

UNIVERSITAT ROVIRA I VIRGILI
FACULTAD DE ECONOMÍA Y EMPRESA
DEPARTAMENTO DE ECONOMÍA
MÁSTER EN MERCADOS INTERNACIONALES



UNIVERSITAT ROVIRA i VIRGILI

BUSINESS EXPANSION PLAN FOR *CAR2GO*,
A CARSHARING COMPANY IN EUROPE

WRITTEN BY:

DAVID REINIER VAN DER HORST

ACADEMIC TUTOR:

ANTONIO QUESADA ARANA

June 2018

COURSE 2018 – 2019

Acknowledgements

My gratitude goes out to the car2go office in Berlin, where various professionals supported me in obtaining the information required for a successful execution of this project.

Secondly, I would like to thank my supervisor, Antonio Quesada, for his feedback, advice and for the discussions we had. I truly appreciate the support even though the subject was not within his research field. His suggestions offered important insights during the entire project.

Universitat Rovira i Virgili

Faculty of Business and Economics (FEE)

International Markets

**Business expansion plan for
car2go, a carsharing company in Europe**

by David Reinier VAN DER HORST

Abstract

Carsharing as a means of shared mobility is increasingly gaining ground as a form of transportation. *car2go* is a key player in the European carsharing industry and the case company of this study. This thesis is a hypothetical study that contains a business expansion plan in order to determine the preferred next step for expansion for *car2go* within Europe. The goal of this study is to determine the location for business expansion and provide market knowledge for the proposed expansion. The case company is analyzed through reviewing the organization and its strategic position. Existing literature is reviewed in order to gain a comprehensive understanding of the state of European carsharing. The insights that are gained into the status of carsharing and the case company highlight the possibilities to further expand business activities into existing markets or to internationalize into untapped markets. A market research process selects international markets eligible for business expansion. One country will be chosen and broadly examined. The provided features about the country will be used to draw up a viable strategical position. To gain a precise understanding of the concerned market, the economic consumer trade-off between carsharing and car ownership is examined. The provided conclusions and recommendations can be used by *car2go* to improve their competitiveness and market value.

Key words: Carsharing, shared mobility, globalization, internationalization, expansion, technology, organizational models, urban mobility.

Table of Contents

1	Introduction.....	7
2	Company	8
2.1	History.....	8
2.2	Technique.....	9
2.3	Features	11
2.4	SHARE NOW	13
3	Literature review.....	14
3.1	History.....	14
3.2	Impacts.....	18
3.3	Concerns.....	19
4	Company's international strategy	22
4.1	Macro-environment.....	22
4.1.1	Horizontal competition	23
4.1.2	Vertical competition	25
4.2	Micro-environment	26
5	Selection of international markets	27
5.1	Conditions.....	27
5.2	Preselecting the most favorable markets	28
5.3	A comparative study of target markets	31
5.3.1	Carsharing in the Netherlands	31
5.3.2	Carsharing in Great Britain.....	32
5.3.3	Carsharing in Denmark.....	32
5.3.4	Carsharing in Norway.....	33
5.3.5	Comparison.....	34
5.4	Decision.....	35
6	Analysis of the selected country: Netherlands	36
6.1	Geography	36
6.2	Demography	37
6.3	Consumer profile.....	39
7	Strategy	41

8	Consumer trade-off in the selected market.....	43
8.1	Data	43
8.2	Methodology.....	44
8.3	Results	48
8.4	Conclusions.....	51
9	Conclusions and recommendations	53
	References.....	55
	Appendix.....	58

List of Figures and Tables

Figure 1. Company's logo.	8
Figure 2. Process of carsharing through car2go as portrayed on their website.	10
Figure 3. The mobile application of the company.	11
Figure 4. Global trends in carsharing.	15
Figure 5. Trends in global round-trip and one-way membership.	15
Figure 6. Porter's Five Forces Framework.	23
Figure 7. Variables for market selection.	34
Figure 8. Map of the Netherlands.	36
Figure 9. Population density map of the Netherlands.	37
Figure 10. Population pyramid of the Netherlands of 2018.	38
Figure 11. Mobility effect of carsharing on car kilometers.	39
Figure 12. Ansoff Matrix.	41
Figure 13. car2go's smart fortwo electric drive.	42
Figure 14. car2go's all-inclusive cost structure.	44
Figure 15. Scenarios at an average speed of 35 kilometers per hour.	48
Figure 16. Price per kilometer of ownership based on ANWB calculations.	49
Figure 17. Scenarios at an average speed of 20 kilometers per hour.	50
Table 1. Market dimension criteria.	30
Table 2. Market access criteria.	30
Table 3. Chosen countries and indicators.	35
Table 4. Scenario 0 (reference).	46
Table 5. Scenario 1.	46
Table 6. Scenario 2.	46
Table 7. Scenario 3.	47
Table 8. Scenario 4.	47

1 Introduction

This project has been developed in order to put into practice what the author has learned in the Master's Degree of International Markets at the Universitat Rovira i Virgili. This is a real-case project in developing a business expansion plan for an established carsharing firm called car2go. There is a great variety of factors to consider in constructing a viable business expansion plan. Conducting a real-life practice is a reasonable approach to study and master the process of transferring those factors into a valuable plan.

car2go — which is backed by car manufacturer Daimler — provides a free-floating carsharing system in several international markets: Austria, Canada, China, France, Germany, Italy, Netherlands, Spain and the USA. car2go is a fast-emerging firm in the carsharing industry and expanding at a rapid pace. The main objective of this thesis is to examine which European country could be the preferred next step for expansion to strengthen the firm's position in the European market. The research question that this thesis will try to answer is:

What is the preferred next step for business expansion for carsharing firm car2go?

In this context, the project sheds light on various components. Section 2 describes the company object of this study; car2go. Section 3 reviews the literature. Section 4 describes car2go's current international strategy and position. Section 5 consists of a foreign market research process for car2go. After selecting a market in the fifth section, section 6 will describe the chosen country. Section 7 describes the strategy in relation to the selected market. Section 8 examines the consumer trade-off between carsharing and ownership in the chosen country. Section 9, which is the final section of this thesis, provides an overview of the findings of this report in relation to the research question at hand.

2 Company

This section focuses on providing background information on the case company used for this report. The company's website is: WWW.CAR2GO.COM

2.1 History

The possibility to rent a car anywhere and anytime for affordable prices — that is *car2go*. With more than 3.6 million members worldwide, *car2go* represents the largest free-floating carsharing system in the world (*car2go*, 2017). In 2007, the original idea of fully flexible carsharing was developed. A year later, the first phase of the project started in the German city of Ulm — often referred to as the Science City within Germany (*car2go*, 2017). In March 2019, the phase of public testing also started there. An official market entry was initiated in 2010. In the following years, *car2go* spread out through numerous locations in various countries. As of the moment of writing this report (May 2019), *car2go* is available in Europe, Asia and North America. In these markets, *car2go* basically offers free-floating cars by the minute, with hourly and daily rates available. In May 2019, *car2go* employed around 900 professionals (*car2go*, 2019c). Fig 1. represents *car2go*'s logo. The free-floating aspect of the service entails that the cars are accessed where parked. This is done through a proprietary mobile application instead of the conventional centralized rental office. The service does not charge the user with an annual or monthly fee. The requisites for driving the car are included in the service that *car2go* provides, such as insurance, maintenance, fuel and parking.



Figure 1. Company's logo (*car2go*, 2019c).

The company is continuously building on their position of market leadership in the industry of free-floating carsharing. *car2go* collaborates with Daimler, a well-established German car manufacturer. The next paragraphs of this section will further elaborate on how *car2go* is internationalizing and improving their forward-thinking mode of transportation.

2.2 Technique

When a user registers for *car2go*, a valid driver's license needs to be provided to the company. The company decides upon a set of rules and barriers that affect users during the registration process. In the United States, users that obtained serious driving offenses are banned or refrained from using the service. Such offenses include reckless driving charges, convictions for motor vehicle theft or using a vehicle to commit a crime. *car2go* forbids potential customers from using their service when these offenses happened within 36 months before the initial registration for the carsharing service (*car2go*, 2018). Before the first ride in a *car2go* vehicle, the user is required to provide valid credit card credentials in order to fulfill future payments to *car2go*. Members that are enrolled, can obtain a membership card, which can be used to unlock the carsharing fleet of *car2go*. A membership card is not a requirement to make use of *car2go*'s service. A user can also choose to access the fleet through use of the mobile application.

Once the car is unlocked, the meter starts running on the user's trip. In order to take off, the user needs to enter their personal password on the car's touchscreen, answer a few questions about the condition of the vehicle, and activate the engine with keys that can be found in a special holder between the driver and passenger seat.

During a trip with a vehicle of *car2go*, users can pull over and get out of the vehicle without ending their sessions — locking the vehicle and taking the keys is sufficient. The terms of use are common to other firms in the industry. *car2go* works with a so-called ‘home zone’. This zone is where all trips are initiated and have to be ended.

Users can drive the cars anywhere, but must end their journeys within *car2go*’s home zone within the city. The home zone that *car2go* works with is usually the city’s municipal boundary. While travelling within the home zone, users are required to park in approved spaces.

