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THE GERMAN CAR SHARING MARKET
CONSUMER PERCEPTIONS AND BEHAVIOUR

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ABSTRACT

Recently, a shift away from ownership towards pay-per-use concepts could be noticed throughout all industries. In the field of mobility, this trend is seen mainly in car sharing, a vehicle service for assigned members. The urban mobility sector has been transforming itself throughout the last years: car sharing has been growing tremendously, but there is still a big room to foster its position as sustainable mean of transport. In the following work project, the German car sharing market is put into focus, delivering profound insights about consumer perceptions and profiles. The objective is to give recommendations on how this sector can leverage and increase significance. This is done by an analysis about the value car sharing is offering to its consumers, while assessing their expectations and experiences by an empirical-quantitative approach. Recommendations to increase popularity for car sharing among consumers are elaborated based on the results of this project.

Keywords: Car sharing, sharing economy, consumer insights, sustainable mobility, transportation

Used abbreviations:

BCS – *Bundesverband Carsharing e.V.*

CS – car sharing

CSO – car sharing organization

FF – free-floating car sharing

LEZ – low emission zone

OEM – Original Equipment Manufacturer

PT – public transport

SB – station based

1. Introduction

During the last years, growing traffic volume became a central topic again, boosted besides other factors by the increasing urbanization. While car-free Sundays existed in UK, Germany, Italy, Switzerland and Norway already in the 1970s during the oil-crisis (Frum, 2000), Paris launched last year its first car free day in the city centre. Megacities in Latin America, as Mexico City and São Paulo introduced days, during which cars with certain licence planks are not allowed to drive during rush hours to reduce overall traffic (The Economist, 2016). The city of New York on the other hand is transforming several of its main roads to cycling lanes (Walker, 2016) and Helsinki, Finland, plans to make car ownership pointless by 2025 (Greenfield, 2016). CS is by definition a transportation tool in urban areas on the basis of member-based service, providing vehicles for a short term access (Baptista et al., 2014). The phenomenon of car sharing can be seen in the bigger concept of the sharing economy[1] (The Economist, 2013) (Hamari et al., 2013), enabled by new technologies such as smartphones, GPS, apps and the possibility of mobile payments. All those devices ensure a smooth customer experience as they empower the user to find the vehicle, open it, drive it and return it, anytime. This new mobility offers a high level of convenience for customers and enables them to enjoy mobility benefits without the necessity of car ownership (PWC, 2015b).

Germany is playing a leading role in Europe's CS business (Statista, 2015). The industry landscape is broad and the concept got adopted and appreciated very fast among consumers (BCS, 2016). The following work project aims to deliver an adequate profile of the German CS market, analysing the consumer insights and benefits car sharing can offer to its users. Finally, recommendations on the targeting strategies will be given to *Bundesverband Carsharing e.V.* in order to reach a broader customer base of CS providers.

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[1] The sharing economy is by definition a hybrid market model which refers to sharing of access to goods and services

2. Outline of the work and research question

The following paper was elaborated in order to help *Bundesverband Carsharing e.V.* (BCS), the German umbrella association for car sharing, to gain market insights and provide the car sharing organizations (subsequently CSO) with detailed information of current as well as future possible car sharing customers. The research is therefore not constraint to existing users, but including as well an analysis of promising segments among non-customers (Blue Ocean Strategy, 2016), which might be transformed into customers: Who are the current and future customers, what are the commonalties they value in CS services, and how can they be targeted powerfully and successfully? *Bundesverband Carsharing e.V.*, subsequently named BCS, is playing an important role in terms of market insights, as a mediator between the single CSOs, but equally in negotiations with municipalities and with OEMs in the buying of vehicles.[2] It is a key point to understand that the industry of CS is a very customer oriented and servitized sector of the mobility market. Due to the small size and limited budget of some players within this market, their marketing strategy is still in the early stage of development.[3] In order to optimize the targeting strategy, reach more clients, and promote the whole industry, it is essential for BCS, to know current and potential CS members, and to understand how they are using the offered service. For this approach, the conducted quantitative and qualitative research will deliver some insights in the form of customer characteristics, needs and expectations, consumer perceptions and preferences. On the basis of those insights, recommendations regarding targeting existing and potential customer segments were developed.

3. Literature review

Table 1: Literature review on car sharing

Authors	Title	Year	Type	Sample	Data collection	Main issues	Key points/ key learning
Shaheen, S.; Sperling, D.; Wagner, C.	Carsharing in Europe and North America: Past, Present, and Future (Shaheen et al., 1998)	1998	Article on shared-use vehicle services and their prospects for the future	n/a	Overview over various studies and surveys concerning CS published in the 1990s	Overview over the concept and history of CS globally User characteristics and market potential	Reduction of car ownership rates and reduced car usage due to subscription to CS services Creation of the new business segment mobility provider

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[2] see *Exhibit 2*
[3] see *Exhibit 1: Overview conducted expert interviews with managers of Bundesverband Carsharing e.V. and car sharing provider*

Loose, W.; Mohr, M.; Nobis, C.	Assessment of the Future Development of Car Sharing in Germany and Related Opportunities (Loose, Mohr, & Nobis, 2006)	2006	Questionnaire for CSOs upon the future of CS Secondary data research among Europe Household survey using CATI (computer assigned telephone interviews)	Questionnaire spread among 100 CSOs (response rate 65%) Household survey among n=1000	Study about the further organiza-tional development of car sharing in Germany	Recommendations to various stakeholders having significant influence regarding the future development of car sharing in Germany.	Analysis and assessment of the German CS market
Shaheen, S.; Cohen, A.	Growth in worldwide Carsharing. An international comparison. (Shaheen & Cohen, 2007)	2007	Report	n/a	Analysis of over 20 international studies stating the respective benefits and projected market trends	Historical overview, CS impact and growth, examination of CS operations worldwide, growth trends and projected development	CS as global trend, expected to grow further globally; growing awareness; growing number of entrants into new and established markets
Cornet, A.; Kircher, W..; Weig, F. et al., McKinsey & Company	Mobility of the Future: Opportunities for automotive OEMS (Kircher, 2013)	2013	Large-scale market survey in Germany	Representative sample of 3,400 respondents	Report about current and expected mobility needs and preferences of the German consumers	Analysis on Analysis of the CS movement upon automotive OEMs and how the automotive industry can use it for their advantage	The study develops the recommendation for OEMS to adapt their strategy according their findings towards an appearance as mobility providers
Zoepf, S.; Keith, D.	User decision-making and technology choices in the U.S. carsharing market (Zoepf & Keith, 2016)	2016	Online survey to members of the largest carsharing operator in North America, Zipcar.	68,982 randomly selected members of Zipcar were contacted. The response rate was of N=1605	Online survey on reservation and utilisation behaviour	Analysis of consumer decision making considering the choice which share vehicle they will reserve if any	Decisions in shared mobility services are made depending on consumer's believes and preferences. Utility of the chosen vehicle is depending on length of the trip.
Bert, J.; Collie, B.; Gerrits, M.; Xu, G. BCG Group	What's Ahead for car sharing? The new mobility and its impact on vehicle sales (BCG, 2016)	2016	Article analysing the CS market and its future market evolution based on 3 possible scenarios: disruption, continuation and evolution	n/a	Cost analysis for Europe for whom CS makes more sense than car usage Growth analysis of the CS market	Impact of the growth of CS on vehicle sales, autonomous vehicles and ride sharing Possible changes on the market for mobility due to CS	CS is transforming urban driving, driver's behaviour, and business models of OEMs and new entrants CS is not transforming the mobility sector in its roots

