonomy over the logics (Thornton, Ocasio & Lounsbury 2012). This autonomy stems from the fact that individuals are embedded in multiple institutional logics, and individuals can select certain elements from the different logics in different situations. The institutional logics are usually clustered to macro-cultural ideal types. Thornton, Ocasio, and Lounsbury (2012) identify seven types: family, community, religion, state, market, profession, and corporation. Each of these ideal types has a different basis for legitimacy, authority, identity, the basis of norms, attention, strategy, and informal control mechanisms for upholding the institutional order. Practically all organizations are embedded in multiple institutional orders. For example, a

Catholic university might be embedded within the state logic through its funding models, (academic) professional logic through its personnel, and religion through its background.

Following the assumption of embedded agency, it can be assumed that business model development is influenced by the institutional logics to which a company is committed. Institutional logics set the goals of what the business model tries to achieve. The reason why institutional logics have not been discussed in the business model literature is probably because all companies are assumed to be committed to the corporation and market logics (Ocasio & Radoynovska 2016). This means that the purpose of the business model is to strive for maximizing profits (market logic) and growth (corporation logic). The similarity of the business models make them invisible because all actors work for the same goals. For most markets, this seems like a fair assumption. After all, every for-profit organization must strive for profitability to survive, and usually, the shareholders of modern companies expect an increasing share price, which is commonly achieved through growth.

For some markets, however, the assumption of all actors being committed to the same institutional logics might not hold true. In these kinds of markets, the fact that organizations may be embedded in different kinds of institutional logics might lead to a high variety of business models (Ocasio & Radoynovska 2016). This is because the business models are designed not only to achieve profitability and growth, but they might have other goals as well. Because of the cultural embeddedness of many sharing economy markets, Mair and Reischauer (Mair & Reischauer 2017) have suggested that sharing economy markets are especially prone to have actors committed to different institutional logics. Article 2 demonstrates the institutional plurality in the carsharing market and illustrates its effect on the business models.

3.2 Market categories

The forces explaining the development of a business model explain how carsharing companies conduct business and how institutional forces influence their behavior. However, there is a symbolic side in industry development as well: what is carsharing, whom is it for, and how does it differ from other transportation services such as car rentals, public transportation, and taxis? Whereas the development of business models tells about the motivations and institutional embeddedness of the actors, the meaning-making process of what kind of a market category carsharing is also reveals the tensions and power positions between the different kinds of actors because it is done collectively by the different market actors and intermediaries. Therefore, research on the development of the carsharing market category reveals different aspects of the industry development.

Categories can be understood as “boxes,” where encountered reality is sorted and ranges from mundane objects such as furniture to abstract entities

such as virtues. Cognitively, the categorization literature has mainly leaned on the view that individuals make categorization when comparing the features of a new entity to the feature of known entities (Hannan, Pólos & Carroll 2007). Recognition of the membership of the category is based on its resemblance to a category prototype, which is perceived as its most typical member. This prototype-based view is based on the work of Rosch and Mervis (1975), who focus on the categorization of natural objects.

Later, the prototypical view on categorization was extended with causal- and goal-based categorization (Paolella & Durand 2016, Durand & Paolella 2013). The former refers to a situation where a person categorizes entities according to features he or she knows to be salient to a category. For example, an animal is a bird if it has feathers and flies. The latter refers to a situation where a person bases the categorization on his or her aspirations or goals. For example, certain kinds of birds (e.g., a parrot) could be categorized together with cats and dogs when one is getting a pet.

One of the most studied issues in market categorization in management studies is the effects that categorization has on companies (Vergne & Wry 2014). How focal audiences categorize a company can have profound consequences on its performance. Audiences can penalize a company if it is perceived as an atypical member of a category. This phenomenon has been shown to exist in very different markets, along with its associated penalties, such as market valuation in the catering industry (Zuckerman 1999), lower prices in eBay auctions, worse ratings in feature film products (Hsu, Hannan & Koçak 2009), smaller loans in peer-to-peer crowdfunding (Leung & Sharkey 2014), and lower ratings of wines (Negro & Leung 2013). Therefore, companies are incentivized to promote a categorization system, one where they are perceived as the "category king": the prototypical actor that others are compared to (Pontikes & Kim 2017).

However, if the category where a product or service belongs to is undesirable (illegitimate or of low status), companies can engage in so-called category straddling, which refers to diluting the boundaries of existing categories. This way, a company can borrow some of the legitimacy of a higher status or legitimate category, and through it, the company gains legitimacy or increases its status. Successful category straddling has been documented to lead to rewards such as increased stock prices of open-source companies (Alexy & George 2013) and the alcohol grappa changing its status from "moonshine" to a high-end liquor, enabling pricing the product accordingly (Delmestri & Greenwood 2016). On the other hand, some companies belong to categories that are stigmatized and therefore are very difficult to legitimize. In these cases, a company can try to get audience to perceive it as mainly belonging to another category that is more legitimate. An example of this is Boeing, which is one of the largest weapons manufacturers in the world but which is perceived primarily as an aviation company (Vergne 2012).

In new categories whose future status is unclear, companies might do both association and disassociation work in parallel, selecting the modus operandi according to the audience and perception of the category (Granqvist, Grodal &

Woolley 2013). Choosing the strategy according to the audience might make sense because of different perceptions of the categorical ambiguity. Whereas consumers dislike categorical ambiguity, venture capitalists, for example, might like it because they are looking for companies that restructure industries (Pontikes 2012).

An organization's attempts either to influence how it is categorized or to promote a categorical system that is favorable to it can be labeled as strategic categorization (Pontikes & Kim 2017). Strategic categorization is especially important in new market categories because the audiences do not have clear picture of the company yet. Categorization, especially in new markets, is a social process (Santos & Eisenhardt 2009, Navis & Glynn 2010). Different audiences negotiate about the category to create shared meanings (Durand et al. 2017). Although producers are major players in this, other stakeholder groups want to contribute to the creation of the shared meanings as well, and their interests might be unaligned with those of the producers (Pontikes & Kim 2017).

The sharing economy markets are probably easy targets for strategic categorization. First, the sharing markets are very novel, and in such contexts, the meaning systems are underdeveloped (Aldrich & Fiol 1994, Granqvist et al. 2013), and the market boundaries are unclear (Santos & Eisenhardt 2009). Second, sharing services lack artifacts that make them easy to classify. Arguably, it would be hard to categorize a vehicle with two wheels as a car because from the material aspects, it would be more naturally categorized as a motorcycle. However, the differences between the sharing economy transportation services such as ride sharing, ride hailing, and carsharing (see e.g. Cohen & Kietzmann 2014) are vague, and making the distinction between them requires knowledge of the business models and markets. In these kinds of contexts, the "family resemblance" categorization works poorly (Durand et al. 2017).

Because of the different interests in the field of the sharing economy and the ease of strategic categorization, the sharing economy markets can be expected to be fields of categorical contestation. In their review on category studies ,Vergne and Wry (2014, p. 78) characterize this as follows: *"For instance, we anticipate research that examines cases where groups struggle to define which category is 'salient' for evaluating a firm. For example, there has been an ongoing fight between Uber (a car service that integrates a smartphone app) and various taxi commissions over whether the most salient category for the firm is as a 'technology' company or a 'taxi' company…"*

Carsharing in Germany provides a very interesting context to study these categorization processes of the sharing economy markets. As stated in Section 2.3, the carsharing umbrella contains many different kinds of business models. Although seemingly quite similar, the consequences of the different business models to the environment and traffic are not likely to be similar (Le Vine, Zolfaghari & Polak 2014). Furthermore, customers use the different kinds of carsharing services for very different kinds of trips (Bundesverband CarSharing 2017). Therefore, it is quite curious why such different business models are clumped under a single umbrella. What makes this even more curious is that when the first free-floater—car2go—came to the market, it did not categorize

itself in the carsharing category. Car2go gave the service a generic term, "mobility concept," and the only category that it compared the service to was telephone subscriptions because of the similar pricing mechanisms (per usage minutes) (Daimler 2008). In addition, BCS—the carsharing umbrella organization—clearly stated it does not perceive car2go as a carsharing service (Bundesverband Carsharing 2010).

Despite this, the free-floaters have ended up in the carsharing category. It is set under this umbrella in the scholarly discussion (Cohen & Kietzmann 2014), and for example, the leading German weekly newspaper publishes its news about the free-floaters under the news category of "carsharing" (Spiegel Online 2017). In light of the previous research, this presents a conundrum because usually, the producers are assumed to hold significant power over their own categorization (Pontikes & Kim 2017). This motivates the second main research question of the current dissertation:

RQ2: Why have the free-floating services been categorized as carsharing in Germany?

Article 3 answers this research question; it makes a historical analysis of the categorization of carsharing of media, the free-floaters, and the station-based actors before and after the time when the free-floating services came to market, hence providing a better understanding of the reasons that led to categorizing free-floaters under the carsharing umbrella. The process is presented as a corporate co-optation of a hyped social movement generated category. The following section introduces the terms and the literature concerning this kind of process and how it describes the development of the German carsharing category.

3.2.1 Corporate co-optation of a hyped social movement generated category

Social movements are organizations that emerge either proactively or reactively. Proactive movements arise from a concern of a social or environmental problem, and reactive movements arise to protect a threatened way of life (Tilly 1977). The carsharing movement arose reactively to oppose the overpowering position of the private car, which has led to social problems such as playgrounds being changed into parking spaces and environmental problems such as acid rain (Loose 2014c). This movement founded carsharing as a category to obtain its goal of reducing the number of cars. Therefore, carsharing is a social movement generated market category. Social movement generated market categories are an understudied subject because many of the former studies have focused on movements that target companies (de Bakker & den Hond 2008, King & Soule 2007). Social movements are usually either expected to create practices that companies adopt (Lounsbury, Ventresca & Hirsch 2003) or guide the industry development from the outside (Pacheco, York & Hargrave 2014).

As markets mature and grow, they start to attract corporations that enter the market to protect their existing business and to seize new opportunities

(Hockerts & Wüstenhagen 2010). As high-status actors, the corporations can easily borrow elements from the existing categories because their social acceptance is not questioned (Rao, Monin & Durand 2005). Therefore, corporations can co-opt social movement created categories and selectively borrow the symbolical elements of the category. Usually, in the process of co-optation, the corporations borrow the non-radical categorical elements and commoditize the category to serve the corporate interest (Frank 2007). This presents a threat to the social movement, which are often borne out of counter-cultural ideas that oppose the status quo. Therefore, categorical co-optation can lead to divorcing the category from the mission that originally motivated the social movement to create it.

Corporations and social movements are not the only actors taking part in the development of market categories, but also, there are the intermediaries, such as critics (Hsu, Roberts & Swaminathan 2012), business analysts (Zuckerman 1999, Pontikes & Kim 2017), and the media (Rao et al. 2005, Kennedy 2008, Siltaoja et al. 2015) that participate in the process. The role of intermediaries is especially interesting during a categorical hype. Hypes are time periods that are characterized by elevated interest and high expectations on an innovation or an activity that is usually followed by disappointment, when it turns out that the expectations were not warranted or premature (Borup et al. 2006, Ruef & Markard 2010). In times of hype, the role of intermediaries tends to grow. For example, increased interest of the financiers might lead to stretching the categorical boundaries as different kinds of actors try to get into the hyped category (Granqvist et al. 2013). On the other hand, the media has an interest in creating laudatory articles of an interesting new phenomena (Rao, Monin & Durand 2003); therefore, they tend to feed the hype.

The sharing economy markets present an interesting context within which to study the development of hyped categories. The media attention on the topic has skyrocketed during recent years (Martin 2016). The sharing economy is also characterized by great promises of solving environmental problems (Botsman & Rogers 2010) and democratizing society, which have changed to disillusionment when many of these promises have not been fulfilled (Slee 2016, Murillo, Buckland & Val 2017). Many of the sharing economy markets are also social movement borne, and the whole sharing economy has been framed as a social movement that has been co-opted by corporations (Martin 2016). The third article of this dissertation on the corporate co-optation process of the German carsharing market can therefore contribute to this discussion by presenting the roles of the media, the social movement, and the corporations in the co-optation process. Through the other articles, I also contemplate on the consequences of co-optation for the carsharing business in the discussion section of this introductory chapter.

4 METHODOLOGY

This chapter presents the methodology of the current dissertation. I begin the chapter by presenting the justification regarding why I chose the phenomenon-driven approach, why I chose to concentrate on studying the German carsharing industry, and the principles for choosing the methods for each individual article. I then present my onto-epistemological positions to lay the basic framework for evaluating the methodology. This is followed by presenting the data collection and analysis processes. Finally, I conclude the chapter with considerations on the validity of the dissertation.

4.1 Justifying the choice for the methods

The motivation behind the current study emerged from a desire to understand how the sharing economy is changing the current economy. Commonly, in management and organization, the research is approached through theory (Hambrick 2007). The research is usually framed in one of two ways: either by presenting a gap in the existing theory or by problematizing it (Alvesson & Sandberg 2011). The gap spotting approach usually extends existing theory: some phenomenon is not explained by it; therefore, a researcher presents his or her study as contributing to this area. Problematization aims at renewing theory: the taken-for-granted assumptions of a theory are problematized by taking an alternative stance and demonstrating this with an empirical study. However, the sharing economy as a phenomenon is undertheorized, and it is expected to challenge many of the existing theories (Yonggui et al. 2017, Laamanen et al. 2016). For me as a management researcher, this presented a puzzle: how can I approach a phenomenon that has not been theorized by looking for a research gap or problematizing theory?

This problem has been identified recently in the management research community (Hambrick 2007). A novel phenomenon cannot be approached through theory before this novel concept has been documented as a phenome-

non. Approaching it through existing theories runs the risk of not observing the intricacies and nuances that do not fit the existing theory (von Krogh et al. 2012). To solve the puzzle, I adopted a phenomenon-driven research approach. For an emerging phenomenon, the research begins by documenting the phenomenon to distinguish it from other phenomena, hence creating a language with which to describe it (von Krogh et al. 2012).

However, making phenomenon-driven research of the sharing economy is tricky. As presented in Section 2.1, the phenomenon is so intricate that it is difficult to define it. The first and most commonly referred to definition by Botsman and Rogers (2010) includes very different industries, ranging from peer-to-peer funding to online auction platforms. To avoid the problem of ending up with a lot of data concerning very different businesses that have very little to do with each other, I decided to focus on one sharing economy industry in one institutional context: the German carsharing industry. This also served the purpose of creating rigorous phenomenon-driven research because studies focusing on a single context tend to be loyal to the contextual nuances of the phenomenon; therefore, the emerging theory tends to be very accurate (Dyer & Wilkins 1991). However, there was still a problem with the scope of the research. The research context could be approached from an infinite number of angles. Therefore, I needed guidance as to what data should be collected and how it should be analyzed. This was solved by approaching the research with an abductive approach.

In abductive research, the researcher goes back and forth between data and theory to match the discoveries to the theory. The research process is characterized by systematic combining, where data collection, data analysis, and theoretical frameworks are worked on and integrated simultaneously (Dubois & Gadde 2002). The studied phenomenon guides the selection of theories that are suitable for explaining the phenomenon's interesting features. The selected theories, on the other hand, guide the data collection and analysis process by suggesting what kind of further data are needed and what should be paid attention to in the existing data. This kind of research approach is particularly suitable in making new discoveries from emerging phenomena (Van de Ven et al. 2015). The discoveries made are deeply grounded in data, but they are "translated" to a scholarly audience. This helps in keeping the theory tightly coupled with the changing reality.

4.2 Ontology and epistemology

My ontological and epistemological position can be best described as critical realism. According to Wynn and Williams (2012, p.778), "*critical realism acknowledges the role of subjective knowledge of social actors in a given situation as well as the existence of independent structures that constrain and enable these actors to pursue certain actions in a particular setting.*" A critical realist, therefore, assumes that there is a reality independent of human knowledge. Therefore, ontologically

critical realism stands out from constructivism, which works from a premise of multiple realities that are constructed by people (Easterby-Smith, Thorpe & Lowe 2002). However, the ontological assumptions are not like positivism either. Whereas positivism perceives the researcher as observing objective and measurable reality, critical realism works on the assumption that ontology is stratified (Wynn & Williams 2012).

Stratified ontology, as presented in Figure 2, separates reality into three nested domains: the domain of the real, the domain of the actual, and the domain of the empirical (Bhaskar 1975). The domain of the real is the independent reality containing the causal mechanisms of how things occur. The domain of the actual is nested within the domain of the real and includes the events that occur and when these causal mechanisms are enacted, which is independent of whether they are being observed by humans. The domain of the empirical is a subset of the domain of the actual and contains the human experiences of these events.

Critical realism places a social sciences researcher as an interpreter between these layers of reality (Wynn & Williams 2012): through people's experiences, the researcher tries to tease out what has actually happened and eventually tries to describe the mechanisms of the independent reality. There can be multiple experiences of the same events, and using multiple informants, data types, and theoretical lenses, the researcher aims to explicate the two from each other and find out what "really" happened. On the other hand, there are multiple explanations for the same events, and the job of the researcher is to create different alternatives and choose the mechanism that best describes the studied phenomenon, hence teasing out the mechanisms from the events.

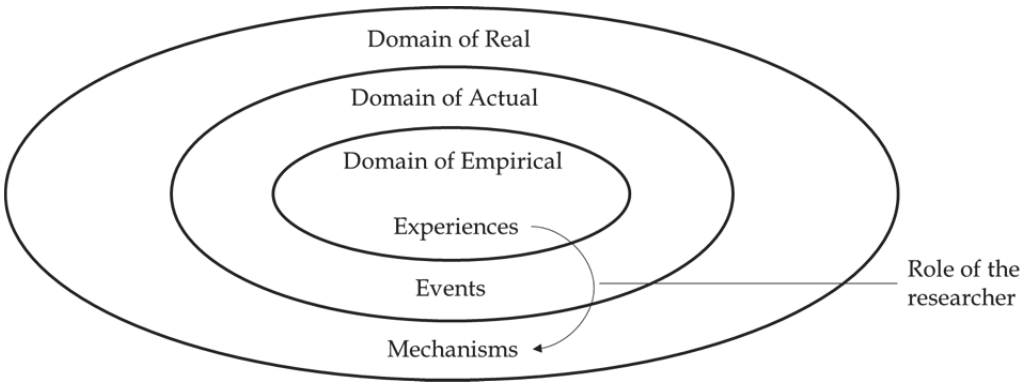

Figure 2. The stratified ontology of the critical realist.

The diversity of the experiences influences the approach taken on the studied constructs. If the experiences are highly divergent, the beginning of the research process is like that of an interpretivist researcher: the description of the events starts with multiple interpretations. This was the case for studying the categorization of carsharing. There is no real categorical order of things. In addition to the cognitive mechanisms working on people's minds, categorization

is a social process that is prone to whims, hype, and political interests (Durand et al. 2017). Therefore, when studying categorization, I have carefully paid attention and remained faithful to the meanings that the different actors have attached to the category at different times. However, unlike an interpretivist, the work of a critical realist continues by aiming to reveal the events that have actually happened: how and why the actors have changed their categorization efforts. Finally, from these events, I tried to find out the most plausible explanation for the changes in these positions to understand the mechanisms that led to the events.

On the other hand, if the experiences of the constructs converge, the beginning of the research process is like that of a positivist researcher: the experiences and events are more or less the same thing. This was the case with carsharing business models. Most features of the business models are not open to interpretation. For example, it is unlikely that there are many interpretations of the pricing mechanisms of the carsharing actors. Therefore, the descriptions of the business model changes were taken at face value, regardless of the data source. However, moving from the events to the mechanisms was epistemologically more complex. Understanding, why business model changes took place required me to be wary of who had the power to make the changes. It was further important to consider the possibility that the actions of the individuals might have been guided by institutional structures, of which the actors themselves might not even have been aware. Therefore, I could not even take the descriptions of the people who had the power to make changes at face value; here, it was necessary to look at the wider picture.

The chosen research approach of doing a longitudinal study based on a single context is well aligned with the philosophical position of critical realism (Wynn & Williams 2012). Different experiences of the same phenomenon help in deriving the causal mechanisms that cannot be observed directly. The contrasts and corroborations of multiple data sources that represent different viewpoints allow the researcher to go beyond the individual experiences and see the bigger picture.

4.3 Data and data collection

Table 3 describes the data collected for the current dissertation. I used many of the data sources for several essays. However, the text excerpts that were analyzed hardly overlapped because what was looked for in the data varied so much between the essays. For example, the press releases of the carsharing actors were examined for changes in business models for essay number two and for symbolic categorization cues (e.g., what the service was called and what it was compared to) for article number three.

Table 3. The data sources used for the dissertation.

Data Source	Amount of Data	Used for Essays
Interviews	14 interviews (7 from station-based organizations, 2 from BCS, 2 from DriveNow, 3 from industry consultants who used to work for free-floating organizations)	2 and 3
Media data	67 articles from der Spiegel and Spiegel Online from 1990–2015. 124 articles from die Zeit from 1994–2015.	2 and 3
Press releases	409 articles from 2001–2015 (118 for car2go, 93 for DriveNow, 50 for BCS, 72 for cambio, 76 for stadtmobil)	2 and 3
Studies on German carsharing	6 different studies (Byzio et al. 2002, Johnsen 2007, Loose et al. 2004, Loose 2010, Schreier, Becker & Heller 2015, Traue 2001)	2
Histories and books on carsharing	25 Jahre Carsharing (Loose 2014a), Dissertation by Petersen (1995), Dissertation by Huwer (Huwer 2002), Histories on cambio's and Stadtmobil's websites	2 and 3
Business model database of German carsharing operators	A database of 100 operators with rich information, including the basic value proposition, pricing model, ownership structure, partners, area of operations, number of cars, and membership in Bundesverband CarSharing	1 and 2

The data collection started with a round of interviews in the spring of 2015. The interviews were collected using the snowball method (Heckathorn 2011), which means that the interviewed people were asked about further key people to interview. Some of the interviewees were also found later from the archival sources, as they were identified as focal people in the development of the German carsharing industry. The interviews had a key role in essays 2 and 3. They provided information behind the reasons for business model changes in different times, chosen categorization strategies, and how the social movement actors experienced the coming of the free-floaters. Therefore, the interviews were focal in changing the event histories of business model changes and categorization exercises into causal narratives.

The interviews were semi-structured, meaning that an interview guide, including list of themes and questions, were sent to the interviewees beforehand, but during the interviews, I asked further questions on the themes that seemed important. An example of an interview guide is presented in Appendix 1. The interview guide questions for the most part were the same for all the interviews, including high-level questions about the business models, historical development, and the companies' position in the market (partners and competitors). However, I also added some questions that I knew that the interviewed person was especially capable of answering. For example, in the interview guide in Appendix 1, there is a question comparing free-floating carsharing and

station-based carsharing as a business activity. I gave this question only to stadtmobil because it was one of the few companies using both business models.

The collection of archival data began by looking for media articles on carsharing. The media outlets identified as key sources for this dissertation were the weekly German newspapers *die Zeit* and *der Spiegel*. These two outlets have been chosen as "Leitmedium" in Germany at different times (Westhoff & Große 2003, Pfanner 2011, Weischenberg, Malik & Scholl 2006). "Leitmedium" is a media outlet that journalists use for sifting through relevant and actual information. Therefore, these two outlets represent a fairly good proxy of the German media field. *Die Zeit* and *der Spiegel* also publish a high diversity of articles, ranging from short stories on focal events to thorough articles on trendy topics and themes that can be expected to be big in the future. Therefore, they are a useful source for studying carsharing's history because the reporting of the papers starts very early when the service is just emerging. Furthermore, the papers demonstrate the change in the reporting as carsharing services became more mainstreamed and then started to be covered in a more business-as-usual manner.

The articles chosen as data were mainly found by using the newspapers' own categorization system. Both *der Spiegel* and *die Zeit* sort their articles under themes, and both had a theme for carsharing. However, I did not blindly trust the categorization system, but rather, I searched for and found complementary articles with different variants of the word carsharing and with names of early station-based and free-floating carsharing companies.[8]

The newspaper archive data were especially important for the third essay. The press contributes significantly to creating new categories because it is a major influencer for legitimacy (Schultz, Marin & Boal 2014) and affects the perceptions of which organizations compete in same markets (Kennedy 2008). Media is therefore a critical actor within the formation of new categories, and it is hard to understand a category's emergence without the media. The press also affects what is perceived as the prototype of a category by regulating the amount of coverage given to different kinds of actors. The media data also had a supportive role for the second article. It especially gave valuable information on the early business models because few other data sources reached the time when the first carsharing organizations emerged.

Another important archival data source was the press releases of the market actors. They came from five different organizations: free-floaters DriveNow and car2go, station-based organizations stadtmobil and cambio, and the carsharing umbrella organization BCS. These actors were identified as focal for the development of the carsharing industry. DriveNow and car2go together control about 90% of the free-floating cars in Germany (Bundesverband Carsharing 2016, car2go 2016, DriveNow 2016). Cambio and stadtmobil together control about 40% of the station-based carsharing market, and according to key inform-

[8] For a more careful analysis of the keywords, see the data collection section of the third article.

ants, they were the first to conduct the major business model changes in the market.

The press releases worked as important information sources for both the second and third article. The business model changes of the carsharing market were derived from the press releases and put into a 100-page word file. This worked as the descriptive event history describing the business model changes that were explained in the second article. For the third article, the press releases were an important source of information for understanding the strategic categorization efforts of the carsharing actors because they have been found to be important tools for this purpose (Kennedy 2008). Furthermore, they gave hints on the corporate co-optation of the category, indicating which features and values the corporations adopted from the social movement and which they did not.

In addition to press releases and newspaper articles, studies and books on carsharing were collected as data. Books were an important source of information on business model development and how carsharing had been categorized in different times; they provided information on the business model development for the whole carsharing field and that of individual organizations. They also provided information on why some business model changes had been conducted. In addition to the press data, the books were especially important in understanding the early development of the carsharing field. For the carsharing categorization, the books provided information on how different actors had drawn the boundaries of carsharing in different times and what the relation was of carsharing to proximate categories such as car rental or public transportation.

The studies on German carsharing corroborated with the findings concerning the business models, here providing snapshots of the carsharing industry at different points in time. They often described the focal organizations in the market, as well as how they conducted business at the time when the study was conducted; these studies provided information for the second article. They were not quite as useful for categorization purposes because they were mainly written by outside observers, not by focal actors of the industry.

Finally, in addition to the interviews and the archival data, a database was constructed, describing the business models of all German operators with a web page. The database was collected in the spring of 2016, and it contains a snapshot of the business model of all, save for the very small, carsharing providers. The data were collected from the web pages of the carsharing companies. The database was collected primarily as data for the first article: extensive data on the carsharing business models enabled a description of all the business models present in the industry and an analyzing of their relative success. The database also worked as corroborating evidence for the second article: the business model development event histories used as primary data were based on a few focal organizations, but the article aimed for describing the business model development of the whole carsharing industry. Thus, this produced a comprehensive picture of the whole industry to the present time, ensuring that I did not neglect

any of the focal organizations that had very different business models and hence should have been analyzed in the article.

4.4 Data analysis

The used data and analysis methods are summarized in Table 4. In the following sections I will go through the data analysis process. I explain the analysis of the first article separately from the other two because its goal is different. The goal of the first article is to explain on the high-level the why there are many business models in the market, but not to examine, how it has ended up that way. Therefore, it leans on quantitative analysis based on data that creates a snapshot of the current business models. The second and the third article, on the other hand, focused on a causal explanation of what had led to the formation of the carsharing industry. Therefore, in these articles, I used longitudinal qualitative methods that use multiple data sources.

Table 4. The data and analysis methods used for different articles.

Article #	**Main research question**	**Used data**	**Analysis methods**
1	*Why do many business models co-exist in the German carsharing market?*	A database containing the business models of all German carsharing companies	Quantitative – Simple numeric descriptors, ANOVA tests
2	*Why do many business models co-exist in the German carsharing market?*	A qualitative dataset, including interviews, newspaper articles, books, studies, and press releases	Qualitative – Chronological event histories analyzed with a process data
3	*How have free-floating services co-opted the carsharing category?*	A qualitative dataset, including interviews, newspaper articles, and press releases	Qualitative – Comparison of organizational labeling narratives

4.4.1 The quantitative analysis for the first article.

My co-authors and I had noticed the co-existence of different business models in the market, but we did not know whether this was a permanent state of affairs or whether it could be expected that some models would supersede each other in the long run. Therefore, we wanted to understand if there were major differences in the rate of success of the different models and whether it could be observed that some of the models would be leaving the market. If some models

would turn out to be very unsuccessful and the number of some actors coud be observed to decrease over time, this could predict that a dominant design of a certain business model is emerging, one that supersedes all the other models. Furthermore, we were interested in whether there are first mover advantages in carsharing to understand whether it is expected that there will be many more operators in the market.

An analysis of variance (ANOVA) was used to test the success of the business models by using two proxies: the absolute number of cars and relative number of cars compared to the number of inhabitants of the cities where the organizations operated. Traditional success measures, such as the revenue and profit margin of the companies, were unfortunately not available. However, the used variables showed to be a good estimation of success. Cars are the sole source of revenue for the carsharing companies; therefore, their number estimates the revenue well. As for the relative proxy, it measures the diffusion of the carsharing business model within the environment where it operates.

Additionally, the number of cars was compared with company age by making the plot of the relationship and estimating the correlation with a regression analysis. The plotting enabled the estimation of whether or not it seems a business model is going out of the market. Estimating the correlation between the company age and number of cars provided information of the first mover advantage: if the two correlate significantly, it can be expected that the early movers come to control the market.

4.4.2 The qualitative analysis for the second and third article

Overall, the data analysis of the second and third article followed the same abductive logic that I followed throughout the dissertation. I did not plan the analysis process beforehand, but rather, it emerged along with data collection and theory creation. The themes and viewpoints for the articles emerged from the data, and the simultaneous reading of the theory guided the analysis. This made the analysis multi-phased because often, the previous phase of analysis led to the next phase of analysis. Here, I present some of the overall principles of the methodology and show more of the process leading to the choice of the specific methods used in each article. However, I will not go into great detail on the analysis processes because they are presented in the articles themselves.

The coding for the second and third article was done simultaneously. Early in the analysis process, I noticed that the categorization of carsharing actors and descriptions of the business model are themes that are visible in the data throughout the observed time period. This led me to familiarize myself with the respective literature to obtain cues on how the data could be coded. Without these cues, approaching the data would have been very difficult. This kind of a "technical literature" helping match the phenomenon with existing literature is typical for an abductive research approach (Dubois & Gadde 2002).