Typically, these are parking zones that are not bound to a maximum duration in hours, marked for deliveries, spots for handicapped people, and other similar cases. *car2go* provides their users with their city’s parking regulations on their website. Fig. 2 shows the process as shown on *car2go*’s website.

Once a user is done with the ride, the session can be finished by putting the keys in the in-cabin key holder. Several exit questions have to be answered on the touchscreen and the membership card (or mobile phone) has to be consulted once again to officially finish the ride. The questions are about the level of fuel (or battery in case of an electric vehicle) and the technical state of the vehicle (*car2go*, 2019).



Figure 2. Process of carsharing through *car2go* as portrayed on their website (*car2go*, 2019c).

The costs are automatically billed by *car2go* to the credit card credentials that were stored during registration.

In terms of the ease of use of *car2go*'s service, the mobile application (see Fig. 3) has a usability advantage over the membership card. The application enables users to locate nearby vehicles and provides a walking route to the vehicle.

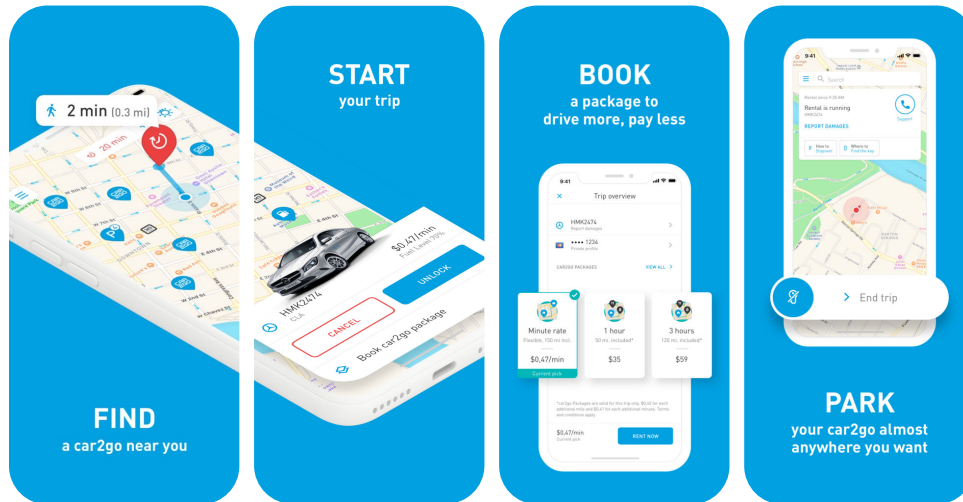


Figure 3. The mobile application of the company (*car2go*, 2019b).

car2go works with a penalty system, based on fines. The user should pay additional fees in certain cases. Examples of such fines in the United States include \$400 for lost keys and \$150 plus the towing payment if the car is towed away due to the user's negligence.

2.3 Features

The service *car2go* provides to their customers can be best described through the key features of their business. These key features are as follows:

- **Card**

The membership card is — besides the mobile application — the access to *car2go* vehicles. A card can unlock the entire *car2go* fleet in a user's country of residence and controls the price measurement through the car's meter.

- **Application**

Users are not obligated to use the application in order to drive *car2go*'s fleet of vehicles, but it enhances the usability of the service. Vehicles found in the application can be reserved up to thirty minutes before a user's trip. The application also provides users with the aforementioned municipal parking regulations.

- **Fuel**

Every vehicle of *car2go*'s fleet — both electrical and those with combustion engines — contains a card in the cabin. If the tank drops below one-quarter, users can use the card to refuel. Electrical vehicles can be connected to a charging installation. By doing so, users obtained twenty minutes of driving for free for the inconvenience.

- **Touchscreen**

Users use the in-cabin touchscreen to answer the questions and after their ride. The screen also provides the users with a search option for available parking spaces and a built-in navigation system.

- **Service**

car2go's business includes a service for twenty-four hours a day. *car2go*'s staff can serve as a link between the users and auto repair, towing companies, emergency services and insurances. Users can operate the button for assistance that all cars hold or call the country-specific telephone number.

The list of features continues on page 13.

- **Business**

Businesses can conclude a multi-user membership with car2go. The accounts have an unlimited number of participating users. This option is convenient for businesses whose staff does not drive frequently enough to necessitate renting, leasing, or buying company vehicles.

- **Co-drivers**

Users of car2go can add co-drivers to their account while still using the same credit card credentials. This is a useful feature for families with driving-age children. Co-drivers are individuals that can use car2go's service while not possessing an account, but while co-using the account of someone else. The co-drivers in the account still need to get validated by car2go's service and obtain their own membership card or mobile application. It is always allowed to take a human passenger in a car2go vehicle.

2.4 SHARE NOW

In February 2019, car2go and DriveNow — which is BMW Group's carsharing initiative — announced a fusion of their mobility solutions. By merging both firms, SHARE NOW has become the largest global firm offering carsharing services. By joining forces, the firms aim to focus more on innovation. It has been announced that eventually both firms can be found within one common mobile application. Yet, at the moment of writing this report, car2go operates as a single entity in the market. The market analysis in the fourth section of this report will consider DriveNow's presence in the international markets as well, as those can be viewed upon as car2go's future international markets at the time the firms merge.

3 Literature review

To place the analysis of *car2go* in perspective, this section briefly reviews the relevant literature. First of all, a quick history lesson on carsharing will be provided. The history of carsharing also provides the different forms of implementation of the concept. Secondly, literature on the impacts of carsharing will be analyzed and explained. Furthermore, the concerns related to the emerging concept of carsharing will be analyzed. In doing so, this literature review does not solely provide a one-sided argument about carsharing. Both the impacts and concerns have been derived from a wide variety of sources.

At last, the insights provided by this section will be used at the later stage for the selection of international markets in section 5.

3.1 History

Sharing economies are moving forward in full speed, according to the Transportation Sustainability Research Center (Shaheen et al., 2018). The Transportation Sustainability Research Center (TSRC) is a leading independent contributor in the field of research into shared mobility. In the spring of 2018, the group released a renewing report in which is stated that worldwide carsharing continues to grow in use with an increasing rate of growth. The related data is visualized in Figs. 4 and 5 on page 15 of this report. The data shown in Figs. 4 and 5 depict October of each even number year, but does not include peer-to-peer carsharing. The “n” denotes the number of countries that were surveyed in each of the regions. One-way includes both station-based and free-floating models, such as *car2go*.

The study published gives a clear outlook over the global market trends in carsharing:

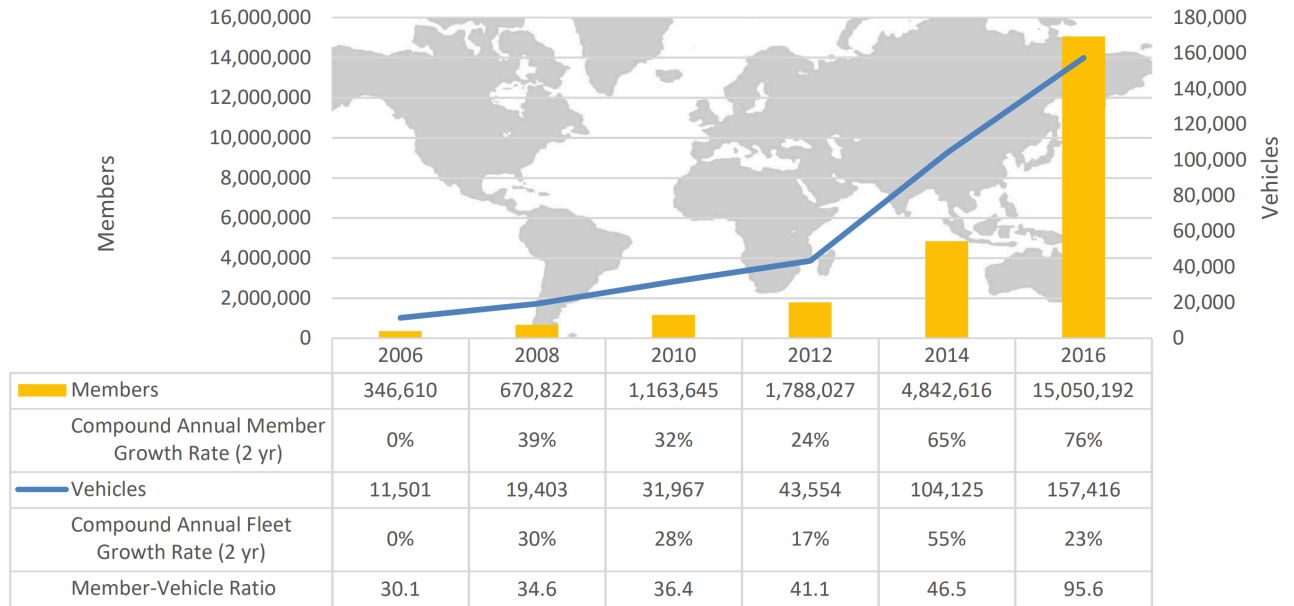


Figure 4. Global trends in carsharing (Shaheen et al., 2018).