Car sharing was subject of various publications and studies. Most importantly, Susan Shaheen, part of the Innovative Mobility Research unit at the University of California, Berkeley, published various papers on this subject in collaboration with other researchers, most prominently mentioned the two reports above (Shaheen et al. 1998), (Shaheen & Cohen, 2007). Loose researched the German CS market in detail, but during the last 10 years the industry changed a lot due to new market entries and technological progress. An updated overview of the German CS market, placing a focus on the consumer perceptions and characteristics, is missing. This direct research work project is giving a review over the German car sharing landscape, focussing on the consumer itself and its needs. Based on the consumer insights recommendations on the marketing strategy and targeting will be given to *Bundesverband Carsharing e.V.*.

4. The development of the car sharing market
While CSOs existed since the 90's, they only increased significantly during the last years, and reached by now a sizeable consumer base, prompting OEMs into the business (Viechnicki et

al., 2015). Today various business models exist, ranging from B2B to B2C and peer-to-peer rentals (P2P). Each type of car sharing comes along with additional services, such as maintenance of the vehicles customer care. While most of the station-based (SB) services were founded as small associations in the 1990s and developed over time, the free-floating (FF) CSOs are provided by big corporations, mainly OEMs and car rental companies (Gardiner, 2013). The private P2P car rental services have so far been dominated by start-ups (Horstkötter, 2014). Nowadays, CS is an important part of the urban mobility with a global revenue forecast for 2020 estimated for EUR 3.7 to EUR 5.6 billion, with a projected market growth of 30% per annum (Horstkötter, 2014).

4.1 Major recent trends in the automotive industry

During the last decade, the automotive industry got affected by various trends, which induced a transformation of the sector itself. Vehicles are constrained by their dependency on fuel, a network of roads and parking places. Due to the increasing urbanisation and the rising number of circulating cars, the industry got affected progressively by regulations (Gao et al., 2014). Global shifting attitudes concerning the environment, the increasing pollution and traffic congestion as well as technological progress are affecting consumers and their behaviour (PWC, 2015b). Technology and connectivity enabled a new image of mobility as consumers are rethinking the established concept of individual car ownership, with the result of UBER, CS and bike sharing. Apps promote the possibility to use a vehicle whenever needed. Beyond this, the car industry is implementing digitalization and therefore needs knowledge from outside, thus leading to market entry from newcomers (Gao et al., 2014). Summarized, these trends caused two major developments in the industry. Firstly, OEMs are developing and manufacturing next-generation connected and autonomous vehicles, improving traffic flows and safety, secondly, automakers are investing in a broad range of mobility services from CS to rental services to multimodal trip-planning apps (Viechnicki et al., 2015). Today, OEMS define themselves as product manufacturers and mobility service companies (Lang et al., 2015),

especially to target younger consumers (Euromonitor, 2015), (Deloitte, 2014).

4.2 The evolution of the sharing economy

During the last decade models of access organized by the marketplace are gaining popularity, boosted by the evolution of the internet and an evolving business culture trading cultural resources rather than material objects. Popular examples can be found from online access programs as *Netflix* or *Spotify* to borrowing websites for fashion or jewellery as *Borrowed Bling* or *Rent the Runway,* to car- or bike sharing programs (*ZipCar, DriveNow CitiBike*). This development can be defined as access-based consumption – "transactions that can be market mediated, but where no transfer of ownership takes place" (Bardhi et al., 2012). According to Roland Berger Strategy Consultants, this "new economy" (Horstkötter, 2014) will increase domination in the future. Key segments of the sharing economy are goods, accommodation, money services and mobility. The mobility sector is hereby characterized by being the one with the fastest growth in terms of revenue and the one in which the most established players are entering the market. Special growth drivers are hereby a new consumption culture, scarcity of resources, digitalization and demographic trends (Horstkötter, 2014).

## 4.3 Introduction of the car sharing concept

The concept of CS seems to be a very modern development, but in fact the origins go back to SEFAGE, a cooperative initiative that started in Zurich already in 1948. The first successful CSOs started in Europe in the mid 1980s (Shaheen et al. 1998). While CS existed for more than 20 years, it increased popularity tremendously during the last years, when large manufacturers entered the market and new customer segments got attracted (Schaefers, 2013). Customers can access cars, which are distributed across a network of location within a metropolitan area, for short-term usage anytime with or without a reservation. Prices are charged corresponding to time or distance. During the rental time the customer is responsible for the vehicle and the car is available exclusively for his access, so the process might be characterized as a "sequential short-term access" (Le Vine et al., 2014). Besides the vehicle access, the CS price includes

parking fees, fuel, cleaning as well as taxation, maintenance and inspection costs. Consequently, CS promotes financial and time-saving advantages for drivers, which only need a vehicle occasionally due to the lower fixed costs compared to car ownership (BCG, 2016).[4] The innovation of CS is providing some benefits of personal mobility, while the large upfront costs of ownership are eliminated (Martin et al., 2010), (Baptista et al., 2014). CSOs are targeting two segments: individual (B2C) and business members (B2B) (Le Vine et al., 2014), (Horstkötter, 2014).