For the second article and business models, the sheer volume of the data would have been very difficult to manage without the help of theory. The coded quotations describing the business models of the carsharing companies cre-

ated a pdf file of some 900 pages. Describing them plainly as business model changes would make it very difficult to see the forest for the trees. Here, theory provided business model frameworks (e.g. Bohnsack et al. 2014, Chesbrough & Rosenbloom 2002) that helped in categorizing the data under generic headlines common to all for-profit companies. For example, all companies must have a value proposition, that is, something valuable offered to a group of customers, and some sort of a value capture mechanism, that is, how this value is turned into profit. These generic headlines were then populated with the specifics of the carsharing business that emerged from the data.

For the categories, theory played a key role in helping to understand how categorization processes work. For example, an important categorization exercise for a company is the label it uses for its service (Granqvist et al. 2013): whether it is called a carsharing company, a mobility concept, or a car rental firm. However, this might be hard to spot from the data without reading the theory because the companies do not emphasize their labels but instead use them casually. Therefore, theory helped in understanding what to pay attention to. In addition to the labeling strategies, theory guided my attention to observing whom the carsharing organizations described as their competitors because this could indicate belonging to the same market category (Porac, Thomas & Baden - Fuller 1989). However, not all cues of categorization came from the theory: some emerged from the data. For example, sometimes, the carsharing actors compared their services to another category such as car rental, taxi, or mobile phone descriptions. This indicated that the category was seen to have something simila or something different (a salient feature or a goal) from another category.

Besides coding the business model changes and categorization cues, I also coded who made the different statements. This created another dimension to the coding that was independent of the aforementioned codings. The direct quotations were coded with the name of the person making the statement. The people were further grouped into reference groups as similar kinds of people were discovered in the text. Sometimes, these people represented a specific organization (e.g., Daimler or cambio), and sometimes, they represented a stakeholder group (e.g., city officials). For the text inserts that were not direct quotations, the statements were assumed to represent the view of the organization that had published the document the insert was in (e.g., press releases of car2go were assumed to represent the view of that organization).

Who made the statement did not have a significant role in the second article concerning business model changes because most of the time, the data on the business models described facts with little room for interpretation (e.g., a company formed a new partnership or added certain types of cars to the fleet). Therefore, it did not matter if the business model changes were described in the organization's own press releases, in books on carsharing, or in the media. Different kinds of data sources only were important for the business model changes only with respect to data triangulation. Different audiences watching the development of the business models from different viewpoints made the findings

more robust. If some new findings did not corroborate with the earlier discoveries, they could be questioned and examined anew.

For the third article on corporate co-optation of the category, it was very important to pay attention to who made the statements. The categorization of different audiences differed substantially. This was illustrated, for example, by the fact that the media articles published according to a press release by a carsharing organization labeled the organization differently than the organization did itself (e.g., car2go called itself a mobility concept, and the media called it a carsharing service). In addition, from direct quotations across the data sources, some stakeholder groups arose that clearly had their own categorization schemes. Therefore, there was a contestation of the meaning of the carsharing category, and the dynamics of what kind of categorization prevailed in the end revealed the power positions and interests of the different actors. Indeed, the whole argument of the free-floaters co-opting the category arises from the fact that the categorization of different actors converges and that free-floating becomes the prototype of carsharing.

Once the coding of the material had been finished, I started to look for mechanisms that would answer the research questions. What has led to the situation where there are several carsharing business models in the German market (Article 2), and how and why has the categorization of different actors changed? I searched for the mechanisms in an abductive way using the technique of matching introduced by Dubois and Gadde (2002). Matching means going back and forth between data collection, data analysis, and the emerging theory to make sure that the theory is grounded in the data. The emerging theory raises questions that cannot be answered with existing data; therefore, additional data must be collected. Sometimes, the questions can be found from the existing data, but a new analysis must be done to systematically test if the data supports the emerging theory. A good example of this kind of process is the search for an explanation of the co-existence of business models in the German carsharing market for Article 2. First, I looked for this explanation from an organizational level by analyzing how individual organizations make the decisions to change the business model. However, as the analysis process progressed, a theory started to emerge that there are institutional forces working across organizations that inhibit certain business model development trajectories. This theory required collecting new data to corroborate the findings and find the roots of the institutional forces.

Besides matching, I used process analysis tools to analyze the data. The business model event histories and categorical cues were searched for to find changes in time and development, and then, the reasons for these changes were sought after from the collected data. Following Langley (1999), a descriptive narrative of how the business model changes and the categorization of different audiences was written as a basis for further analysis. This narrative helped me in understanding the key changes that should be explained in the articles. Writing the narratives also helped in conceiving what had not changed. This was critical for the emerging explanation. For example, in the business model article,

the same institutional forces that empowered change in some trajectories inhibited it in others.

4.5 Validity and generalizability of the study

In my dissertation, I use the measures of validity for realist qualitative studies compiled by Maxwell (1992). These measures are particularly suitable for the current dissertation because it mainly uses qualitative analysis, and the dissertation is conducted from a critical realist philosophical perspective. The validity measures described by Maxwell are descriptive validity, interpretive validity, theoretical validity, generalizability, and evaluative validity.

Table 5. The measures of validity of the critical realist (Maxwell 1992).

Measure of validity	**Description of the measure**	**How the measure of validity is applied in this research**
Descriptive validity	Factual accuracy of the account. Misremembering things in an interview.	Recording and transcribing the interviews, checking the translations with native speakers and the quoted people.
Interpretive validity	Whether the description produced by the researcher respects the perspectives and interpretations of the research subjects.	Using primarily archival data, triangulating across data, and basing findings on multiple observations.
Theoretical validity	Whether the theoretical concepts (*construct validity*) and explanation (*causal validity*) constructed by the researcher align with reality.	*Construct validity:* Choosing the theories based on observations. *Causal validity:* Looking for non-corroborative evidence and alternative explanations. Having multiple investigators and discussing different alternative explanations.
Generalizability	The extent that the account can be generalized within a group (internal generalizability) and further to another population (external generalizability).	*Internal validity:* Not generalizing across people or organizations unless it was clearly supported by the data, purposeful sampling and using holistic data (books and studies) to understand the bigger picture. *External validity:* Not actually a validity measure.
Evaluative validity	The moral judgement of events.	Moral judgements not made within the articles.

4.5.1 Descriptive validity

Descriptive validity refers to whether the gathered data are accurate before any interpretations of it are made. Even though all data were interpreted through

the cognitive filters of the examiner, descriptive validity refers to issues that are unlikely to create disagreement among the examiners. For example, it is unlikely that two researchers would disagree what a person on a clear transcript says. Interviews pose the main threat to the descriptive validity because they are unique events where the interviewer and the interviewee construct data. I have addressed this threat by recording all the interviews and having a transcription made of them. Therefore, there is no threat of misremembering the accounts. With archival data or data gathered from the web page, descriptive validity poses little in the way of a threat because the data have been gathered as is.

Another threat to the descriptive validity is the fact that the quotations used in the articles were translated from German to English. This poses the threat that some of the cultural-embedded meanings could have been misinterpreted in the translation. This threat has been mitigated by asking native speakers to check the translations. Also, with respect to the interviews, final published quotations were presented to the research subjects before publishing them.

4.5.2 Interpretive validity

Interpretive validity refers to whether the description of the events produced by the researcher respects the interpretation of those who are researched. Two measures were taken to address the threats to interpretive validity. First, the dissertation is mainly based on archival data, not interview data. Interview data runs the risk of the researcher guiding the interview in a certain direction. Additionally, interviews are prone to post-hoc rationalization and impression management (Eisenhardt & Graebner 2007). Therefore, interviewees reflecting on past events might not respect their own perceptions at the time. Second, the key interpretations were triangulated among many quotes of a single interviewee, organization, or group. Therefore, they were based on strong signals, not on something an individual informant said in passing in an interview.

4.5.3 Theoretical validity

The theoretical validity refers to whether the theoretical explanation that the researcher constructs corresponds with reality. The theoretical validity can further be divided into two components: construct validity, referring to the validity of the theoretical constructs (e.g., business model or social movement), and causal validity, referring to the causal explanations created (e.g., institutional logics inhibit imitation of business models or the media's categorization efforts initiating co-optation of the carsharing category).

The construct validity was fostered by a phenomenon-driven approach. The used constructs were not chosen beforehand, but the theory selection was based on the initial data analysis, where I searched recurring patterns in the data, guiding me to study issues that were relevant for the studied phenomenon. The simultaneous reading of the theory helped me to connect these patterns with the existing body of knowledge. As is typical for abductive research,

the research process then was characterized by constant matching of theory and reality (Dubois & Gadde 2002). Therefore, the constructs that I used were based on observations that were first done by checking the data.

Choosing the constructs was not a smooth process, and many theoretical conceptualizations were considered before ending up with the chosen business models and market categories. For example, early in the research process, I immersed myself quite extensively into the literature on sustainability transitions (for a review, see Markard, Raven & Truffer 2012). However, the constructs of this literature would have led me to present carsharing as a protected niche that is potentially changing the car manufacturing regime. This would have required extensive research on carsharing's relationship to car manufacturing; therefore, the constructs did not fit with the available data. Even after choosing the constructs, their exact meaning changed over the research process, which sometimes required reanalysis and rewriting work. For example, originally in Article 2, the business model construct referred to the business model of individual companies. Later, the construct was used to describe a generic way of doing business in the whole carsharing market. This required further analysis of the business models of different actors in the field and a complete rewriting of the article.

The main measures to guard the causal validity were questioning the emerging theory and searching for alternative explanations. In this process, the fact that all articles had multiple writers was critical. When I was the primary analyst, my co-authors helped in testing the emerging theory in two ways. First, I asked my co-authors to read contextual data, such as books and studies, so that even though they did not analyze all the data, they could play devil's advocate and doubt my findings. Together with my co-authors, I also checked for curious actors or time periods that might lay the seeds of doubt on our initial findings.

Second, the co-authors played a key role in presenting potential alternative explanations to the findings. Together, we then tried to explain the findings in light of the alternative theory and sometimes re-checked the evidence or collected more to see whether there was more support for the theory. We, for example, extensively tested for the second article whether the station-based and the free-floating actors had a different institutional logic guiding the business model development. Although the initial findings indicated that the station-based actors were strongly guided by a collective pro-environmental mission, it might have been just impression management to attract green consumers. However, as we studied the issue, we found extensive evidence of instances where station-based actors were ready to accept lower growth rates or lower profit margins to support their mission. This supported the theory that this was a logic driving the business rather than just a part of the business strategy.

In the first article, where I was not the primary analyst, I adopted the role of devil's advocate. I checked for alternative explanations for the findings that my co-authors made. I was well equipped to do the job because even though I

was not the expert of the primary data used for the study, I knew the context so well that I could easily think of many relevant explanations for the findings.

4.5.4 Generalizability

The generalizability of the study can be divided into two parts: internal generalizability, meaning the generalizability from individual observations to larger groups, and external generalizability, meaning the generalizability from the study to a larger context. Of these, the former poses a threat to the validity of the study; although I study individual organizations in the German carsharing market, I claim that my observations are generalizable to larger patterns in the whole industry: the possible ways of doing business (business model) and the meaning of the generic label used in the market (market category).

The external generalizability is not part of the validity of the study. The findings of qualitative studies are not even intended to be generalized from a sample to a population as in quantitative studies but rather to theoretical discussions. However, in this introductory chapter, I do contemplate the relevance of my findings in other sharing economy sectors. This theme has already been considered in Section 2.2: the relevance for other sectors is contemplated for each finding separately.

I took three measures to ensure the internal generalizability remained intact. First, the person or organization (when information of the person was not available) making each statement was carried along the coding. Therefore, I noted that the views represented only the party making a certain statement. I did not assume that these statements represented any wider group or organization unless it was clear from the data (e.g., a person commenting as the CEO of car2go was assumed to represent the organization), was explicitly stated by different parties (e.g., BCS is the central body protecting the political interests of the station-based carsharers), or was clearly supported by the data (e.g., all the station-based organization representatives stated that the service exists to replace car ownership). Larger patterns were only then created when they emerged from the data.

Second, because I could not study all the relevant stakeholders of the German carsharing industry, I resorted to purposeful sampling. I chose to interview and more carefully study organizations that have had a major influence on the development of the carsharing industry. In achieving this, it really helped that I had key informants within BCS, whose purpose was to work as the mouthpiece of the German carsharing industry. I cooperated with this organization and asked for the people who should be interviewed and organizations that should be studied. Later, the business model database of all the carsharing organizations was collected and corroborated with my choices on the studied organizations. This is illustrated, for example, by the fact that the organizations whose archival data were examined and were interviewed represented more than 90% of the carsharing cars in Germany.

Third, in addition to the data focusing on specific organizations (such as interviews and press releases), I also had data that looked at the carsharing in-

dustry more widely, creating snapshots of it in different times (such as books and studies from different times). I triangulated the created event histories with these data to make sure that there were not any major events (e.g., discontinued business model experiments or political struggles within the social movement) that I might have missed. These data did not offer any clearly deviant evidence compared with the observations made from the organization-specific event histories, but it elaborated on the findings and put them in context.

4.5.5 Evaluative validity

The final validity measure is evaluative validity, which refers to whether the moral judgments made in the work are justified. This measure of validity is largely not applicable for the current study. Even though moral judgements influenced the personal motivation to start studying carsharing (the potential to transform the transportation system to be more sustainable), they did not influence the research process itself. Additionally, because no policy suggestions are directly given in the articles of this dissertation, I did not have to take a stand on moral aspects connected to carsharing policy (e.g., if companies be allowed to own public parking spaces).

4.5.6 A note on reliability

This part of the dissertation would in most cases be labeled as validity and reliability; therefore, I will take a special stand on reliability, even though I have not used it as a measure of academic rigor. The reliability of the study is a term stemming from the positivist tradition (Golafshani 2003). The reliability of a study refers to whether another researcher would end up with the same conclusions using the same methodological procedures as those used in the study (Yin 2014). However, this stands in direct contradiction to the epistemological assumptions of the critical realist position. Critical realism assumes that all studied contexts are open systems and that the real mechanisms behind the events are hidden; multiple explanations, therefore, can be derived from the same phenomenon (Wynn & Williams 2012). Reliability is also problematic for abductive reasoning because the choice of the theoretical viewpoints is done in parallel with the data analysis. Therefore, another researcher might choose different viewpoints which to analyze the same phenomenon using the same data and hence end up with different conclusions.

This is not to say that analytical rigor is irrelevant in the critical realist paradigm; it is just defined differently than in the positivist tradition. The rigor in critical realism stems from how well the created explanation describes the observed events and the underlying mechanisms (Maxwell 1992). Not all explanations are equally good in describing the studied phenomenon. Therefore, rigorous critical realist research compares different explanations and chooses the one that most accurately explains the studied phenomenon. This is what has been aimed for by guarding the aforementioned measurements of validity.

5 SUMMARIES OF THE ARTICLES

This chapter includes the summaries of the articles. For each article, this chapter presents the main research question the article answers, the used data and analysis, the main findings, and the main contribution to the literature. All articles were co-authored. My contribution for each article is presented in Appendix 2.

5.1 Article 1: Carsharing Business Models in Germany: Characteristics, Success, and Future Prospects

The first article answers the following research question: *Why do many business models co-exist in the German carsharing market?* To answer this question, we quantitatively analyze a database containing the information on all German carsharing actors that have a web page. We find out that there are four generic business models in the German carsharing market: cooperative, business-to-consumer roundtrip, business-to-consumer one-way, and peer-to-peer. We lean on an earlier conceptualization of carsharing companies but also provide further confirmation for its meaningfulness through a quantitative analysis: each of the business models differs from each other statistically significantly, as measured by the number of shared cars. The cars are the sole source of revenue and hence the "machinery" of the carsharing companies. Therefore, choosing one of the business model types will lead an actor to end up with a fleet of certain size, which influences other aspects of the business model.

We further discover that the success of the different business models as measured by cars per capita does not differ statistically significantly. Therefore, we conclude that the different carsharing actors are doing well in the environments in which they operate. Apart from the peer-to-peer model, which seems to succeed in various kinds of environments, the business models focus on cities of different sizes: cooperatives in small towns, business-to-consumer roundtrip companies in mid-sized cities, and business-to-consumer one-way companies in large cities. We also look at the entry patterns of distinct kinds of carsharing

actors. Co-operatives and business-to-business roundtrip companies have emerged throughout the history of German carsharing, whereas peer-to-peer and B2C one-way companies mainly emerged 5–8 years ago.

Our findings partially explain why there are many business models in the carsharing market: currently, none of the models can dominate over the others because they succeed in different geographical areas. However, in the future, this might change because of a major technological disruption that could substantially affect the cost structure or value proposition of some actor and allow it to push into the space of another.[9] We conclude that the theory of dominant design in its simple form might not hold in German carsharing because without a technological disruption, the different carsharing business models are likely to continue their co-existence. Furthermore, we comment on the commonly stated claim that sharing economy markets will lead to natural monopolies because network effects will lead to a domination of single players. Indicatively, this does not seem to be true in the carsharing market. We argue that this is because the network effects of the carsharing companies are bounded at a city level.

5.2 Article 2: The Effect of Institutional Logics on Business Model Development in the Sharing Economy: The Case of German Carsharing Services

The main research question of the second article is the same as that of the first one: *Why do many business models co-exist in the German carsharing market?* Unlike the former article, this one focuses on the development of the business models longitudinally. The article describes the forces that have influenced the development of the two main business models that are present in the German market (the station-based and the free-floating model) and demonstrates how these forces keep the developmental trajectories from converging. We use longitudinal qualitative data that consist of archival data and interviews and analyze the business model development starting from the founding of the first professional carsharing organization in 1988 to the industry in 2015. Compared with the previous essay, we explain the development of all the business models, except the peer-to-peer model, which is scoped out of the study because of its short history and the consequent lack of data.[10]

We discover that the station-based business model and the free-floating business model have developed in distinct trajectories, and their development is driven by different kinds of actors: the development of the free-floating business model is driven by the corporation spin-off companies, and the develop-

[9] There is a more careful contemplation of the foreseeable technological developments in the full article.

[10] In the second and third article, the station-based model includes both the cooperatives and business-to-consumer roundtrip operators of the previous article. This is because institutionally and categorically, they belong to the same block of actors. They work according to the same institutional logic, and both are labeled as station-based operators in Germany.

ment of the station-based business model is driven by small environmentally minded actors. Neither actor has directly copied the other actor's business model. The free-floating companies have piloted a station-based model but have been unsuccessful and hence have discontinued these pilots ventures. Some station-based companies have a created a free-floating business model, but it is different from the one used by the corporate spin-offs and always used in parallel with the station-based model.

The most plausible explanation for the separation of the business model trajectories stems from the different institutional logics driving the actors. Because both kinds of business models are primarily driven by for-profit actors, they are committed to a market logic; they need to focus on profitability to survive. However, the station-based actors are also committed to a community logic that is based on a pro-environmental mission of reducing private car ownership and usage. Therefore, they cannot directly copy the free-floating business model because they are skeptical of its environmental effects. The free-floating companies, on the other hand, are committed to the corporation logic inherited from their parent companies. This means that they need to adhere to rapid growth targets and cannot use any business model that does not support this goal. The slow growth pace is inherent to the station-based model, and thus, it cannot be imitated by the free-floating actors.

We contribute to the theory by presenting institutional logics as a possible inhibitor of business model imitation. As presented in Section 3.1.1, business models are usually assumed to be easily imitable, and the possible reasons inhibiting the imitations are attributed to the business model itself. Unlike the reasons formerly suggested in the literature, institutional logics work in the organizational field level. For example, the carsharing organizations that are committed to the corporation institutional logic find it difficult to imitate the station-based business model because of its innate slow growth. Therefore, we also suggest that sometimes cognitive barriers (see Section 3.1.1) for business model innovation work on the organizational field level and not on the organizational level, as suggested by former theory. Some managerial mental models might not stem from the organization itself but rather from a wider field level of institutional logic. On the level of a single organization, these models work in a comparable manner to any mental model directing innovation on areas that are familiar to the managers. However, on the market level, they create opportunities for organizations that are committed to different institutional logics.

The findings of the second article elaborate on the answer to the main research question of the first two articles. The free-floating business model only works on the largest cities because the population density must be very high to create enough utilization for the cars. The free-floating companies are "locked" to their business model because of their commitment to the corporation institutional logic; therefore, they are concentrated only within the biggest cities. The station-based model, on the other hand, is much more flexible in terms of in which kind of areas it can be operated within profitably. Therefore, the for-profit station-based companies operate also in mid-sized cities. In rural areas

and small towns, it is harder to operate the station-based business model with a for-profit model. These areas are therefore mainly covered by cooperatives, which operate the station-based model with a voluntary workforce. Therefore, the plurality of the business models partially stems from the carsharing business itself and partially from the institutional plurality present in the market.

5.3 Article 3: Riding the Hype Train: The Corporate Co-optation Process in the German Carsharing Market

The third article answers the following research question: *Why have the free-floating services been categorized as carsharing in Germany?* Primarily, we use three archival data batches representing different actors of roughly equal size of 200 articles: the press releases of the free-floaters (the corporations) and the station-based actors (the social movement) and articles from German newspapers (the media). Additionally, we use interviews to make sense of the observations made from archival data and books on carsharing that put the findings in context. The data are analyzed longitudinally to chart the changes of the boundaries of the carsharing category.

We present the change of categorization as a process of corporate co-optation because this is the result of the change of categorical boundaries. As a result of our analysis, we create a four-stage process model that clarifies the roles of the social movement, the corporations, and the media. In the first stage, the social movement creates the category based on its mission (in our case, reducing car ownership) and distinguishes it from other categories. At this stage, the media mainly reports on the social movement and speculates who could be interested in the service. In the second stage, as an attempt to push to the mainstream, the social movement changes its categorization strategy and starts to emphasize the practicality aspects of the service (carsharing as a practical and economical option for the private car). As for the social movement, the media picks up the story line and resonates the practicality, thus supporting the mainstreaming efforts. In the third stage, triggered by the macro-cultural trends driving the growth of the social movement, the corporations enter the market using their own categories. The social movement tries to protect the boundaries of the category from the newcomers that the companies do not perceive are aligned with the mission of the movement. However, the media starts pushing the corporations into the social movement created category. The media attempts to explain the macro-cultural phenomena and the corporations entering the new market, diluting the categorical boundaries that are seemingly unimportant from audiences outside the industry. In the fourth stage, as the media keeps pushing new entrants to the category, both the corporations and the social movement accept the categorization. The corporations co-opt the category by selectively acquiring its symbols and by becoming its prototype because the media covers the corporations more than the social movement. The social

movement returns to its roots in categorization and starts again to emphasize its mission.

Our contribution to the literature on the co-optation of social movements is two-fold. First, we show that the social movement itself sows the seeds of the corporate co-optation of the category created by it. Originally, a focal part of the carsharing category was users giving up their private cars for environmental reasons (this was even required in the beginning). By pushing its mission to the back in the categorization efforts and by bringing forth the practicality and affordability of carsharing, the social movement created a prototype of the category that did not involve compromises from the users. Thus, co-opting the category was fairly easy for the car manufacturing corporations coming into the market because it did not directly promote giving up car ownership but rather allowed advertising the service to people who did not want to own a car anyway. On the other hand, the media no longer perceived the mission of the social movement as an inseparable part of the category, and thus, it was easy to push new actors promising a similar value proposition to the category.

Second, we show that the co-optation was initiated by the categorization efforts of the media, not the corporations, as is usually assumed in the literature. The corporation spin-off companies first opposed being categorized as carsharing. The media, on the other hand, started pushing the spin-offs into this category while reporting on the corporations entering the carsharing market and the trends leading to it, such as young metropolitans not being interested in owning a car; the media bundled seemingly similar services together. Although, the media sometimes did bring forth the differing perceptions of the meaning of the category, it labeled all new services, providing temporary access to a car consistently as carsharing despite their business model resembling, for example, car rental. From this finding, we conclude that during a categorical hype, the media is prone to push different kinds of actors into the hyped category because it has an interest to emphasize the novelty of the category to capture the interest of its readers. This also answers to the main research question of the article: free-floaters ended up in the carsharing category because of the categorization efforts of the media, which the producers were powerless to change.

We contribute to the discussion on the sharing economy by charting more carefully what the media hype does to it and the ways the social movement initiated categories can be co-opted. The co-optation process presented in the article is possible in other sharing economy sectors as well because many sharing economy sectors have been founded by social movement organizations. In light of the findings, it seems that the media is likely to support the corporatization of the sharing economy because this pushes new actors into the sharing categories without considering whether or not the newcomers share the values of the actors that founded the category. This supports the prediction of Martin (2016): the sharing economy will become increasingly corporatized and presented mainly as a business opportunity.

Additionally, the media's hype might support sharing economy companies in their efforts to avoid the stricter regulation of the more established busi-

nesses (e.g., hotel, taxi, or car rental business). The media emphasizes the novelty value of the companies and is therefore unlikely to categorize them under the more established labels. Therefore, it is likely to validate categorization efforts, sorting actors into new categories. An example of this kind of categorization is Uber, which has not categorized itself as a taxi or even transportation firm but rather as a "communication platform" (Cannon & Summers 2014), probably as an attempt to avoid the regulation of the taxi industry.

6 CONCLUSION

In my dissertation, I have worked to achieve the following research task: *to understand how the carsharing industry in Germany has emerged and developed*. In the articles of this dissertation, I have further examined the following two research questions, which were discovered using abductive reasoning: 1) *why do many business models co-exist in the German carsharing market,* and 2) *why have free-floating services been categorized as carsharing in Germany?* The intention of the research questions has not been to find conclusive answers to the research task but rather to create early theories on the sharing economy and thus contribute to the discussion on the phenomenon. This chapter is structured so that each research question is discussed individually, including a summary of the findings, scientific contribution, and topics for further research. This is followed by the discussion based on the conclusions drawn from all the articles of the dissertation.

6.1 Discussion of the first research question

Regarding the first research question, the plurality of the carsharing business models stems partially from the economic viability of the business models themselves and partially from the institutional forces guiding the actors. The business models thrive in different environments: free-floating business only thrives in the big cities, whereas the station-based model can thrive in smaller cities. The actors operating the two business models are embedded in different institutional logics. Even though both adhere to market logics and strive for profitability, the free-floating companies are committed to corporate logic and strive for growth and profitability, and station-based companies are committed to community logic, where these factors are instrumental to the environmental mission of the companies. This differing institutional embeddedness inhibits the actors from directly copying each other's business models. Therefore, the various kinds of actors will continue to operate differing business models and

because of the different optimal operating environment, neither will supplant the other in the short run.

With my findings, I contribute to the business model literature by presenting institutional logics as moderating forces to the business model development: the logics empower certain development trajectories and inhibit others. Research on the moderating effect of institutional forces, especially in the sharing economy context, has been called for in business model innovation literature (Foss & Saebi 2017). However, unlike presented in the call (ibid), the institutional forces in the German carsharing market do not stem from the regulatory environment but rather from the actors themselves.

In terms of research on the sharing economy, the institutional plurality is unlikely to be constrained to the German carsharing market because, for example, in home sharing, there are many different kinds of non-profit and for-profit initiatives working side by side (Acquier et al. 2017). This might present a wider transition within the society toward more institutionally pluralistic marketplaces than the current ones that are dominated mainly by corporation and market logic (Ocasio & Radoynovska 2016). For example, comparing carsharing to car manufacturing, the former is institutionally pluralistic, whereas huge corporations that most probably are embedded within corporation and market logics dominate the latter. It is, of course, possible that the institutional pluralism of the sharing economy markets is the temporary dynamics inherent to the early stage of its industry life cycle. However, it is also possible that this is a more permanent change. The sharing economy might lower entry barriers to industries compared with earlier industries based on mass production, creating more room for different kinds of actors. Initial evidence of this is provided by Article 1, which indicates that entry barriers in the station-based carsharing industry have not increased significantly over its 30-year history. Furthermore, community-based initiatives might move part of the exchanges previously coordinated from market mechanisms within communities working within the non-market logic. If the transition toward increased institutional pluralism is indeed more permanent, it could be that some theories on organizational strategy should be accustomed to this change. Arguably, the theory on business models is not the only theory on business strategy, working from the assumption that companies mainly strive for profitability and growth.

When considering the findings of my dissertation concerning institutional plurality, I echo the call of Mair and Reischauer (2017) on more research into the institutional underpinnings of the sharing economy. Especially, I call for more research on the community logic guiding the actors. Community seems to be important for many actors in the sharing economy beyond the German carsharing context: Couchsurfing in home sharing emphasizes community in its communication (Couchsurfing 2017), timebanks in the USA mention community as one of their core values (TimeBanks 2017), and carsharing in Switzerland is organized by a cooperative structure (Mobility carsharing 2017).

The importance of communities would not seem to be restricted only to non-profit or mission-oriented actors: Airbnb calls itself a "a trusted community

marketplace" (Airbnb 2017), Lyft has tried to create community spirit among its drivers (Ocasio & Radoynovska 2016) and Zipcar among its users (Bardhi & Eckhardt 2012). This is curious because studies so far have found that community belonging is not a major factor motivating people to use sharing services as users (Hamari et al. 2016, Möhlmann 2015) or producers (Wilhelms et al. 2017), and in some cases, people can even perceive the attempts for community building as unwanted and embarrassing (Bardhi & Eckhardt 2012).

Future research could, for example, examine to what extent the sharing economy actors are embedded in the community logics and how it affects the services they provide. This could provide valuable information for understanding what are the consequences of the mainstreaming of the sharing economy. It would also be interesting to understand where the interest in communities arises. If the customers are not interested in the community feeling, why do the entrepreneurial actors emphasize it in their marketing? Do they try to appeal to some other stakeholder group, such as the producers or regulators? It would also be interesting to see whether the institutional logics of the producers and the motivations of the consumers match. So far, much of the research on consumer motivation research has focused on entrepreneurial start-ups (Möhlmann 2015, Bardhi & Eckhardt 2012, Parguel et al. 2017) or corporation spin-offs (Möhlmann 2015). It would be interesting to know, for example, whether the customers of the station-based carsharing companies feel that they are part of a community or just customers using a service.

6.2 Discussion of the second research question

Concerning the second research question, free-floaters were categorized as carsharing mainly because of the categorization efforts of the press. Even though all the producers initially resisted the categorization, the press, powered by the hype, categorized seemingly similar services together when explaining the macro-cultural trends driving the mainstreaming of carsharing. Powerless to change the press' categorization, the actors complied with it. This finding is a contribution to the literature on the process of the co-optation of social movement initiated categories because usually, it is assumed that the co-optation is initiated by the strategic categorization efforts of the corporations. We further contribute to this literature by showing that the social movement itself sows the seeds for the co-optation: in an effort to mainstream carsharing services, the social movement pushed its mission back in its communication and emphasized the pragmatic and economic aspects of the service. This indeed helped in getting press coverage for the service, but at the same time, it opened up the category for actors who do not share the mission of the movement.