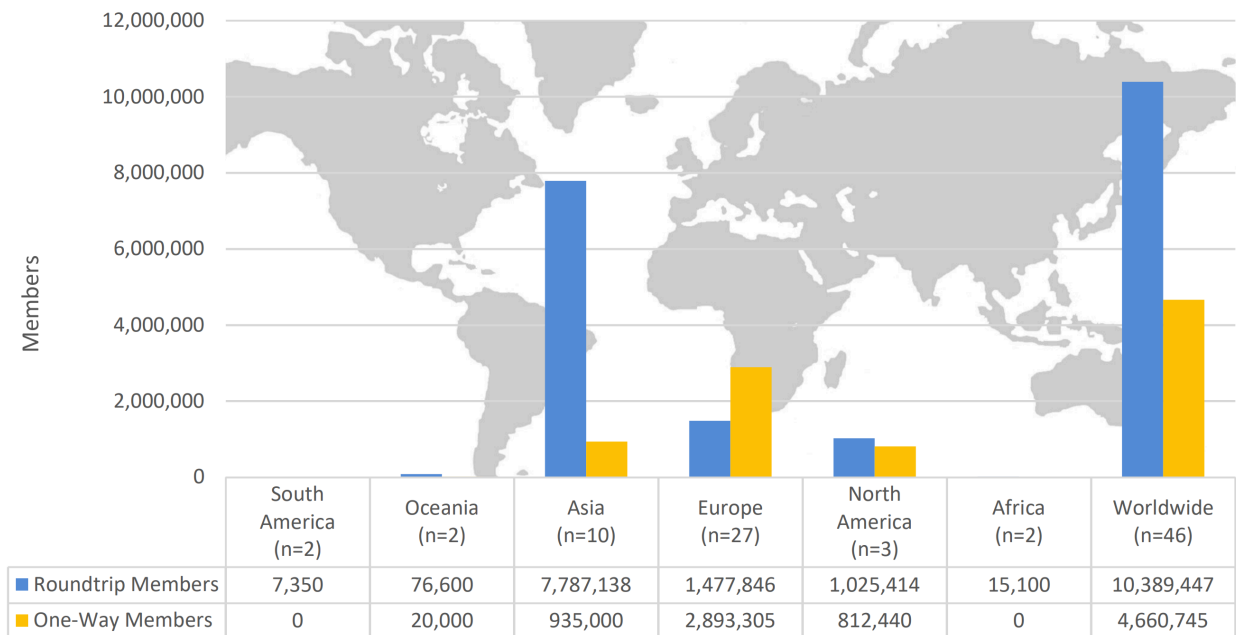


Figure 5. Trends in global round-trip and one-way membership (Shaheen et al., 2018).

The obvious lesson of the information displayed in Figs. 4 and 5 is that carsharing is on the rise. What is the history and how did the industry develop up until this moment?

Shaheen et al. (1999), place the origin of carsharing in Europe in 1948. A cooperative, known as “Sefage” (Selbstfahrgemeinschaft), was started in Zurich, Switzerland, in 1948. The program’s motivation was primarily based on economic fundamentals. It aimed at individuals unable to afford car-ownership, but interested in sharing one. In other places in Europe, carsharing programs were also initiated. In France, a program called “Procotip” was started in 1971, and another one called “Witkar” in the Netherlands in 1973 (Doherty et al., 1987).

In 1991, the European Car Sharing Association (ECS) was established in order to lobbying activities aimed at supporting the concept of carsharing (Seik, 2000). This makes sense given that carsharing services are more attractive to public transport users than to die-hard car users, as shown in a study by Loose (2010).

According to Loose (2010), it has been a two-way beneficial effort to start collaborations between public transport operators and carsharing services throughout the history of carsharing. Carsharing service providers profit from a large clientele base of the public transport operators and their often-larger advertising channels. In return, the public transport companies can profit from the innovative image that carsharing services offer. In multiple European countries that were involved in the study, carsharing services — at one point in history — conjoined forces with public transport providers. Multiple models of carsharing have been tested within the European market in the past decades. Two of the larger experiments were conducted in the Netherlands and England. One of these pilot models, called CampusCar, was built in England. The experiments were both started in the 1970s.

This model studied a campus application of carsharing (Bonsall et al., 2002). Another pilot model was started in the Netherlands. The Dutch developed a private carsharing pilot. This program consisted of cars that were owned by either all participants collectively or one individual. Therefore, the model focused on building a fundament on carsharing through private households, rather than commercial enterprises (Meijkamp, 1998). These are examples of experiments concerning carsharing and attempts to construct carsharing networks in Europe. Several of these carsharing programs were initiated through university research, through subsidiaries by governments or through small-scale companies. Most of these programs grounded to a halt in the experimental or start-up phase (Loose, 2010).

Nowadays, carsharing programs are able to persist in their business activities and become economically profitable, without state funds. Partner organizations and advancements in technology played a large role in achieving this (Millard-Ball et al., 2005). For example, the acquisition of carsharing firm Zipcar by Avis has helped the carsharing service to create a larger presence in international markets by sharing knowledge and expertise. Several car manufacturing companies launched successful carsharing programs, such as BMW's DriveNow and Daimler's *car2go* (Mocker & Fonstad, 2017).

Technological advancements have transformed the carsharing concept by decreasing the fixed cost per car and increasing the ability to attract more consumers to the concept. The aforementioned programs from the past three decades can be referred to as the traditional carsharing system with a station-based car fleet. Nowadays, this has been reinvented into the free-floating carsharing system, such as *car2go*'s concept. This new technology solution is more attractive to customers due to the elimination of high parking costs.

Furthermore, the inconvenience for customers of picking up and returning cars at a specific location is removed by the use of a free-floating car fleet.

As stated in a report by Deloitte, the advancements in technology, a growing public interest in the concept and the improvements in operational processes suggest a promising future for the concept of carsharing (Schiller et al., 2017).

3.2 Impacts

The phenomenon of carsharing has various impacts in different fields. Carsharing fundamentally affects the automobile production firms and public transportation providers.

According to a study conducted by the Transportation Research Board (2005) in the United States, on average 20% of carsharing clients give up their automobile or a second or third vehicle. Hence, at least five privately owned vehicles can be replaced by a shared car.

In return, a reduction in private ownership of vehicles can lead to increased availability of parking spots and a lower need for new parking facilities. The further advantages gained from a reduction in parking include cost saving, a larger availability of land for development and less storm water runoff (Millard-Ball et al., 2005).

The same study reports that there are two competing impacts linked to carsharing. First of all, there is the impact of reduced travel. Carsharing imposes numerous changes on the economics of driving by converting a fixed cost structure into fees. Each additional trip with a privately-owned vehicle costs less, as investment has already been made. However, in carsharing costs are proportional to the usage of the shared vehicle. This provides a stronger incentive to consumers to drive less.

The other – and opposing – impact found in the study is induced travel. The reason is that some of the members of carsharing programs did not own a vehicle prior to using the service, but will use a new vehicle as a result of carsharing. The research claims this induction can be seen as a benefit since it is improving mobility and the new car usage can be offset by the abovementioned reduced travel.

The other impacts of carsharing include lower emissions, as a result of both reduced travel and the use of newer, fuel-efficient vehicles – Daimler’s hybrids and electric in the case of *car2go*. The relevance of this environmental impact is also emphasized in a study conducted by Loose (2010) for Intelligent Energy Europe. Cost savings for many households and firms using the carsharing programs are also mentioned in the study as an important impact of carsharing. Yet, an important side note is that the ability to save costs depends on the user profile.

3.3 Concerns

Besides the positive benefits and impacts of the rise of carsharing there are also detrimental effects to the concept. A study carried out by Loose (2010) addressed the most representative constraints to the rapid expansion of the carsharing concept within Europe. The study considers three main themes of constraints: (i) political, (ii) economic, and (iii) individual. The political constraint is related to the fact that national legislation within the European Union is not always open for the designation of carsharing. For example, stations for the vehicles of carsharing services were not allowed in Germany by law. There are plenty of examples for the European Union in which the national legislation clashed with the innovative concept of carsharing. Authorities within the European Union have the freedom to construct their own national governmental policies.

This is of concern to the carsharing concept as it poses a potential complication towards the process of firm expansion.

The second category of troubling issues regarding the concept consists of economic constraints. Zeng (2015) conducted a study on the barriers to and opportunities of the carsharing concept. According to this study, an important barrier to the business is the requirement of high capital investment. The aforementioned study by Loose (2010) endorses this by emphasizing how important it is for carsharing operators to obtain credit in order to start the business model. The financing of new vehicles is a determining factor in a carsharing firm's success.

The last concern derived from the contribution of Loose (2010) addresses the individual constraints of the carsharing concept. As concluded in the study, one of the largest constraints of carsharing is the inadequacy limited understanding of the concept. Amongst individuals that have no experience with carsharing there is a wide variety of preconceptions, ranging from the availability of cars, the dependability of the service and the consumer orientation of the concept as a whole. The transmission of rightful information about the concept of carsharing towards (potential) customers is of the utmost importance for carsharing's success.

In April 2019, the on-line Catalan newspaper *El Nacional.cat* published an article (Serra, 2019) regarding the carsharing concept, which is also on the rise in the Spanish economy. The article focused on determining if carsharing is the mobility of the future. One of the main conclusions from the article is that shared mobility is here to stay, although it still has to overcome challenges. These challenges are legal challenges – inherent to the aforementioned political concern – and a challenge in the lack of supply of carsharing vehicles in rural areas.