4.4 Different forms of car sharing

Table 2 shows the four different business models, which can be found in the German market (Le Vine et al., 2014). This study will mainly focus on the two main established concepts of CS, point-to-point free-floating services and station based services, counting for the majority *BCS*'s members. Those are also the two strongest segments on the German market in terms of members and vehicles (Statista, 2015).[5]

Table 2: Car sharing types characterization

	Car sharing Type			
	Peer-to-peer	**Station-based round-trip services**	**Point-to-point free-floating**	**Point-to-point station-based**
Ride organization	Round-trip	Round-trip	Free-floating	Station-based, but one-way trips possible
Fleet ownership	Registration by individuals for their own car	By CS operating company, mobility providers	By CS operating company, Automobile OEMs, car rentals or mobility providers	By CS operating company, mobility providers, non-profit organizations
Parking	In assigned stations and parking spaces	Allocated in dedicated parking spaces	On-street in the operating area, special contracts with community, or on especially rented parking spaces	At operator owned or rented parking spaces
Business type	P2P	B2B mainly B2C	B2B B2C	B2B B2C
Reservation policy	Reservation necessary beforehand	Differs by provider Sometimes it needs to be booked in advance (cancellation fees)	Reservation beforehand possible, but not necessary	Reservation beforehand possible, but not necessary
Access	Via smartcard or actual car keys	Via smartcard	Via smartcard	Via smartcard
Pricing model	No registration fee No basic fee Pricing based on distance and/or time	Registration fee Low monthly basis fee Pricing based on distance and/or time	Small registration fee No basic fee Pricing based on time	High registration fee Monthly fees Pricing based on distance and time
Level of flexibility	Low	Intermediate	High	Intermediate
Example	drivy	STATT AUTO München·CarSharing	DriveNow	Flinkster

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[4] see *Exhibit 21 and 22*
[5] For more information on the different types of car sharing and their corresponding business models, see *Exhibit 23:: Different forms and business models of car sharing*

5. Market situation in Germany
5.1 Mobility market in Germany

In Germany, every day 90% of the population is off-site on the go and on average every person is commuting 3,4 distances traveling an average sum of 39 km daily (ADAC e.V., 2015). This counts for 3,2 billion passenger-kilometres every day in Germany (ADAC e.V., 2015). On average a person is 79 minutes per day on the move. Concerning the mean of transport, 58% of all distances are commuted by a motor vehicle, 24% by foot, 9% by bike and 8% by public transport (subsequently called PT) (DAT, 2016). The purpose of commuting is for 32% of all distances leisure, 21% shopping, 21% are ways to the workplace, 20% ways for companion of another person or other private transactions and 8% are travelled distances directly related to practice of a profession (BMVI, 2016). Individual motor traffic is the strongest traffic segment, serving for 935,6 billion passenger-kilometres yearly (ADAC e.V., 2015). The average age of the 45,07 million licensed German passenger cars was 9 years in 2015 (DAT, 2016).[6] The average costs of car ownership can be broken down in several factors, the biggest parts of it are fuel costs (Held et al., 2015).[7]

As Germany aims to cut greenhouse emissions by 40% until 2020, environmental regulations affected car owners, most importantly mentioned low emission zones, subsequently called LEZ[8]. LEZs are defined areas within a city, with restraint access of certain polluting vehicles in order to improve air quality and reduce fine particles (Green-Zones GmbH, 2010).[9] While changing consumption habits of young adults encourage CS, older drivers, which count as largest segment for new-car sales, cling more on their private cars (BCG, 2016)

5.1.1 Analysis of indirect competitors in short distance travels

The following Table 3 shows a benchmark between the most common means of transport, and their aligned costs at two examples. On the one hand, costs for a distance of 7,5KM in the city of Munich are analysed, on the other hand an economical comparison between the different

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[6] see *Exhibits 6* and *7*
[7] see *Exhibit 10*
[8] By March 2016 LEZs were introduced to more than 70 cities already
[9] In consequence, older vehicles are not allowed to enter city centres anymore, which is conform with German municipal authorities to discourage driving in city centres.

means of transport concerning the amount of yearly km, which can be commuted, based on the

costs of the new model of VW Golf, is drawn.[10]

Table 3: Benchmark of different transports for a short distance commute within the city

	Mean of Transport								
	Free-floating car sharing (DriveNow)	Independent station-based car sharing (StattAuto München)	Car	Bike	Public Transport	Car rental (Sixt)	By foot	Taxi	Uber
Cost for a 7,5 km distance within the city	EUR 6,95 24 min + walking to parking	EUR 8,16 24 min + walking to parking	EUR 3,40 24 min + walking to parking	EUR 0 34 min	EUR 2,60 34 min	Day rate from 80 EUR/day	EUR 0 1 h 30 min	EUR 19,10 24 mins	Ca. EUR 13 24 mins + 3 min waiting
Yearly costs of ownership	CS can offer around **10.200** annual kilometre [11]	E.g. 20 weeks for a total of **14.000 km**, to **24.400 km** on 162 days (when using it for more	**6.336 Euro for VW Golf, 15.000 annual km, resulting in 42 ct/km (taken into account fuel, insurance taxes, depreciation, maintenance costs etc.)**	No fixed costs Low acquisition costs starting at new EUR 200	2.182 Euro for the complete PT network of Munich (approximately 50km radius), or 766 for the city itself	**Range: 7.162** [12] **km Up to 22.800** [13] **km**	no costs	**2.400 to 3.400 km per** [14] **year**, so e.g. 240 rides of 10 km	One could drive **2.600 km to 3.600** [15] **km** in Uber, which makes almost a 10 km rider per day
Result	Especially for **short urban commutes**	The model is designed for environmental conscious users, who forgo car ownership and commute short distances mainly by PT or bike supplementary for **longer distances or transports**, they use car sharing	Still the best possibility for drivers living in the countryside, **individualistic** commuters and drivers driving more than 30.000 km per year Offering drivers the highest level of **comfort**	Bike can be an adequate and very **cheap mean** of transportation within a city, and can be combined with the other tools	Very cost-efficient and environmental friendly possibility for people living in the city	**Not suitable for the everyday commutes**, however a supplement for car sharers and consumers without owned car, e.g. for holidays	**Cheapest** form of transportation However **not suitable for distances** longer than 3km (see example above, since it is the least timesaving)	Most **expensive** mean of transport in Germany per kilometre but especially for **short distances and to go out at night**	UBER just evolved during the last years, direct competitor to taxi rides, in regards of price and business concept, and **only indirect competition to cars or CS**
					Sources: (BCG, 2016), (Pöhler & Roser, 2016), (StattAuto München, 2016), (Statista, 2016) (BCS, 2016), (MVG, 2016), (Autobild, 2015)				

5.1.2 Analysis of the direct competitors

While the other means of transport – even the ones based on a car as car ownership - such as

taxi, car rentals or ride sharing -can be rather seen as an indirect competition, characterized by

different features and different usage occasions. The expert interviews showed clearly, that CS

is often completed by PT, bike and walking. Car ownership is seen as indirect competition due

the difference in the nature of ownership and sharing. CSOs themselves, with their different

business models and client bases are subsequently defined as the direct competition.

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[10] Motorcycles and scooters are neglected in this analysis, because of their small volume in the case of scooters (2015 11.635 new registrations of scooters were registered, compared to 158.457 motorcycles and 3,21 million new cars (Statista, 2016). Even if Germany registered a stock of 4,23 million motorcycles in 2015, motorcycles are considered rather as sports and leisure equipment than as a classic mean of transportation in Germany and therefore neglected here.