In light of the findings of Article 3, I argue that in addition to calls for research on conceptualizing the sharing economy (Yonggui et al. 2017) and the real consequences of resource sharing (Mair & Reischauer 2017), more research should be done on the dynamics and politics of the "sharing" label. In addition

to creating real change in many industries, the sharing economy is also hyped full of promises, all of which it is unlikely to deliver. The fact that the sharing economy is vaguely defined with loaded positive connotations incentivizes actors for opportunistic and interest-driven categorization work. However, the dynamics of how the categorization struggles unfold are unpredictable. Even though research has earlier been done on the framing of the sharing economy (Laurell & Sandström 2017, Martin 2016), to my knowledge, Article 3 of this dissertation is the first one that observes the dynamics of whom is included in the sharing economy and of whom is not.

In terms of the categorization, a very interesting topic for further research would be the regulator categorization of sharing economy companies. The sharing economy companies' disruptive nature has stirred an active discussion on sharing economy regulation, and it is likely that in the near future, the regulators will create new legislation motivated by these new actors (Frenken 2017). There are already examples of the regulation influencing the winners and losers in the sharing economy markets.[11] In addition to the content of this regulation, it is critical to consider which actors it concerns. Therefore, sharing economy actors have large stakes in the process of regulatory categorization, so it is likely to be an arena of power struggles and politics.

Another topic that could be examined is the role of materiality in categorization. One key feature of the sharing economy is servicification: people are giving up ownership of many commodities for access to them. This means that there are no material cues to separate one service from the other, which might make opportunistic categorization easier. It is very difficult to try to categorize a combustion engine car as an electric car, but it might be possible to categorize any given car rental service as carsharing if it is beneficial for the service provider. So far, the literature on categorization has not considered the implications of the change brought about by product markets changing into service markets.

6.3 Overall discussion of all the articles

The findings of the current dissertation paint a complex picture of the carsharing market's dynamics. In light of the findings of Article 3, it can be said that the carsharing category has been co-opted by the car manufacturing corporation backed companies. The newcomers to the category are considered the prototype of the category, and they are likely to reap the positive connotations associated with it. However, the findings of Articles 1 and 2 indicate that the carsharing market has not been captured by the free-floaters; instead, the different business models will continue to flourish in the near future.

These findings create an interesting counterpoint to the reflections on the sharing economy becoming co-opted by the corporations and hence disrupting

[11] See the discussion of Article 3

environmentally unsustainable practices in many industries (Martin 2016, Slee 2016). It is true that environmental motivation is not the main factor driving the corporate actors forward. However, this does not mean that they can replace the existing companies in the market, only complement them. Furthermore, as Article 1 states, the market entry of the corporation-backed companies has increased the growth of the other carsharing market actors. In addition, early studies indicate that free-floating companies have pro-environmental effects, although they are not as substantial as those produced by the station-based companies (Schreier et al. 2015, Wimobil 2016). Therefore, even though carsharing is unlikely to be a pathway to a post-consumption economy, it still contributes to the transition of making the transportation industry more sustainable.

The contradictory findings emphasize the fact that the sharing economy should not be talked about as a monolithic structure. As indicated by Article 3, the sharing economy is a hyped category; therefore, very different services are gathered under a single umbrella. This means that it is very difficult to say anything conclusive about the general pathway of the entire sharing economy because carsharing and crowd financing have about as much in common as car rental and commercial banking. The sharing economy might be an interesting context for looking at the hype or the social movement around the topic. However, to understand the emergence of the industries, let alone the consequences of the businesses to society, making predictions on the level of the whole sharing economy runs a high risk of creating oversimplifications.

The framework of different organizational cores developed by Acquier et al. (2017) is a good first step in splitting up the discussion into separate domains to guide the discussion to more similar industries and business models. Using the authors' organizational cores, carsharing is mainly in the access economy (services providing access to underutilized assets). Because my dissertation only touches upon the peer-to-peer carsharing services in the first article, I cannot take a stand on the many issues concerning the platform economy (mediating peer-to-peer activities). This could be the reason behind, for example, my dissertation painting a more optimistic picture of the effect of carsharing on industry transition, for example, one actor monopolizing the whole market (see Article 1). Much of the discussion framing the sharing economy as hyper-capitalism is based on platforms backed by venture capital (especially on Airbnb and Uber), even though it is not often explicitly stated (see Slee 2016, Martin 2016, Murillo et al. 2017).

My dissertation problematizes the assumption of Acquier et al (2017) that the third organizational core community-based economy would reject market coordination because of the mission of the actors to move to a post-market society. As presented in Article 2, station-based actors organize their business models through regular market exchanges but moderate the business model with a community-based logic. This is not a feature of only the German carsharing market, but it is present also in the carsharing industry in Switzerland, where carsharing is organized by a cooperative using regular market coordination: the organization operates on a non-profit basis, but the operations are run through

regular market transactions (Mobility carsharing 2017). Therefore, I argue that the element of community should not be observed through the exchange mechanisms (e.g., is money involved) that organizations use but rather through the logic that guides their activities. As demonstrated in this dissertation, the institutional logics perspective (Thornton et al. 2012) lends itself well to study this aspect. This is a good approach also for answering the recent call to examine the tensions between non-market and market forces in the sharing economy (Laurell & Sandström 2017). The forces do not necessarily manifest themselves as actors operating with for-profit and not-for-profit models but rather as institutional forces affecting different kinds of actors.

On a final note, I call for more longitudinal research of the sharing economy. Considering the short history of many sharing economy industries, it is natural that so far, not so much research from this angle has been published. However, to truly understand the nature of the changes within the sharing economy and the current economic system, we must observe the phenomenon from a long-term perspective. Hopefully, there are researchers currently doing fieldwork and collecting in vivo, in situ data of how, for example, regulatory struggles unfold. If the sharing economy should lead to a disruption of industries or parts of economic systems, now is the time to do field work on the issue. Often, the way things unfold seem natural and unsurprising retrospectively because much of the complexity and politics of the processes of change are forgotten over time.

YHTEENVETO (SUMMARY IN FINNISH)

Jakamistalous, joka viittaa palveluihin, jotka hyödyntävät alikäytettyjä hyödykkeitä, on valtavirtaistunut viime vuosina. Akateeminen keskustelu asian ympärillä on eloisaa, mutta toistaiseksi hyvin vähän huomiota on kiinnitetty jakamistalouden toimialojen syntyyn. Väitöskirjallani edistän tutkimusta tällä alueella tekemällä ilmiölähtöisen tutkimuksen niihin voimiin, jotka ovat vaikuttaneet Saksan autojenjakamispalvelutoimilan syntyyn. Tutkin ilmiötä pitkittäisesti ensimmäisen ammattimaisen autojenjakamispalvelun perustamisesta vuonna 1988 vuoteen 2015, jolloin toimiala on valtavirtaistunut. Olen kerännyt laajan aineiston, jota analysoin sekä laadullisesti että määrällisesti kolmessa artikkelissa. Näissä artikkeleissa keskityn erityisesti liiketoimintamallien kehittymiseen ja markkinakategorisointipyrkimyksiin.

Väitöskirjani osoittaa, että saksalaisen autojenjakamismarkkinan toimijat – korporaatioiden yhteisyritykset ja pienet yritykset ja osuuskunnat, jotka juontavat juurensa autojenjakamisen käynnistäneestä sosiaalisesta liikkeestä – ovat juurtuneet erilaisiin institutionaalisiin logiikoihin. Nämä logiikat estävät erilaisia toimijoita suoraan kopioimasta toistensa liiketoimintamalleja, minkä seurauksena markkinalla on useita liiketoimintamalleja. Väitöskirjani myös osoittaa, että erilaiset liiketoimintamallit kukoistavat erilaisissa maantieteellisissä ympäristöissä ja sen seurauksena ei ole odotettavissa, että yksi malli korvaisi toiset lyhyellä aikavälillä. Markkinakategorisoinnin osalta osoitan, että autojenjakamisen valtavirtaistumisesta seurannut hype on antanut medialle paljon valtaa kategorisointipyrkimyksissä. Media on sysännyt uudet korporaatioiden ajamat palvelut autojenjakamiskategoriaan siitäkin huolimatta, että kaikki tuottajat ovat sitä vastustaneet.

Väitöskirjani edistää tutkimusta monella tapaa. Liiketoimintamallien tutkimukseen, väitöskirjani esittelee institutionaaliset logiikat liiketoimintamallien kehitystä muokkaavana tekijänä. Markkinakategorisaation tutkimukseen, väitöskirjani selventää median, sosiaalisten liikkeiden ja korporaatioiden roolia sosiaalisen liikkeen alulle paneman kategorian korporaatioiden kulttuurillisen omimisen erityistapauksessa. Jakamistalouden tutkimukselle suositan, että ilmiötä ei pitäisi käsitellä yhtenäisenä rakennelmana. Lisäksi väitän, että yhteisöllisyys, joka on tunnistettu keskeiseksi ominaisuudeksi ilmiössä, ei välttämättä poissulje markkinamekanismien käyttämistä kaupan käynnissä. Ehdotan, että yhteisöllisyyttä ilmiössä on hyvä käsitellä institutionaalisena logiikkana, joka säätelee organisaatioiden toimintaa.

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APPENDIX 1: INTERVIEW THEMES (STADTMOBIL)[12]

Stadtmobil as a Company

What is the mission of stadtmobil?

For which transportation needs do the customers use stadtmobil?

What are the target customers of stadtmobil?

What are the competitors of stadtmobil? Why?

What are the most important partners of stadtmobil? Why?

Growth Drivers for Stadtmobil

Please describe the background of stadtmobil. Which aspects and events have been decisive for its growth?

Why is stadtmobil present in the areas in Germany where it currently operates?

What kind of an effect has the advent of the car manufacturer owned free-floating services had on stadtmobil?

Are there any barriers for the future growth of stadtmobil?

The Carsharing Business

How would you describe the differences between the free-floating carsharing as a business activity compared to station-based carsharing?[13]

Which benefits does station-based carsharing have for society? What about free-floating carsharing?

[12] The interview questions have been translated from German to English
[13] This question was unique for stadtmobil because they had both station-based and free-floating services.

APPENDIX 2: MY CONTRIBUTION TO THE ARTICLES

Article	My contribution to the article	Co-authors' contribution to the article
Münzel, K., Boon, W., Frenken, K. and Vaskelainen, T., 2017. "Carsharing business models in Germany: characteristics, success and future prospects." Information Systems and e-Business Management (forthcoming).	Participated in the data collection by co-creating the business model framework that guided the process and by giving counsel on problematic situations. Sharpened the theoretical contribution of the article and analysis through several discussions on what can be done with the data and what kinds of arguments the analysis supports. Wrote parts of the introduction, literature review, and discussion chapter.	Mostly conducted the data collection and analysis. Wrote the main part of the article.
Vaskelainen T. and Münzel K., 2017." The Effect of Institutional Logics on Business Model Development in the Sharing Economy: The Case of German Carsharing Services", *Academy of Management Discoveries (forthcoming)*.	Designed the study. Collected almost all data. Conducted the main part of the data analysis. Constructed the theoretical positioning of the paper. Wrote the paper and handled the revision suggestions.	Collected the business model database. Supported in the data analysis by examining the contextual data (e.g., the studies on carsharing) and by working in a devil's advocate role. Supported in writing the article by frequently commenting on the written drafts.
Vaskelainen, T., Siltaoja, M. and Granqvist, N. "Riding the Hype Train: The Corporate Cooptation Process in the German Carsharing Market." in review for *Journal of Management Studies*	Designed the study. Collected and analyzed all the data. Participated in creating the theoretical positioning by conducting workshops with the co-authors. Wrote solely the findings and the methodology parts. Also, partially wrote the other parts as well.	Gave counsel on the empirical work by commenting on early versions of the analysis and the findings that emerged. Was primarily responsible for theoretical positioning and writing of the theory section. Co-wrote the introduction and discussion.

ORIGINAL PAPERS

I

CARSHARING BUSINESS MODELS IN GERMANY: CHARACTERISTICS, SUCCESS AND FUTURE PROSPECTS

by

Münzel Karla, Boon Wouter, Frenken Koen & Vaskelainen Taneli, 2017

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ORIGINAL ARTICLE

Carsharing business models in Germany: characteristics, success and future prospects

Karla Münzel[1] · Wouter Boon[1] · Koen Frenken[1] · Taneli Vaskelainen[2]

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Abstract Carsharing provides an alternative to private car ownership by allowing car use temporarily on an on-demand basis. Operators provide carsharing services using different business models and ownership structures. We distinguish between cooperative, business-to-consumer (B2C) roundtrip and one-way, as well as peer-to-peer (P2P) carsharing. This paper characterizes these different types of business models and compares their success in terms of diffusion using a comprehensive database of all 101 German carsharing providers in 2016. The key result holds that fleet size is significantly different across business models ranging from a few cars (cooperatives in small towns), to a few hundred (B2C roundtrip in larger cities), to over a thousand (B2C one-way in largest cities), up to multiple thousands (P2P across the country). By analyzing for each operator the number of cars *per capita* in the city they operate in, we do not find significant differences across business models indicating the viability of each separate business model type. Hence, we conclude that business models will continue to co-exist for a while, although some of the business models may well converge in the longer run due to Internet-of-Things applications and the introduction of self-driving cars.

Keywords Carsharing · Sharing economy · Platform economy · On-demand mobility services · Business models · Future mobility

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1 Introduction

In the last decade, the sharing economy has received a lot of attention given its promise of a scalable sustainable business model. The key to sharing is a higher utilization of goods by replacing permanent individual ownership by temporary on-demand access (Botsman and Rogers 2010). Carsharing is a key example of the sharing economy. It has been defined as a system that allows people to use locally available cars at any time and for any duration (Frenken 2015), and is often referred to as a prime example to explain the advantages of sharing over owning and exploiting underutilized assets (Botsman and Rogers 2010). Carsharing has the potential to satisfy individualized transportation demands in a sustainable and socially beneficial way, by decreasing the demand for cars, lowering emissions (using smaller and cleaner cars), reducing traffic and parking congestion, and increasing social cohesion amongst sharers (Prettenthaler and Steininger 1999; Loose 2010; Martin and Shaheen 2011; Shaheen and Cohen 2013; Chase 2015).

The aim of this study is to analyze and compare carsharing business models. We ask the question why different business models currently co-exist and how they perform. To this end, we compiled a comprehensive and detailed database of all carsharing providers in Germany, ranging from one-car organizations operating in small villages to large car manufacturers operating fleets of over a thousand cars. We distinguish between cooperative, business-to-consumer (B2C) roundtrip and one-way models, as well as peer-to-peer (P2P) carsharing. Our study contributes to research on the success of sharing economy services by comparing two success measures: absolute fleet size and relative fleet size, meaning cars per capita in the city of operation. We investigate the fit between different business models with different fleet sizes. From the relative fleet size, we can compare the local market presence of different business models. A second contribution to current literature is the explanation of the co-existence of carsharing business models. For this we analyze the entry patterns of firms to the carsharing sector including first-mover advantages. Through this, we are able to shed light on path dependencies and explain why no dominant design has emerged. Lessons about path dependence and first-mover advantages contribute to understanding the emergence of business models in the sharing economy and beyond.

Two key results emerge from the analysis. First, business models are very distinct in terms of their fleet size ranging from a few cars (operated by cooperatives in small towns), to a few hundred (B2C roundtrip in larger cities), to over a thousand (B2C one-way in largest cities), up to multiple thousands (P2P across the country). Second, although the business models differ markedly in terms of fleet size, they are equally competitive in terms of the number of cars they offer per capita in the geographical area they operate in. Hence, there is reason to believe that the various business models will continue to co-exist for a rather long time in their respective areas of operation.

We will proceed as follows. We provide a literature review on relevant carsharing research including the historical context of carsharing in Germany and a short overview of business model literature in general and carsharing business

models in particular in Sect. 2. Then we go into the data collection and business model dimensions in Sect. 3. Then, Sect. 4 presents the empirical results on the business model dimensions per business model type and compares the success of each business model in terms of absolute and relative fleet size. Section 5 ends with a conclusion and a discussion of the prospects of each business model in the future and points out avenues for future research.

2 Literature review

2.1 Development of carsharing

Carsharing is a system that gives people the opportunity to use a car that is locally available for a demanded duration at any requested point in time. Carsharing has received considerable academic attention, motivated mainly by its environmental promise. Numerous studies have by now shown the positive environmental and transportation effect of carsharing. In the German context Loose (2016) calculates that one carsharing car situated in a city center replaces up to 20 private cars and that carsharing users reduced their car ownership by 62%. A Dutch survey study (Nijland and van Meerkerk 2017) on carsharing users finds a 15–20% reduction in car kilometers driven and car ownership to shrink from 1.12 to 0.72 cars per household after joining carsharing. Chen and Kockelman (2016) calculate the life-cycle impacts of carsharing on energy use and greenhouse gas emissions and also find positive impacts. The results suggest that persons joining carsharing decrease transportation energy use and emissions by 51%. Other societal impacts, such as on employment and the overall economic situation, are still unclear. These aspects will likely see large changes as a result of further technological developments, in particular, the introduction of self-driving cars.

Carsharing started in the late 1980s[1] in Switzerland and Germany and was at first initiated in small projects of environment-minded groups (Shaheen et al. 1998). These early organizations were arranged in a Business-to-Consumer (B2C) form, in which the organization (operating for-profit or not-for-profit) owns a fleet of cars that the customers can use. Many of these cooperatives remain small as they are set-up to serve a small group of users in a single town. Most organizations started out in environmentally concerned local communities that wanted to meet their mobility needs in a more sustainable way (Loose 2014a). Initially, the general business models of these organizations were fairly similar and were based on a roundtrip (RT) mode where cars have to be returned to the same spot at the end of the trip as where they were rented from.

Some of the grassroots operators achieved fast growth, partly driven by technological advances and professionalization of services. In particular, internet applications made booking procedures more efficient and user-friendly, while access to cars was improved through smart cards and later smart locks (Warmke and

[1] Earlier experiments were set up in Switzerland (1948 Sefage), France (1972 Procotip) and the Netherlands (1973 Witkar) but failed to operate successfully and were suspended.

Dannheim 2014). These growing organizations are located in mid-sized to large cities and often changed their cooperative status into a for-profit organization to enable further growth and professionalization. Alternatively, a range of grassroots organizations stayed small and continued as a local cooperative, mostly in small towns and villages. Next to the early grassroots organizations, large companies from related industries entered the carsharing market. In Germany this started with the entries of the national railway provider (Deutsche Bahn) in 2001 and oil company Shell in 2003.[2] These kind of operators typically target larger cities than cooperatives where people are less dependent on car ownership.

The first B2C one-way carsharing operations started in 2008 (Daimler 2008) and were set-up mostly in the largest cities of a country. Different from the roundtrip mode, the one-way model allows cars to be dropped off anywhere in a designated city area (free-floating) or at a different station of the provider (station-based). Smartphone technology was of great importance for the larger diffusion of the one-way operations, since cars are not parked at a specific station but have to be located by the customers in an ad-hoc way. This business model type was clearly enabled through new app-based mobile technologies (Ehrenhard et al. 2017).

Around 2010, peer-to-peer (P2P) carsharing emerged as yet another business model. Companies operating under this business model provide a platform where private car owners and users can be matched and additional services like insurances are offered (Shaheen et al. 2012). P2P carsharing can therefore be characterized as a two-sided platform, where private consumers act as suppliers and consumers.

Technological advances will likely drive the further development of the carsharing industry in the near and longer future. One example is the current roll out of smart locks to be installed in privately owned cars. Further in the future self-driving cars will bring unprecedented changes to the car system, and may well bring a further substitution of private ownership with a form of carsharing.

Carsharing itself is part of a wider set of developments known as 'shared mobility'. Another growing service that falls within the concept of shared mobility is ridesharing, where people share a ride in a car with a driver going a similar route as the passengers (e.g. the large European platform BlaBlaCar). Furthermore, ride-hailing, where riders ask for a trip to a certain place from a driver who is providing an on-demand taxi service has also seen tremendous growth and attention (examples include Uber, Lyft, Didi). These developments, although related to carsharing, show different dynamics and are beyond the scope of the present study.

Even though the first carsharing operations started 30 years ago, it is still an emerging phenomenon. Carsharing operators are as yet in the process of developing and learning about their respective business models (Demil and Lecocq 2010; Sosna et al. 2010; Teece 2010). Furthermore, carsharing policy and regulations are still in the making (Delhaes 2016). The fluidity of markets, regulations and technologies may explain why carsharing lacks a "dominant design" (Murmann and Frenken 2006). Competing business models are indeed a typical feature for emerging technologies in service industries (Teece 2010; Boon et al. 2011), many expect a dominant business model to emerge due to the strong network externalities inherent

[2] ShellDrive was taken over by Greenwheels in 2006.

to ICT-based industries (Shapiro and Varian 1999). Indeed, a carsharing operator benefits from network externalities as a larger fleet size increases the proximity, availability and variety of cars on offer to its client. Hence, one can expect a self-reinforcing dynamic to occur, rendering larger operators to grow faster than smaller operators. Were such a "natural" monopoly to occur, the question is whether users are truly better off, meaning whether the positive externalities of larger operators outweigh monopoly fees charged by a dominant provider. Against this background, we consider our research question why different business models currently co-exist and how they perform, to be both important and timely.

2.2 Business models

According to Teece (2010, p. 174) a 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". There is not one established definition of what a business model is. Zott et al. (2011), Boons and Lüdeke-Freund (2013) and Osterwalder and Pigneur (2010) show that different dimensions and components are used to create business model frameworks. The definition provided by Teece shows three reappearing key elements: the value proposition, the value network and the revenue-cost model (value capture) (Chesbrough 2007; Teece 2010). The business model concept has become increasingly important with the development of internet-based business triggering fundamental changes in how firms create value (Amit and Zott 2001). Earlier value creation was often based on manufacturing a product and selling it to the customer. The digital economy provided new forms of value creation and networking between firms and among customers increased (Zott et al. 2011). The carsharing market is such an emerging industry associated with a broad network and innovative business models which are often heavily reliant on digital infrastructures.

In an emerging industry like carsharing many different business models can be found. Teece (2010) explains that in early stages of a new industry the 'fundamental truths' about the customers, the cost models and competitors still need to be explored. Currently, on the carsharing market there is a search for a generic model that could become the standard (Morris et al. 2005), which could subsequently lead to different firms operating under a single 'sharing' business model (Teece 2010). Also, a detailed view on the specific dimensions of each business model is important, since firms can use specific differences in their business model to gain an advantage over a competitor (Morris et al. 2005; Teece 2010) or speak to a different target group or in a different setting.

Business models play a central role in explaining firm success (Zott et al. 2011; Casadesus-Masanell and Ricart 2010; Markides and Charitou 2004). In particular, organizational success is impacted by the value creation when using an innovative business model (Morris et al. 2005; Patzelt et al. 2008). Since business models describe how resources are used, how value is created and offered, they are directly related to firm success. Defining the success of a firm, however, is not straightforward, especially in an emerging market like carsharing. Financial

performance could be an indicator for success. Yet, to measure profits of companies in their founding stage is conceptually challenging, and access to reliable data for research purposes is difficult. The size of a firm, its spatial diffusion or market share are thus examples of alternatives. Next to data availability, the objectives and backgrounds of sharing economy firms differ and are not all based on a profit logic, given that cooperatives are driven more by environmental and social objectives. Their definition of success is thus less dependent on profits. Hence, in the analysis, we will rely on two alternative success measures based on the size of an organization's car fleet, which represent the size and diffusion of an organization.

The exploration of different business model possibilities on a new market can be heavily influenced by a firm's previous or main business model, a case of path dependence (Chesbrough and Rosenbloom 2002; Chesbrough 2010). The carsharing market (especially in Germany) is an interesting case to explore these interdependencies, because we see firms with diverse backgrounds. Many stand-alone carsharing operators[3] and start-ups can be observed, as well as different incumbent[4]-backed firms coming from different industries (e.g. car manufacturers, rail operators or car rental firms), and other firms backed by local municipalities or utilities. This differing ability to use different sources of value creation is important (Chesbrough 2010). The background of a firm brings certain resources and routines with it, leading to a specific development path (Garud et al. 2010). We presuppose path dependence to have a large impact on the process of creating a business model for the carsharing market, for which reason we expect differences between firms from different backgrounds.

Path dependence plays out differently for incumbent and new-entry firms. Following Chesbrough and Rosenbloom (2002) we expect incumbents that enter the carsharing market to stay close to their current or main business model so that they are able to fit the new business model into their organization. We also expect them to use their inherent competences to gain advantages over competing firms. Incumbent players have a strong advantage with their high amount of resources that allows them to experiment with different models or to implement a larger system without having to slowly built up a car fleet (Sosna et al. 2010). At the same time, incumbents are constrained by their main business logic which predominates their decisions (Chesbrough 2010). Large incumbents following a strong market logic with a large interest in fast profitable growth might be steered into using certain business models which allow this. Compared to these arguments, newly-founded stand-alone carsharing firms are much less constrained by path dependencies but can invent completely novel, and even radical, business models (Chesbrough and Rosenbloom 2002). We expect them for example to build a novel partner-structure and to use new target groups. However, compared to incumbents, new firms may struggle to overcome entry barriers to the market given a lack of internal resources, which makes them less able to scale fast but also less able to experiment with

[3] A stand-alone carsharing organization refers to an organization that is not owned by or closely connected to an incumbent firm (e.g., car manufacturer, car rental firm, transit operator).

[4] In the following 'incumbent' is used when describing an incumbent firm already active in a different market (e.g., a large car manufacturer, a railway operator) which is operating on the carsharing market.

different models over a long time. The scaling factor is of importance given the aforementioned network externalities in a market like carsharing.

Currently different types of carsharing business models seem to co-exist. As the carsharing industry lacks a dominant design, the current stage can be considered an era of 'ferment' (Utterback 1996). In the absence of a dominant design, investors remain reluctant to roll out a particular service to create a true mass market. Indeed, to date, carsharing has remained a very small market compared to the market of private car ownership or lease cars. In such an era of ferment, the entry barriers for new entrants remain low and the diversity of business models, each targeting specific user groups, remains high (Utterback 1996; Markides and Sosa 2013). One can expect therefore that entry numbers on the carsharing market remain high per year. At the same time, as explained before, carsharing is a market with strong network externalities as operators with a larger fleet size increase the proximity, availability and variety of their cars to their client. The benefits that larger operators bring to their users compare to smaller operators, creates a self-reinforcing rich-get-richer dynamic where larger operators grow faster than smaller operators and entry barriers increase. Hence, early entrants profit from first-mover advantages in building up their car fleet and benefitting from this self-reinforcing logic. Thus, one can expect that the fleet size of older operators is larger than that of younger operators. Note, however, that while network externalities in carsharing are strong, these benefits are mainly confined to a single geographical market (town or city), as most users rent cars solely in the city or town of residence. Thus, in each geographical market, an early entrant has had more time to build up their local clientele and car fleet than later entrants. However, given that operators with different business models target different geographical markets (cooperatives in small towns, B2C roundtrip in larger cities, B2C one-way in largest cities, and P2P across the country), first-mover advantages are likely to exist among firms within each business model, but are not necessarily present at the level of the carsharing market as a whole.

This paper therefore explores the different business model types present on the German carsharing market, the differences in business model dimensions and differences in success. As part of analyzing the co-existence between business models we further investigated entry waves, firm-level path dependence and first-mover advantages.

3 Research design

We selected the German carsharing market to analyze the different business models in carsharing. Germany was chosen because of its dominant position in Europe in terms of being the largest carsharing market (Loose 2014b), its diverse spectrum of carsharing firms, and the interesting market outset with a large automotive industry and a strong 'car culture' (Germany Trade & Invest 2016).

To distinguish between the main business model types, we built on work by Shaheen and Cohen (2013), Shaheen et al. (2006), Cohen and Kietzmann (2014), Clark et al. (2014) and Vaskelainen (2014) who classified business models in the

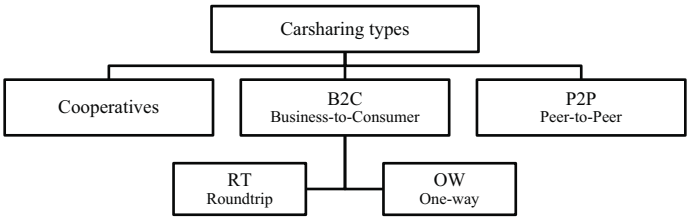

Fig. 1 Types of carsharing business models

carsharing market. Typically, the carsharing market is divided into three basic types: cooperatives with a communal interest to share cars and a not-for-profit orientation, B2C carsharing where a firm owns a fleet of cars which they rent out on-demand for short time periods and P2P carsharing where cars are shared between individuals and a firm acts as a mediating platform. The B2C business model is generally further divided into roundtrip and one-way models (Vaskelainen 2014; Shaheen et al. 2015) as shown in Fig. 1.

For each of the four business models, in line with existing literature on carsharing (Bohnsack et al. 2014; Cohen and Kietzmann 2014; Eschenbaecher et al. 2014; Gerwig et al. 2014; Vaskelainen 2014), we analyze the key business model dimensions. We used the three dimensions of value proposition, value network and value capture, that are reappearing in business model research, to categorize the design elements of the carsharing business models (Table 1). At this stage of the market development and with our focus on the operators we decided to analyze only these three main dimensions.[5] The value proposition dimension shows what value is offered to the users and contains indicators on trip type, geographical membership span (operations in one city, on a national level or international), fleet ownership and fleet variety. The value network dimension shows how the organization is connected to other players in- and outside of the industry and includes indicators on the owner background and the partner network. The value capture dimension shows how and in what manner value is captured and includes indicators on profit orientation and the fee structure.

Figure 2 lays out the steps of the research explained in the following. Data was collected for all carsharing firms in Germany, which are accessible to the public and have an online homepage. The firms were identified through a member list of the Bundesverband Carsharing, the umbrella organization of German carsharing providers, that can be accessed on its website (Mitglieder; BCS) or through a systematic keyword search in public search engines (step 1). This leads to a total of 101 carsharing operators in Germany. The number of cars, the operating area and the founding year were collected through the firms' homepages or inquiries with the firms. Data on the defined business model dimensions and their indicators were systematically collected by analyzing the firms' homepages and were saved in a detailed database, in which we set up categorical variables for each indicator (step 2).

[5] Some studies use the business model canvas instead (Osterwalder, Alexander; Pigneur 2010), which include some additional dimensions.