El País, a leading Spanish newspaper, added a new concern to the discussion: health and hygiene issues. The study discussed in the article indicates that there are on average 33 percent more germs (bacteria) in a vehicle from a carsharing's firm than in a privately-owned vehicle (Corcobado, 2019).

4 Company's international strategy

After briefly introducing the case company in the first section of this report, this section will conduct a more extensive analysis of the firm's international strategy. Section 4.1 focuses on the macro-environment. *car2go* is not alone in conducting business. The firm is surrounded by and operates in a larger context. There is a whole series of generic variables that affect the general climate for doing business in an economy, and consequently be linked to all the companies that compete equally in the economy. This context is called the macro-environment and will be analyzed through using Porter's (1980) Five Forces Framework.

Section 4.2 will shed light on *car2go*'s micro-environment. Each firm can be viewed upon as an extensive set of different operations, where in each stage different processes add value. It is of high importance to assess the potential of the company to generate competitive advantages based on the resources and capabilities it possesses. Both parts of the analysis of *car2go*'s international strategy focus on Europe, as that is the relevant geographical area for this project.

4.1 Macro-environment

In order to gain a better understanding into the competitiveness of a firm's environment, academic Michael E. Porter proposed the Five Forces Framework. This framework is both a credible and a practical way to assess industry competition. A firm's ability to make profit in business depends on the strength of its position in the market. This section will elaborate on the Five Forces Framework to gain an insight into the forces exerted by *car2go*'s competitors on its business environment.

The five forces in the model are (Porter, 1980):

- Threat of entry
- The power of suppliers
- The power of buyers
- The threat of substitutes
- Rivalry among existing competitors

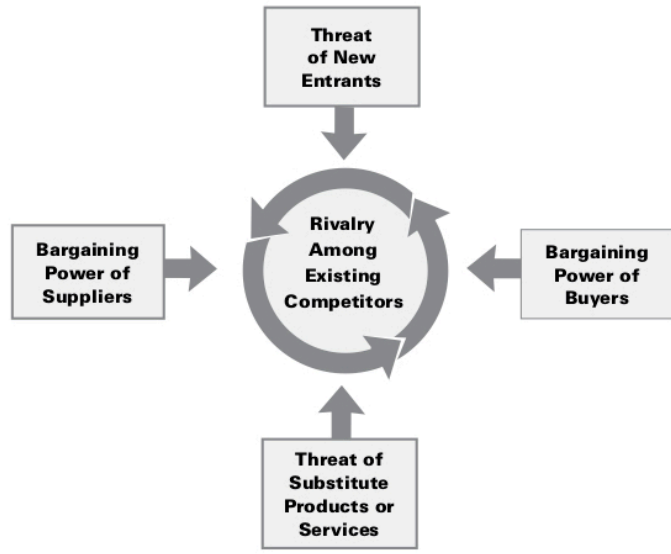


Figure 6. Porter's Five Forces Framework (Porter, 1980).

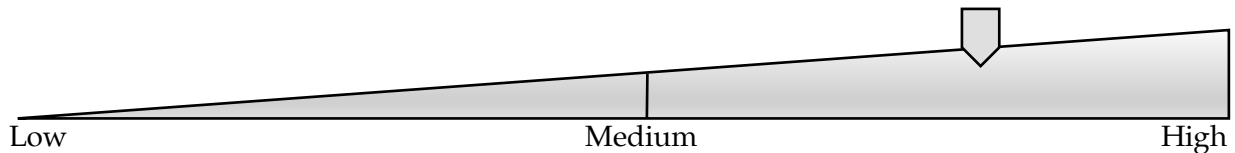
Fig. 6 next presents the model.

4.1.1 Horizontal competition

- Threat of new entrants

Looking at the competitive environment of *car2go* within Europe, it can be seen that there is a certain threat of new entrants eager to enter the market that *car2go* is currently serving. As can be seen in the literature reviewed in the second section, more and more competitors are entering the market. Other car manufacturers than Daimler, such as the Volkswagen Group, are also backing their own carsharing services (Volkswagen AG, 2018). In addition, traditional rental companies (i.e. rental firms Hertz and Sixt) also entered the market and are expanding their services in the past year (Shaheen & Cohen, 2013). The representation below is a summary of the threat analysis.

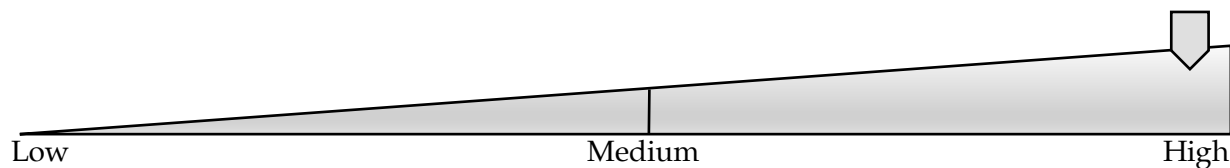
Threat:



- Threat of substitutes

Any increase in the public interest in alternative modes of transport to the carsharing services that *car2go* offers, can be identified as a threat to *car2go*. At the moment of writing this report, this trend is merely nascent as *car2go* was the first firm in many European markets. Yet, as technological advancements take place within the transportation industry, the chances of an enhancing threat of substitutes to *car2go*'s services are growing. A good example of this is Uber, which is not a firm in the same market as *car2go*, but a possible substitute to the service offered by *car2go*. It can be seen that *car2go* experiences a threat from various different substitutes. A few examples are public transportation, taxis, and privately-owned vehicles.

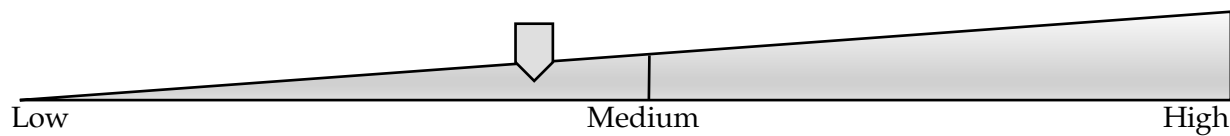
Threat:



- Rivalry among existing competitors

As of now, *car2go* is experiencing a low to intermediate grade of direct competition. The service offered by *car2go* was often the first free-floating carsharing service in the market. Nonetheless, according to Shaheen & Cohen (2013), *car2go* does have certain competitors in localized markets in several geographical locations. Only looking at *car2go*'s direct competitors, it can be seen as a threat that is present but not among the stronger ones.

Threat:

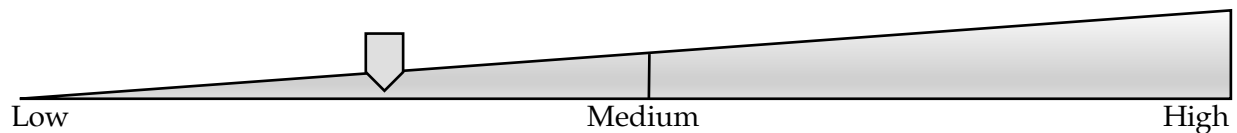


4.1.2 Vertical competition

- Bargaining power of suppliers

This force is relatively low on *car2go* within the carsharing industry, as the firm is backed by its major supplier of cars: Daimler. Other car manufacturers can also try to join the carsharing service industry as a mean to salvage their business from this emerging form of car usage. The fact that *car2go* is backed by a major car manufacturer is a competitive edge for the firm over firms that do not have this (i.e. Sixt). Whereas competitors of *car2go* have to purchase their cars for the market price, *car2go* enjoys a superior access to vehicles through Daimler.

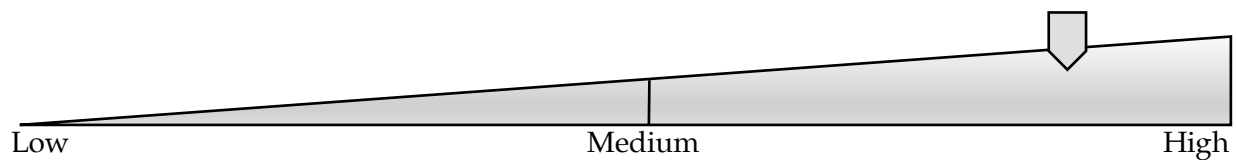
Threat:



- Bargaining power of customers

Because *car2go* has built a customer-centric business model, the bargaining power of customers is rather high. Fluctuations in the customer demand (both qualitative and quantitative) can have a strong influence on *car2go*'s business model.