[11] From our frame of reference of EUR 6336 (deducting the subscription fee of EUR 25), due to minute prices calculated for an average speed of 30km/h, which is assumed the average speed of a city drive in Munich

[12] for a Golf consuming 6,8l/100 km at Sixt calculated on daily rents with 100km rides including fuel

[13] with daily rents with 400 km distances daily

[14] Depending on the German city (taxi prices vary in Germany between 1,85 and 2,65 Eur/km) one can drive

[15] UberX prices range slightly below taxi prices (savings of 3%-10% depending on traffic), for 6.336 EUR per year

5.2 Overview over the German car sharing market
5.2.1 Market demand and market growth

In Germany more than 140 CSOs are in operation today, together controlling a fleet of more than 16.000 vehicles. On 01.01.2016, 1,26 million CS customers were registered in Germany, 220.000 more than the year before, counting for a growth rate of 21%[16]. One should notice that multiple nominations of users are possible, since some users can be subscribed to more than one CS provider. CS users are having 16.100 vehicles in 537 cities and communities at their disposal (BCS, 2016). The size of available CS vehicles counts for about the half of the total European offer. In Germany, city-car drivers driving less than 7.500 annual kilometre, would be better off with CS than ownership, exactly like drivers of compact cars driving less than 12.500 annual kilometre and drivers of midsize cars driving less than 16.000.[17] As a result, , 46% of compact drivers and even the majority of midsize and larger car drivers would gain advantage with CS compared to their private car respectively car ownership costs (BCG, 2016).

Table 4: Benchmark of FF and SB services

	User base	Number of vehicles	Number of stations	Customers/ car	Cities and communities with the offer	Population reached in these cities
Station- based car sharing providers	430.000 (+13%)	9.100 (+1%)*	4.600 (+ 0%)	45 (+ 7,1%)	537 (+ 9,6%)	37,0 millions
Free-floating car sharing providers	830.000 (+26%)	7.000 (+9,4%)*	-	126 (+23%)	12 (+0%)	9,9 millions

*2015 SBCS providers started to offer a combination of their usual service with some FF cars, those were 600 of the 700 new cars in 2015 of the FFCS base

Source: (BCS, 2016)

5.2.2 Evaluation of the different car sharing providers
An overview over the different CS providers and their services is given in Table 5 .

Table 5: Overview over Germany's biggest car sharing providers

Car sharing provider	Car sharing type	Fleet size	Operating area	Vehicles	Customer base	Costs	Engaged Enterprises
CAR2GO	FF	3.000	7 cities	Smart fortwo (gasoline-driven and electric-driven)	230.000	29 ct/min driving, 19 ct/min parking, EUR 14,90 per hour, EUR 59 per day 50 km included	Owned by Daimler Benz and Europcar Various partners among them flinkster and PT companies
CAR2GO BLACK	SB		8 cities	Mercedes-Benz B-class	230.000	EUR 14,90 per hour 50 km included. EUR 89 per day 200 km included 29 cent per additional km	Daimler Benz and Europcar
DriveNow	FF	2.600	5 cities	Mini, Mini Cabrio, Mini Clubman, Mini Countryman, BMW 1er, BMW X1, BMW Active E	500.000	From 31 ct/min driving, 15 ct/min parking, special offers from 60 min for 27 ct/min; hour offers from EUR 29 for 3h (80km included)	CS owned by BMWi, Mini and Sixt

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[16] see *Exhibit 18*
[17] see *Exhibit 21 and 22*

Flinkster	SB	3.600	200 cities	Broad offer of brands	300.000	From EUR 2,30/h during the day (8am until 10pm) and EUR 1,50/h during the night,; 18 ct/km; EUR 39 per day the first day, 29 EUR/day from the second day onwards	CS by Deutsche Bahn (German railway company)
stadtmobil carsharing	SB, since 2012 supplementary FF	2.300	100 cities	Broad offer of brands	52.000	From EUR 1,40/h during the day (7am until 12pm) and EUR 0 EUR during the night,; 20 ct/km; EUR 21 per day	Compound of various smaller CS providers founded 1999
cambio Carsharing	SB	1.174	19 cities	Citroën, Ford, VW, Toyota, Mitsubishi, Volvo	50.300	From EUR 1,20/h during the day (7am until 11pm) and EUR 0,50/h during the night,; 28 ct/km; EUR 23 per day	Cooperative owned by customers and employees
teilAuto	SB	700	17 cities	Renault, Ford, VW	25.000	From EUR 1,90/h during the day (7am until 12pm) and EUR 0,50/h during the night,; 23 ct/km (up to 300 km); EUR 19 per day	Initially founded as cooperative in Halle, since 2002 participating in a compound
book-n-drive Carsharing	SB	680	8 cities	Renault, Opel, Citroën, VW up!	24.900	From EUR 1 per hour, 26 ct/km, 24 Euro per day	Initially founded 2000, Since 2011 owned for respectively 33% by Mainova AG and ABG FRANKFURT HOLDING
STATT AUTO München-CarSharing	SB	450	1 city		12.500	From EUR 2,20/h during the day (8am until 12pm) and EUR 0,55/h during the night,; 23 ct/km (up to 300 km); EUR 22 per day	Founded in 1990, since 2013 business department of the non-profit organization Spektrum Mobil GmbH engaging deprived youngsters
GREEN WHEELS	SB	300	23 cities	VW up!, Golf Variant, VW Caddy	10.000	From EUR 1,99/h during the day (8am until 12pm) and EUR 0,99/h during the night,; 24 ct/km; EUR 30 per day	Investors: Volkswagen Financial Services (after the incorporation of VW CSO Quicar) and Pon Partners in PT
multicity citroën	FF	350	1 city	Only electric vehicles (CITROËN C-Zero)	10.000	25 ct/min, max. EUR 39 per day credit packages from EUR 25 for 100 mins	CSO of Citroën; Cooperations with flinkster, call-a-bike and BCSG
scouter	SB	100	9 cities	Various models of Renault, SEAT and Toyota	4.500	29 ct/km, or from 99 ct/hour	Owned by Sharegroup GmbH, collaborating with book-n-drive, teilAuto and einfachmobil More then 25 partners, e.g. Flinkster, E-Wald
E WALD	SB	200	100 cities	Broad range of electric cars	3.000	From 3,99 EUR/h, from 19 EUR/day, EUR 16 the second day onwards, 99 EUR/ week, 299 EUR/month	Cooperative owned by 89 communities, private entreprises as well as private investors. In the beginning it got subsidized by the Bavarian government.
				Sources: (Carsharing News, 2016), (Car2go, 2016), (DriveNow, 2016) (Flinkster, 2016), (Stadtmobil, 2016), (Cambio, 2016), (book-n-drive, 2016), (Teilauto, 2016), (STATTAUTO München, 2016), (Greenwheels, 2016), (Multicity, 2016), (Scouter Carsharing, 2016), (E-Wald, 2016).			