Table 1 Business model dimensions and variables

Business model dimension	Indicators
Value proposition	Trip type
	Membership span
	Fleet ownership
	Fleet variety
Value network	Owner background
	Partner network
Value capture	Profit orientation
	Fee structure

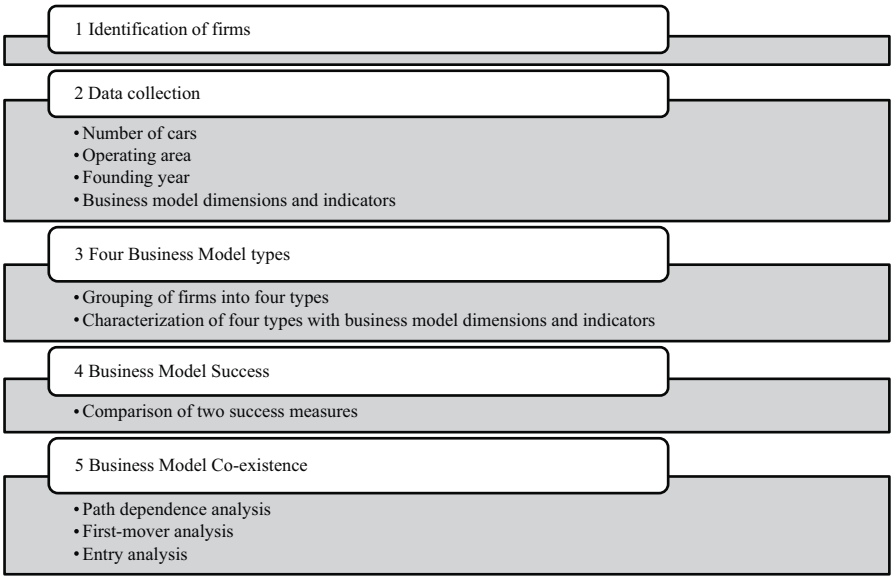

Fig. 2 Outline of research design

The firms in the database were grouped into the carsharing business model types as shown in Fig. 1. Because of the high level of detail on the business model dimensions and their indicators, this could be done without problems and every firm was clearly allocated to one of the business model types. There are some roundtrip companies that operate one-way carsharing as an additional service, for which the roundtrip mode is the main model and one-way operations can rather be described as experiments. Therefore, these firms are categorized as roundtrip providers. The resulting four groups we formed are: carsharing cooperatives, B2C roundtrip carsharing providers, B2C one-way carsharing providers and P2P carsharing providers (step 3).

The 101 operators are then compared on the basis of two different success measures to analyze where systematic differences in success exist across business

models (step 4). Firm success is often measured using financial indicators like revenue or profit. These numerical measures offer an easy comparison and clearly show how well a firm is able to use its business model to generate monetary value. As noted above, this is not the goal of all firms in the carsharing market as some of them have a not-for-profit intention. Furthermore, the carsharing industry is rather young and many firms are still in a growing phase, where profit or revenue might not be a good indicator for firm success and the success of a business model type. What is more, we could not use financial indicators to define firm success because data are not made available. The same applies to diffusion measures, like the number of customers or the number of bookings. Therefore, we pursued other firm success indicators: absolute and relative fleet size. First, all types of carsharing organizations share the objective of promoting carsharing for profit, environmental or social reasons. So, absolute fleet size gives an indication of the extent to which they have been successful in this. Second, as a relative measure we divided an operator's absolute fleet size by the number of inhabitants in the city or cities it is operating in. This measure, the ratio of cars per capita, provides an account of how dominant an operator is in the city or cities it is operating in, given the potential market size (number of inhabitants). Instead of only indicating the size of the operation, the ratio variable proxies market share. The different business model types have different sources of funding and revenues. Cooperatives for example do not need to make a profit, while organization with investors interested in profit have a larger interest in a smaller ratio of cars per people.

Step 5 focuses on investigating the co-existence of business models. We start with firm age, as surviving for a number of years can be an indicator for the achievements of a business model. Firm age further gives insights in possible first-mover advantages and entry patterns on the carsharing market. We study first mover advantages for the four business model types through comparing size (number of cars) and firm age, expecting older organizations to be larger. We analyze market entries and possible patterns of entry waves by visualizing entries per year for the four business model types. We additionally analyze path dependence using the business model dimensions and the owners background, financial possibilities and profit goals to identify differences in business model choices of e.g. incumbents and ideology-driven grassroots organizations.

4 Results

4.1 Business model characterization

The 101 identified carsharing organizations were allocated to the four business model types according to the general typology used in the literature and described in the previous chapter 3. Table 2 shows the characteristics of these four types. Type 1 contains all firms operating as a cooperative, Type 2 contains all firms that operate with a B2C roundtrip model, Type 3 contains firms offering a B2C one-way service and Type 4 contains the firms operating as P2P carsharing platforms. It is clear that most organizations operate using the cooperative model (51 organizations) or the

Table 2 Characteristics of carsharing business models

Business model	Type 1 cooperatives	Type 2 B2C roundtrip	Type 3 B2C one-way	Type 4 P2P
Number of firms	51	43	4	3
Average age	13.3	10.4	4.8	5.7
Average number of cities served	1.2	7.2	3.5	n/a[a]
Average size of cities served	39,966	229,823	1,669,684	n/a
Value proposition				
Trip type	Roundtrip	Roundtrip 12% roundtrip and OW (mostly experiments)	One-way	Roundtrip
Membership span	One city	77% one city 14% national 9% international	2 one city 2 international	International
Fleet ownership	Fleet owned by provider			Cars owned privately
Fleet variety	Varying car models (if # of cars >1)	91% varying models	75% one-car model	Varying models
Value network				
Owner background	Non-incumbent	88% non-incumbent 12% incumbent	75% incumbent owner	Carsharing startups
	carsharing startups	74% carsharing startups 4 utility 3 car rental 2 car manufacturer 1 car dealer 1 rail operator	1 car manufacturer 2 car manufacturer/car rental joint ventures 1 carsharing startup	All carsharing startups
Partners	12% public transit 24% city-related partners[b]	42% public transit 40% city-related partners 19% car-related partners[c]	100% public transit 50% city-related partners 50% car-related partners	1 city-related partner
Value capture				
Profit	Not-for-profit	For-profit		

Table 2 continued

Business model	Type 1 cooperatives	Type 2 B2C roundtrip	Type 3 B2C one-way	Type 4 P2P
Fee structure	2/3 registration fee 78% monthly fee Hour fee	64% registration fee 64% monthly fee 93% hour fee	100% registration fee 100% no monthly fee 100% minute fee	No registration fee No monthly fee Hour or part-day/day prices

[a] P2P carsharing is offered all over Germany, since a private car owner in any location can register his or her car on the platform. Therefore no precise data is collected on the number of cities where P2P carsharing is offered

[b] City-related partners include municipalities, local utilities, building associations

[c] Car-related partners include car dealers, car leasing companies, car rental companies

B2C roundtrip model (43). These business models are also the most established as evidenced by the high age of cooperatives and B2C roundtrip organizations. These companies mostly operate in a single city or region. Only a few firms operate according to the B2C one-way model (4) or the peer-to-peer model (3) and these firms were established more recently. The one-way operators are active in the largest German cities.

Type 1 contains 51 cooperatives operating without a profit motive. Interestingly, all run a roundtrip model. Most operate without partners and, if any, partners are from the local town. Two-thirds of the cooperatives require a registration fee and 78% a monthly fee. This underlines the community aspect where members pay a fee and hereby support the initiative even when usage is low.

Type 2 is made up of 43 for-profit firms offering B2C roundtrip carsharing. Next to the roundtrip model, 12% of the firms also offer one-way carsharing modes as a secondary 'experimental' service. B2C roundtrip is the least standardized business model. Most operate in only one city, while others operate nationally or even internationally. Most offer varying car models, varying fee structures, and varying network partners.

Type 3 includes four B2C one-way operators. Two of these operate on a small scale in one city only, two operate internationally. Three only offer one car type, while one offers varying models. Three of the firms are owned by car manufacturers, one is a carsharing startup without a parent company. All work together with public transit partners to facilitate multi-modal mobility and all firms require a registration fee, no monthly fee and charge per minute.

Type 4 includes the three P2P providers operating in Germany at the moment. All firms are international and have no incumbent parent company. Few partners can be identified and no registration fee or monthly fees are charged. Prices are usually per hour or per day.

We can observe differences in the business model dimensions of the different types in the obvious variables on which they are divided, namely trip type, fleet

Table 3 Success of operators according to carsharing business models

	Type 1 co-ops ($n = 51$)	Type 2 B2C roundtrip ($n = 43$)	Type 3 B2C one-way ($n = 4$)	Type 4 P2P ($n = 3$)
Average number of cars	11	200	1642	5006
Cars/1000 people	0.53	0.21	0.26	0.06

ownership and profit goal, but also in other variables: the membership span of the cooperatives (Type 1) and most roundtrip providers (Type 2) is one city only. Most providers in these two types are not backed by a larger parent company but were founded as carsharing-dedicated startups (often driven by environmental motives). The firms in the one-way type (Type 3), by contrast, are mainly operated by incumbents and have the most extensive partner network, including in particular public transport organizations. The P2P type (Type 4) deviates: few partnerships were detected apart from those with insurance companies. This can be understood from the fact that the fleet is provided by individual car owners who are difficult to direct and control. The fee structure of Type 1 and 2 is mostly dominated by hourly fees, whereas the one-way type charges minute fees. No monthly fees are charged in the one-way type. These differences in fee structure are another indicator of the differential usage scenarios of one-way carsharing compared to the roundtrip types.

4.2 Business model success

Based on the differentiation into four business models, we are able to compare the success of the 101 carsharing operators. Table 3 shows the mean size of operators per business model type in terms of two success variables: fleet size, and fleet size per capita. The business model types clearly differ in the average number of cars that operators offer to their users. An ANOVA test shows that the differences are indeed significant at the 1% level. Cooperative firms operate with the lowest number of cars on average, generally only running in one small city. Recall that cooperatives are also the oldest operators on average. Hence, their small size and high age suggest cooperatives have little growth ambition; instead they are not-for-profit and rooted in a local community. B2C roundtrip providers operate many more cars with an average of 200 cars per firm. The variance is quite large with operators in a single city having only 45 cars on average, while roundtrip operators operating on a national scale naturally having much larger fleets with on average 713 cars. The four B2C one-way operators have a very large fleet with 1642 cars on average. This is made possible by the density benefits in large cities in which the one-way model is viable. Finally, P2P platforms offer by far the largest number of cars. This can be explained by the zero marginal costs of car owners in supplying their car.[6]

[6] Note, however, that the number of cars offered by peer-to-peer platforms does not imply that all cars are rented out frequently. While cooperatives and B2C business model providers can be assumed to offer cars only at locations where demand is sufficient at least to break even, many P2P cars are also offered at locations with little or no demand, because a private car owner does not bear any marginal cost by supplying the car.

Turning to the number of cars per capita, the results are rather different. Here, an ANOVA test did not show significant differences between the four types of operators, even at the 10% level. The ratios, though, seem to suggest that cooperatives have a higher density of cars in the cities they operate in compared to other operators. This can be understood as a sign of inefficiency, which can be explained by the lack of a profit motive. By far the lowest rate of cars per people in the operating area is observed for Type 4 but the low rate has to be interpreted with care since the number of cars shared through a P2P platform was divided by the total German population as cars are offered throughout the whole of Germany.[7]

The interesting conclusion that can be drawn from the highly significant differences in terms of fleet size and from the insignificant differences in terms of number of cars per capita, is that different business models are present in cities of different size, while being equally viable in terms of coverage in the cities they operate in. Cooperatives occupy the niche of small towns that larger operators avoid due to a lack of scale economies and profit opportunities. B2C roundtrip operators typically serve in one or more medium-sized cities with a sizeable fleet and a more professional and impersonal business model. B2C one-way operators focus on the largest cities where density of usage is high enough to warrant the one-way concept such that coverage around the city remains secured. Finally, P2P carsharing is essentially "agnostic" regarding the locations in which it is used, as private car owners themselves decide to offer their car or not at zero marginal cost. Hence, supply occurs everywhere where car owners live and, thus, is viable both in any urban and rural environment.

4.3 Business model co-existence

In line with the theory of path dependence, we can observe that incumbents from related industries use some of their specific resources and competences when choosing a business model type for the carsharing market. For example, the national railway leverages its national network to set up carsharing in many towns and cities through initially stationing shared cars at the railway stations using the B2C roundtrip model. They further rely on their classic customer groups by focusing advertising for carsharing as part of an integrated multi-modal mobility solution. Car manufacturers and car rental organizations on the other hand build on their existing competences in producing and management of large car fleets, respectively, which explains why they choose for a fast and large-scale roll-out of cars made possible by the one-way business model. Finally, we did not observe incumbents entering the P2P business model, which can be explained by the radically new ("disruptive") nature of P2P sharing. Instead, we observe solely startups in the P2P segment. They were able to enter despite a lack of financial resources by facilitating private car owners to offer their own cars as the key resources using a two-sided P2P platform model.

[7] Therefore, we also ran the ANOVA test for business model types 1, 2 and 3 only. Again, results proved insignificant at the ten percent level.

Furthermore, we can ask the question whether operators benefit from first-mover advantages. This can be indicated by computing the correlation between fleet size and age. Looking at all 101 organizations, we find a negative (−0.09) but insignificant correlation. This suggests that at the level of the industry as a whole, operators do not benefit from first-mover advantages. Indeed, as is evident from Table 2, recent entrants adopting the B2C one-way and P2P business model have been able to establish very large car fleets in a short period of time, outnumbering cooperatives and most B2C roundtrip providers. However, when looking at the correlation between size and age of operators for each business model type separately, we find positive correlations for cooperatives (+0.39) and B2C roundtrip operators (+0.33). These correlations are significant at the 1 percent and 10 percent level, respectively. Correlations between size and age for B2C one-way and P2P operators were also found to be positive (+0.75 and +0.87), but statistically insignificant (which is not surprising given the very low number of B2C one-way and P2P operators). Hence, our hypotheses that first-mover advantages exist, is confirmed, but is confined to each business model. This result can be further illustrated by plotting size and age for each of the four business models in Fig. 3. We choose here to plot the logarithm of fleet size given the outliers. The patterns show that for each business model the largest firms tend to be the older firms, while this patterns cannot be discerned for the population as a whole.

Finally, one can analyze the entry patterns over time. Figure 4 illustrates the times of entry of all operators of the four business models. In the beginning we see a cluster of cooperatives and B2C Roundtrip providers entering the market 20–25 years ago. The operators using the one-way type only started 1–8 years ago and the P2P providers 5–6 years ago. For the P2P type no very recent entrants are observed which could indicate strong scaling effects due to network externalities, raising the barriers to entry for new entrants. Interestingly, we observe again larger numbers of cooperative and B2C Roundtrip entrants during the past five

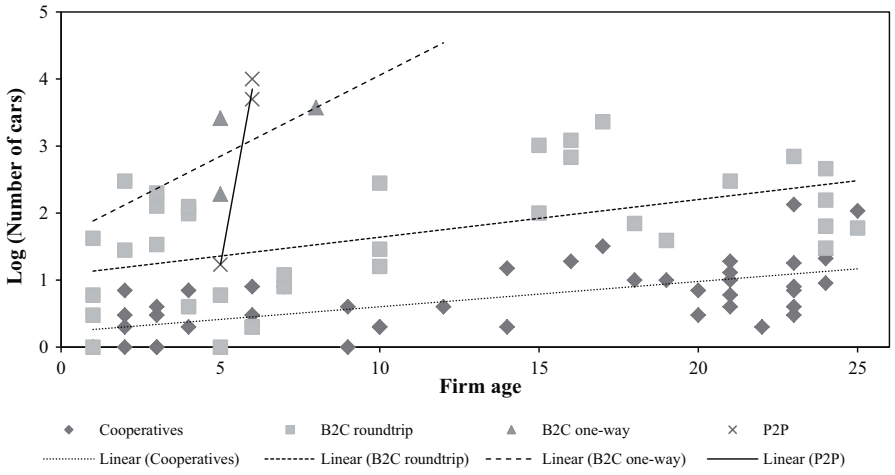

Fig. 3 Relation between fleet size and firm age for the different business model types

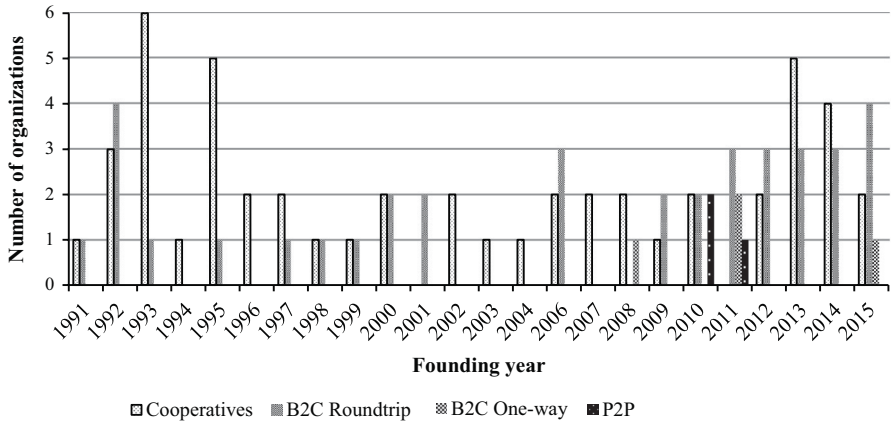

Fig. 4 Entry analysis. Number of organizations entering the market per year

years. This could be explained through spillover effects, where the rise in attention to carsharing, through the larger roll-outs of the one-way and P2P operators, also brings attention back to the older types of carsharing. There are no significant differences in the characteristics of the business model between older cooperatives and roundtrip providers and their recent counterparts.

More generally, the continuous entry of cooperatives and B2C roundtrip organizations throughout the whole period likely reflects the low barriers to enter with these business models, in contrast to high barriers to enter with a B2C one-way and P2P business model. Software that is shared between providers (Schwarz et al. 2014) could also be another factor intensifying collaboration between providers rather than intensifying competition leading to exits. Thus, the overall tendency over the past 25 years is one that, at least for now, does not follow dominant design theory, which predicts that entry would decrease over time as a dominant design emerges and barriers to entry increase (Utterback and Suárez 1993; Klepper 1996).

5 Conclusions and future prospects

Using a new comprehensive database on all 101 German carsharing providers in 2016, we have been able to analyze four carsharing business model types in terms of their characteristics and success. The key results hold that fleet size is significantly different across business models, ranging from a few cars (cooperatives in small towns) to a few hundred (B2C roundtrip in larger cities) to over a thousand (B2C one-way in largest cities) up to multiple thousands (P2P across the country). By contrast, when analyzing for each operator the number of cars per capita in the city they operate in, we do not find significant differences across business models. The latter result indicates that each business model is viable, but in different types of urban environments. The more general conclusion that can be drawn from the results thus holds that business models will continue to co-exist for a while. Since

the business models each occupy different city niches that only partially overlap, the viability of operators in each of the four business models seems secured, at the least in the short-term.

Given the advantages of all carsharing business model types in different urban environments, one cannot expect a convergence towards one dominant business model *in the short run*, as predicted by the standard model of industry evolution based on network externalities associated with a dominant design. In contrast to manufacturing products where firms benefit from adopting global technical standards making up a "dominant design" (Murmann and Frenken 2006), carsharing operators only benefit from local network externalities in the geographical market that they serve. As we have shown, network externalities can explain why older firms within each business model type have grown larger than their competitors adopting the same business models, indicating a first mover advantage inside of each business model type. However, at the level of the industry as a whole, first mover advantages are absent as the industry is geographically segmented along the four business model types with cooperatives dominating small towns, B2C roundtrip the larger cities, B2C one-way the largest cities, and P2P cars being spread out over the whole country. Another interesting observation are spillover effects that occur through the popularity and attention around the large one-way and P2P systems to the older carsharing types of cooperatives and B2C roundtrip carsharing, as indicated by a recent rise of entries in the latter categories. This trend of new local carsharing organizations might continue, especially in smaller towns and cities where the large providers do not meet their growth and profitability demand. We conclude that the theory of dominant design is not always applicable in its simple format of exploration phase, formation of a dominant design and a following shake-out. There are exceptions, especially in the innovative service sector and in new types of markets as the sharing economy. This study thus provides indicative evidence that not all sharing economy sectors are prone to natural monopolies and winner-takes-all dynamics, because network externalities are tied to the local level.

With ongoing technological advances and continuous entry, business models can be expected to evolve (Markides and Sosa 2013). Possibly, future developments in technologies and business operations may still lead to convergence *in the longer run*, for a number of reasons. The P2P model is potentially the most disruptive as prices lie well below B2C models. Private car owners have purchased their vehicle for other purposes than rental and thus they usually are not aiming to profit from a car, but to make a little extra income. Thus, the rental prices are generally lower than the B2C alternatives. P2P carsharing can get a further boost when private lease companies integrate P2P sharing into their business by incentivizing their leasers to rent out their cars at times they do not make use of the car. Finally, once private cars (and lease cars) have smart locks by default or other viable ways to remove the personal key exchange between car owner and user, the convenience of locating and opening a P2P shared car will approach the current convenience levels of B2C cars. Hence, the prospects of P2P sharing are advantageous and P2P carsharing can become a serious rival of B2C business models in small and large cities. Cooperatives may nevertheless continue to operate even if P2P grows, if their members remain loyal to the ideological and environmental principles of joint

ownership. Ideology may also extend to data ownership in the future, where consumers concerned about privacy may prefer a small, not-for-profit cooperative over a large and commercially oriented P2P platform. Cooperatives and small roundtrip providers will profit further from collaboration, e.g., through open-source software systems or partner tariffs to permit the use of shared cars in other cities.

Further in the future, however, P2P may be overtaken again by the one-way model. Once self-driving cars will diffuse, it is unlikely that people will own such cars. Rather, self-driving cars are commercially best exploited in a one-way business model, picking up nearby passengers and dropping them off at the desired location (International Transport Forum 2015). Also note that one-way, self-driving shared cars would substitute for taxi services and ride-hailing services such as Uber and Lyft. This scenario does thus not solely affect the future of carsharing, but of the entire car transportation system. A fusion of the taxi, ride-hailing and carsharing markets will lead to a single market with strong externalities, rendering a dominant design more likely. In such a scenario, the P2P business model in cities may only be limited to those who wish to drive a car themselves. The traditional roundtrip and also the P2P carsharing systems might remain viable longer in rural areas and for long-distance transportation, since an automated shared car system will take longer to become profitable in such market segments. Only if an automated shared car system becomes organized nationally or internationally, it could take over the remaining segments as well.

The analysis of this paper does have some limitations, mostly due to data restrictions. Success could only be measured with non-financial indicators and future research could benefit greatly from more data on the performance of the carsharing providers. It also has to be noted that the numbers of cars do not equal the usage of them and is likely different between the business model types. In particular, usage of P2P cars is considerably lower than for other business models. We further note that only firms with an internet presence were included in the database which possibly leads to the exclusions of smaller, community focused carsharing initiatives without a website. The carsharing market in Germany is a rather specific case, in particular given its strong cooperative tradition. Specific findings may not be easily generalizable to other countries. The larger trends and geographies identified on the other hand escape institutional or cultural contexts and may well be transferred to other settings and, to some extent, to other sharing economy sectors. It is especially interesting to see what roles new technologies can play in the developments of sharing markets.

Our database delivered explorative insights into the different types of business models on the German carsharing market, their diffusion, size and organization characteristics. We gained some first insights in path dependencies, entry conditions and possible future developments. These findings, together with improved datasets, open an array of possible future research questions into carsharing or the sharing economy in general. One possible improvement to this study lies in the definition of success and variables to measure success. Comparable financial data of all firms would make it possible to compare the types on their financial success, while data on the number of customers and the number of bookings would make it possible to compare them in terms of diffusion success. Besides more variation in the

dependent variable of success or diffusion, the description of an organization's business model and capabilities can be more elaborated, for example, by including information on an organization's mission, financial structure and ownership structure, as well as founder characteristics to gauge pre-entry experience. Also, a systematical longitudinal analysis of the changes in business model indicators could give interesting insights. And, for a comprehensive analysis of carsharing organizations and their performance, the local context in which they operate deserves more attention. In particular, niche markets (e.g., students in university cities), the presence of competitors as well as engagement in local partnerships all affect the viability of a particular business model. Finally, future research efforts can be directed at extending the data to other countries to understand to what extent national (regulatory) contexts affect the viability of business models and the size of the car sharing market in total.

Notwithstanding the limitations and its exploratory nature, our study gives insights into the different types of carsharing business model, their diffusion and success. Our results suggest that the current diversity in business models is likely to persist in the near future, even if technological advances may eventually boost the P2P and one-way business models in the longer run. Our main contribution has thus been empirical, yet motivated by more general theories about dominant design, first-mover advantage and path dependence. The challenge for future research will be to come up with more detailed data about carsharing organizations and their success, which would allow for explanatory analysis and prospective modelling.

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II

THE EFFECT OF INSTITUTIONAL LOGICS ON BUSINESS MODEL DEVELOPMENT IN THE SHARING ECONOMY: THE CASE OF GERMAN CARSHARING SERVICES

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THE EFFECT OF INSTITUTIONAL LOGICS ON BUSINESS MODEL DEVELOPMENT IN THE SHARING ECONOMY: THE CASE OF GERMAN CARSHARING SERVICES

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The forces influencing business model development are widely discussed in the literature, but so far, the effects of macro-level forces such as institutional logics have received little attention. This study describes the effects of institutional logics in the context of business model development in the German carsharing industry. We longitudinally analyze a rich qualitative dataset from the start of professional carsharing in 1988 to 2015 to uncover the forces influencing the business models. We find that the two main business models—the free-floating model and the station-based model—have developed along disparate trajectories because the actors in the market are committed to different institutional logics. Corporate-backed companies that operate the free-floating business model are committed to corporation logic, and the small, environmentally minded organizations that operate in a station-based model are committed to community logic. We contribute to the business model literature by presenting institutional logics as a moderating force that empower some development trajectories and inhibit others. We also argue that commitment to community logic concerns actors in many other sharing economy markets outside of German carsharing. We discuss the implications of this proposition and suggest topics for further research.

Keywords: business models, institutional logics, institutional plurality, institutional complexity, sharing economy, collaborative consumption, carsharing

INTRODUCTION

The sharing economy, also referred to as collaborative consumption, describes services intended to replace ownership with the sharing and exploitation of underutilized assets, ranging from cars, houses, and parking spaces to pets, books, and clothes (Botsman & Rogers, 2010). Sharing economy markets are growing rapidly. A recent study by PriceWaterhouseCoopers (Vaughan & Daverio, 2016) on the five key sectors of the sharing economy in Europe finds that from 2013 to 2015, the value of the transactions of sharing economy services grew by more than 175%, from €10B to €28B.

The business models of many corporations are founded on the idea of private ownership of goods. Therefore, it is possible that the mainstreaming of the sharing economy could radically reform the markets (Howard-Grenville, Buckle, Hoskins, & George, 2014). Carsharing, for example, has the potential to radically reduce the demand for cars; one car used for sharing services has been shown to replace 9 to 13 private cars (Martin, Shaheen, & Lidicker, 2010). To understand the effect of sharing economy companies on the markets, it is important to understand how these new business models work and which forces shape them.

Research identifies a range of forces that influence companies' development of business models. Internally, business model development is influenced by the cognitive shortcomings of managers (Chesbrough & Rosenbloom, 2002; Chesbrough, 2010; Tripsas & Gavetti, 2000) and the threat that new models might reduce the profitability of existing models (Markides, 2013; Sosna, Trevinyo-Rodríguez, & Velamuri, 2010). The literature on business models, however, has not focused on the external forces that can influence business model development. It is seen as only being moderated by the market in which the company operates, which defines the competitiveness of a business model (Teece, 2010). However, Ocasio and Radoynovska (2016)

argue that in many industries, actors are embedded in institutional logics other than the market logic. In these industries, business model development cannot be understood without organizations' commitment to different institutional logics.

Thornton and Ocasio (1999: 804) define institutional logics as *"the socially constructed, historical pattern of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality."* Institutional logics form the basis for reasoning by determining which activities are seen as desirable and legitimate, thus influencing all aspects of organizations, including their business models (Ocasio & Radoynovska, 2016). Organizations working under different dominant institutional logics have various missions and goals that contribute to the creation of the diversity of the business models. This illustrative case study explores the effect of the plurality of institutional logics on business models by examining the development of various business models in the German carsharing market. This research also answers the recent call to examine the plurality of institutional logics in the sharing economy, which is seen as *"critical to examine the dynamics of the sharing economy"* (Mair & Reischauer, 2017: 1).

Carsharing services, which are offered mostly in cities, consist of membership-based rental schemes that allow people to rent cars on an as-needed basis (Shaheen, Chan, Bansal, & Cohen, 2015). Carsharing is widely considered one of the most significant sectors of the sharing economy (Botsman & Rogers, 2010) and it provides a good context for studying the development of the sharing economy business models because it is one of the few models with a long history. Professional carsharing began in Switzerland and Germany in the late 1980s (Shaheen, Sperling, & Wagner, 1998). In addition to this long history, the German context is also useful for studying

the effect of different institutional logics because small, environmentally motivated organizations initially dominated the industry, but corporation-backed companies later entered the market (Loose, 2014b).

We use a rich qualitative dataset of press releases, newspaper articles, practitioner studies, interviews, and company webpages from 1988 to 2015 to describe the major business model changes and investigate the reasons behind these changes. We focus on two dominant business models in the German market: station-based carsharing and free-floating carsharing. The former is based on round trips: the customer returns the car to the same spot from where it was taken. The latter is based on one-way trips in a designated city area: the customer can leave the car at the trip destination as long as it is within the operating area of the service.

This study shows that business model development in the German carsharing industry has progressed on two clearly separate trajectories that are driven by the actors embedded in differing institutional logics: corporation-backed companies embedded in corporation logic and small, environmentally minded organizations embedded in community logic. Corporation-backed actors have focused on the free-floating business model. This is because it enables fast growth, which is an inherent part of strategy in corporation logic. Small environmentally minded organizations have focused on the station-based model and additionally created their own version of the free-floating model. This is because the business models must be aligned with the core principle of the community logic of the station-based operators: it must incentivize people to drive as little as possible.