Threat:



4.2 Micro-environment

As mentioned in the introduction of this section, firms can be considered as a set of different operations, where in each of these operations the firm adds value. This is referred to as the value chain of a firm. In this value chain, a firm can outshine its competitors and develop competitive advantages. Competitive advantages can be found over the whole of the value chain. As the first section shed light on a more functional analysis of this company, this section will dive into an analysis of the value chain. This will be done through assessing the competitive advantages of *car2go*. In a press release from 2017, *car2go* claims to be a pioneer in the market of free-floating carsharing (*car2go*, 2017). This first-mover advantage in combination with the strong brand name *car2go* has, can be seen as a strong competitive advantage. There are network effects to the first-mover advantage. For example, the establishment of standards and the largest user network. The free-floating system that *car2go* manages is unique to many European markets and more flexible relative to more traditional carsharing firms with fixed locations for pick-up and drop-off. The value proposition that *car2go* itself portrays is based on providing environment-friendly and innovative transportation, by offering flexible urban mobility. *car2go*'s service has been designed aiming to be a complement to the transportation alternatives available. Through this design, the service can meet the demands of consumers that are unsatisfied with car ownership and public transportation services. *car2go* discloses its value proposition through both the website and their mobile application (*car2go*, 2019c): "Why *car2go*? Carsharing gives you all the benefits of a car without owning one – parking, charging, and insurance included." According to Vujovic (2017), *car2go* led to a transformation in which automobiles, an industrial product, turned into a digital service. By charging car usage per minute, and with other benefits, *car2go* has significantly increased their value proposition and competitive advantage in comparison to their competitors.

5 Selection of international markets

This stage of the report will shed light on the different stages of a market research process. Selecting the most suitable market as a fit for *car2go* is of paramount importance in relation to successfully devising business expansion strategies.

5.1 Conditions

There are various important factors and circumstances to consider for firms seeking for business expansion. During the process of considering to expand business activities abroad, firms should review those factors to avoid unnecessary failures.

Even though a firm's products or services can be sold in numerous countries across the globe, of which each one has its one specific characteristics, it might not possess the resources to enter into all of these markets. As a result of this, firms often have to settle for the markets which are the accessible fit to the products or services. Generally speaking, these are the markets that offer the clearest advantages to the firm in the initial phase.

In the case of this project, which is designed specifically for the case company *car2go*, there are specific needs from the firm's perspective in relation to the selection of international markets.

car2go is active in numerous European countries, as mentioned in the second section of this report. In several of those countries, the carsharing operator is active in at least one city in the country. For example, the firm is active in a total of 6 cities in Germany

The firm is also active in countries in which they are solely offer their carsharing services in one city. This is the case in countries such as Great Britain, Belgium, and the Netherlands.

In the case of this project, the markets in which the case company has a small presence (one city) are regarded as potential markets for business expansion. By doing so, this thesis can provide new insights and consequently lead to the entrance of a new market (internationalization) or the expansion of business in a small existing market which shows potential.

The selection of the international markets will be done through the use of three different stages. The considerations to be made during the stages will be suited to the firm's specific needs for business expansion.

The stages are as follows:

- First stage: Preselecting the most favorable markets
- Second stage: A comparative study of target markets
- Third stage: In-depth study of our selected target market to confirm the selection was right

The first two stages will be dealt with in the next two paragraphs of this section. The third and final stage will be conducted in the next section of this report.

5.2 Preselecting the most favorable markets

In order to pre-select the most favorable markets within Europe for *car2go*, several criteria have been used. This stage can be referred to as secondary research in which information of foreign markets is obtained through secondary parties. An extensive review of this information makes it possible for firms to pre-select markets in the absence of the need to go abroad. This initial phase provides an overview of potential markets for expansion or internationalization.

This stage in the process of the market research takes into account a variety of details. As the case company offers a service with specific features, the indicators in the preselection have been aligned with those. Furthermore, the criteria consider the geographic proximity of the countries, in means of both location and culture.

The criteria have been divided into two separate segments: market dimension, and access to the market. The market dimension is concerned with the specific processes that establishes a prospective market value of the firm's brand and services as well as those that impact the accessibility of these products to their (potential) customers.

The second segment – access to the market – focuses on the firm's position to a specific country in terms of culture, location, and the measurement of accessibility of a foreign market.

The criteria are portrayed in Table 1 and Table 2 on page 30.

The criteria are:

Market dimension

Table 1. Market dimension criteria.

Which countries have the highest number of carsharing customers? ¹	Which countries have the highest density of the total road network (km road/ km ² land area)? ²	Which countries have the highest GDP per capita? ³
1. Germany 2. Switzerland 3. Great Britain 4. Netherlands 5. Italy	1. Malta 2. Belgium 3. Netherlands 4. Hungary 5. France	1. Luxembourg 2. Ireland 3. Norway 4. Switzerland 5. Netherlands

1. According to *Intelligent Energy Europe Programme (IEE)*.

2. According to *European Union Road Federation (ERF)*.

3. According to *World Bank Data*.

Access to the market

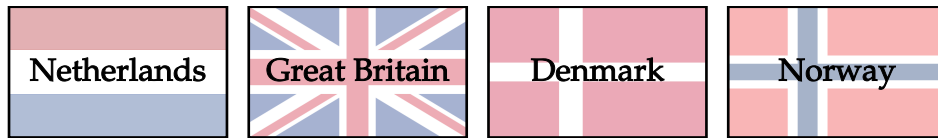
Table 2. Market access criteria.

Which countries are geographically closer to the company?	Which countries are geographically closer culturally? ⁴	Which are the most accessible markets? ⁵
1. Netherlands 2. Czechia 3. Belgium 4. Austria 5. Poland	1. Netherlands 2. Denmark 3. Czech Republic 4. Finland 5. Great Britain	1. Denmark 2. Norway 3. Great Britain 4. Sweden 5. Lithuania

4. According to *The Patterns of Cross-Cultural Business Behavior by Gesteland (1999)*.

5. According to *Ease of Doing Business Score of World Bank Data*.

The foreign markets selected in order of priority are:



5.3 A comparative study of target markets

Now, in the second stage of market selection, this report will dive into a comparative study of the four countries mentioned above. This paragraph will focus on providing descriptions of the current carsharing markets in the aforementioned countries.

5.3.1 Carsharing in the Netherlands

Car sharing in the Netherlands is relatively small but has potential. There are several competitors active in the market, but only two with the business model of a free-floating fleet of vehicles that can be accessed through a mobile application. These two firms are *car2go* and *DriveNow*. The Dutch market of carsharing is mainly based in Amsterdam, the capital city of the country.

Another possibility in the Dutch market is to share cars between travelers, such as *ParkFlyRent* offers. In 2014, more than 70% of the range of shared cars in the Netherlands consisted of private cars (KpVV, 2014). In June 2007, more than 20,000 Dutch people made use of the approximately 1,100 shared cars (NU.nl, 2007).

Almost seven years later, in March 2014, the number of vehicles increased tenfold to 11,210 cars, and the number of car sharers increased to 110,000 (KpVV, 2014). The largest contribution of growth within the Dutch market is located in Amsterdam, due to the unavailability of carsharing services in other cities.

5.3.2 Carsharing in Great Britain

A remarkable finding of a study conducted by Loose (2010) is that there is a high number of carsharing customers, but a relative low number of vehicles in the British carsharing market.

According to the British research firm Frost & Sullivan, the number of customers using car-sharing services is expected to increase by almost threefold from roughly six million in 2017 to almost eighteen million by 2025 (Fenwich Elliott, 2018).

There is – in comparison to the other three countries – a high number of firms active in carsharing in Great Britain. From car clubs, in which cars are shared amongst the members, to carsharing schemes such as *car2go*. In London, *car2go* is currently offering their services. That the number of vehicles placed in London by *car2go* is relatively low to the number of potential customers can be explained due to the high competition within the market or governmental restrictions to the use of public space by carsharing providers. Deloitte claims that the biggest obstacle in London are parking permissions (Schiller et al., 2017).

A possible complication for firms looking to expand their businesses activities in the British market is the Brexit – the UK leaving the European Union – that is negotiated at the time of writing this report.

5.3.3 Carsharing in Denmark

In 2016, *car2go* had 8,500 members and 200 cars in the city of Copenhagen. Yet, by that time *car2go* had not reached the critical mass in demand necessary to establish a successful, viable and robust business in Denmark (The Copenhagen Post, 2016). Danes failed to embrace the concept.

Despite of the criteria in the previous paragraph that were propitious for Denmark, the country's population has not embraced carsharing as others within Europe have. Due to this argument, not many studies include the Danish market of carsharing.

Currently, there is a small number of firms offering carsharing services, mainly in the city of Copenhagen. DriveNow – the initiative mentioned in section 2.4 – is also active in the city, but with a small number of vehicles.

5.3.4 Carsharing in Norway

The concept of carsharing has been introduced to the Norwegian citizens over two decades ago. In 2018, there were 11 providers that offered carsharing services. Combined, those firms manage over 7,000 vehicles to around 200,000 members of the services (George & Julsrud, 2018).

Carsharing firms have spread over Norway, leading to a geographic coverage from big cities such as Oslo to rural areas. Looking at the currently existing business models in carsharing, all of the known ones can be found in Norway: free-floating carsharing, peer-to-peer carsharing, and various forms of corporate carsharing schemes. *car2go* is currently not active in the Norwegian market. Due to the arrival of the incumbent mobility stakeholders and multiple carsharing firms in the city of Oslo, the suggestion can be drawn that there is a proven market in the country. Nonetheless, the number of firms is high and widespread throughout the country. A study by the Institute of Transport Economics in Norway (2018) contends the carsharing market in Norway has matured in the period of 2015 to 2018.

5.3.5 Comparison

A series of indicators has been selected in order to suggest the most desirable market for internationalization or business expansion. Fig. 7 represents the variables.