The different providers are characterized by a completely different relational framework, as brand-owned CSOs are having easier and cheaper access to vehicles. They are providing mobility services as part of their modern, all-embracing brand image and aim to gain customer retention and market share among young customers by devising new business models (Viechnicki et al., 2015). As it is essential in the B2C sharing economy to build up trust and confidence as a provider, the OEMs, and other big corporations have the huge advantage of their brand reputation, which they proved to transfer to customers on a large scale.[18] Start-ups and P2P services on the other hand need to establish trust by other means such as service guarantees, consumer review services and peer-to-peer reviews (BCG, 2016).

6. Methodology and data analysis
In the following the research methodology and used methods will be explained. This work project is aiming to give a comprehensive overview over the German CS landscape and its consumers[19] to reveal unexplored business opportunities in the scope of customer acquisition

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[18] DriveNow, car2go and Flinkster are holding together 81,74% share of all CS memberships, see *Exhibit 20*
[19] Since this paper is aiming at the German market, research was conducted among German consumers

and retention for the sector in the form of recommendations on targeting new segments to the umbrella association for CS *Bundesverband Carsharing e.V.*. Therefore, empirical quantitative and qualitative research methods were applied.

In order to gain a broader image on the CS market, and analyse the consumer needs and characteristics in context with their lifestyle, first secondary data collections and analysis from different institutes and market research agencies were consulted.[20] To complete those market insights, semi-structured explorative interviews with both, CS users and non-users were conducted to get all the important dimensions related to this subject.[21] Finally, the quantitative research in form of an online questionnaire was conducted, whose answers were analysed empirically.

6.1 Qualitative research

In the beginning of this project, qualitative research serving an exploratory goal was conducted. In order to define the research problem and subsequently identify the necessary variables that should be included in the quantitative part. Semi-structured interviews in person and via telephone were conducted and analysed with, consumers and experts, working in the industry.

6.1.1 Expert interviews

Systematic expert interviews with both, managers of CSOs and the BCS were conducted in order to understand important topics for the industry, to gain insights of the CS business at its very heart and identify problems and needed information about consumers. CSOs were selected upon their business and operation model, to point out different approaches of their business model, marketing effort and customer management, see Table 6.[22]

Table 6: Overview conducted interviews with car sharing companies

Company/ Association	Interviewed Manager	Company Location	Target Groups	CRM	Marketing Efforts	Business model
bcs. Bundesverband CarSharing	Gunnar Nehrke, Manager	Berlin –operating Germany-wide	Umbrella organization for all CSOs, CSOs as direct members	Promoting the car sharing concept in Germany among private consumers and municipalities	Representing the CS concept for media etc., organizing various events and conferences with the subject of CS per year	Supporting umbrella association of the CSOs

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[20] *See Exhibits 4 - 22*
[21] see *Exhibits 23- 51*
[22] for further information upon the expert interviews, see *Exhibit 1*

stadtmobil	Daniel Brauer, Deputy General Manager	Berlin, one of 8 regional branch offices	Private and business Strong part of young families living in the city – between 30 and 40 agers, among business especially small and family businesses	Long-term customer relationships, offering an alternative to car ownership	Very little, since too much promotion might target wrong customers Focus on long-term relationships	Founded out of sustainability, today adapting towards demand and customer needs
STATT AUTO München·CarSharing	Olaf Rau, CEO	Munich	Private and business High percentage of city-livers between their mid-thirties and mid-fifties with an academic degree	Long-term relationships, very focussed on a good customer service to enable members foregoing car ownership [23]	Little Some promotions for new target groups by special [24] tariffs	Founded out of the aim for sustainability, today the main focus is customer satisfaction and high service quality
cambio CarSharing	Catharina Oppitz, PR Manager	Bremen, operating in 19 cities	Private and business	Long-term customer relationships, offering an alternative to car ownership	Different campaigns and tariffs for different target groups Directed communication for different target groups	Founded out of the aim for sustainability, today one of the biggest groups
E WALD	Otto Loserth, CEO	Teisnach [25]	Mainly Business segment and municipalities	Long-term relationships	Offer high adapted to the customer's [26] business needs	100% Electric vehicles, subsidized by the German government

6.1.2 Semi-structured interviews among consumers

The qualitative semi-structured interviews among consumers served an exploratory and investigative goal to get a set of ideas and associated methods to get also the participants' unconscious associations, experiences and feelings towards CS.

Table 7: Semi-structured interviews with consumers – Sample characteristics

Interview Sample Characteristics						
Sample size	User status	Gender	Age	Age range	Place of residence	Car possession
12	50% CS Users 50% Non- User	50% Male 50% Female	Ø 34 years	22 -59	16,67% rural 16,67% suburbs 66,67% urban	41,7% own car 33,3% family car 25% no car

Table 8: Semi-structured interviews with consumers – Outcome

	Users	Non Users
Car possession	3/6 Users disposed over an own car 3/6 didn't have any car at their disposal This different basic positions lead to two distinct usage models of CSOs • CS as a substitute to car ownership • CS as complement to car ownership	6/6 Non-users disposed over an own or family-owned car Even if some of the non-users were not heavy users of their cars, they were all very attached to traditional forms of commuting by own car, own bike or PT
Car sharing usage	3/6 CS users use the service on a regular basis several times per week 3/6 Users are using the service only occasionally	5/6 interrogated non-users are interested to use CS in the future, the barriers of using CS are mainly a lack of information about the CS process and unfamiliarity with the concept
Usage purposes	• 2/6 Users use CS for private and business rides • 4/6 Users are using CS only for private rides • 3/6 Users are regularly using CS in combination with other means of transport (bike sharing and PT), the rest usually uses only CS	-
Occasions	Users are using CSOs mainly to transport heavy goods (3/6), and to supplement PT by commuting more comfortable and luxurious (2/6), faster (2/6), reaching bad connected areas (2/6) and additional to the own car, when it is unavailable (3/6)	Non-users however could imagine using CS mainly to reach bad connected areas (5/6), for transport and food shopping (3/6), rain (3/6) and for one-way trips to the airport (3/6)

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[23] The latest success on developing long-term relationships and offering users a high level of mobility is in the scope of mobility stations within new apartment buildings, see *Exhibit 2*
[24] Those were done for the weaker customer segments of 18-25 year olds and the segment of 60+
[25] Only interviewed CSO, which is operating only in the rural environment
[26] Due to the high percentage of business customers high level of adaptation to the customer's needs and requirements. The main segment are municipalities, which can even brand the car with their own logo, and choose the model according to their requirements. One car is assigned to one business customer, who can reserve it up to 8h/day.