The differing institutional logics have inhibited the actors from directly imitating each other's business models. Therefore, we contribute to the business model literature by introducing the effect of institutional logics as an inhibitor of business model imitation. The differing

institutional logics also affect the physical presence of the different kinds of actors because the business models thrive in different environments. We also demonstrate that institutional logics empower actors to develop the business models into directions that are well aligned with their principles. For example, community logic has helped the station-based actors collaborate and overcome challenges that would probably have been overpowering to any individual organization. We identify the rise of community logic to be a wider trend in the sharing economy and contemplate its impact and future research topics related to it.

INTRODUCING THE CONTEXT: THE GERMAN CARSHARING MARKET

Carsharing emerged in Germany in the late 1980s and has since grown into a diverse market populated by many smaller players driven by environmental goals and a few larger organizations partly backed by large corporations in related industries, such as the automobile industry. In a relatively short time, carsharing services have moved from an eco-niche to the mainstream market. Currently, there are 1.7 million carsharing customers and more than 17,000 carsharing cars in Germany, and the sector has seen double-digit growth for more than 10 years (Bundesverband CarSharing, 2017a). Awareness of the service has likewise grown substantially over the years, as shown in numerous studies. In a survey conducted in 2004 (Loose, Mohr, Nobis, Holm, & Bake, 2004), only 15% of the respondents could correctly describe what carsharing is, but in a study conducted in 2015, 64% of the respondents were aware of the services (Schreier, Becker, & Heller, 2015).

Two main business models exist in the German carsharing market: station-based and free-floating carsharing. Their basic differences are presented in Table 1. Station-based carsharing enables round trips, with time slots booked in advance; this model uses a fleet of varying car models and types and bases pricing on both the distance driven and rental hours. Free-floating

carsharing serves spontaneous, one-way trips in a designated city area by using a fleet of small and microcars from a specific manufacturer; here, pricing is based on rental minutes. Free-floating services are not present in most cities where station-based carsharing companies operate, but rather, they are concentrated in the largest cities. The two models also have some similarities: the carsharing organization owns the fleet, and customers make a frame agreement with the carsharing company and then may make individual rentals independently.[1]

Insert Table 1 about here

The free-floating market is clearly dominated by two actors. Although four free-floating providers operate in Germany (Bundesverband CarSharing, 2016a), DriveNow and car2go run more than 90% of the free-floating cars (Bundesverband CarSharing, 2016a; car2go, 2016; DriveNow, 2016). Both operators are wholly owned by car manufacturing and car rental corporations: DriveNow by Sixt and BMW and car2go by Daimler and Europcar.

The station-based carsharing market is much less centralized. The 150 station-based providers in Germany range from associations operating a single vehicle to companies operating thousands of cars in many regions (Bundesverband CarSharing, 2017a). Most companies are privately owned, but some larger companies are also involved in the industry. Other car manufacturers, in addition to BMW and Daimler, have launched small pilot carsharing programs. Germany's incumbent train operator also has a major player in the market with its carsharing

[1] The peer-to-peer carsharing business model is also present in the German carsharing market. This model differs from the station-based and the free-floating models because individuals, not companies, own the cars. Peer-to-peer carsharing, however, falls outside the scope of this study. It is quite new and, to date, has few users. In addition, no business model changes in the coevolution of the two dominant business models could be traced to influences from the peer-to-peer model.

service Flinkster. Almost all the station-based companies belong to the central carsharing umbrella organization Bundesverband CarSharing (BCS). This organization serves the political interest of the members, works as a central point for information sharing, and supports its members in practical areas (Bundesverband CarSharing, 2017b). About 80% of the station-based companies, including all the major operators, belong to BCS (Bundesverband CarSharing, 2017c).

FORCES INFLUENCING BUSINESS MODEL DEVELOPMENT

A business model is a conceptual model that defines the basic architecture for how a company does business. A business model *"articulates the logic and provides data and other evidence that demonstrates how a business creates and delivers value to customers. It also outlines the architecture of revenues, costs, and profits associated with the business enterprise delivering that value"* (Teece, 2010: 173). The business model reflects the company's realized strategy (Casadesus-Masanell & Ricart, 2010). The strategy determines the goals and a plan of action to achieve them, and the business model is the configuration of the various elements of the business that brings the strategy to life.

Major strategic changes usually require changing the existing business models or creating new ones (Casadesus-Masanell & Ricart, 2010). Many factors, however, constrain a company's strategic agency. Internally, concerns regarding the dominant business model limit innovation and change in this area. Some promising new business models might run the risk of decreasing revenue from a current model (Markides, 2013; Sosna et al., 2010). Other models might be difficult to pursue because they would push the company into its partners' and customers' markets, possibly crippling existing value networks (Teece, 2010). Established companies, therefore, often have difficulty changing their business models even when facing an imminent need for a strategic change. Furthermore, management's cognitive capabilities influence which business models they

perceive as valuable, which are most often the business models similar to the dominant one (Chesbrough & Rosenbloom, 2002; Chesbrough, 2010; Tripsas & Gavetti, 2000). Consequently, managers remain oblivious to the potential of many innovations because unlocking their value requires new thinking about business models.

The business model development literature has mainly focused on internal forces. The only external force identified that can moderate business model development is customer needs, which determine what the customer perceives as valuable and how much the customer is willing to pay. These deep truths of customer needs are not apparent, and companies usually must conduct many repeated rounds of investigation to figure out what kind of model works (Teece, 2010). The literature shows no evidence of attention to the influence of institutional forces on business model development, arguably because it is assumed that all the market actors adopt the market logic as their dominant institutional logic (Ocasio & Radoynovska, 2016). Therefore, in a recent review on the business model innovation literature, Foss and Saebi (2016) identified the moderating effect of the institutional forces as an important future research topic.

Actors committed to the market institutional logic primarily pursue constantly increasing profitability (Thornton, Ocasio, & Lounsbury, 2012). This is a fair assumption in many markets with mostly private, entrepreneurial, for-profit actors. In highly institutionally pluralistic markets, the assumption that the various actors pursue only profit maximization might present an oversimplification that leads to a poor understanding of the dynamics of business model development. Although all markets have pluralistic institutional logics to some extent, the level of pluralism differs substantially (Ocasio & Radoynovska, 2016). Mair and Reischauer (2017) argue that sharing economy markets likely have pluralistic institutional logics for two reasons. First, most of these companies operate in local service markets, and they are deeply embedded in local

cultures. Consequently, sharing economy markets look very different not only, for example, in the United States and Germany, but also even within a single country. Second, sharing economy actors vary greatly in how they interact with their stakeholders. For example, users often are not only customers of the service, but also take on some co-creation responsibilities. Understanding the business model development in these markets, therefore, requires comprehending the actors' institutional underpinnings.

Effect of Institutional Logics on Business Models

The institutional logics perspective draws from the neo-institutional theory pioneered by Meyer and Rowan (1977). Their work began with the question of why the forms of different kinds of organizations resemble each other even though their technical activities differ. Meyer and Rowan's seminal argument is that organizations must adhere to the expectations of the organizational structure in modern society, which leads to organizational isomorphism, meaning that the structures gradually become similar. However, organizations can decouple their technical activities from their structure, creating room for strategic agency. DiMaggio and Powell (1983) elaborate on the theory of isomorphism by applying this societal-level theory to the meso-level. They argue that structuration happens in groups of interdependent organizations called organizational fields, which slowly become isomorphic. The work of the early institutionalists granted organizations little agency in institutional processes; they were external forces compelling the organizations either to conform or perish.

The institutional logics perspective, introduced by Friedland and Alford (1991) and later elaborated on by Thornton et al. (2012), has posed theoretical counterpoints to the prevailing assumptions of the neo-institutional theory. According to the meta-theory of institutional logics, all organizational agency is institutionally embedded. The prevailing institutional logics create the

basis for what is seen as valuable and desirable (Thornton et al., 2012). However, organizations are not mindless puppets: they have partial autonomy. Institutional orders set the basis for agency, but they do not exactly dictate how to use it. Furthermore, the institutional orders themselves can be changed. Additionally, the fact that organizations are embedded in multiple institutional orders enables them to pick the cultural elements of the different institutional orders in a unique way.

Institutional logics are macro-level cultural logics that create the basis for the individual's sense-making. Institutional logics are usually conceived through ideal types, and these types define the basis for sense-making in a particular societal domain. Thornton et al. (2012) identify seven of these ideal types: family, community, religion, state, market, profession, and corporation. Each order creates the sources for individual and organizational legitimacy, authority, identity, the basis of norms, attention and strategy, and the informal control mechanisms that uphold the institutional order. Although the institutional orders get their names from specific organizational types, this does not mean that an organization is only committed to a single institutional logic. For example, a large family firm could be committed to family logic through its ownership ties, to corporation logic through the management system of the company, and to market logic through its business.

Although all organizational fields have institutional pluralism to some extent, typically one logic clearly dominates over the others (Reay & Hinings, 2005). Organizational fields are not always stable because institutional logics compete for dominance. This competition might stem from an exogenous shock that forces a new institutional logic onto an organization, as the environmental catastrophes of the 1970s did to the U.S. chemical industry (Hoffman, 1999). In these cases, stakeholders commonly force the organizations to consider a new logic that was previously foreign to them. Conflict among institutional logics can also result from institutional entrepreneurs who introduce a new institutional logic into a field (Rao, Monin, & Durand, 2003).

A conflict between institutional logics usually reaches a resolution eventually. Either one institutional logic ends up dominating the other (Rao et al., 2003), or they converge, creating a new, dominant field-level logic (Glynn & Lounsbury, 2005; Hoffman, 1999). However, sometimes the conflict does not resolve; rather, it becomes a more or less constant state in the organizational field. In this case, the different dominant institutional logics usually remain siloed within different organizations in the same market that either collaborate (Reay & Hinings, 2009) or compete (Lounsbury, 2007).

Organizations in institutionally pluralistic fields must learn to cope with the demands of the conflicting institutional logics and create strategies and practices that balance the logics (Battilana & Dorado, 2010; Pache & Santos, 2013). Highly institutionally pluralistic environments present different configurations for how to achieve this balance. Ocasio and Radyonovska (2016) theorize that institutional pluralism increases the heterogeneity of the business models on the level of the organizational field. The different configurations of commitment provide a foundation for the varied strategies that lead to the creation of different business models.

So far, no empirical research has investigated the influence of institutional logics on business models. In the institutional logics literature, some studies show business practices more or less as the given extensions of the institutional logics and do not examine the creation of the practices (Battilana & Dorado, 2010; Lounsbury, 2007; Rao et al., 2003). We contribute to filling in this research gap by illustrating how different institutional logics influence the business models in the German carsharing industry. Our observational context is the industry, here referring to the producers in the carsharing market. Therefore, it is a narrower context than the organizational field that, in addition to the producers, often includes many kinds of actors that influence the creation of institutions, for example, regulatory bodies and social movements (Wooten & Hoffman 2016).

We have chosen the narrower focus because we do not look at the change or emergence of the institutions. They appear in the data as external forces influencing the business models. We have chosen to look at the providers because they are ultimately the ones making the decisions on the business models.

Understanding the institutional underpinnings of the German carsharing industry requires reviewing the different institutional logics and the base these logics form for strategy formation. Of the institutional logics presented by Thornton et al. (2012), three influence business model development in the context of this study: market logic, community logic, and corporation logic. In market logic, the aim of strategy formation is to increase profitability either by cutting costs or enhancing competitiveness by creating more value for the customers. Market logic, therefore, can be expected to steer the business model design toward greater efficiency and improving the value proposition. The aim of strategy formation in community logic is to increase the status of the organization within the community and honor the community's members and practices. Community logic, therefore, can be expected to manifest in business models through practices agreed upon within the community. In corporation logic, the aim of the strategy is to increase the size of and diversify the firm. Corporation logic, therefore, can be expected to direct business model development toward entering new markets and growing the company.

METHODOLOGY

To understand the forces influencing the development of business models in the German carsharing industry, we conducted a phenomenon-driven single case study based on qualitative evidence. Theories developed in studies based on rich contextual evidence tend to explain the studied phenomenon very accurately and be loyal to the particulars of the context (Dyer & Wilkins, 1991). We considered this a good research approach because it allowed us to understand what is

novel in the phenomenon. We also did not work from any presuppositions in theory but rather conducted research abductively. We formulated a theory grounded in the contextual evidence collected, and the simultaneous reading of the theory helped us see patterns in the data.

Demil and Lecocq (2010) argue that business models can be used in two ways: in a static way to capture a method of doing business in a framework to depict the manner in which companies do business or in a dynamic way to illustrate innovation and change in an organization or the business model itself. We adopt the latter approach. To understand the forces influencing business models, we observe how they change and examine the factors driving the changes. Focusing on a single institutional context yields a nuanced picture of the environment in which the carsharing actors have operated at different times. This helps us understand the data from the actors' perspective and enables us to observe the development of business models to reveal not only the event histories, but also the deeper logic, enablers, inhibitors, reasons, and motivations for their development (Van De Ven, 1992).

Zott, Amit, and Massa (2011) suggest that in the literature, scholars use business models as an analytical unit to explain how firms create and capture value across firm boundaries. For example, Bohnsack, Pinkse, and Kolk (2014) use business models in this way to understand the generic patterns for how business is conducted in the electric car market. In a similar way, the generic business model configurations of the German carsharing industry form our analytical units. These configurations do not exactly portray the business model of any single company because all models are unique. However, they form the basis for all the models of the individual companies. Therefore, they describe the generic ways in which companies can do business and survive in the market. This is also important in terms of revealing forces such as institutional logics that affect business model development on a collective level. Deeply ingrained belief systems are often not

even acknowledged or questioned by organizations (Scott, 2013), so they would be difficult to spot by only looking at the business models of individual operators.

Business Model Framework Used for Analysis

The literature shows many kinds of business model frameworks with varied components (e.g., Bohnsack et al., 2014; Chesbrough & Rosenbloom, 2002; Demil & Lecocq, 2010; Morris, Schindehutte, & Allen, 2005; Teece, 2010), including factors related to value creation, the firm's financial structure, back office activities, and the company's strategy to capture a competitive advantage. Due to the industry-level focus of this study, the factors that reflect the choices of individual organizations (e.g. strategy) are excluded.

Figure 1 shows the business model framework, which consists of the value proposition, value capture, value network, and customers. Value proposition describes the value that a product or a service offers to the customer, and value capture is the way the company receives money for the proposed value. These are the basic elements needed for the survival of any for-profit organization in any market.

Insert Figure 1 about here

In carsharing, value proposition consists of three components: the variety of the fleet that is offered to customers, how a rental is started and ended, and how the customer accesses the car. Although customers do not necessarily value the access procedure, it moderates the convenience of the rental experience. Convenience is highly important to carsharing customers (Shaheen & Cohen, 2013) and thus part of the offered value. Value capture mechanisms in the carsharing

industry are straightforward because renting cars is almost the operator's sole revenue source. Hence, this value capture determines the pricing of the carsharing companies.

Additionally, the business model framework includes the targeted customers. For this element, we look at the specific segmentation that carsharing companies use, not the customers who choose the carsharing services. The reasoning is that as business models develop, the company's customer segmentation becomes more fine-grained, revealing the forces influencing the business model development. The framework also includes the value network. Few customers use only carsharing for their transportation needs, so the service is always part of a transportation chain. Thus, carsharing is a networked business by nature, and the value network is a major part of the business model development.

Data

Table 2 lists the data sources used in this study. Data collection began with a round of interviews in 2015. The first interview was conducted with the central umbrella organization, BCS. In the interview questions, we asked who the central actors in the carsharing industry were. Starting with this first set of actors, we used snowball sampling (Heckathorn, 2011), in which each interviewee recommended other individuals and organizations to be interviewed. The goal of the interviews was to shed light on the most significant business model changes in the carsharing industry and to discover their causes.

Insert Table 2 about here

Interview data describing past events is prone for post-hoc rationalization and memory lapses. Therefore, in theorizing change processes, interview data should be complemented with

archival data to get a more fine-grained understanding of how events have unfolded (Langley, 1999). Thus, we collected an extensive set of archival data to confirm and contextualize the findings and to set the events in the correct order. We examined the press releases of the key players to create an event history of the major business model changes in the free-floating and station-based models.

We identified the key players by asking the interviewees which organizations had the most influence in bringing about changes in the business models. In the case of the free-floaters, the choice of which organizations to analyze in detail was straightforward because DriveNow and car2go clearly dominate the industry and initiated all the major developments in the free-floating model. Selecting which station-based organizations to analyze was more difficult because numerous organizations operate this service type. After studying the history of carsharing and holding discussions with key informants, two organizations emerged as clear game changers in the station-based carsharing industry: stadtmobil and cambio. According to our data, these two actors together control more than 40% of the station-based carsharing market, as measured by the number of cars, and they introduced major changes in the business model.

The archival data was further complemented with books on carsharing, studies on different eras of carsharing, and all the articles on carsharing published in the German weekly newspaper *der Spiegel*. The data served two purposes: First, it provided information from the early period of carsharing before the turn of the millennium. The press release data start in the year 2001, so the event history does not expand to this earlier period. Second, it contextualized the changes, providing snapshots of what the carsharing market looked like during different eras.

Finally, to get a comprehensive picture of the German carsharing industry, we constructed a database describing the business models of all German carsharing organizations that have

websites. Data was collected in the spring of 2016 from the company websites and it describes the business models of 100 station-based and free-floating companies, including all the major actors in the industry. At this stage, two confirmatory interviews were also conducted to fill some gaps in the data and to verify the initial findings regarding the reasons for some early business model changes and business model experimentation in the station-based carsharing industry.

Analysis

The analysis was carried out over four rounds that partially overlapped. In the first round, we traced how the station-based and free-floating carsharing business models had developed. We examined the organizations identified as central to the business models development: car2go, DriveNow, cambio, and stadtmobil. The press releases, interviews, and other archival material concerning the organizations were analyzed for any references to the business model. We coded all the sections that contained any references related to the business model. At this point, we did not consider what might be relevant in the later stages of analysis. Consequently, the business model framework was more extensive than the one presented in this paper and included elements concerning, for example, individual company's organizational design and strategy. We documented all these changes chronologically in a 100-page Microsoft Word document.

In the second round of analysis, we identified the major business model changes based on the document made in the previous round and on archival material concerning other actors in addition to those studied in the first round. We defined a major change as one not only affecting one element of the business model, but also as one reconfiguring the business model in some way. Each major change raised the question of why it happened, and the new kinds of actors entering the carsharing market with different business models raised the question of why they selected their

particular business models. Market exits and discontinued experiments raised questions about their causes as well.

We analyzed the available data to discover the reasons behind the business model changes, market entries, and market exits. Sometimes, the reasons could not be found, so we consulted complementary data sources, including carsharing operators' current websites and old websites retrieved using Wayback Machine, as well as newspaper archives, press releases from carsharing organizations and BCS, and the annual reports of the owners of the free-floating companies. On the rare occasions that the answers still could not be found, we asked our key informants about them. Based on the results of the second round of analysis, we wrote a narrative of the major business model changes and the reasons leading up to them.

In the second round of analysis, institutional logics emerged from the data as a major factor explaining how some elements of the business models developed. These themes reoccurred throughout the data across the individual organizations studied. The institutional logics, therefore, were not the phenomenon that motivated the study; instead, they were an explanatory factor grounded in the data.

Identifying institutional logics as an important influence on business model development led to the third round of analysis. We examined how the institutional logics formed and how and why they affected the business models. The institutional logics, especially those of the station-based actors, could be tracked to the coded norms affecting the overall business model of the industry. The finding that institutional logics stabilize the business model development through norms prompted us to pay closer attention to the areas of the business model that had not changed or that had been improved gradually during the observation period. This deepened our

understanding of the different institutional logics, driving the development of the two business models.

In the fourth and final round of analysis, we attempted to ensure that we had not overlooked any of the business model trajectories within the German carsharing industry. We scrutinized a database containing all the German carsharing actors for business model configurations other than those we identified in the earlier stages. We also more carefully studied the business model development regarding some of the major actors and more peculiar actors to understand their role in the business model development and the reasons for their specific business model configurations. In particular, because of its position in the carsharing industry, we studied the business model of German train operator Deutsche Bahn (DB) at different points in history. We also wanted to make sure that we had not missed any major discontinued business model experiments and accordingly examined books on carsharing, studies on the German carsharing market in different eras, and interviews discussing this topic.

FINDINGS

This section presents the findings from two eras in chronological order. The first era began with the founding of the first station-based organization, and the second era started with the founding of the first free-floating organization. The section on each era starts with a brief introduction of the historical underpinnings of the institutional logics to which the actors entering the market are committed. Next, we describe the business model development and the causes behind this development by using the business model framework presented in the methodology.

Era 1: Emergence and Professionalization of Station-based Carsharing: 1988–2009

The story of professional carsharing in Germany began on June 10, 1988 with the founding of a company called stadt-AUTO. Before this, carpooling initiatives had operated in Germany, but

no organization offered short-term usage of a car. Markus Petersen founded stadt-AUTO as a field experiment for his dissertation on the economic feasibility of carsharing. Shortly after the founding of the organization, however, the media became interested in it, and the organization started to grow rapidly.

After the establishment of the first organization, carsharing services in Germany rapidly proliferated. In 1994, 69 providers existed, mostly motivated by environmental concerns, and almost without exception, they were founded as associations. Loose (2014b: 11) describes the motivation behind the initiatives as follows:*"Carsharing originated as an alternative to the overpowering position of the individual car mobility in German cities, which had dominated German transportation politics since the end of the Second World War. The impulse emanated from environmental associations and ecological oriented transport initiatives. Cars should be used more efficiently and intelligently. Thereby fewer cars would be needed, and thus they would cause less ecological damage. The idea to use cars instead of owning them was the right answer to them to the challenges of the transport and environment situation of the time."*

The most important purpose of carsharing companies from the beginning has been to reduce the use of private cars. Carsharing exists as a service because the operators perceive that people sometimes need a car and would have to acquire their own without the service. However, companies should incentivize customers to use cars only when necessary and as little as possible, encouraging customers to otherwise utilize more ecological transportation modes such as walking, bicycling, and public transportation. The manager of a carsharing organization expresses this view in an interview: "*One of our big goals is that we have an ecological claim. We want to reduce the car traffic in cities. That is really our great commitment and a reason why we do the whole thing*."

Although many station-based carsharing operators later professionalized and changed their organizational form into private for-profit companies, they did not abandon their original mission. Running carsharing through a company structure merely serves as a means to an end: to get people to drive less with their privately owned cars. Station-based operators see operating carsharing on a for-profit basis rather than, for example, on a state-subsidized basis as supporting their mission. Any driving harms the environment; therefore, drivers need to carry their own costs and should not be subsidized. A manager of a major carsharing firm expresses this position well, as follows: "*It is clear: the economic side has to work. We cannot go around that. Without that, nothing works. And you ask a question about subsidies. We have always objected to that. We have always thought that driving a car should not be subsidized. The person who wants to drive needs to pay for it.*"

The ecological mission became the basis for the community institutional logic among station-based carsharers. German and Swiss carsharing operators founded a common European umbrella organization in 1991, which formed the foundation for the later German umbrella organization BCS. To belong to BCS, an organization must adopt a business model that meets the central organization's definition of a carsharing business model. This definition imposes certain requirements on the business models of carsharing companies, and if a firm later violates these requirements, BSC may question its membership and expel it.

The principles of the community logic were further shaped into norms as carsharing received the environmental label "der Blaue Engel" (The Blue Angel) at the turn of the millennium. The German government created this label and awards it to products and services based on criteria decided by an independent jury. The environmental label exercises major influence in the station-based carsharing industry, with three of the five biggest carsharing companies earning it. Der Blaue Engel reflects the BCS definition of a carsharing service but contains further requirements for the

business model. Table 3 presents the requirements of both parties. The following sections explain their effects on the elements of the station-based carsharing business model.

Insert Table 3 about here

Business model development: value proposition. Before the turn of the millennium, the various carsharing organizations had similar value propositions. At this stage, the service remained rather amateurish and required the customers' dedication and patience. Customers could do bookings only by telephone, and many carsharing organizations, especially early on, took reservations only during certain hours of the day. Cars did not have regular parking spots, and customers had to find them using instructions given by the carsharing organization before starting a rental. Booking times could not be controlled, but the customers were trusted not to keep the cars longer than promised. Some organizations even required that new customers give up their private cars before joining to ensure that they actually drove less. Companies, however, quickly abandoned this requirement because it restricted the circle of carsharing users too much.

During the 1990s, the basic carsharing business model changed only incrementally. Despite the relative clumsiness of the value proposition, almost all carsharing organizations enjoyed steady, brisk growth throughout the decade. However, as the turn of the millennium approached, the carsharing organizations started to face challenges. As the Internet's popularity grew, many customers requested the ability to book cars online. At the same time, concerns regarding the security of the cars grew. All the customers held keys to all the key cabinets, and there was no control over who took the car keys and when they were returned. Toward the end of the 1990s,

several incidents of fraud and even car theft occurred. This situation motivated carsharing organizations to consider automated access to cars using personal keycards.

Small carsharing organizations operating in separate cities faced significant challenges in implementing these technological changes. Internet booking required developing applications, and automatized access required rolling out board computers throughout the vehicle fleet and giving out chip cards to members. Carsharing organizations had neither the expertise nor the funding to carry out these improvements. This need brought the organizations closer together, and different kinds of clusters started to form, giving rise to the carsharing clusters stadtmobil and cambio, today the biggest operators in the German carsharing market. After the turn of the millennium, these organizations introduced the first online booking systems, automatic access systems, and on-board computers, which other leading carsharing operators quickly adopted.

Although the market logic of reducing risks, increasing efficiency, and answering customer demand were the main motivations behind creating carsharing clusters, community logic aided the organizations in finding common ground. The organizations constantly discussed issues with each other and sought to solve problems together, which eventually led to integration. For example, cambio came into being as follows (Warmke & Dannheim, 2014: 35): "*The experience exchange leads the [carsharing] companies in [the cities of] Aachen, Bremen and Köln more and more together and finally to the realization that efficiency and professionalism can only be accomplished together.*"

Many smaller carsharing players did not have the ability to get onboard with the technological development but received support when Deutsche Bahn, the German train operator, entered the market in 2001. DB did not have its own fleet; instead, it created a franchising model in which local partners delivered the service but followed a uniform pricing structure. DB also

provided a common marketing portal, an Internet booking system, a competency center, and back office activities. Many small carsharing companies partnered with DB and gained access to an Internet booking system. Later, stadtmobil also enabled other organizations to use its technological platform and created a pricing model based on the size of the carsharing organization. The carsharing systems of both DB and stadtmobil helped station-based carsharers bring their value proposition into the Internet age.

Although the entry of DB accelerated the technological development of the carsharing market, it did not change the station-based carsharing business model in any significant way. DB had little motivation to shake things up in the market. The corporation saw carsharing as an important last-mile service to its core business: railway traffic. Carsharing services provided a way for train customers to get to the train station and continue their travel from there.

Regarding the fleet, the principle stemming from community logic holds that station-based carsharing should answer to all the automobile needs of customers. Thus, station-based carsharing organizations have fleets with a wide variety of cars of different types and sizes. Furthermore, fleet emissions have been a target of constant optimization in the business model. Many carsharing companies must focus on this area to earn the environmental der Blaue Engel label, which sets the absolute maximum emissions and maximum average emissions of the carsharing fleet and requires constant improvement in this area. For example, the current label requires reducing average emissions to 95 g CO_2/km by 2020.

Business model development: value capture. The value capture model remained similar throughout the first era: it had a time- and distance-based component and usually a monthly fee. BCS's (2007) definition of carsharing includes the time- and distance-based pricing components (see Table 3), making them part of the business model imposed on station-based carsharers by

community logic. A monthly fee is not required and is dictated more by market logic. Each new customer requires administrative work, so a large number of customers who drive little create costs but generate no revenue.

Business model development: value network. The value network of carsharing companies has developed by allowing customers to cross-use the services. German carsharing companies have focused on providing services to specific cities or areas of the country. However, from the very beginning, the community has entertained the thought of allowing customers to cross-use other carsharing services on trips outside their hometowns without having to register as customers of the local carsharing organizations. Some cross-usage partnerships already existed in the 1990s, but online booking systems accelerated their development.

Gradually, two cross-usage networks developed in Germany. In 2001, DB launched the first franchising network, using its booking system and a unified tariff structure to facilitate easy cross-usage among partners. Second, cambio and stadtmobil agreed on a cross-usage partnership in 2004. Later, other carsharing organizations joined this cross-usage network. In 2017, both cross-usage networks allowed customers to use more than 4,000 cars across Germany through membership to a single carsharing organization (cambio, 2017; Flinkster, 2017). The networks included most carsharing organizations in Germany.

Although the motivation to create cross-usage networks stems from market logic, community logic created the groundworks for these partnerships. Unlike many entrepreneurial companies, station-based carsharing companies do not perceive growth as valuable in and of itself. A manager of one carsharing organization expresses this view in an interview, as follows: "*First of all, it is important [to note that] all the classic carsharing providers are not companies that came to the market with the goal to operate carsharing in as many cities [and] as many countries*

as possible. We are not interested in growth. ... We are concentrated in the places where we are present and trying to have a service network as dense as possible." Due to the shared community logic, station-based operators have little motivation to move to areas where other carsharing firms already operate because these firms belong to the same community. The organizations, therefore, have found it easy to agree on cross-usage because they see other organizations more as partners than possible future competitors.

In addition to other carsharing organizations, another important partner has been public transportation. Local carsharing and public transportation operators entered their first partnerships in 1995, and since then, new agreements have emerged in most German cities where carsharing is available. The nature of the partnerships ranges from common marketing campaigns to permanent tariff partnerships, offering customers package deals that include annual public transportation subscriptions and carsharing usage rights.

The motivation to strike up partnerships with public transportation partly originates from market logic. Regular users of public transportation present an attractive customer group for carsharing organizations. They are far less likely than others to own cars, so they are easily drawn to carsharing services to satisfy their occasional need for private automobiles. However, the motivation behind these partnerships also stems from community logic. The BSC's definition of carsharing states that carsharing is complementary to walking, bicycling, trains, and buses. The environmental certificate der Blaue Engel lays out further requirements for the companies' business models, including that carsharing companies give discounts to annual public transportation subscribers.

Business model development: customers. The target customers of the carsharing firms' business models have also developed. Initially, the services were not especially targeted at anyone

because the scarce amount of human resources had to be dedicated to running the service. However, as more customers joined, the companies faced challenges with the utilization of the cars. First, customers used the cars almost exclusively for private purposes, with peaks during off-business hours, especially on the weekends. Consequently, not all customers could secure cars during peak hours, and cars stood idle during non-peak hours. Utilization was important because the carsharing organizations had significant fixed costs for central office activities and investments in technology and their fleets. The need to even out utilization guided carsharing companies' attention to business customers early on. Business customers have a complementary usage profile to private customers because business customers mainly use the cars on weekdays during office hours.