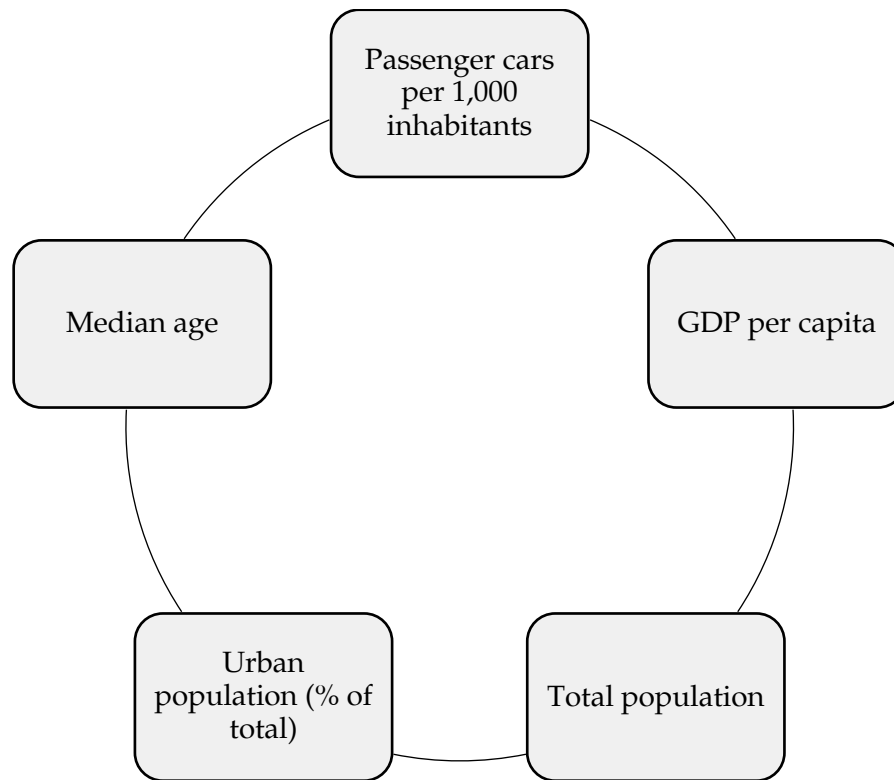


Figure 7. Variables for market selection.

Page 35 contains an elaboration and breakdown of the variables per country.

Table 3. Chosen countries and indicators.

	Passenger cars 1,000 inhabitants ¹	GDP per capita in current US\$ ²	Total population (x1000) ²	Urban population (% of total) ²	Median age ³
Netherlands	543	48,482.8	17,131.3	91	41.8
Great Britain	544	39,953.6	66,023.3	83	40.2
Denmark	508	57,218.9	5,764.98	88	41.1
Norway	616	75,704.2	5,276.97	82	39

1. According to *European Automobile Manufacturers' Association (ACEA)*.

2. According to *World Bank Data*.

3. According to *World Health Organization*.

5.4 Decision

Based on the data presented on the four countries, one country stands out in terms of business expansion. The market for *car2go* to expand or internationalize in the case of this project is the Netherlands. During the pre-selection of markets – in section 5.2 – the Netherlands was the most frequently mentioned country and the one with the highest overall position in the rankings. Following up on the pre-selection, section 5.3 has compared the state of carsharing in four European countries and set certain indicators which create an advantageous business climate for *car2go*. Carsharing in the Netherlands is on the rise: the number of clients is growing rapidly (Harms et al., 2016). Yet, this growth is centralized around the capital city of the country, which is Amsterdam. Due to the high prospective growth of the market this appears to be an excellent time for carsharing firm *car2go* to expand in the market they internationalized into in 2011.

6 Analysis of the selected country: Netherlands

This section provides a more comprehensive study of the country of choice as both a country and a market. Firstly, the geographic position of the country will be examined. Secondly, this section will provide a review of the demographic profile of the Netherlands. The last paragraph is suited to the customer profile of *car2go*'s client as a part of the market in the Netherlands.

6.1 Geography

The Netherlands is located in Western Europe, in between the North Sea, Germany, and Belgium.

Fig. 8 shows an overview of the larger cities located in the Netherlands.



Figure 8. Map of the Netherlands (CIA, 2019).

A study conducted by BBVA Research shows that the Netherlands has one of the highest percentages of urban population and urbanization rates (BBVA Research, 2016). The urbanization rate provides an estimated average rate of change of the urban population. As urbanization in the Netherlands is on the rise, more citizens are expected to move to urban areas.

6.2 Demography

As displayed in Table 3, the Netherlands has a population of little over 17 million inhabitants. This population is unevenly dispersed all over the country. In Fig. 9 the population density of the Netherlands can be seen as a visualization over the country's map. The Netherlands is a country with a high population density in comparison to the average of Europe. The Netherlands' population density in 2017 was 501.1 persons per km² and the European average was 117.7 persons per km² (Eurostat, 2019). If one puts this data in relation to Fig. 9, it can be concluded that the Netherlands consists of large urbanized areas, especially in the west of the country. The area in the west with the higher population density is known as the Randstad. This area consists of cities such as Amsterdam, the Hague, Rotterdam and Utrecht. Nonetheless, as Fig. 9 shows, sizeable communities are located throughout the entire country.

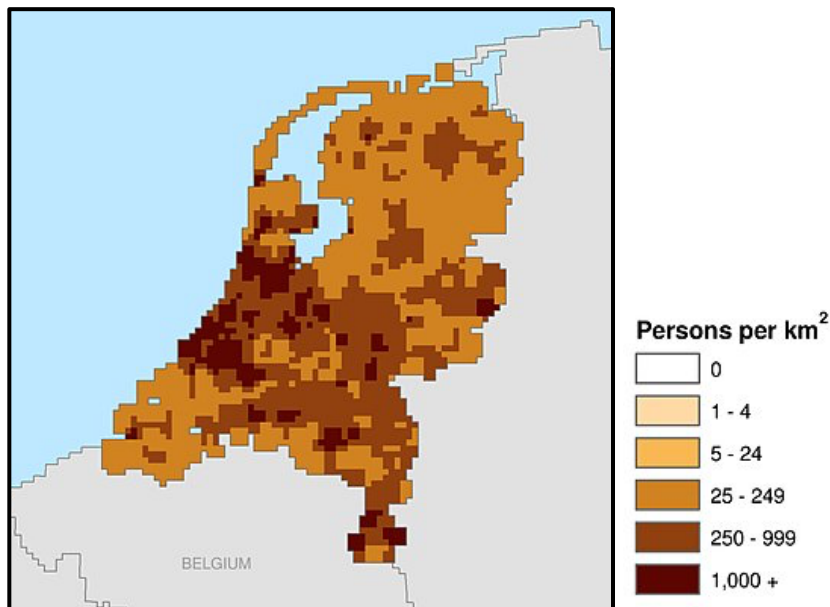


Figure 9. Population density map of the Netherlands (SEDAC, 2019).

As indicated in Table 3, the median age of the Dutch population is just over 40 years of age. The Central Intelligence Agency provides population pyramids for all European countries.

A population pyramid is a graphical illustration portraying the distribution of various age groups in the population. Fig. 10 presents the population pyramid for the Netherlands, provided by the United States' Central Intelligence Agency. The pyramid provides a view of the age and sex distribution of the Dutch population.

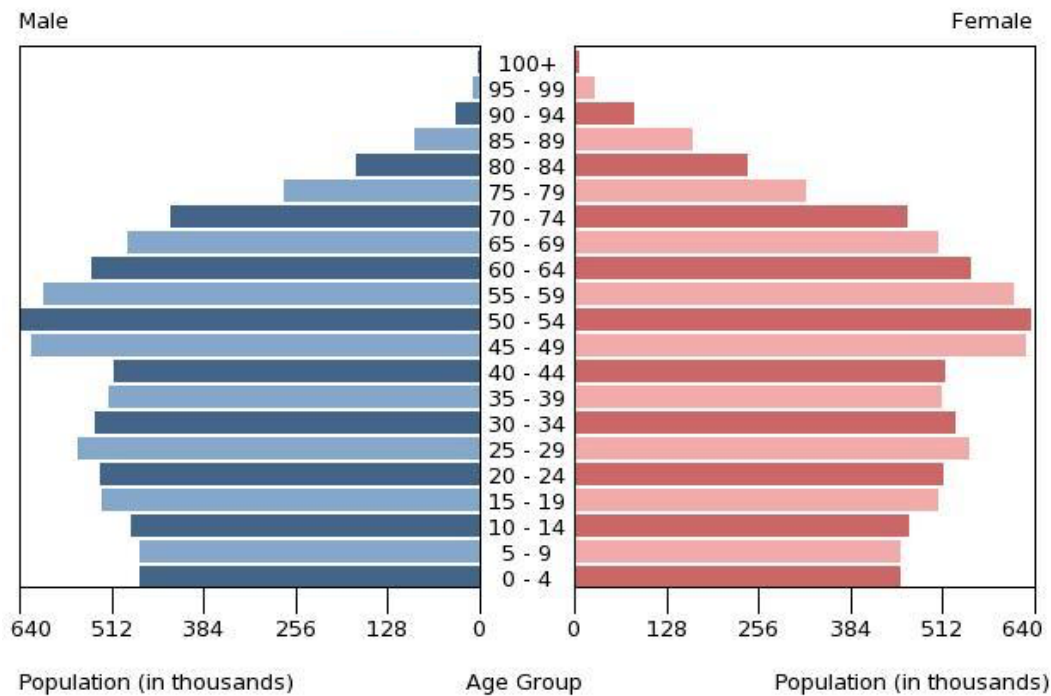


Figure 10. Population pyramid of the Netherlands of 2018 (CIA, 2019).