Main car sharing advantages	• Mobility (4/6) • Convenience (3/6) • Ease of usage (3/6) • New car models (3/6) • Low costs (2/6) • No parking costs (2/6) • High safety standards (2/6)	• Low costs (5/6) • Mobility (3/6) • Convenience (3/6) • One-way trip possibility (2/6) • Flexibility (2/6) • Environmental friendliness
Attitude towards technology and media/ news consumption	• Mainly fast adaptors towards new technologies (5/6) • Consistent with this CS users tend to use more mobile applications for keeping informed (3/6) • Main news sources are TV (5/6), newspapers, websites of newspapers and mobile apps (respectively 3/6)	• Mainly slow/ no adaptors towards new technologies (4/6) • Non-users tend to use less mobile applications • Main news sources are newspapers (4/6), TV, websites of newspapers and other websites (respectively 3/6)

6.2 Quantitative research
6.2.1 Data collection

On the basis of marketing intelligence, secondary data and primary data in the form of semi-structured interviews, a questionnaire was developed and spread online to German car sharers and non-car sharers. The purpose of this survey serves an explanatory and descriptive goal, to gain a broad range of cross sectional data about users and potential customers. In order to obtain a representative analysis, all age groups were asked to fill out the questionnaire. Respondents were recruited from online data bases and social networks, e.g. Facebook groups for CS and fan pages of CSOs, as well as by some direct contacts to providers. The method of an online survey was very proper to reach a sample of young and successful adults with a high level of internet usage. The data was collected by using a self-designed and administered online survey put on the research platform Qualtrics. The survey focuses on a range of people over 18 holding a driver's license in Germany.[27]

The questionnaire is divided into eight categories[28]. It served mainly a descriptive goal, as well as to discover a dependency between variables concerning the lifestyles and the usage of CS and obtain a broader image about the typical car sharers characteristics.[29] Besides, an online survey offered the advantages of low costs in combination with high data quality, since logic and validity checks were built. This method comes along with the big advantage of data flexibility and so various question formats were used, including single and multiple choice questions, matrix tables with frequencies and five-point Likert scales[30], in which respondents

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[27] Respondents without driver's licence were excluded of the survey after indicating attitudes towards CS and perceived advantages and disadvantages
[28] Attitudes towards CS, Perceived Advantages and Disadvantages, CS Knowledge, Driving behaviour and Travel Habits, Attitude towards technology, CS behaviour (only displayed to users), Interest about CS (only displayed to non-users); Socio-demographic Indications, see *Exhibit 52*
[29] see *Exhibit 53*
[30] ranging from 1-„Strongly agree" to 5- „Strongly disagree", the scale also contained an option "I don't know"- whose respondents were cleaned out of the survey

had to fill out their extent of agreement to the respective statements. It followed two different designs, one for CS users and one for non-users, adapted by skipping some parts of the survey[31] (Malhotra & Birks, 2007).

6.2.2 Empirical data analysis and results

The survey reached 147 respondents, however the sample shrunk to n=138 due to a disqualifying question for respondents not holding a driver's licence. Non-drivers were asked about their perception on car sharing and subsequently excluded from the survey. Furthermore, the obtained data set was cleaned by excluding the "I don't know" – marked answers from Likert-scale questions as well as straight line and Christmas-tree responses. Moreover, some sensitive questions, which caused respondent bias[32] and bivariate outliers, made it necessary to clean the dataset of those answers (Nurunnabi et al., 2010). After the data cleaning process, a significant sample size of n=110, consisting of 76 non CS users and 34 CS users remained. In order to test the reliability of this data sample, several control variables have been implemented in the questionnaire. Testing for the correlation of the control variables by the correlation coefficient Spearman's rho show significant correlation of the variables with the right sign. Thus, it can be assumed that the participants answered the survey correctly and high reliability of the data is given.[33]

The survey was targeted to a German sample, containing both CS users and non-users, however there were also some non-Germans answering the questionnaire. Those answers are included in the following analysis, since the questionnaire was put online in German and directed to people, who are currently living or have been living in Germany. Participants are mainly of the young adult age group between 21 and 30 years, which is due to two main reasons: since the survey was conducted online, and the age group of 20 – 29 year olds, holds the second position after the 14 – 19 year olds concerning internet usage (Statista, 2016). Beyond, the survey was

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[31] see *Exhibit 52*
[32] e.g. question about disposable monthly net income contained answer ranges in between EUR 0 and 5000, per month – so answers below EUR 250 and above EUR 4500 were considered as unbiased and consequently excluded from the analysis.
[33] See *Exhibit 79*

directed to adults with a driving license, and some of the CSOs as DriveNow, only target young adults from the age of 21 years and older, due to insurance policies (DriveNow, 2016).

Looking at the sample, one of the first noticeable things is the high percentage of women (57,55% among all respondents), while the group of CS users consists by 55,56% of male users.[34] A big majority of all groups are without children, which might be mainly a result of the young sample. This results of a mean of 0,2 children per household, with a standard deviation of 0,59. CS users tend to have slightly more children, counting a mean of 0,28 children with a standard deviation of 0,68. However, in all groups a more than 80% majority is living in households without children.[35] Considering the highest completed level of education, which participants have obtained, in general all respondents had a high level of education, and 80% are holding a university degree among those 45% are holding a master's degree or higher. People with a higher degree tend to use CS more likely.[36]

6.2.2.1 Car sharing image perception
CS is perceived among all respondents as a modern concept (91%) and new mobility trend (86%) and associated with innovation (82%). Further, the majority of respondents associate CS as environmentally friendly (71%) and consumer-friendly (60% stated it is easy to use and 58% consider CS as time efficient), this is reflecting an even more positive image than previous studies (Berylls Strategy Advisors, 2016).[37] In general, CS is perceived very positive among all consumers and its benefits overbalance over the perceived disadvantages. This is consistent with earlier studies about consumer perceptions on the sharing economy, where a majority of over 75% perceived the sharing economy as better for the environment (PWC, 2015a).

It is very noticeable that in general car sharing is perceived by 49% of users as cheap mean of transport (38% of non-users); while 72% of users consider CS as expensive for long distances[38]. Similarly, the insurance situation in case of an accident is seen as rather more unclear by CS

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[34] see *Exhibit 55*
[35] see *Exhibit 62, Exhibit 63*
[36] see *Exhibit 57*
[37] see *Exhibit 69*
[38] see *Exhibit 70*

users (45%) than by non-users (28%).[39] Both perceived downsides of car sharing might be seen more clear by consumers actually using this concept, as they are having more knowledge and information about it.[40] By contrast, CS users are also more convinced about the benefits the service is offering to them, 57% consider it as time-saving and 73% as spontaneous process, while only 11% consider CS as complicated process (while 30% of non-users).