To increase the share of business customers, organizations made numerous tweaks to increase the attractiveness of the business model. Regarding the value proposition, companies offered business customers centralized billing services and fine-tuned the service to serve their transportation needs, setting up stations in business areas and even stations dedicated to specific business customers. Regarding value capture, firms gave separate discounted pricing schemes to business customers.

Era 2: Rise of the Free-floating Operators, 2009–2016

Daimler became the first free-floater to enter the carsharing market, announcing the pilot of car2go in 2008. When Daimler started to expand the service in 2011, it partnered with the car rental company Europcar. Car2go was not the only free-floating carsharing company for long. In March 2011, BMW announced that it and the car rental company Sixt were founding a carsharing joint venture called DriveNow, opening first in Munich and Berlin and later expanding

internationally. Within the German markets, car2go and DriveNow competed in the same spaces, and by the end of 2013, both companies had a presence in Germany's five largest cities.

The main strategic motivation behind entering the carsharing market stemmed from the eroding status value of the car in the eyes of young urban dwellers. BMW and Daimler saw carsharing as complementary to their dominant business model, which is based on manufacturing and selling cars; the companies saw this as a way to work in brand marketing to this hard-to-reach customer segment. This view emerged in the following quotation in *der Spiegel* (Rieckmann, 2010): "*Behind the mobility concepts of the manufacturers ultimately lies the calculation to turn young purchase refusers into young car buyers. Andreas Leo, speaker of car2go formulates it this way: 'Every ride with car2go is, of course, also a test ride in a smart (car).'*"

The free-floating business model suited corporation-owned joined ventures because it aligned with the parent companies' corporation institutional logic. Any new business in which corporations invest must provide the means to grow the corporation. The corporations did not publish explicit targets for the growth of their subsidiaries, but they expected this of car2go and DriveNow, as illustrated in the following car2go press release (Daimler, 2013): "*Daimler has made a contribution to revolutionizing carsharing. ... We also want to grow strongly in the future and achieve a market leadership in this segment.*"

For corporations' growth targets, the station-based business model would be far too slow. In 2015, cambio, a leading station-based carsharing company, reported a turnover of 22.5 million euros after some 25 years of operations (cambio, 2016). It is very hard to imagine Daimler or BMW, with their revenues measured in the scale of a hundred billion euros, to invest in such a business. Slow growth, though, is inherent to station-based carsharing businesses due to the difficulty in getting good spots for stations. The best stations are in congested inner cities, so

acquiring the spots for stations usually requires local knowledge and lengthy negotiations with the city or the owner of the premise.

Free-floating businesses, however, can experience fast growth. They can start operations immediately with hundreds of cars because they use normal, on-street parking spaces. The difference in these business models is characterized by a director of DriveNow, in the following: "*Let's say the basics to understand the growth of DriveNow, the basic point is always the concept. It could not have been or it could not have grown so fast if the concept [had not been] free-floating carsharing. Free-floating, the flexible kind of carsharing in itself is the frame, or the base actually, for the growth. … Also, you can scale it easily if needed. You can put another 100 or 500 or 1,000 cars [into] the city, which the station-based carsharing cannot.*"

Both car2go and DriveNow indeed have grown very quickly. In less than 10 years of operations, they have gained almost three times as many customers as the station-based operators, and there are almost as many free-floating cars as there are station-based cars in Germany (Bundesverband CarSharing, 2017a).

Business model development: value proposition. Both DriveNow and car2go approached the carsharing market with a similar value proposition based on one-way trips in designated city areas. Customers book cars using web-based software or rent the cars spontaneously on the street. They access the cars using membership cards given upon registration. The companies, though, approach their fleets a bit differently. Car2go operates only with two-seater cars: Smart fortwos. DriveNow provides various mini and BMW sedan models and later added Cabrios and sport utility vehicles to the fleet.

The companies have continuously developed the value proposition of the free-floating model in several areas. The organizations have expanded and shrunk their operational areas

according to the service's popularity. An important area has been the airports, which both DriveNow and car2go have integrated into their operational areas in all cities where they operate. This improvement particularly targets business customers who use free-floating services as last-mile transportation for their business trips. Regarding fleet development, electric cars have stood as an area of constant development. Their proportion in the whole fleet has constantly increased since the founding of free-floating services.

Overall, the development of the free-floating model has been gradual. The only major deviation from the business model came from a station-based pilot called car2go black in Hamburg and Berlin powered by the B-model Mercedes Benz cars. The business model was rolled out following a fast-growth model similar to that used for free-floating carsharing. The service started with 200 cars in both Hamburg and Berlin but was unsuccessful and later discontinued.

The company Citeecar introduced another station-based, fast-growth business model in the German carsharing market in December 2012. This marked the first station-based operator backed by venture capitalist money, and it aimed at quick growth. The company otherwise acted as a station-based provider but crowdsourced its stations and many fleet-related back office activities. The company recruited so-called hosts, who gave a parking spot that they owned to a company car and were responsible for the vehicle's maintenance and daily care. In return, the host received an ample amount of free driving hours with the car. The company, however, never achieved profitability and had to cease operations due to insolvency.

The value proposition of the station-based business model has changed very little throughout the second era, but the number of operators has grown substantially, and the model has spread to new cities through the founding of new organizations and expansion of existing organizations. The only major change during the second era concerned some free-floating services

provided by station-based operators. Since the emergence of the free-floaters, the customers of station-based providers have actively asked for these services as well.

Station-based providers have reacted to these customer requests in two ways. Some see the station-based model as well aligned with community logic and hence do not perceive the need for free-floating services. For example, cambio's chief executive officer, Joachim Schwarz, comments in the following way in a press release (cambio, 2014): "*Cambio puts its stakes on station-based carsharing. ... The reserved parking spot and the planning security when booking make it easy for our customers to manage without a private car. Only if carsharing is suitable for all trip purposes in daily use can we really reduce the number of cars in the city.*

However, other operators have started to provide free-floating services in addition to station-based carsharing. To align the free-floating model with community institutional logic, however, station-based carsharing companies have created a new value-capture mechanism.

Business model development: value capture. The pricing model of the free-floating operators has been very simple. It bases prices on driving minutes and is purely transaction based, charging no monthly fees. During the second era, the basic model has stayed the same despite some tweaks, including a less-expensive parking tariff and prepaid driving time packages. This pricing model is different from the one described in the definition of carsharing given by BCS (2007) and therefore conflicts with the norms of community logic. Therefore, BCS has declared that free-floaters are not carsharing organizations because they offer no guarantee that they can reduce private automobile use. As the following BCS (2010) press release explains: "*Short one-way car trips for a low price can definitely be a substitute to trips that are normally conducted by foot, with a bike, with a train or with a bus. Therefore, car2go can quickly become a replacement*

for these environmentally friendly travel modes and not a good supplement, such as station-based carsharing."

In the press release, BSC attributes the potentially environmentally detrimental effect to, among other things, the lack of a distance-based pricing component that encourages people to drive as little as possible. To create a free-floating business model that aligns with community logic, the station-based carsharing companies that do try the free-floating model offer it with a pricing model based on both minutes and distance. Minutes are very cheap, whereas kilometers are costly. In this way, carsharing organizations seek to ensure that the cars are not used for brief trips that cannibalize public transportation. Station-based operators see this distinction to the free-floating models implemented by car2go and DriveNow as very important. BCS (2016b) recently published a fact sheet highlighting scientific studies that support the distinction.

Business model development: value network. Similar to station-based carsharers, free-floaters have actively built partnerships with public transportation operators. Car2go, in particular, has seen itself as part of its customers' transportation chains and integrated itself with other transportation options. Its parent company, Daimler, has developed an app called moovel, which is intended to serve as a route planner and information hub for different transportation options. In addition to car2go vehicles, the app presents local public transportation routes, train connections, and selected taxi and bike rental operators. Daimler later also developed the app into a ticket purchase hub for the public transportation options in some cities.

DriveNow has created partnerships with public transportation and been especially active in marketing partnerships. The company has introduced partner packages, in which customers can buy a skiing, spa, or shopping trip for a fixed price. The package includes trips with a DriveNow car and services and discounts at the destination.

Business model development: customers. The main factor determining free-floating operators' targeted customers is the free-floating business itself, which is financially feasible only in larger cities. During an interview, the director of a free-floating operator explains this regarding the company's expansion strategy, as follows: *"Very easy story, we need a certain number of inhabitants, we need a certain type of city, which at the beginning was around a million, that we need a minimum of a million people. Which in Germany is only four cities: Berlin, Hamburg, Cologne, and Munich. They have more than one million people. Düsseldorf was a kind of pilot, they are a little less, they have 650,000 inhabitants. It's the smallest city, but connected with Cologne to our Rhineland business area."*

Only in central cities are there many different kinds of use cases for free-floating services that can facilitate car utilization at a profitable level. The specific geographical focus of free-floating operators makes business customers not quite as important to them as to station-based operators. However, free-floaters have made various tweaks to the business model to attract business customers, offering centralized tools to manage and monitor multiple users under a firm's accounts. Business customers can also receive discounts based on the number of users and have various billing options, including direct integration into the customer's billing system.

Summary of the Findings

Table 4 summarizes the effect of market, community, and corporation institutional logic on the business models of free-floaters and station-based providers. Market logic affects both kinds of organizations. Its fundamentals stem from the carsharing market itself, and any actor in the market must adhere to these fundamentals, at least to some extent, to survive. This logic can be seen as what Teece (2010) describes as the deep truths of the market. Two issues seem to be especially relevant. First, cars provide the sole income source, so carsharing is a utilization

business. Both station-based providers and free-floaters, therefore, must seek complementary usage profiles to ensure high utilization. Second, carsharing is a networking business. Very few customers use only carsharing for their transportation needs. Hence, all carsharing operators must consider integrating their services into transportation chains, making public transportation an especially important partner.

Insert Table 4 about here

Although market logic influences much of the business model development, many aspects of it cannot be understood without examining the other institutional logics affecting the operators. The station-based operators' community logic becomes especially visible in their value-capture mechanisms. All station-based operators must have distance- and time-based pricing components or face expulsion from BCS. This requirement has prompted station-based operators to create a new hybrid model, offering free-floating cars in addition to station-based cars and basing pricing on inexpensive minutes and expensive kilometers.

Institutional logic has also guided fleet choices to cover different automobile usage needs and constantly optimize car emissions. This logic has urged and even obliged some station-based operators to partner with public transportation. Regarding partnerships, the shared community logic empowered station-based operators by creating a foundation for value networks, paving the way for the creation of carsharing clusters at the turn of the millennium, which spurred technological development. Later, community logic aided operators in creating cross-usage networks to improve the value proposition. It is hard to imagine the resource-constrained

organizations of the 1990s individually bringing their services into the Internet age and creating country-spanning usage networks.

The free-floaters have not joined the station-based operators' community but have exhibited the limitations of their parent companies' corporation logic. This logic has first and foremost constrained these companies to the free-floating model because the station-based model does not grow quickly enough. So far, no operator has demonstrated the ability to create a fast-growing station-based model; thus, the market is limited to actors that have the patience to wait for the slow organic growth inherent to this model.

DISCUSSION

This study contributes to the business model literature and offers initial insights into how the plurality of institutional logics plays out in the context of the sharing economy. We demonstrate that institutional logics empower some business model development trajectories and inhibit others. For example, community logic has empowered the collaboration among the station-based operators but inhibited them from directly imitating the free-floating model. The fact that differing institutional logics have inhibited the actors from imitating each other's business models is a contribution to the business model literature. Business models are assumed to be quite easily imitable because they cannot be patented and are usually discernible to competitors.

Teece (2010) mentions three possible factors that can inhibit the imitation of business models: the need for systems, processes, or assets that are hard to come by; the opacity of the business model, making them hard to understand; and the incumbents' possible concerns about cannibalization. Working from the assumption that market logic governs all actors and that organizations make maximizing profits their main goal, this list is probably quite definitive. However, in more institutionally pluralistic industries, this is not necessarily the case. In the

German carsharing industry, BCS rules inhibit station-based carsharers from directly imitating the free-floating business model. At the same time, growth expectations inhibit free-floaters from imitating the station-based business model.

The fact that the two kinds of actors cannot imitate the other's business model supports Ocasio and Radoynovska's (2016) argument that institutional plurality increases the heterogeneity of business models. Without the differing institutional logics in the German carsharing industry, the free-floating business model might never have emerged, and the hybrid model of the station-based carsharers would unlikely have been introduced. Interestingly, however, the differing institutional logics also limit business model innovation because the norms render some business model combinations illegitimate for the carsharing companies. We, therefore, cannot take a stand on whether an institutionally pluralistic carsharing industry has a higher plurality of business models than one committed to only market logic.

We also offer an alternative explanation for why some corporations fail to capitalize on product and service innovations. An important factor influencing free-floaters' presence and growth is the alignment of the business model with the parent companies' corporation institutional logic. It seems likely that the parent companies are aware of the station-based model but have not entered the market because it cannot be grown quickly enough; therefore, it does not align with corporation logic.

Like management's cognitive shortcomings, institutional logics restrain corporations from benefiting from product and service innovations. In the case of cognitive shortcomings, innovation of the business model faces resistance from the dominant logic of the firm because managers see the world through their current business model (Chesbrough & Rosenbloom, 2002; Chesbrough, 2010). Similarly, the institutional logics turn executives' attention toward solutions that are

consistent with the dominant institutional logic of the industry (Thornton, 2004). On the organizational level, these two forces have similar outcomes because they both restrain the innovation of corporations' business models. However, on the industry level, these forces create protected niches for smaller organizations, which can capitalize on business models that are unaligned with the institutional logics to which the dominant actors are committed.

This dynamic can be also seen in the carsharing market. Corporation-backed firms can only enter cities with more than 500,000 inhabitants, leaving smaller cities to station-based operators that follow community logic. This finding is relevant to Mair and Reischauer's (2017) call for research on the consequences of institutional plurality in sharing economy markets. Community logic makes some business model variants illegitimate, so the carsharing offerings in the metropolises and smaller cities follow different trajectories. This situation, of course, might be temporary and change because of a major technological disruption, such as autonomous cars, which would substantially change the players' cost structures (Münzel, Boon, Frenken, & Vaskelainen, 2017).

Regarding institutional plurality, it is important to note that the operators of the German station-based carsharing market are almost exclusively for-profit actors following a community logic of their own creation. The usual assumptions hold that for-profit companies follow corporation and market logics (Ocasio & Radoynovska, 2016). This emphasizes Mair and Reischauer's (2017) call to unpack the institutional underpinnings of the sharing economy markets. The emergence and development of the German carsharing market cannot be understood without observing the institutional logics in which the actors are embedded.

This finding is also relevant to the recent discussion on whether the sharing economy leads to radically increased ecological sustainability by replacing the old, unsustainable manufacturing-

based business models. Martin (2016) predicts that this will not occur and that corporations will co-opt the sharing economy, making it business as usual, because the corporations entering sharing economy markets have much more power than the ecologically motivated actors that previously populated them. However, in our study on the German carsharing market, we found evidence contrary to this prediction. At least for the time being, station-based operators are thriving in the German market. Additionally, preliminary studies indicate that the corporations' free-floating model is ecologically beneficial as well (Martin & Shaheen, 2016; Schreier et al., 2015). Its pro-environmental nature is not as strong as the station-based model, but free-floaters appeal to a different customer group and thus expand the ecological impact of the carsharing industry.

This is not to deny that the differing institutional logics have consequences for the potential ecological sustainability effects. Car2go and DriveNow only entered the carsharing market when they had created a business model in line with their parent companies' corporation logic. The pro-environmental nature of the business model is more of a side effect than a reason for existence, as it is for station-based carsharers. Corporations entering other sharing economy markets, therefore, might indeed erase the sustainability benefits presented by smaller actors' business models. However, in contrast to Martin (2016), we argue that the effects of corporate co-optation cannot be concluded at the level of the whole sharing economy but must be studied on the individual market level.

Regarding institutional plurality, sharing economy markets outside of the German carsharing market seem to be especially attractive to actors committed to community logic. For example, a co-operative called Mobility Carsharing (2016) operates in the carsharing market in neighboring Switzerland and permits its customers to become members of the co-operative and have the right to direct its development. Within the home-sharing market, Couchsurfing, a

community-based initiative, allows members to offer accommodations in their homes to other members for free; those who ask for money are expelled (Couchsurfing, 2016). The ride-hailing company Lyft attempts to build a community among the drivers, delivering the service through common perks and practices that connect the drivers (Ocasio & Radoynovska, 2016).

There are at least two reasons behind the prominence of community logic in the sharing economy. First, many sharing economy actors hold a belief in a common mission, one which is often institutionalized in the community's practices. Second, customers co-produced many sharing economy services, which erodes the boundary between the producers and the consumers and makes it easier to produce a community around the service. The commitment of some organizations to community logic leads to institutional plurality in the sharing economy markets because often, organizations are committed to market logic. For example, the home-sharing market also features the venture-capital-backed Airbnb alongside Couchsurfing. Interestingly, however, Airbnb also emphasizes community values in its public statements (Chesky, 2014).

A possible area for further study is to examine to what extent community logic is inherent to sharing economy markets and to what extent it stems from the producer organization's historical backgrounds. It, for example, seems questionable whether the German carsharing operators could have created such a tight-knit community if the service were not born as a solution to the environmental problems caused by private cars. An investigation into the roots of the logics could include a historical comparative analysis of similar markets in different institutional environments.

Another interesting research topic related to community logic is to examine the commitment to community logic for different kinds of actors. Airbnb, for example, has been accused of using community values only for marketing when it actually erodes the existing communities (Slee, 2016). A study on the meaning of communities could be conducted by

examining how two or more companies in a similar market have communicated their commitment to the communities and how this is shown in their business models. It would also be interesting to know why many sharing economy companies emphasize communities so much. There is evidence that in some markets, the consumers are indifferent toward the feeling of community belonging and that they mainly use sharing services for practical and economic reasons (Bardhi & Eckhardt, 2012; Möhlmann, 2015).

One more interesting area for further study is the ecological consequences of corporations co-opting pro-environmental markets formerly dominated by environmentally motivated actors. Current research shows examples of very optimistic views of the sustainability effects of corporate co-optation (e.g., Hockerts & Wüstenhagen, 2010). In this view, corporations become more sustainable as they directly co-opt the pro-environmental practices of the markets that they enter. There is also literature that shows very pessimistic views on the sustainability effects (e.g., Martin, 2016). In this view, corporations replace pro-environmental practices with their own. However, the German carsharing industry shows a more complex picture. On the one hand, corporations have not adopted the business model used by the original actors. On the other hand, their business model has pro-environmental effects, and the actors using the original business model continue to thrive in the market.

Limitations

Our study focuses on the carsharing business models in one institutional environment: the German industry. Although carsharing business models resemble each other throughout the world (Shaheen & Cohen, 2013), the market remains in its emerging phase, with much experimentation being performed. It is also probable that in other countries, carsharing business models are tightly embedded in the local institutional context. Therefore, we do not claim that our findings can be

directly generalized to other countries, especially to other sharing economy markets. It is possible, and even probable, that the same markets in different countries are organized according to different institutional logics.

Our study focuses on the development of the business model at the industry level, so we do not describe the variations in the two major business models. Even though the different institutional logics create stability for the major developmental lines of the business models, they also allow for ample room for the strategic agency of individual organizations in the industry. More deeply understanding the dynamics of the carsharing industry in general and in Germany requires more carefully studying the variances within the business model trajectories. This is a topic left for further study.

FIGURE 1

BUSINESS MODEL FRAMEWORK OF THE CURRENT STUDY

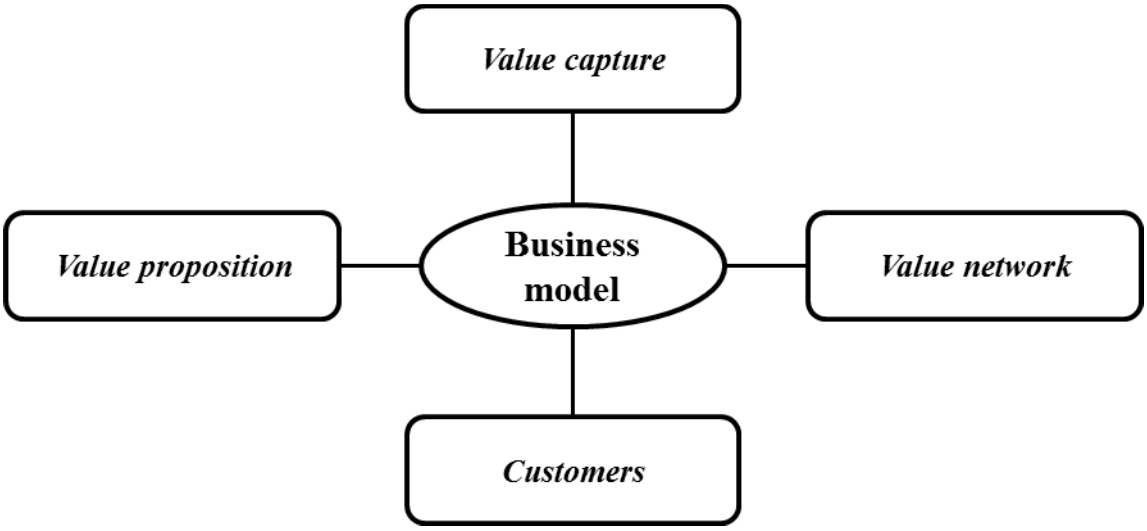

TABLE 1

Basic Differences between Station-based and Free-floating Carsharing

Characteristic	Station-based Carsharing	Free-floating Carsharing
Trip type	Round trips with pick-up and return at fixed stations	One-way trips in designated areas
Booking	Advance booking for fixed time slots	Instant booking and open-ended use
Fleet	Large variety in the vehicle fleet: the fleet includes cars ranging from microcars to vans with a wide variety of car brands and models.	Smaller variety in car models from only one manufacturer. Although the fleets include SUVs and station wagons, they are clearly focused on small and microcars (e.g., Smart and Mini).
Pricing	Price based on rental time and distance	Price based on rental time
Geographical diffusion	Present in 597 cities of various sizes	Present in 12 of Germany's largest cities

TABLE 2

Description of the Data Sources

Data Source	Description
Documents (press releases) describing business model changes	Major business model changes in the case companies were collected from 360 press releases published from 2001–2015 (car2go: 118; DriveNow: 93; cambio: 72; Stadtmobil: 77)
Histories and books on carsharing: *25 Jahre Carsharing* (Loose, 2014a) Dissertation by Petersen (1995) Histories on cambio's and Stadtmobil's websites	The first source is a book on the history of carsharing, which was written in 2014. It describes the emergence of the carsharing movement, development of carsharing technology, most important partnerships in the industry, and history of the major carsharing players in Germany. The second source is a dissertation completed in 1993 by the founder of the first professional carsharing organization, STATTAUTO Berlin. The dissertation describes the company's business model in detail and gives an overview of the carsharing market at the time. Cambio's and Stadtmobil's websites describe the most significant events and changes in their histories.
Various studies on German carsharing	Six studies of the German carsharing market in different eras (Byzio, Heine, Mautz, & Rosenbaum, 2002; Johnsen, 2007; Loose et al., 2004; Loose, 2010; Schreier et al., 2015; Traue, 2001)
All the carsharing articles from the weekly German newspaper *der Spiegel* and *Spiegel Online*	Sixty-seven articles on carsharing published from 1990–2015 identified using *der Spiegel*'s own categorization and the search term *carsharing*, which is accepted as a general term for the industry
Fourteen semi-structured interviews of 30–120 minutes	The interview questions covered the most important business model changes, justifications for major business model changes, the backgrounds of some historical events, and the missions driving the companies. The interviewees represented various kinds of organizations and were managing directors, communication directors, or consultants. The interviews were distributed among the organizations as follows: two each from cambio, stadtmobil, Bundesverband CarSharing, and DriveNow; three each from other station-based carsharing organizations and from industry consultants who used to work for free-floating organizations.

Database describing the business models of all German carsharing operators that have websites	A database of 100 carsharing operators in the German market collected in the spring of 2016 with rich information, including the basic value proposition, pricing model, ownership structure, partners, area of operations, number of cars, and membership in Bundesverband CarSharing

TABLE 3

Bundesverband CarSharing's (2007) Definition of Carsharing and der Blaue Engel's (2016) Requirements

Bundesverband CarSharing's Definition	**Der Blaue Engel's Requirements**
• The service is open to everybody. • Usage of the cars is based on a frame agreement, and a separate agreement is not made for each transaction. • The cars are distributed at decentralized stations, the residences of users, and public transportation network. • The cars can be booked at all times and taken and delivered independently by users. • Car usage is priced according to the rental time and distance traveled. • Short-term usage of an hour is possible. The hourly price may not be more than one-eighth higher than the daily price.	• The cars must be maintained regularly according to the manufacturer's recommendations. • The operators must provide customers with information about fuel-saving driving habits either online or in distributed informational material. • Annual subscribers to public transportation must be given discounts if the public transportation operator does not offer its own service. • The fleet must be labeled with a green sticker (a label given by the government to low-emissions vehicles). • No vehicles may exceed the maximum CO_2 emissions (199 CO2/km), and the average emissions of the fleet must meet a limit that becomes stricter each year. By 2020, emissions must be brought down to 95 g CO_2/km.

TABLE 4

Institutional Logics Influencing the Development of the Business Models

	Station-based Organizations	**Free-floating Organizations**
Value proposition	*Market and community:* The value proposition is developed primarily based on market logic. Customer requests, risk management, and efficiency all guide development. However, community logic exerts a moderating influence, especially in constant efforts to make the fleet more environmentally friendly.	*Corporation:* Corporation logic limits the value proposition to the free-floating model. The companies cannot imitate the station-based business model because it does not enable sufficiently fast growth.
Value capture	*Community:* The community demands a pricing model based on both time and distance. Not adhering to this model leads to expulsion from the community.	*Market:* The free-floaters' value-capture mechanism is bound only by market logic, freeing them to focus on maximizing profits.
Value network	*Market and community:* Market logic primarily drives the expansion of value networks. Cross-usage across operators and partnerships with public transportation significantly improve the value proposition of carsharing services. However, the shared community logic also substantially helps organizations find common ground and heavily promotes partnerships with public transportation.	*Market:* Partnership creation is guided by market logic. Like the station-based providers, the free-floaters partner with public transportation because public transportation customers are attractive to the free-floaters as well.
Customers	*Market:* Market logic moderates customer targeting. Cars provide the only source of income, so they should be utilized as much as possible. In station-based carsharing, this requires building a balanced share of private customers and business customers due to their complementary usage profiles.	*Market and corporation:* Corporation logic restricts which customers can be targeted because the free-floating model only works in metropolises. Like station-based operators, the free-floaters must look for complementary usage profiles within their operational areas to maximize utilization.

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III

RIDING THE HYPE TRAIN: THE CORPORATE CO-OPTATION PROCESS IN THE GERMAN CARSHARING MARKET

by

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Abstract. Many sharing economy sectors have been founded by social movement organizations, but later co-opted by corporations. The sharing economy is also characterized by hype, macro-cultural excitement that strongly guides corporate attention and further encourages co-optation. We have only a limited understanding of the co-optation process of a social movement initiated market category during hypes. Our study addresses this issue by drawing on a longitudinal qualitative analysis examining how co-optation process occurred in the German carsharing category during 1988 to 2015. We create a four-stage process model charting the roles of the social movement organization, corporations and the media in the co-optation. We contribute to the literature by showing that the social movement organization itself sows the seeds for co-optation in aiming to mainstream a market category. We also find that as the categorization efforts of the media, and not the corporations, initiate co-optation.

Keywords: co-optation, categorization, market category, social movements, sharing economy, carsharing

INTRODUCTION

The sharing economy is changing the way people buy and use products by shifting the economic model from ownership of goods to temporary access to them (Botsman & Rogers, 2010; Matzler, Veider, & Kathan, 2015). The development of sharing services is often perceived to emerge from collective social movement-based behavior, driven by resistance to capitalist hegemony (Botsman & Rogers, 2010; Martin, 2016; Ozanne & Ballantine, 2010). However, many of these social movement organization (hereafter SMO) initiated sharing economy sectors have later become corporatized by venture capital-backed entrepreneurs and corporations (Ossewaarde & Reijers, 2017). For example, in the homesharing market, Couchsurfing was founded in 2004 when a community of travelers began to share their homes and lives with like-minded people (Couchsurfing, 2017). Airbnb later co-opted the idea of communal homesharing, and has been accused of misusing the ideas of the older homesharing communities (Slee, 2016). The whole sharing economy has also been framed as a social movement that has been co-opted by corporations (Martin, 2016). As a result, a movement originally founded to utilize underused assets and promote trust among strangers is now primarily considered as a business opportunity.

Co-optation is at the core of many sharing economy related new markets, but is also a broader phenomenon behind the emergence and growth of several market categories. Co-optation refers to that marketplace transforms the symbols and practices of SMOs' countercultural opposition into a constellation of trendy commodities and depoliticizes the goals enabling the mainstreaming of the phenomenon (Clark, 2003; Hebdige, 1979). This process of corporatization and mainstreaming results in SMOs' loss of power over the category (Frank, 2007). Co-optation thus leads to that category labels become widely adopted but the original SMO-originated category meanings are replaced by meanings of the corporations – usually driven by commercial interest (Martin, 2016). A general assumption in the literature is

that co-optation takes place particularly due to the corporations' desire to take over the niche and become labeled similarly as the countercultural movement (Jaffee, 2014). It is not unusual for legitimate and powerful actors to borrow of categorical meanings (Rao et al., 2005) and SMOs may have few resources to resist such activity.

Scholars have particularly called for studies that combine SMO literature with the examination of organizational categories (see Soule, 2012), and see promise in examining the sharing economy from a categorization perspective (Vergne & Wry, 2014). We argue that co-optation is at the heart of both approaches. The process of co-optation is generally perceived as a deliberate and intentional act on the part of firms, driven by their strategic categorization efforts referring to promoting the inclusion of the firm in the SMO initiated category (Jaffee, 2014; Lounsbury, Ventresca, & Hirsch, 2003). However, we do not yet fully understand the co-optation process of an emerging market-category. Moreover, studies show that hypes play a significant role in enabling co-optation (Granqvist et al, 2013) – but the process of how hypes mediate co-optation is unclear. Our study thus explores the process of co-optation in such a setting by exploring, *how does an SMO driven hyped category become co-opted by corporations?*

To address this issue, we conducted a qualitative longitudinal analysis on the development of the carsharing category in Germany. Carsharing provides an excellent context to study co-optation of the SMO originated categories for multiple reasons. First, carsharing was originally created by a social movement but was later co-opted by rental car and car manufacturer players. Second, car sharing is part of a highly trendy and hyped phenomenon, that of sharing economy, with significant media attention. The role of the media in discussing and influencing the inclusion and exclusion of sharing economy categories is therefore central (Kennedy, 2008). Martin (2016) found that news coverage on the sharing economy increased tenfold between 2012 and 2014. Sharing economy markets are also not reported on as mere

places of exchange; journalists and authors load them with many meanings – a cure for the hyper-consumption society (Botsman & Rogers, 2010), the future of business disrupting the old economy (Gansky, 2010), and a form of hyper-capitalism (Slee, 2016).