In economic terms the Dutch population belongs to the five wealthiest – in terms of GDP (PPP) per capita – populations that can be found within Europe.

Now Section 6.1 and 6.2 have provided a general outline of the Netherlands, section 6.3 will dive into the consumer profile for *car2go*'s business within the Dutch market.

6.3 Consumer profile

This paragraph will focus on the consumer profile of carsharing customers in the Netherlands. The Netherlands Institute for Transport Policy Analysis conducted a study in 2016 on the user characteristics and mobility effects of carsharing in the Netherlands. This paragraph will sum up the insights that can be derived from this study and are of importance to *car2go*'s in-land expansion.

According to the Institute for Transport Policy Analysis (2016), the number of kilometers driven by Dutch customers decreases when they participate in carsharing initiatives. Before the users shared a car, they owned on average about 1 car per household; since car sharing this has fallen to 0.7 car per household. They also started to drive less: they drove an average of 9,100 kilometers a year before car sharing, after which it fell to around 7,500 kilometers a year (a decrease of 15 to 20 percent). The data is portrayed in Fig. 11.

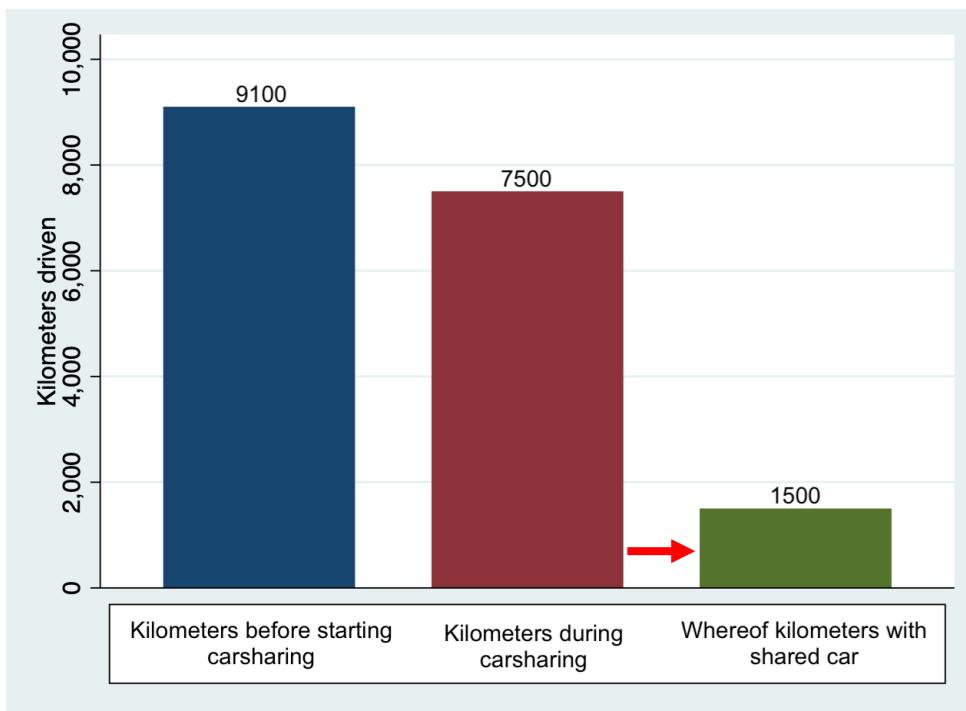


Figure 11. Mobility effect of carsharing on car kilometers.

Besides the less car kilometers that consumers drive after joining in carsharing concept, there are more effects on the mobility in the Netherlands. Harms (2016) finds a reduction of 8% to 13% of the CO₂ emissions emitted by the consumers that switched to carsharing programs. This can be broken down to two reasons: consumers drive less and carsharing schemes often offer fleets of electric vehicles.

As Fig. 10 shows, the age group 25-54 years accounts for a sizeable part of 39.18% of the Dutch population. This is beneficial for *car2go* as most of the current users in Amsterdam are young professionals requiring flexible mobility. In terms of age this groups belongs exactly to the target group of *car2go*.

7 Strategy

A competitive position should be attained in the market of choice in order to make the business expansion viable. For a deeper understanding of the strategies that the organization ought to carry out, this section will examine four types of strategy through the Ansoff Matrix (1957). The strategy chosen is the one that will suit the organization best. Fig. 12 below sketches the model.

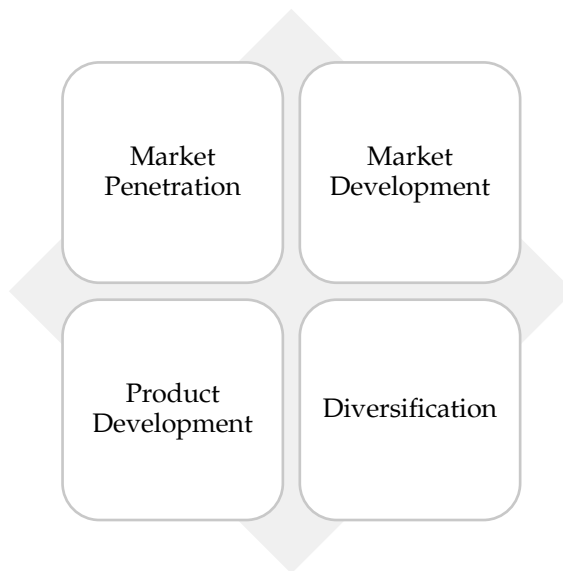


Figure 12. Ansoff Matrix (Ansoff, 1957).

As an extent to the decision that has been drawn – to expand in business activities in the Dutch market – there is a logical approach to choosing a corporate strategy. As decided in Section 5.4, this thesis focuses on *car2go* expanding current products and services into existing markets. According to The Economic Times (2016), market development is a two-step process. The process consists of a segmentation analysis followed by shortlisting the segments within the market that the organization considers to be worth targeting. As *car2go* is already in active in one city in the Dutch market, it is a logical development to strive for further market development. Market development can be built upon different strategies: entering new consumer segments or new geographical locations.

In this case, it is interesting to review the Netherlands as a market for carsharing and decide whether to expand to more cities within the country or to expand in the current city – Amsterdam. In order to further develop a corporate strategy coherent with the organizational goals, it can be concluded that it is of utmost importance to gain a precise understanding of the market. Section 6 presented that the carsharing market in the Netherlands is a relatively novel market, without much competition. Lieberman & Montgomery (1988) claimed it seems to be a better strategy to expand and consolidate presence in a known market (with unexploited potential) than to move abroad. A first-mover disadvantage tells that it can be more desirable to wait for other firms to enter first in unexplored markets. Taking this disadvantage into consideration, it is evident that expansion in Amsterdam is viable.

Smolnicki & Sołtys (2018) present that the affordability (in economic costs) of a carsharing concept is determinantal for a firm's strategy. *car2go* is currently offering solely one type of vehicle in the Dutch market: the smart fortwo electric drive (Fig. 13). A considerable target of the business expansion strategy is to determine if the firm should do more of the same or also explore new paths in the existing market. A cost-benefit analysis can be made to determine the feasibility of adding more of the same vehicles to the car fleet. The next section will examine the trade-off between carsharing and car ownership that the consumers in the Dutch market are confronted with.



Figure 13. *car2go*'s smart fortwo electric drive (*car2go*, 2019a).

8 Consumer trade-off in the selected market

Focused on the sector in the chosen country, this section will consider consumption of shared car services through examining the consumer trade-off between carsharing and ownership.

8.1 Data

- Data on the cost side of car ownership (electric):
 - (i) Fixed costs: fixed depreciation, insurance, motor vehicle tax, and maintenance.
 - (ii) Variable costs: variable depreciation, fuel, repair and maintenance, and tires.

The Royal Dutch Touring Club ANWB provides information about the cost of ownership of a wide range of vehicles, also about the vehicle that car2go uses. The breakdown of costs mentioned above is based on the information provided by this platform. The depreciation of the vehicle is calculated as follows:

$$\text{Annual depreciation} = \frac{\text{cost} - \text{salvage value}}{\text{life in number of periods}}$$

- Data in the cost side of carsharing:

The cost side of carsharing is based on the cost of the carsharing service of car2go in the Netherlands. These prices vary on the minute rate of each car2go. Prices drop for car2go vehicles in low demand areas and prices rise in high demand areas. car2go's users use packages that include a fixed number of hours and a maximum number of kilometers.

In determining the consumer trade-off, the assumption is made that a user will always choose the option that is financially most advantageous (lowest cost for certain scenario). The concept of *car2go* is pay-per-minute carsharing. Fig. 14 represents *car2go*'s all-inclusive cost method.