6.2.2.2 Attitude towards technology

In order to measure the respondent's attitude towards technology, some questions about technological behaviour, smartphone usage in general and mobility app usage in particular were implemented in the questionnaire. For the subsequent analysis, a technology variable was created, displaying the level of technological openness and usage of technology in the everyday life[41]:

$$Technology = \frac{(Number\ of\ transportation\ apps\ used\ daily + Technological\ openness + Smartphone\ usage - Technological\ reluctance)}{4}$$

6.2.2.3 Car sharing usage

Out of the respondents using CS a big majority of 78% used the service exclusively for private purposes, 17% for business and only 5% for both purposes. It can be confirmed that CS is attractive mainly for leisure (Berylls Strategy Advisors, 2016), however all the interviewed CS enterprises consider business customers as a very important segment with a lot of potential.[42] CS is mainly used combined with other means of transport (71%) and to complete PT (44%), so the nature of this service is still very depending on other means of transport – as previous studies showed (Weigele et al., 2014). While 59% of users are using CS in concurrence to their own car, only 21% are using CS to forego car ownership.[43]

63% of respondents are using CS less frequently than once per week, 20% are using it once per week and only 17% are using it more often. Taken this into account, it can be stated that respondents using car sharing are using CS rather rarely, for private purposes and in

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[39] Ibid.
[40] Ibid.
[41] Values were transferred by this formula to an interval scale ranging from 0 to 7; meaning 0=not technology affine; 7=very technology affine
[42] see *Exhibit 1*
[43] see *Exhibit 75*

combination to other forms of transport and even in concurrence to their own car. This is also reflected in the occasions for which car sharing is actually used then:71% of CS users resort on CS when using PT, 71% commute on one-way rides within the city; respectively 65% for one-way rides and the transport of heavy goods. Those findings are in line with other recent studies (Berylls Strategy Advisors, 2016), showing that usage is mainly spontaneous and on a unregularly basis, as daily commutes as the way to the office are done by other means of transport. Previous studies further showed a clear trend between harmonized utilization of FF fleets and a good PT network (Weigele et al., 2014). CS offers a high level of convenience to its members be it to go out at night (62%) or to use the service spontaneously, or in another city (respectively 47%). This confirms strongly the in earlier studies identified function of CS as "after-work and leisure transport" (Weigele et al., 2014). It has to be pointed out, that none of the surveyed users was unsatisfied with the CS experience they had, 39% evaluated it as great, 49% as good and 11% as indifferent, confirming the findings of Mobility Compass 2014 (Berylls Strategy Advisors, 2016).

Among non-users an unrealized market potential can be observed: 20% stated they are definitely interested in using CS and 29% indicated a general interest[44]. This is congruent with a recent study of 500 respondents of all age groups (Link Institut, 2016), but however shows that the receptiveness to CS increased compared to 2006, when only 29% of asked consumers could imagine using CS (Loose et al., 2006). Only 26% of the 138 respondents are using the car as daily form of commuting, while 38,5% of non-CS users is not using the car as daily mean of transport and would be interested in CS, compared to only 14% ten years ago (Loose et al., 2006). However car owners are still relying on their own vehicle and a recent study by DAT showed that 88% of car owners do not see CS as alternative to ownership (DAT, 2016).

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[44] see Exhibit 77

6.2.2.4 General consumer preferences

One main goal of this research consists of testing the influence of demographic, attitudinal and behavioural variables on usage behaviour or more precisely, which influence they do have on customers if they use car sharing or not. The chosen analysis of this dependency was an ANOVA analysis conducted in SPSS 22, to show the relationship between the dependent variable if consumers are using CS or not and independent variables (Malhotra & Birks, 2007). To characterize the dependent variable, as well as other categorical and binary variables, a categorical variable was created (CS user = 1; CS non-user = 2). In the following, H_0 is tested for the different variables of Table 9.[45] H_0 = *The variable does not affect weather car sharing is used or not.* H_1 = *The variable does affect if car sharing is used (1) or not (2).*

Once the null hypothesis can be rejected and the independence of variations, homogeneity of variances, and normal distribution of the independent variable is guaranteed, the alternative hypothesis is validated (Malhotra & Birks, 2007).

Table 9: ANOVA test results

Question	Variable	p-test	Scale min	Scale max	H_0 (at a 5%significance level)
... is environmentally friendly	Environment	0,9380	1= Not environmentally friendly	5=Very environmentally friendly	Do not reject H_0
... is a time efficient mean of transport	Time Efficient	0,0452**	1=Not time efficient	5= Very time efficient	Reject H_0
...comes with the risk of not finding any available car nearby	Finding a car	0,1958	1= Not easy to find	5=Easy to find	Reject H_0
... is a complicated process	Complicated	0,0471**	1= Not complicated	5= Very complicated	Reject H_0
...provides its users with flexibility as they can do one-way rides	Flexibility	0,1407	1= Not flexible	5=Very flexible	Do not reject H_0
...provides users with the possibility to try electric cars and new models	Car Experience	0,0096***	1= No car experience	5= Good car experience	Do not reject H_0 due to test of homogeneity of variables
... requires its users to adapt each time to unknown vehicles	Adaption	0,2277	1= No need to adapt	5= Need to adapt	Do not reject H_0
...has an unclear insurance situation in case of accident	Insurance	0,0365**	1= unclear insurance situation	5=Clear insurance situation	Reject H_0
... is cheap compared to alternatives	Price	0,7112	1= Expensive	5= Cheap	Do not reject H_0
... frees users from the responsibility and maintenance for a car	No responsibility	0,1151	1=Responsibility	5= No responsibility	Do not reject H_0
In a typical month how many times are you going off on a trip to another city (for business or private purposes)?	Trips	0,7798	1= Never trips	5= Often Trips	Do not reject H_0
How much time are you spending daily to check the news?	News	0,7643	1=Never news	5= Always read	Do not reject H_0
What is your monthly disposable income?	Income	0,4508	0 = 0	5000 = 5000	Do not reject H_0
How many cars does your household have?	Cars	0,0375**	1= No car	5= 3 or more cars	Reject H_0
How many persons are living in your household?	Household	0,0565*	1=1 person	5= 5 persons	Reject H_0
How many inhabitants has your current place of residence?	City Size	0,2732	1= Very small	5= very big	Do not reject H_0
* see 6.2.2.2 Attitude towards technology	Technology Affinity	0,0003***	0=I never use technology	7= I use lots of technology	Reject H_0
How much time are you spending on your daily commutes?	Commuting Time	0,042**	1= up to 30 minute	4= More than 3 hours	Reject H_0

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[45] see *Exhibit 84, Exhibit 93*