Our contribution to the literature is two-fold. Firstly, we show that the SMOs mainstreaming efforts of the category lays the groundwork for co-optation. In our study, mainstreaming efforts results in social movement to detach its mission from the category, but simultaneously open the category for co-optation. Secondly, we show that co-optation is not always a result of the strategic categorization of the corporations. Instead, in a hyped category such as carsharing, the media has a major role in defining the boundaries of the category. The media engages in a categorization process and bundles together seemingly similar services together. The media thus reconstructs boundaries of the category and contributes into corporatization by making the boundaries more lenient.

THEORETICAL FRAMEWORK

Social movement generated categories

Social movements generally refer to organizations that vary with respect to their objectives, strategies, and tactics (Benford, 1993; Gerlach & Hine, 1970; Haines, 1984). The literature suggests that SMOs emerge either proactively or reactively. Proactive establishment is often driven by collective concern over a perceived social or environmental problem, while reactive establishment is often driven by a threatened change to a way of life (Tilly, 1977). Studies have traditionally examined the ways in which SMOs seek to influence states, businesses, or other powerful entities that hold power (e.g. Davis, McAdam, Scott, & Zald, 2005; King & Soule, 2007; King, 2008).

In management studies, firms and industries are often perceived as targets of social movement campaigns (den Hond & de Bakker, Frank G A, 2007; Frank G A de, Bakker &

Frank, 2008; King & Soule, 2007; Yaziji & Doh, 2009). Thus, the focus has been more on the role of SMOs in the development of new practices adopted by others (Lounsbury et al., 2003), or on guiding the development of an industry from the outside (Pacheco, York, & Hargrave, 2014). In this study, we perceive SMOs as organizations whose interests can also be embedded in economic activity and laying foundations for new market development over time (Thompson & Coskuner-Balli, 2007). We thus targeted much-less studied phenomenon, specifically how new market categories are born as a result of social movement activity enabling new participants (e.g., firms) to engage with that category (see Soule, 2012), as well as what happens to SMOs when that category reaches a certain maturity.

Categories are generally perceived as social agreements about the meanings of labels assigned to sets of objects (Negro, Özgecan Koçak, & Hsu, 2010). As sociocultural constructs, they contain symbolic material from relevant audiences that is used to signify the differences between categories. For example, the movie categories of drama, thriller, and comedy offer cues and symbols regarding what one can expect from a movie labeled as part of a certain category. As a result, a classification system is constructed not only from labels, but stereotypes about the categorized construct. Market categories are one type of category that generates a shared understanding about collective identities, methods of production, and products (Zhao, 2005). This means that participants' identity influences the categorization process in defining the appropriate behaviors expected of the members of that category (Rao, Monin, & Durand, 2003).

In the emergence phase of a category, the process often relies on certain common attributes that the members of the category are expected to share. This perspective has dominated the categorization literature, particularly through prototype theory (Rosch, 1973). Accordingly, the similarity of key features, such as technology, resources, and customers, is the only driver of market categorization (Hsu, 2006; McKendrick, Jaffee, Carroll, & Khessina,

2003). The categorical meaning is then derived from consensus over its definitional properties (Durand & Paolella, 2013). Once an offering or a firm gains the status of a prototype, this affords the category a cognitive template and increased stability. However, sometimes categorization does not seek the creation of prototypical features and the boundaries of the category are not clearly defined (Hannan, Pólos, & Carroll, 2007). Accordingly, categories also arise from goal-oriented purposes, meaning that category labels act as tools for strategic categorization (Granqvist, Grodal, & Woolley, 2013; Pache & Santos, 2013; Vergne, 2012). Market categorization is then driven by category participants' specific goals, rather than the similarity of features.

However, whereas categorization process has often been perceived as driven by either prototypical orientation or goal orientation (an either/or phenomenon), Granqvist and Ritvala (2016) showed how the categorization process can be driven by both orientations over time. In particular, goal-based categorization becomes an attractive alternative when the category has reached a sufficient maturity and such activity may prevent the category's decline. For example, firms that are dominant players in other categories might find it more attractive and instrumentally beneficial to become part of the newly established category that has reached a sufficient legitimacy (cf. Piazza & Perretti, 2015; Vergne, 2012).

We argue that SMO-driven categories add further nuance to this process. As SMOs are founded to promote certain goals, the categorical emergence of an SMO-initiated category is likely to be driven by goal-based categorization as well. As countercultural movements seek to infuse the markets with new moral values, this goal-based categorization is, at its preliminary phase, likely to emphasize the moral worth of the category (see Weber, Heinze, & DeSoucey, 2008). However, when SMOs seek to push their agenda towards the mainstream, the orientation can change from societal concerns towards more pragmatic concerns driven by the self-interest of the SMO (Chowdhury, Kourula, & Siltaoja, 2014).

The challenge is that the categorical boundaries that signal the value of market categories may then become "fuzzy." Accordingly, rivalling categories may seek to borrow elements from the newly established category, the challenge being that this blurs categorical boundaries and may weaken their value (Hannan & Freeman, 1989) and underscore the development of the new category (Carroll & Hannan, 2000). However, as Rao et al (2005) pointed out, this issue depends on time, although such borrowing is easier for high-status actors because their social acceptance is unquestioned.

Thus, the previous literature suggests that when the category has reached a certain maturity, it may attract more powerful players as members. Indeed, when new cultural value is accumulated, the category is also in constant danger of being liquidated by the media and the corporations that seek to capitalize on it. This is likely to raise resistance in subcultural organizations such as SMOs, as they can perceive a loss of control over the definition and value of their offerings (see Moore, 2006). A particular SMO concern, then, relates to categorical co-optation. Hebdige (1979: 96) has argued that *"as soon as the original innovations which signify 'subculture' are translated into commodities and made generally available, they become 'frozen.'"*

Co-optation is a phenomenon that has been studied particularly in the field of cultural studies referring to the domestication of dissent, or the neutralization of dissent to describe how the mainstream media or policy-makers can selectively incorporate dissenting ideas, culture, and practices into the mainstream (Frank, 2007). Co-optation theory has further ascribed little potential for SMOs to reclaim and repoliticize their co-opted symbols and practices. A particular danger of co-optation, from an SMO viewpoint, then is that the category will lose the subversive and dissent content that drove its initiation. Once the category has been co-opted and mainstreamed, this loss of power takes place particularly though corporatization, as large corporations become interested in the potentials of the market category. Thomas and

Zimmerman (2007) have demonstrated this concern by elaborating how corporate co-optation can lead to the creation of seemingly parallel organizations that nonetheless contradict the original meanings and intent put forth by social movements.

However, this is not necessarily always the case. Thompson and Coskuner-Balli (2007) suggested that the corporatization of organic food is the U.S. did not engender a thriving countervailing market system. In responding to corporate co-optation, actors may reclaim countercultural meanings through a variety of entrepreneurial and potentially indoctrinating activities. Yet this is not to say that some kind of trade-offs would not emerge. Lee, Hiatt and Lounsbury (2017) explained that for nascent market categories, maintaining their own system comes at a price. While studying the legitimation of the organic farming category in the U.S., they found that new members can espouse goals and interests that are incompatible with the ones presented by pioneers, which may result in the original players compromising their values if they seek wider approval of that category. This process is generally perceived as something that takes place due to contradictions within the movement's original goals and interests, resulting in new power configurations among corporations and SMO organizations, particularly if the categorical boundaries are still lenient.

In addition, the reason why boundaries become more lenient is assumed to result from SMOs' "acceptance" of them to maintain their role within the category. However, we argue that boundary-spanning (Phillips, Turco, & Zuckerman, 2013) may occur deliberately on behalf of SMOs, meaning they can themselves change the categorization in a way that does not conform to original convention and goals. But why does such activity occur in a nascent category? How does it increase the likelihood that other organizations, particularly large corporations, end up being a part of an SMO-initiated category, thereby increasing the likelihood of co-optation?

Categorical hype and corporatization of SMO-driven categories

Hype refers to periods of high expectations that promote frantic attention on an innovation or activity that are often followed by disappointment, when it turns out that that the promises were unwarranted or premature (Borup, Brown, Konrad, & Van Lente, 2006; Ruef & Markard, 2010). Hype has been considered a necessary condition for the creation of an atmosphere conducive to the acceptance of a new product by all of its relevant stakeholders (Wind & Mahajan, 1987). By creating a supportive environment, hype helps the category to become widely acknowledged. However, at the same time, the focal actors can have differing views on the meaning of the category (Granqvist & Laurila, 2011). For example, media hype can pose a threat for SMOs through exposition to the mass market – as a result, insiders may experience a loss of identity because their sense of themselves depends on opposition to the mainstream markets (see Moore, 2006). What the category is then supposed to signify results from ongoing processes of dispute and deliberation among category participants, new entrants, formal regulators, private actors, and experts (Weber, Rao, & Thomas, 2009).

In addition, key audiences do not merely interpret certain accounts, but may play an important role in associating new meanings and thus in categorizing organizations in a fashion that differs from the organization's own categorization. Key audiences then include market intermediaries, such as critics (Hsu, Roberts, & Swaminathan, 2012), high-status actors (Rao et al., 2003), and the media (Kennedy, 2008; Rao et al., 2005; Siltaoja, Lahdesmäki, Puska, Kurki, & Luomala, 2015). In their study, Rao et al. (2005) elaborated upon how the categorical boundaries and development of nouvelle cuisine were actually created more in the pressroom and less in the kitchens. Indeed, the mainstream media is one of the sources by which the general public learns about new and evolving market categories and products (Navis & Glynn, 2010).

In the case of hype, the media can further play a significant role in introducing new attributes and vocabulary that signal the meaning of events and actors (Bhattacharya, Galpin, Ray, & Yu, 2009), which then achieve significance over the valuation of actors such as organizations and their offerings (Gurun & Butler, 2012). What this means is that hype offers a platform to frame the category so that it offers a certain type of value that existing categories do not produce (see Khaire & Wadhwani, 2010). Rao et al. (2003) acknowledged that the media is predisposed to cover newsworthy disruptions and celebrate differences between the old logic and identity and the insurgent logic and identity. Media-driven categorization efforts are then particularly likely to emerge during a hype because they play a key role in making sense of the phenomenon, which remains poorly conceptualized.

A categorical hype then means that there is considerable interest in the media regarding the offerings of a category, which attracts new member organizations. This draws attention to goal-based activity and positioning oneself within a category that is perceived to be more lucrative than the existing category in which the organization is positioned (Durand & Vergne, 2015). Thus, hype can attract corporations to enter into a category (Granqvist et al., 2013). This phenomenon is often perceived as a managerially driven process, being embedded in intentions to benefit from new and attractive markets. Accordingly, managers are considered the key players in the process that seeks to disseminate new information that would result in an existing organization to become a member of a particular category (Pontikes & Kim, 2017).

However, we argue that the role of the media in the categorization process deserves more nuanced attention because the media can enforce co-optation (Burke & Bernstein, 2014). Categorization is enforced in the media through the use of multiple frames, pre-fabricated vocabularies, schemas, and social practices that are utilized to provide coherence on a set of idea elements (Benford, 1993; Ferree, 2002). Accordingly, we argue that during a hype, the category can become reconstructed in the mass media in a way that signals its fit to the

mainstream. Accordingly, as the media seeks to make sense of the cultural phenomenon, this process can extend the meaning of the category both vertically and hierarchically (Delmestri & Greenwood, 2016; Hofstadter & Sander, 2013).

During a hype, the category can then grow horizontally to encompass new sets of situations and acquire different meanings reflected and reproduced through sociocultural practices (Hofstadter & Sander, 2013) whereas vertical extension contributes to the social valuation of a category. Delmesteri and Greenwood (2016) explain vertical categorization as a process that seeks to associates products with certain socially valued practices and lifestyles. This process influences the way new categories are perceived valued and worth. For example, a carsharing category can be defined as a service that provides on-demand access to cars. However, carsharing are can also be associated with certain sociocultural behaviors and lifestyles (such as giving up car ownership) driven by trends or environmental factors that appear legitimate and valued in their context. Thus, these wider sociocultural associations and practices are not only important components of a category's institutional meaning, but also of its value. Thus, when making sense of hyped phenomenon, the media can seek to simplify lenient categories in a goal-oriented manner and categorize large corporations as a part of the category even though this would contradict with corporations own categorization. However, if the large firms perceive the categorization beneficial, it increases the likelihood that they do not resist it and the category becomes corporatized.

To conclude, we argue that sharing economy markets provide excellent example to study the described co-optation process. Sharing economy markets have gained significant media interest and although the meaning making has been vague and fuzzy, it has generated interest both as a cure and as a fad (Martin, 2016). For example, despite this hype over the sharing economy, management research has only recently started to study the dynamics of a sharing economy and the intended and unintended consequences of using the label "sharing"

(Mair & Reischauer, 2017). This is probably because most of the scholarly work continues to conceptualize social movements and activism as existing outside of organizations, markets, and industries. Few studies have discussed how SMOs develop and legitimate new industries (Lounsbury et al., 2003; Pacheco et al., 2014), rendering the market categories that arise as a result an understudied phenomenon. We therefore seek to elaborate how the co-optation process of SMO initiated category takes place in sharing economy context and how the hype affects it.

METHODOLOGY

Research setting: The German carsharing market

Our research setting is the German carsharing market. We traced how the carsharing market category was constructed from the beginning of its history in 1988 to 2015. Although the co-optation occurs toward the end of the observation period, it is necessary to describe the formation of the category to understand its antecedents. The observation period ends at a time when co-optation has occurred and the category has stabilized, meaning none of the participants in the market question its meaning.

We have charted the most important developments of the carsharing market in Figure 1. The market was originally dominated by organizations belonging to a social movement that started at the turn of the 1990s and was motivated by putting an end to the overpowering problem of private cars in city traffic that caused environmental and social problems. During the 1990s and 2000s, the popularity of the service grew steadily, and the social movement organizations professionalized and formed an umbrella organization called Bundesverband CarSharing (BCS) to safeguard the political interests of the movement. At the turn of 2010s, two car manufacturers and car rental company joint ventures entered the market. In 2008, a Daimler and Europcar joint venture called car2go[i] joined and shortly thereafter in 2011, a

BMW and SIXT joint venture called DriveNow entered. The companies quickly captured the media spotlight and thus appropriated the prototype position within the carsharing category.

Insert Figure 1 about here

The German carsharing market provides a good context to study the co-optation process of a hyped category because it clearly highlights the interests and power positions of the different actors: the social movement, the corporation, and the media[ii]. The struggle over interests between the social movement and the corporations derived from their differing business models. The social movement had defined carsharing through its business model ("station-based business model") that had been designed to replace the private car. The corporate joint ventures entered the market with a different business model ("the free-floating model"), and movement worried that it might cannibalize public transportation, walking, and cycling. Therefore, they were not happy about the co-optation of the category and tried to resist it.

The differences between the free-floating and the station-based business model are presented in Table I. The two models are similar in that they provide on-demand access to cars. Car usage is based on a frame agreement that a customer signs when joining the carsharing scheme and later, individual trips do not require separate contracts. However, in the station-based model, the customer books the car in advance and always returns the car to the same spot from where it was taken. In the free-floating model, the customer spontaneously takes a car from the street and leaves it near the destination of his/her travels as long as this destination is located in an operational area of the service.

Insert Table I about here

The interests and the role of the media on the other hand is demonstrated by the categorical hype, which was lauched as the corporation joined ventures entered the market. The role of the media was crucial in forming the final carsharing category. When car2go entered the market not the organization itself or the social movement wanted to include the service in the carsharing category. It was the media that eventually pushed the freefloaters in the category.

Data collection

The data sources used for this study are presented in Table II. To understand the roles of different parties in the co-optation process, we collected three batches of archival data of roughly equal size: press releases from both free-floating and station-based organizations and articles from German newspapers. We used the press releases to understand how the market actors categorize themselves and each other because they are strategic tools in the sense-giving process of the producers, as they try to construct a new category (Kennedy, 2008). Therefore, we assumed that they worked as tools of strategic categorization, which provides cues on how the actors want themselves and other actors in the market to be perceived.

Choosing the focal actors from the free-floating organizations for this study was not difficult because car2go and DriveNow are the only major free-floating companies in Germany. There are and have been some other free-floating services in Germany, but they have remained at a pilot stage and received limited attention[iii]. Choosing the focal actors among the station-based carsharing organizations was more challenging because there are 150 such organizations in Germany. The political organization BCS was an obvious choice because it is responsible for defining the boundaries of carsharing and works as a collective political voice for the scattered industry of station-based carsharing. Additionally, we chose the two largest station-based organizations, Cambio and Stadtmobil, for the study because of their long history and focal position in the field of carsharing. The representative of the two companies also holds

half of the chairs on the board of BCS and therefore exercises significant political power (Bundesverband CarSharing, 2017).

We collected the newspaper article data to understand the industry external view on the categorization. The press plays an important role in the formation of a new market category, as it is a major influencer on its legitimacy (Schultz, Marin, & Boal, 2014) and has an effect on perceptions of which market actors are competing in the same market (Kennedy, 2008). We chose the weekly newspapers *der Spiegel* and *die Zeit*, including both their print and online versions as media data sources. These two papers are established news sources in Germany and both have been chosen as "Leitmedium" in evaluations made in different eras (Pfanner, 2011; Weischenberg, Malik, & Scholl, 2006; Westhoff & Große, 2003). "Leitmedium" is a term that journalists and media researchers use to describe a paper whose journalists follow important events and trends (Wikipedia, 2017b). Both are weekly newspapers with a wide circulation and are known for their investigative journalism (Pfanner, 2013). Therefore, we expected these two papers to report on new, interesting phenomena and influence how people perceive these phenomena through their own circulation and their effect on other news outlets.

We collected the main batch of the newspaper article data using the newspapers' own categorization. Both Die Zeit and Der Spiegel categorize their articles under themes and both have a specific category for carsharing. We collected all articles under this category as data, which resulted in 59 articles from der Spiegel and 97 articles from die Zeit. We complemented this batch by doing searches using the newspapers' search engines. Complementary articles were found using search term *"carsharing"* and its variations *"car-sharing"* and *"car sharing"*. We also tested the German label for the category (e.g. Autoteilen), but they resulted in no extra articles. This is probably because the word "carsharing" became established as the word for the category already in the beginning of the 1990s (Loose, 2014b). Finally, we complemented the dataset by doing searches with the early organizations of both business

model types ("Stattauto" for station-based carsharing and *"car2go"* for freefloating carsharing). This was to make sure that no articles were missed because the journalists did not in a beginning have a clear label for the services provided by the companies. The complementary data batch collected with the search words resulted in 8 additional articles for der Spiegel and 26 additional articles for die Zeit.

In terms of the temporal division of the archival data, almost 90% was published after the advent of the free-floaters. This is a good match for the studied phenomenon because there is a lot of material available on the actual co-optation process, which is then captured with high accuracy. We used the data published before 2008 mainly as background material on how the social movement created the category and the antecedents of its co-optation.

We complemented the dataset with interview data gathered from key people in the carsharing industry. We identified potential interviewees for free-floating business by contacting the companies directly. For station-based carsharing, we identified interviewees by asking the central organization BCS to identify the focal people within the segment. Many of the people interviewed were also the people in charge of external communication and were thus well-suited to make sense of the press releases. We used the interviews mainly to explain the findings discovered from the press releases. Often, market actors do not explain the impetus behind their categorization and thus the interviews played a key role in this respect.

Finally, we supplemented the data with books on carsharing. The principal purpose of this data was to contextualize the findings since the majority of the primary archival data did not extend to the early days of the carsharing social movement. Therefore, the books served as a valuable data source in clarifying the roots of the carsharing category and the values that the social movement associated with this category.

Insert Table II about here

Data analysis

We conducted the data analysis using an abductive research approach (Dubois & Gadde, 2002): the analysis progressed by going back and forth between the data and theory to match the theory and reality. The motivation for the study stemmed from the discovery in the initial analysis showing that different audiences had different perceptions on what kinds of services should be categorized as carsharing. This lead us to examine what these perceptions were and how they had evolved in time?

Theory provided tools to examine this discovery by directing the focus to cues of categorization, therefore incorporating the phenomenon to the existing body of knowledge. These tools from the literature included association cues, such as labeling a company as "a carsharing organization," that indicated organizations' willingness to associate with a category (Granqvist et al., 2013). In addition, we coded the quotations that stated who the companies perceived as competitors because self-categorized competitive clusters draw boundaries on the actors of the new industry (Kennedy, 2008; Porac, Thomas, & Baden-Fuller, 1989). To create a more comprehensive understanding of the competitive clusters, we also asked the interviewees who the market actors perceived as competitors.

There were also cues in the data that were relevant to the research context, but not clearly stated in the literature. These included comparing the service of a company to a category, which signaled that the service did not belong to a category, but shared something with it (e.g., "car2go is like a taxi service because it charges by the minute"), or that something separated the two categories (e.g., "Unlike carsharing services, car2go charges by the minute"). Another cue that was not derived from theory was the inclusion of the service in a higher-level order category (e.g., "individual mobility" or "environmentally friendly forms of transportation") which included other categories, and was a signal of the categories' similarity.

Sometimes the shared or distinguishing feature was a salient feature, such as billing, and sometimes it took the form of a goal, such as reducing private car use.

Beside how the categorization was formed, another dimension of the coding was who made a statement. We coded the direct quotes with the name of the quoted person, which were further grouped under a specific organization (e.g., "BCS" or "Daimler"). For the non-direct quotes, statements were assumed to come from the organizations that the publication represented (e.g., car2go's press releases represented the views of car2go). In the course of the analysis, the organizations were grouped into larger stakeholder groups, but only if their categorization was clearly similar. Therefore, for example, the social movement organizations were observed as a group, but the different free-floating organizations – car2go and DriveNow – were observed individually.

We analyzed the coded excerpts according to the organization and stakeholder group. For each group, we analyzed how the different actors in the industry were categorized, why the categorization was made, and how it changed over time. For the producers, we further analyzed how they categorized themselves. These categorization stories created the basis for our findings. We further compared these stories to understand how the categorizations influenced each other. Sometimes we could create direct links between the categorizations. This was the case, for example, with the newspaper articles that had been published as a consequence of a press release. Sometimes the links were subtler and we examined them on the basis of being categorized as similar stories. In some cases, we asked our key informants about the basis of the categorization.

CORPORATE CO-OPTATION OF THE CARSHARING CATEGORY

In this chapter, we present the results of our findings to answer our research question: "*how does an SMO driven hyped category become co-opted by corporations?"* Figure 2 presents the

process model that emerged from our analysis. The figure presents the four stages of the co-optation process and the roles of the different kinds of actors and the media in this process. We present our findings chronologically, in line with the phases presented in the process model. While presenting the findings, we will refer to Table III to present supporting quotations from the data.

Insert Figure 2 about here

Insert Table III about here

Phase 1 (1988-2000) – Category emergence

The driving motivation of the carsharing movement was to reduce the problems caused by cars. The movement was a reaction to the dehumanization of city space (e.g., disappearing playgrounds and the constant noise caused by traffic) and environmental problems, such as sour rains. There were too simply many cars and their number had to be brought down (Table III: 1.1). However, the members of the movement perceived that it was unreasonable to expect people to totally give up car usage because some trips, such as to the countryside or to buy heavy groceries, were very difficult to conduct with other means of transportation. Therefore, the cars should be shared, and people should be incentivized to use the cars only for those trips that were truly necessary. The antagonist of the carsharing movement was the private car because car ownership led to people use their cars for all of their trips. The social movement was of the opinion that a service offering people on-demand access to cars did not exist. Although rental car companies provided their customers temporary access to a car, the social movement believed that their business model did not enable their customers to give up their private cars (1.2). By contrast, the carsharing business model was designed with this particular purpose in mind (1.3).

One of the duties of the umbrella organization BCS is to safeguard the boundaries of the carsharing category. This is accomplished through the carsharing definition agreed upon by BCS member organizations, which defines what kinds of organizations can join and belong to BCS (Bundesverband CarSharing, 2007). This definition contains many requirements for the member organizations' business models that aim to replace car ownership, such as, for example, the usage of the cars should be based on a frame agreement, the minimum billing time should be one hour or less, and the cars should be distributed in the city space in a decentralized fashion. Additionally, the social movement aimed to educate people to use their cars as little as possible. Therefore, based on BCS' definition, carsharing must include both a time- and distance-based component (1.4).

Going up the categorical hierarchy, the carsharing social movement perceived that the service belonged to the reference group that provided an alternative to private cars. This so-called "Umweltverbund" (Wikipedia, 2017c) included environmentally friendly forms of transportation: walking, cycling, and public transportation. The idea behind this reference group was that a city dweller can easily be mobile with these forms of transportation without owning a car. In a dissertation published in 2002 by Ulrike Huwer, carsharing is described as the fourth pillar of the "Umweltverbund," after which the social movement itself used this characterization (1.5).

The perception behind categorizing carsharing as alternative to owning a car along with walking, cycling, and public transportation, has remained the same from the founding of the carsharing movement to the present day. Originally, the carsharing movement emphasized the renouncement of the private car in its communications. Carsharing was seen as part of an environmentally sustainable lifestyle that was perceived to be the future. Most people would eventually give up car ownership and at some point, it would even be associated with stupidity

(1.6). Some of the first organizations enforced the replacement of private cars by requiring their customers to give up their own cars before joining their carsharing schemes.

During the first phase, the media's reporting focused on presenting the carsharing social movement and theorizing about who could be interested in using the service. Carsharing was presented as an alternative to private car ownership for the non-radical environmentalists, who wanted to do their bit for the environment, but not at any cost (1.7). However, the press brought forth factors that inhibit most people from giving up their private car, which therefore restricted interest in the service to only those people who were ready to make compromises. Practical factors included a lack of spontaneity because the carsharing cars had to be booked in advance and the fact that sometimes cars would not be available. The emotional aspects of car ownership emerged as well, such as the fact that for most people, a car is still a status object and carsharing cannot fulfill this need.

Phase 2 (2000-2008) – Pushing to the mainstream

Although the early press categorization aligned with the social movement, the problem was that it was very hard to mainstream carsharing using this vantage point. The goal of the social movement was to replace the focal position of the private car in society. A categorization that conceived carsharing as a service for only the environmentally minded could not fulfill this goal. Therefore, there was a demand for a categorization story that appealed to a wider population. This was characterized as follows by the manager of a carsharing organization in an interview: *"[The environmental motivation] was the motivation to create the [station-based carsharing] offerings. In the beginning, we emphasized it very much…. Later we have realized that the expected effect – the reduction of private automobility – can be achieved without emphasizing it…. We have then [later] decided that we would not bring out the ecological idea forward so much, so that we would not be pushed to the eco-niche, but could approach all the*

people…And not to lose these [non-environmentally minded] people we have retracted the [environmental] image and have emphasized to the outside that [carsharing] is simply a sensible and practical system in the cities."

The carsharing social movement started to emphasize the notion that carsharing was practical and created cost savings compared to owning a car. The carsharing organizations and BCS started to publish calculations to demonstrate the break-even point where carsharing was cheaper than a private car (Table III: 2.1). This number varied calculations, but it was most commonly stated that people who drove less than 10,000 kilometers a year would save with carsharing. Looking at carsharing purely from financial vantage point, this represented a good value for the money for many car owners because many cars in Germany are driven less than that on a yearly basis (Statista, 2017). Additionally, the social movement started to emphasize the notion that carsharers are free of many tasks burdening car owners, such as maintenance and cleaning. The social movement did not give up its mission of educating people to give up their private cars and drive as little as necessary, but this idea was no longer brought forth in its communications (2.2).

Simultaneous with the change in communication strategy, the organizations belonging to the movement also improved the value proposition of the service. Internet booking systems, automatic access systems, chip cards for car opening, and uniform pricing schemes made carsharing services much more reliable and comfortable from the customer's viewpoint. With these developments, more and more people joined the service and since the start of the millennium, these services have grown at a double-digit pace.

The growth of carsharing also changed the media coverage. Carsharing was presented as a good business that was moving from its niche to the mainstream (2.3). The press no longer emphasized the alternative lifestyle aspect of carsharing, but constructed the service as a clever and practical option for those who were tired of the ever-increasing costs of private car

ownership (2.4). The media speculated that these costs were behind the increasing popularity of carsharing, and used the calculations published by carsharing companies to present carsharing as a suitable option for a private car owner, which therefore resonated with the communication strategy of the social movement. The ecological aspect of carsharing was still presented in the articles, but the it was seldom emphasized that carsharers were giving up their cars or driving as little as possible.

Presenting carsharing as an economical option for car ownership also increased coverage because the press reported on car-related costs from time to time. The positive connotations of carsharing users and the increased coverage most likely further boosted the growth of carsharing companies and supported their goal of pushing the service into the mainstream. However, the educational elements were no longer visible as an inseparable part of the category. This opened up the category to different kinds of services that did not share the founding values or mission of the social movement.

Phase 3 (2008-2011) – Start of the categorical hype

The first free-floating service, Car2go, was a Daimler spin-off founded in 2008. The company came to the market to address the hard-to-reach customer segment of young metropolitan citizens who did not perceive cars as status objects (Table III: 3.1). The communications of car2go put the service at odds with the carsharing social movement. The company did not say that it aimed to educate people to renounce their private cars. Quite to the contrary, the CEO of car2go Robert Henrich stated that *"car2go has nothing to do with renouncement."* Car2go was also not originally conveyed as being complementary to public transportation. Instead, the service was advertised as being *"The first private means of public transportation."* Additionally, the CEO of the company clearly stated that the company did not intend to teach people to give up their private cars, but only to provide cars to young city

dwellers who did not want to own one (Table III: 3.1). The renouncement of the private car was perceived as being related to the phase of life when people are young and single.

None of the producers categorized car2go as a carsharing service. Car2go categorized itself in its own category within its press releases – as a mobility service for individual mobility in urban areas. Car2go categorized itself clearly outside of carsharing and perceived it as old-fashioned and impractical. Robert Henrich, the CEO of car2go, stated the following regarding station-based carsharing: *"That system is too inflexible for many."* In its press own releases, car2go did not even compare the service to station-based carsharing, but to mobile telephone subscriptions because the billing was conducted in a similar fashion: only by the usage minute. Car2go was also advertised with the slogan *"Driving as simple as mobile telephony."*

The social movement did not categorize car2go as carsharing either. Car2go was not perceived as being aligned with the movement's goal of shifting people from using private cars to more environmentally forms of transportation and instead was suspected to create an opposite effect (3.2). When categorizing car2go outside carsharing, the social movement referred to its own definition of carsharing, which was meant to reserve the label for only those services that would educate people to drive less. As an example, the social movement referred to a rule that required carsharing services to have both a time- and a distance-based pricing component. The social movement stated that car2go's pricing, based only on driving minutes, did not incentivize people to drive as little as possible. The predominant categorization for car2go by the social movement was as a taxi service because both were used for short, one-way trips (3.3). Station-based carsharing, on the other hand, was used like a private car service and therefore provided a comprehensive alternative.

In spite of the efforts of both car2go itself and the social movement to achieve alternative categorization, the media was eager to categorize car2go as carsharing. This was because media tried to explain the phenomena that it perceived both car2go and the social

movement were associated with and did not look much at the details of the business models of the different services. The press reported on carsharing services both from the user and the producer perspective. From the user perspective, the press reported especially often on young metropolitans associated primarily with their mobile phones and who therefore were not interested in owning a car, but nevertheless wanted to be mobile (3.4). The press speculated that carsharing was popular among this group because it provided access to a car without the hassle associated with owning one. From this perspective, station-based carsharing services and free-floating services did not look very different: both provided on-demand access to a car.

From the producer perspective, the press contemplated why the corporations had entered a market that could potentially cannibalize their business of manufacturing cars. Car manufacturing giants were seen as having been forced to transform from car manufacturers to mobility providers. The change stemmed partially from the lowered status value of cars, but also from the problems cars caused in city traffic. For the latter reason, it was expected that many big cities would restrict the usage of private cars in the near future and favor other mobility options. Sometimes this discussion distinguished between the goals of the corporate joint ventures and the social movement, but even then, often no categorical boundaries were drawn between the different kinds of services (3.5). Both were bundled under carsharing, which was seen as a growing category offering services aimed at providing access to a car.

With the advent of free-floaters, carsharing was connected to the future of mobility and the future of the German car industry. These two phenomena are frequently reported on in German newspapers and therefore press coverage on carsharing has grown dramatically: the average yearly publication rate of *der Spiegel* and *die Zeit* has grown from about one per year to about 20 per year, in comparing the time following the arrival of free-floaters to the time preceding it. Therefore, carsharing has received much more attention, but at the same time, the producers have lost the power to define the categorization as the press has started to control the

categorization. The press has more power over the emerging categories because unlike the producers, which mostly depend on intermediaries for their communication, the press is directly followed by its readers. It seems likely that reporters are not even aware of exercising their power when they put different kinds of services under the same umbrella while doing their reporting.

Phase 4 (2011-2015): Corporate co-optation of the category

As time passed, the focus of media storylines diversified and carsharing became associated with, for example, reporting on electric cars and the sharing economy. In spite of this storyline, however, the press kept categorizing different kinds of non-ownership-based services based on the details of the business model or the self-categorization of the service. For example, *der Spiegel* labeled a service from car manufacturer Audi called "Audi on Demand" as carsharing. The service rents Audi cars delivered to the address provided by customers. The service resembles traditional car rental much more than carsharing: a separate contract is made for each transaction and rental is offered by the day. In its press release, Audi itself has used the label "a mobility program" and did not use the sharing label at all.

The first free-floating company to accept the carsharing label was the BMW and Sixt Joint Venture DriveNow. DriveNow was consistent with its categorization throughout its press releases. Unlike car2go, it very seldom has referred to generic labels, like urban mobility or individual mobility, but has instead labeled the service very clearly and exclusively as carsharing. However, the idea of carsharing as a service offered to young metropolitans was also the idea behind DriveNow (Table III: 4.1). Therefore, like car2go, DriveNow did not share the social movement's goal of educating people to drive their cars less, but it intended to provide a transportation alternative to people who did not want to own a car in the first place.

Although DriveNow came to the market with a clear carsharing categorization, car2go still did not accept the label. This can be clearly seen in Figure 3, which presents what car2go has been called in its own press releases. The label was actively adopted only in 2014. Although the service was also labeled as a carsharing service before this year, this labeling was mainly done by external stakeholder groups, such as business partners and city officials, in their quotations.

Insert Figure 3 about here

Interestingly, before adopting the current labels – carsharing and free-floating – the company called the service "a fully flexible car rental system for urban areas." Therefore, the service was positioned in the car rental category. However, in spite of the company's extensive efforts to label the service a car rental service (the label was used in 57 different press releases from 2012 to 2014), this label did not stick in the press. During the period when the label was used, the press categorized car2go exclusively as a carsharing service, offering evidence that the individual operators had limited power over the boundaries when the press storyline contradicted their own. Eventually, powerless to change the label, car2go accepted the carsharing label and described the free-floating services as comprising one type within this category (4.2).

In many ways, it can be said that the free-floaters have co-opted the carsharing category. With the categorical hype, free-floaters have become its prototype. The media coverage has clearly moved from the station-based organizations to the free-floating organizations. Figure 4 shows the number of different kinds of organizations that are mentioned in the press data, illustrating this finding. About 75% of the mentions in the papers were devoted to the free-floating operators and in many articles concerning carsharing, station-based operators were not mentioned at all. Therefore, a person who has not heard of carsharing and

is reading an article on the topic has a good chance of coming away with the perception that carsharing is a service that free-floaters offer.

Insert Figure 4 about here

Further evidence of this co-optation is that free-floaters have now also constructed a free-floating carsharing category as an alternative to private cars, along with other environmentally friendly forms of transportation, especially public transportation. Car2go and DriveNow have also made joint statement on the carsharing law currently being enacted, namely that the parking needs of the free-floaters should also be addressed. They justified their claim by saying, among other things, that the mainstreaming of carsharing could be attributed to free-floating carsharing companies (4.3).

The actors of the social movement have noticed that freefloaters have co-opted the category that they have created. Many new customers think that freefloating carsharing is the only form of carsharing (4.4) and the station-based actors have lost the spotlight of the press (4.5). However, the social movement has slowly accepted the freefloaters in the carsharing category. BCS reports the customer and car numbers of both freefloating and station-based actors. Whereas in 2012, when the parallel reporting started, freefloaters were referred to as *"carsharing resembling services"*, nowadays the organization talks about two kinds of carsharing: freefloating and station-based.

There are two reasons the social movement accepted this categorization. Firstly, the first extensive studies of the environmental impact of free-floating services discovered that they reduce private car usage, although not as substantially as station-based carsharing. Therefore, although free-floaters do not emphasize the educational aspect of reducing car usage, they do work toward this goal. Secondly, the advent of free-floaters aided the station-based actors in executing their mission. The social movement attributes the wide-scale

recognition of the carsharing category to the arrival of free-floaters (4.4), which also can be seen in the customer numbers. The number of station-based carsharing customers has more than tripled since the advent of free-floaters, from 116.000 in the beginning of 2008 to 455.000 in 2017. Additionally, the social movement has also successfully worked with the free-floaters on the so-called carsharing law to push it forward in the legislative process. Since 2004, BCS has been advocating for an exception for station-based carsharing actors regarding the parking law in Germany, which inhibits the rental of public parking spaces; this year, this law was accepted by the German parliament. BCS attributes this progress partially to the push from free-floaters (4.6).

Due to the categorical co-optation, station-based actors have again returned to their roots in terms of the values that they associate with the category. In the same fashion as when the category was created, the social movement is again emphasizing the environmental nature of the service (4.7). This is accomplished, for example, by emphasizing the environmental certificate “der Blaue Engel” (the blue angel) in communications, which station-based carsharing companies can apply for. Therefore, the social movement has created a countermovement within the carsharing category as a whole, based on losing its original mission of educating people to drive less, and has now incorporated this countermovement into the subcategory of station-based carsharing.

DISCUSSION

In this article, we have examined the co-optation process of a hyped, SMO-originated category. We identified that the co-optation process had four phases. In the first phase, the social movement creates collective activity around the category and distinguishes it from other categories by aligning it to their mission. In the second phase, the social movement starts to push to the mainstream by disassociating its original goal from the categorical meaning. This

increases the media's coverage of the category, but at the same time, the social movement loses control over its boundaries. In the third stage, triggered by macro-cultural trends, corporate actors enter the social movement that created the market, using their own categorization. The coverage increases as the media starts to report on both the corporate actors entering the market as well as the macro-cultural trends that have led them to do so. The media explains the reasons for these trends and pushes different kinds of actors, who are perceived as being associated with the trends the social movement once acted upon to create the category. In the fourth stage, powerless to change the categorization, both the corporate actors and the social movement accept the categorization created by the press. The social movement returns to its roots and realigns its mission to a created sub-category it has created (in our case, station-based carsharing). Our paper thus demonstrates that defining the boundaries of sharing economy industries is a social process.

Our contributions to the earlier literature on the co-optation processes of categories and the role of SMOs, corporations, and media add to its dynamical and temporal nature in two main ways. First, our study shows that an SMO-initiated category does not necessarily become co-opted because an SMO is forced to change its mission in order to remain a part of the category (cf. Lee et al., 2017). Rather, our study shows how this co-optation emerges due to strategic act performed by the SMO itself when it seeks to take advantage of growing media attention. This process then shows how countercultural movements seek to capitalize from growing media attention and the possibilities of commercialization, rather than resisting such attention.

Our study then suggests that we need to broaden our conceptualization of SMOs as organizations who may themselves seek to benefit from increasing acknowledgement of their offerings by altering their mission (from moral to pragmatic) while seeking connections to the general lifestyles and trends driving the societal context. Thus, in the carsharing category, their

activity resembles what Snow and Benford (1988) call "motivational framing," which provides incentives for participation. Although this framing later diminished SMOs' own power to define the boundaries and meanings of the carsharing category, it provides empirical support for the claim that SMOs are indeed strategic actors who can frame their issue differently over time (see Chowdhury et al., 2014).

Although this aforementioned activity can lead into co-optation, our second contribution suggests that large, resource-rich firms seeking acknowledgment in the hyped category do not necessarily drive the co-optation process. Instead, in our study this process was driven by categorization processes done by the media. Media texts categorized and labeled free-floating services as carsharing, even though the companies themselves initially opposed such labeling. Such processes are likely to emerge during categorical hype as the media tries to make sense and frame the phenomenon in a fast and appealing way. Our study then suggests that as a result of this process, categorical hype enables co-optation and further corporatization of a SMO driven category. The way large firms become a part of a certain hyped category, such as the sharing category, can initially be less intentional and goal-oriented, and even opposed on their behalf. By making sense of new phenomena, such as young people not wanting to own a car, the media constructs these categories to convey certain meanings, actors, and symbols, and constructs new and existing players to be similar. Our study therefore emphasizes the role of the media in boundary-spanning activity by making the boundaries of categories more lenient and paving the way for them to become co-opted.

Despite the fact that the carsharing movement had initially begun to change the mission and identification potentials of the carsharing category, they began to resist such efforts after their own role became more marginalized. However, when the movement noticed, how much they benefitted from the mainstreaming and that the freefloating services were not clearly at odds with their goals they gave up the resistance and returned to their roots of emphasizing the

environmental nature of the service. This provides corroborative evidence to the discovery by Thompson and Coskuner-Balli (2007) that after co-optation the social movement can create a countervailing market-response emphasizing the oppositional characteristics compared to the corporations that have entered their market.

Our findings align with those of Rao et al (2003) in indicating that the media is prone to categorize actors to the new emerging category rather than the more established ones. Therefore, during a categorical hype the media resists firms' own strategic categorization efforts that aim to categorize new services under established categories. Thus, the attempt of car2go to categorize its service under the car rental umbrella did not stick with the media. When looking at sharing economy more extensively, the media might work for the benefit of many new actors that try to avoid regulation. For example, Uber has been sued on multiple accounts on breaking the regulation enacted for taxi companies (Kelly, 2016). Uber would like to be classified as communications platform rather than a transportation provider (Cannon & Summers, 2014) most likely to avoid the regulatory requirements of the taxi business. In the light of our findings, media might support this kind of strategic categorization as it is unlikely to categorize the service in the established taxi category.

It seems likely that media might support the corporate co-optation of other sharing economy markets besides the German carsharing market. Many sharing economy markets lack a political organization such as the BCS that guards their boundaries and therefore there is likely little resistance to the co-optation. It is therefore no wonder that the whole sharing economy has been argued to be co-opted to serve corporate interest (Martin, 2016). Furthermore, there are also other topical categories that might be prone to similar dynamics. One example of such category is circular economy, which aims at creating industrial closed loops, where the waste of one industrial process is the raw material of another (Wikipedia,

2017a). In a similar manner to the sharing economy, also circular economy is raising a hype because of great expectations on environmental sustainability (Simpson, 2016).

One promising topic for future study is regulator categorization of the sharing economy. Regulators have a lot of power over the new sharing economy sectors because their business models are often in direct conflict with existing regulation, or new regulation can substantially ease the operations of sharing economy players. There are already examples of how regulatory categories have interfered with sharing economy markets. Besides the German carsharing law mentioned in the findings section, DriveNow had to pull out of the San Francisco market because preferential parking was only allotted to station-based and peer-to-peer carsharing (Korosec, 2015). Car2go also had to pull out of the Miami market due to a rental car tax of $1 per trip that made the cost structure unbearable (Stoll, 2016). The fact that the sharing economy sector's boundaries are vague creates possibilities for different kinds of actors to conduct opportunistic framing and lobbying.

NOTES

[i] To be exact car2go started as a Daimler pilot and the joint venture with Europcar was founded in 2010, when the company started to expand.

[ii] In this study we focus on the social movement and the corporations because they are the main participants in the meaning making of the carsharing category. Additionally, there are start-ups offering services on peer-2-peer model. However, they have been marginal on the discussion concering the category.

[iii] This is for example illustrated by the fact that car2go and DriveNow have been mentioned in our press data 462 times, whereas the other freefloating schems have been mentioned 28 times.

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FIGURE 1

THE TIMELINE OF THE IMPORTANT EVENTS

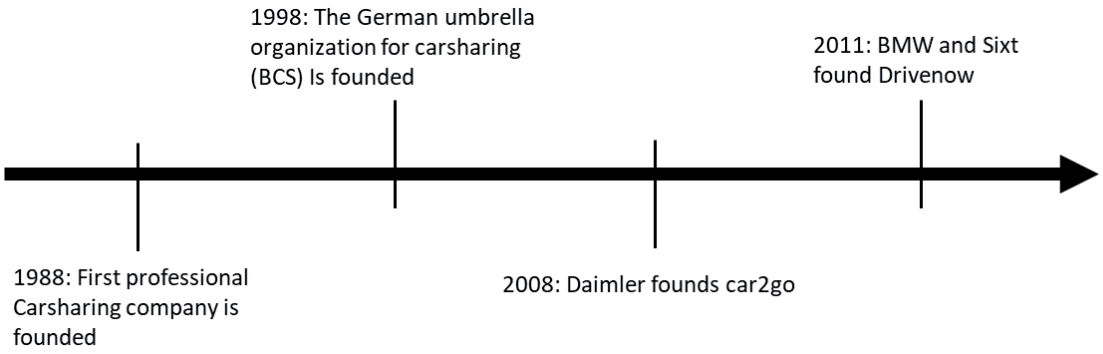


FIGURE 2

THE CORPORATE CO-OPTATION PROCESS

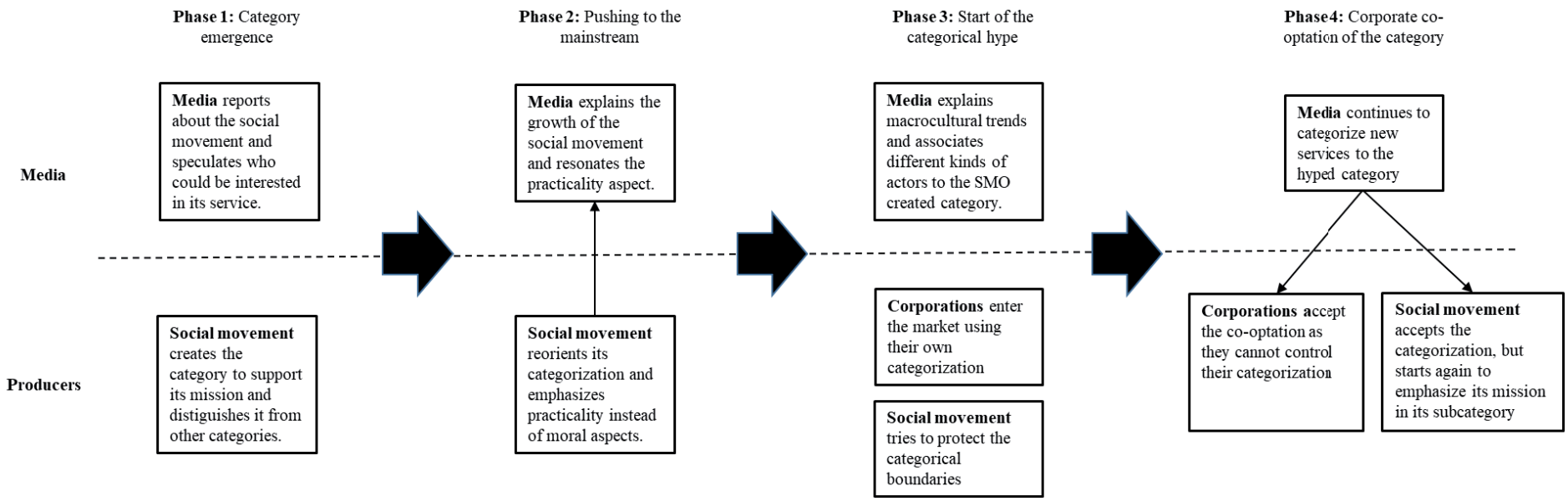
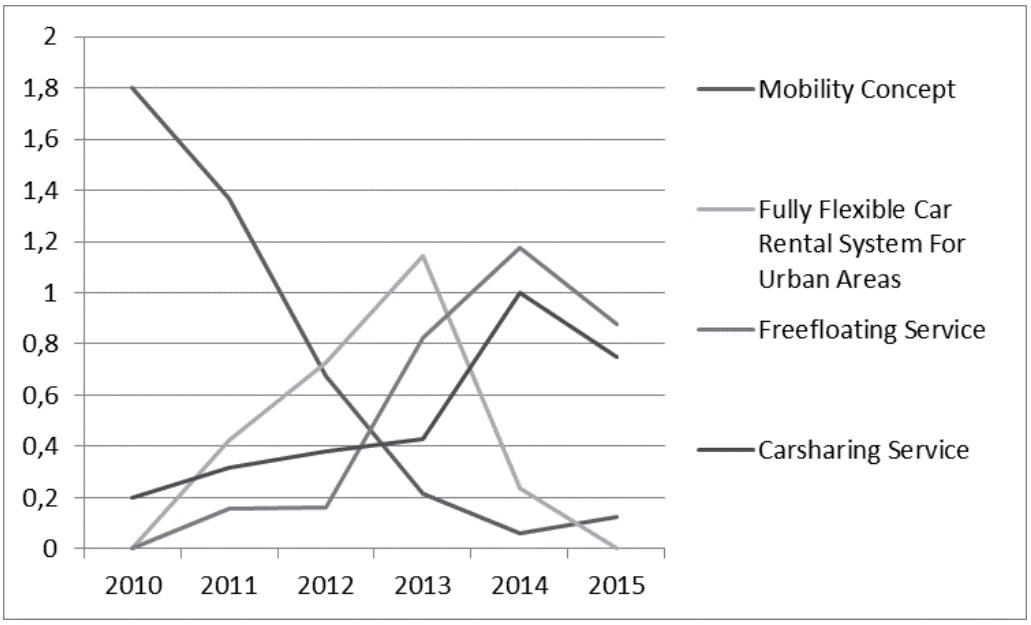


FIGURE 3

SELF-LABELING OF CAR2GO IN PRESS RELEASES



NOTE: Numbers are normalized i.e. the number of usage of a term has been divided with the number of documents each year.

FIGURE 4

THE NUMBER OF TIMES DIFFERENT KINDS OF ORGANIZATIONS ARE MENTIONED IN THE PRESS DATA

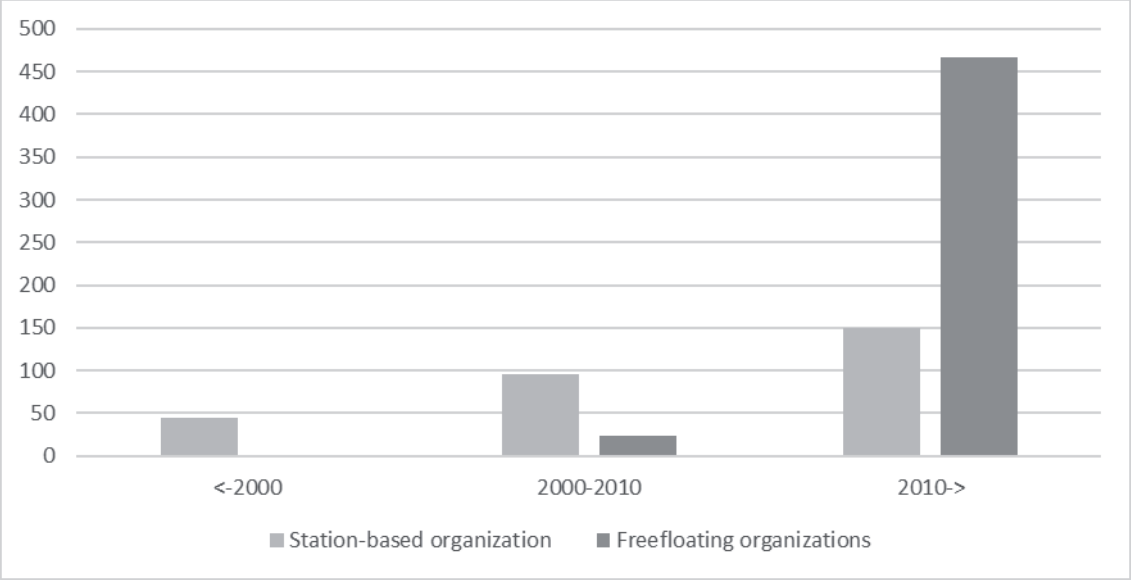


TABLE I

THE DIFFERENCES AND COMMONALITIES OF DIFFERENT CARSHARING BUSINESS MODELS

Characteristic	Station-based model	Free-floating model
Customer contract	Based on a frame agreement	Based on a frame agreement
Rental model	Advance booking	Spontaneous
Logistical model	Round-trip	One-Way
Billing model	Based on hours and kilometers	Based on minutes

TABLE II

THE DATA SOURCES USED FOR THE STUDY.

Source of data	Primary purpose of data source	Amount of data
The press releases of station-based actors	To map how station-based organizations perceive themselves, carsharing category and other market actors.	215 articles from years 1998-2015 (BCS 66, cambio 72, stadtmobil 77 articles)
The press releases of free-floating actors	To map how free-floating organizations perceive themselves, carsharing category and other market actors.	211 articles from years 2008-2015 (car2go 118, DriveNow 93)
The newspaper articles	To get a grasp of how media categorizes the carsharing actors.	190 articles from years 1990-2015 (der Spiegel 67, die Zeit 123)
Interviews	To understand the basis and the motivation for how the organizations categorize themselves and each other.	14 interviews (7 from station-based organizations, 2 from BCS, 2 from DriveNow, 3 from industry consultants, who used to work for free-floating organizations)
Books on carsharing	To learn about the history of the social movement.	*25 Jahre Carsharing* (Huwer, 2002; Loose, 2014a) Dissertation by Petersen (1995) Dissertation by Huwer (2002)

TABLE III

EMPIRICAL ILLUSTRATIONS OF THE CO-OPTATION PROCESS

Category emergence	
1.1	"The [stadtmobil] workers were and still are led by the conviction that car ownership in Germany can and must be reduced to make cities more human-oriented and to deal with the ecological challenges of the future." (Caroli, 2014: 42)
1.2	"In the end of the day, the car rental cars can hardly replace the private cars for example because short-term rental is too expensive." BCS director Willi Loose in die Zeit, 5.7.2007
1.3	"We have designed the service in a way, that the shared car is a complete replacement for the private car for all travel purposes: For short city trips we have small cars, for small shopping we have mid-sized cars, for vacations we have station wagons, we have nine seaters, we have vans for moves… we hope our customers do a lot of [trips] with the bike or with the public transport or with their own feet, but we want to substitute the private car completely" Communication director of a major station-based company
1.4	"The main idea there [having a pricing component based on distance] is to move the carsharing customers towards more economical car usage. There should be no incentive to drive more than is necessary." BCS press release, 15.10.2010
1.5	"Carsharing closes the gap between the hitherto existing environmentally sustainable transportation means [Umweltverbund] … As an eco-efficient service, carsharing offers an alternative to private car ownership and is as such a typical concept of the service economy." (Huwer, 2002)
1.6	"We want that the private car will at some point be associated with stupidity. If the traffic continues to develop in the current trajectory the car will in any case become perceived as something boring instead of the status object it is today." Stattauto founder Carsten Petersen, *der Spiegel*, 5.11.1990
1.7	"[Carsharing] seems like socialism, but has nothing to do with it. The German carsharing organizations get their supporters with the mere economical reasoning. Firstly, according to their argumentation, an individual carsharer can do his/her bit for the environment by giving up the private car. Secondly he/she can also save money." *die Zeit*, 1.3.1991
Pushing to the mainstream	
2.1	"Those who do not use a car on a daily basis and drive less than 10.000 kilometers per year can save a lot of money with carsharing. The saved money and the comfort that comes from the fact that customers do not have to worry about repairs and cleaning compensates for the fact that there is no private car standing in front of the door." Cambio press release, 6.9.2005
2.2	"Ecological, flexible, and inexpensive – and almost as convenient as a private car." BCS webpage capture from 6.8.2002 (retrieved with Wayback machine)
2.3	"The carsharing industry records growth numbers of which the car manufacturing industry can only dream. Since 1997, the number of users has more than quadrupled… Since the end of the 1990s, more and more carsharing companies are stepping out of the eco-niche and into a business with a future." *Spiegel* online, 16.5.2005
2.4	"The Stadtautos are new, clean, and regularly maintained. During the two-year membership period we did not have single malfunction. Vehicle inspection, repairs, search for a parking spot – all of the by-products of the private car do not worry us. Besides, carsharing is substantially cheaper than private car, especially for those like us who drive substantially less than 8,000 kilometers a year." *Zeit* online, 6.9.2001

Start of the categorical hype	
3.1	Car2go is not a competitor of our old business model [of manufacturing cars]. A buyer of a new car is Germany is on average older than 50 years. With [car2go] we address a new customer group, a young city dweller, who is difficult to reach with other means. With car2go, we can perhaps even bond them with our brand. When they move to the countryside, start a family and get a car, then they will hopefully get a Mercedes. Robert Henrich (CEO of car2go) in *Zeit* online, 15.12.2011
3.2	"Car2go is without a doubt an innovative automobility concept. It seems questionable however, whether or not it creates the behavioral changes in its users, like those created by carsharing that have been proven many times in scientific studies… Short car trips for a low price are definitely a substitute for trips that would customarily be carried out by foot, with a bike, with a train or with a bus. Therefore, car2go can quickly become a replacement of the environmental modes of transportation and not complementary like classic carsharing." Press release of BCS, 15.10.2010
3.3	"I describe them [the free-floating service] … as a form of self-driven taxi. They operate actually in a very similar manner as taxis. The only difference is that you drive the car yourself … Our [station-based] carsharing … offers everything that a private car offers. That is, take a car, drive where you want to and bring it back to the same place. That is the same way people use their own cars." A director of a station-based carsharing company
3.4	"Not acquiring a car appeals to more and more young people. Especially in the cities, the trend is noticeable. This is hardly surprising because it is there that the congested streets, eternal search for parking spaces and the practical carsharing offerings make the private car increasingly unattractive." *Spiegel* online, 7.8.2010
3.5	"Corporations like Daimler, Sixt. and Deutsche Bahn muddle up the carsharing scene. The pioneers of the branch are afraid that the environmental benefits will as a consequence fall by the wayside." *Zeit*, 3.5.2009
Corporate co-optation of the category	
4.1	"…the target group is different [than it is on the sold cars] because carsharing is more for a certain life span, especially for singles, for young couples who don't have kids, who live in the city, are very flexible … When those people will get children one day, and probably have a family and move out of the city, then the own car definitely will play another role for them anymore. And if they could show over the time of DriveNow that BMW are high quality cars, then maybe this person at a later stage will buy a car and will buy also BMW." The communications manager of DriveNow.
4.2	"From the start of car2go, the whole carsharing market has advanced substantially. Nowadays, car2go is one of the best known and the most successful carsharing companies in the world and is used as a generic term for a whole new segment." A press release of car2go, 24.10.2013
4.3	"During the years 2011 and 2012 alone, the station-independent [i.e., free-floating] in Germany has won as many customers as the station-based variant in the first 20 years. The new offering has brought the whole carsharing out of its niche and made it accessible to a wider population." A common press release of car2go and DriveNow, 12.3.2015
4.4	"Because of [the coming of free-floaters] the word 'carsharing' became much more widely used. It has the disadvantage that many people think, that this what they have developed is carsharing, and that what we do is really ... well somehow not as modern or so. It is requested a lot and it takes a while to explain how the services differ." A director of a major station-based organization

4.5	"…so, I went through articles before 2012 just to see if we had any press coverage then and yes we had. In every newspaper article, Cambio or Stadtmobil was mentioned, which completely stopped in the middle of 2012. If we have press coverage even on the case of [the carsharing law], which is just for us, you will find a Car2go or DriveNow photo on top of the page because people don't know the difference, they don't care about the difference and this free-floating system's definition, or what car sharing is in the public view." A director of BCS in an interview
4.6	"[station-based actors and the free-floaters] have also become closer mentally…We have, for example, given a common advisory opinion to the draft of the carsharing law, where we have summarized our respective positions. My personal belief is that we would not have been able to pass the carsharing law without the (free-floating) offerings of car2go and DriveNow." A director of BCS in an interview
4.7	"We have again reached such a point, where we want to use it [the environmental certificate 'der Blaue Engel'] to make clear that we have a completely different motivation than just somehow developing just some new business line. We first and foremost have the major concern to do something positive for the environment." A director of a major station-based organization