This analysis shows no significant correlation between the usage of CS and the monthly disposable income, neither between CS membership and one of the most common associations of environmental-friendliness, i.e. it seems not to have an effect upon if a person is using CS or not. There is also no significant evidence of price on consumer to decide for or against CS. While on the other side, the null hypothesis that car ownership is not having any effect upon CS usage can be rejected. This supports findings from previous studies showing a negative correlation between car ownership and CS (Viechnicki et al., 2015). However, for behavioural variables of the area of mobility significant evidence for an impact were found: the daily commuting time is showing a significance $(p - Value = 0,042)$[46], even if only a weak relationship was revealed (symmetric measure of Pearson's R= -0,194)[47]. Still, consumers who are commuting more time daily are also more likely to use CS. One rather surprising result is the correlation between knowledge about the insurance situation and car sharing membership (Pearson's R= -,203)[48]. The fact that consumers knowing more about the insurance situation are less likely to use CS, shows that this component should get improved. A similar significant correlation can be noted between consumers perceiving CS as complicated system and their CS usage. The technology affinity variable is very significant $(p - Value = 0,0003)$[49] showing a rather strong positive relationship (Phi=0,619; Pearson's R= -0,339)[50], which can be partially explained since it is a self-created variable and therefore it has more variety. We can say upon the obtained data, that consumers with a technology affinity are more likely to use CS, than others. Previous studies showed that Generation Y is having a higher technology affinity as well as a higher interest in CS (Deloitte Global, 2014).

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[46] see *Exhibit 97*
[47] Ibid.
[48] see *Exhibit 89*
[49] see *Exhibit 94*
[50] see *Exhibit 94*

6.3 Limitations

At large, one has to be aware that the validity of the results is limited due to its sample size of (n=138), which cannot be seen as representative for the German population in general. Further, the sample was not representative for the German population considering demographic variables such as age, gender, and education – since a rather young and urban, educated sample was questioned. 28 responses had to be excluded, due to biased and outliner answers, which reduced the representative sample to n=110 (Nurunnabi et al., 2010). Indeed, with a higher sample size and the technique of observations, a more precise analysis with a distinction between heavy and light users would have added value to the study and resulted in more precise results. In the analysis the self-composed technology variable turned out to be very significant, which can be partially explained by the higher level of variability results could attain. Furthermore, the CS market itself is a very contrasted one with a big difference between FF offers, mostly operated by OEMS and the smaller, regional SB CSOs. This is reflected clearly in the divergent customer profiles and target groups the services are holding and should be minded in future research.[51]

7. Recommendations for *Bundesverband Carsharing e.V.*

CS is perceived as innovative and modern service, and users are content about the customer service and their experience. However, besides the critical success factor of an efficient and broad covering vehicle allocation (Weigele et al., 2014), some recommendations in order to strengthen the CS market among users and possible future users can be given to *Bundesverband Carsharing e.V.*. Hereby, it is from a special importance that providers improve perceived disadvantages of current users, in order to keep them in a long-term future and offer a suitable alternative to car ownership.

a) The major perceived disadvantage among users are high costs aligned to long distances: while CS is perceived in general as a cheap mean of transport, almost 3 out of 4 users see

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[51] see *Exhibit 1*

the high costs for longer commutes as a main disadvantage. In order to retain consumers on the long-term and offer them an attractive alternative against car ownership, it is essential for all CSOs to offer **attractive prices for day rentals** and commutes on longer distances. Only when customers are content with the service on the long-run it can be considered as successful.[52]

b) Another decisive point considering the customer experience and long-term retention detected by this study is the unclear situation in the case of an accident or damage. Moreover, the analysis even showed that consumers, perceiving the insurance situation as clear are less likely to use CS. By **reducing co-payments in the case of damage** and communicating this clear to customers, CS could tremendously increase popularity. Richard Steinberg, CEO of BMW's DriveNow draw this critical factor quite precise: "the biggest challenge […] in the shared economy is insurance"(PWC, 2015a). This is a sensitive component to the future success of CS and considered essential in the question if CS can gain acceptance among consumers as meaningful alternative against car ownership. Only if uncertainties such as the insurance situation can be improved, CS will maintain ground on the long-term, especially among the traditionally risk-averse and uncertainty – avoiding German consumers (Hofstede, 2016).

c) In order to target all three tiers of potential customers, BCS should focus upon the commonalities among them (Blue Ocean Strategy, 2016). In particular the big percentage (49%) of "soon-to-be customers"[53], who are already aware and interested in the service, can be reached very well via technologies. The research has shown clearly that there is a clear correspondence between technology affinity and joining CS. This can be used well aimed, to **target potential customers via the internet, social media and mobile apps**. *BCS* should therefore increase its social media activities, which the association started in the

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[52] Ibid.
[53] see *Exhibit 77*

beginning of 2015 (BCS, 2016). Especially younger users can be targeted directly online by advertisements in social media, giving online promotion codes to bloggers and via classic online marketing. This is a very promising and focused targeting strategy at low costs.

d) The quantitative research also showed that CS is especially attractive, the less cars the consumers' household is owning. This negative correlation can be utilized by targeting consumers without own car, as studies show that it are especially young people, who are decreasing in car ownership (Waldhör, 2012). To reach this segments, BCS should promote the concept of CS especially on campus and recommend the CSOs to **target students with special offers** and tariffs.[54]

e) Due to the positive relationship between technology and driving pleasure, a new touchpoint to reach new customers can be at automotive trades and/or in automotive retail. BCS should in consequence establish **partnerships to local car dealers, organising events and special promotions** to try new models in collaboration with CSOs. Even if this might sound controversial in the beginning, this can be an interesting channel to get in touch with the car enthusiastic target group, and as well a good starting points especially for OEMS to target the younger segments (Euromonitor, 2015).

8. Conclusion

CS is one of the fastest growing businesses among the mobility sector, however there is still a huge potential for further growth. The conducted study proves clearly that German users are having a very positive image about the concept. Yet, CS is today a niche sector, counting for a small percentage of the total commutes. The concept is dependent on other means of transport as often used out of a comfort to complete PT. A huge further market potential for BCS to grow and increase importance can be leveraged. Two critical success factors will affect the future of

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[54] *See Exhibit 1:* Several CSOs implemented those concepts already successfully, e.g. StattAuto München

CS mainly: autonomous vehicles, which could increase efficiency of CS vehicles at a high level and the continuous progression of municipal control and regulation of private car transit, as it is already present in several European cities. Apart from those external factors, there is still room to push CS further by adapting some measures to be even more customer friendly and approach new target groups of non-consumers as the data showed a huge market potential among consumers interested to try CS. Taken together, the study has displayed that CS is a popular transport tool for an urban, young and technology affine target, who is convinced about its benefits. Today, the concept is still in the development stage, yet there are numerous possibilities for BCS and the whole sector to increase market share in the future and become a significant mean of transportation in urban areas and megacities, not only in Germany.

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