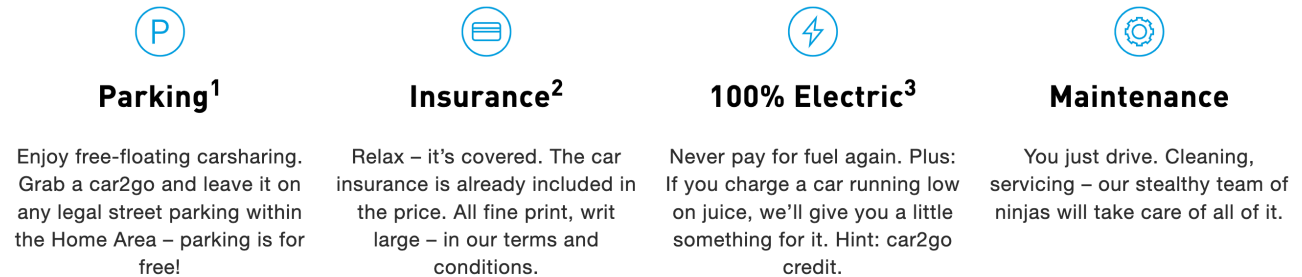


Figure 14. *car2go*'s all-inclusive cost structure (*car2go*, 2019d).

8.2 Methodology

As this portrayal of cost-benefit is conducted through a sum of different cost objects, these functions will be reviewed:

Denote the cost of carsharing and ownership as $y_{car\ sharing}$ and $y_{car\ ownership}$, respectively.

These costs are the average cost of both options and do not include a measure of benefits associated with each alternative. To determine the monetary costs between carsharing and car ownership in different scenarios, this examination includes the number of driven kilometers, the average speed and the type of car that is currently being used by *car2go* in the Netherlands.

If $y_{car\ sharing} - y_{car\ ownership} > 0$, car sharing is less attractive than car ownership.

If $y_{car\ sharing} - y_{car\ ownership} < 0$, car ownership is more attractive than car sharing.

If $y_{car\ sharing} - y_{car\ ownership} = 0$, car sharing and car ownership are equally attractive.

$$Y_{\text{carsharing}} = \text{Price per hour} * H$$

$$Y_{\text{car ownership}} = \text{Cost per kilometer} * K$$

H = Total number of hours yearly driven

K = Total number of kilometers yearly driven

The cost-benefit analysis requires a reference point which is constantly used through the portrayal. The reference point is a consumer, and adult of 31 years old, living in Amsterdam, driving 11.000 kilometers on an annual basis. According to the Central Agency for Statistics of the Netherlands, the average car speed in the country is 35 kilometers per hour (CBS, 2012). This means that the implication of the aforementioned numbers is that the average consumer drives 314 hours on a yearly basis. This reference scenario can be seen as the baseline for scenarios in which the abovementioned characteristics are adapted.

Based on the reference yardstick, new scenarios are established. This is done by changing one (or more) of the consumer characteristics in comparison to the set reference point. The car used for the comparison is the vehicle that *car2go* offers in the city of Amsterdam – a smart fortwo electric drive. In Amsterdam, usage of this vehicle through *car2go* amounts to a wage of 0,26 € – 0,36 € per minute, which is an average of 0.31 € per minute (*car2go*, 2019). The analysis will consider both the average rate and the reduced rate of *car2go*'s carsharing services. The costs used for the side of car ownership in this comparison are based upon the ownership of the exact same vehicle with building year 2017. The ANWB reports this car cost — on average — € 17.850 (ANWB, 2019). This is solely the acquisition price of the vehicle, which is used to determine the appreciation cost inherent in the number of kilometers driven on an annual basis.

Tables 4 – 8 define the scenarios analyzed.

Table 4. Scenario 0 (reference).

Number of kilometers per year	11.000
Average speed in kilometers per hour	35
Hours	314
Car	smart fortwo electric drive

Table 5. Scenario 1.

Number of kilometers per year	20.000
Average speed in kilometers per hour	35
Hours	571
Car	smart fortwo electric drive

Scenario 1 comes from Scenario 0 by increasing the number of kilometers. This sheds a light on investigating how the yearly number of kilometers affects the trade-off.

Table 6. Scenario 2.

Number of kilometers per year	40.000
Average speed in kilometers per hour	35
Hours	1143
Car	smart fortwo electric drive

Scenario 2 is a representation of a case with a large number of kilometers.

Table 7. Scenario 3.

Number of kilometers per year	11.000
Average speed in kilometers per hour	20
Hours	550
Car	smart fortwo electric drive

The average speed in kilometers per hour is decreased to 20 instead of 35 (as in the reference scenario). This is better representation of the situation in large cities, where an increased amount of traffic even leads to limited speeding. As *car2go*'s services are solely available in the city of Amsterdam, it is an interesting aspect to consider how the trade-off is affected by the average speed.

Table 8. Scenario 4.

Number of kilometers per year	20.000
Average speed in kilometers per hour	20
Hours	1000
Car	smart fortwo electric drive

This scenario concerns an increased number of kilometers in comparison to the reference scenario, but also a decreased average speed – like the last scenario. This scenario also addresses consumers driving in urban areas.

8.3 Results

The calculations of the scenarios are relegated to the Appendix of this report.

The rate that a consumer achieves to book at, strongly influences the cost of carsharing. In the reference scenario, the cost of carsharing at the regular fee basis are 5.840 € per year, while those at the reduced rate are 4.898,40 € per year. The cost of ownership in the reference scenario are 5.610 € per year.

The first and second scenario are equal to the reference scenario in terms of average kilometers per hour driven and the type of vehicle but differ in the number of kilometers driven on a yearly basis. From the reference scenario, the number of kilometers is increased through the first scenario (20.000 kilometers per year) to the second scenario (40.000).

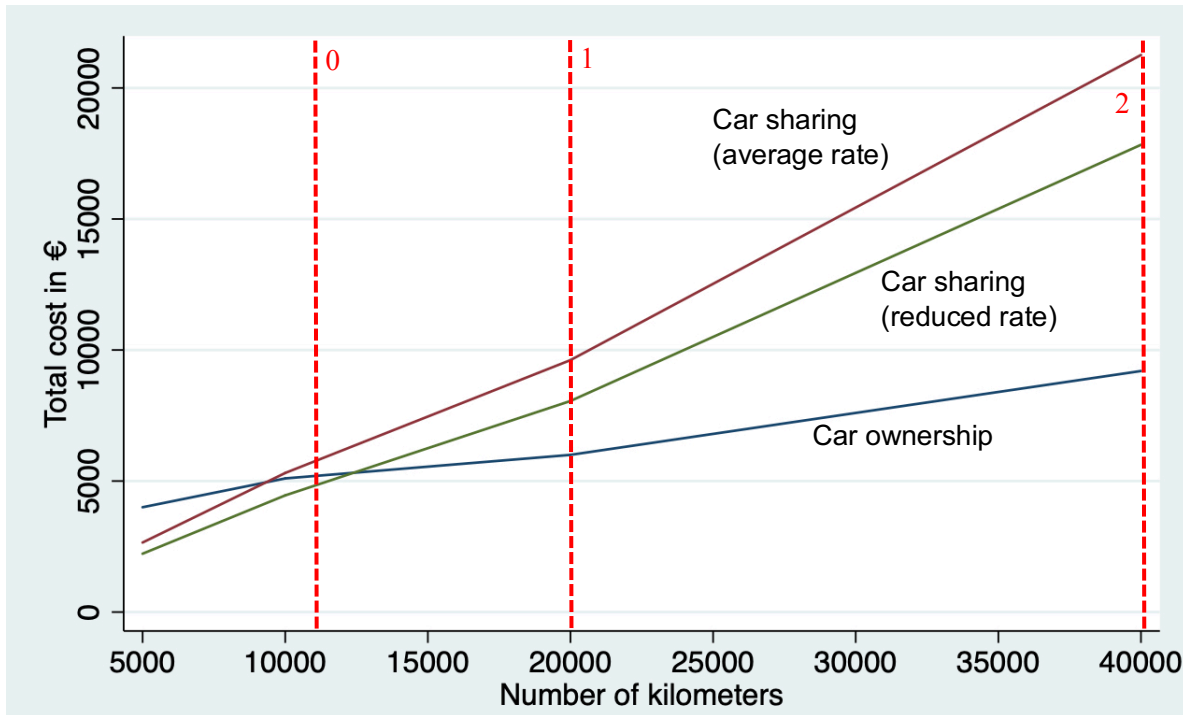


Figure 15. Scenarios at an average speed of 35 kilometers per hour.

The increase from the reference scenario (11.000 kilometers) to the first scenario, results in a doubling of the cost of carsharing. At the regular rate of a car2go vehicle, the costs of 11.000 kilometer per year are 9.616,20

At the same rate, those cost increase to 21.259,80 € per year when the kilometers are set at 20.000 per year. At the reduced rate, this gap is smaller but still much wider than the gap between the cost of ownership between 11.000 and 20.000 kilometer. The result of going from the reference scenario to scenario 1 is just 390 € per year in car ownership. These results indicate that an increase in driven kilometers causes a greater increase in costs for carsharing than car ownership. The data gathered through the database from the ANWB, provided the following view (Fig. 16) upon how the cost of car ownership decline as the number of kilometers driven per year increases.

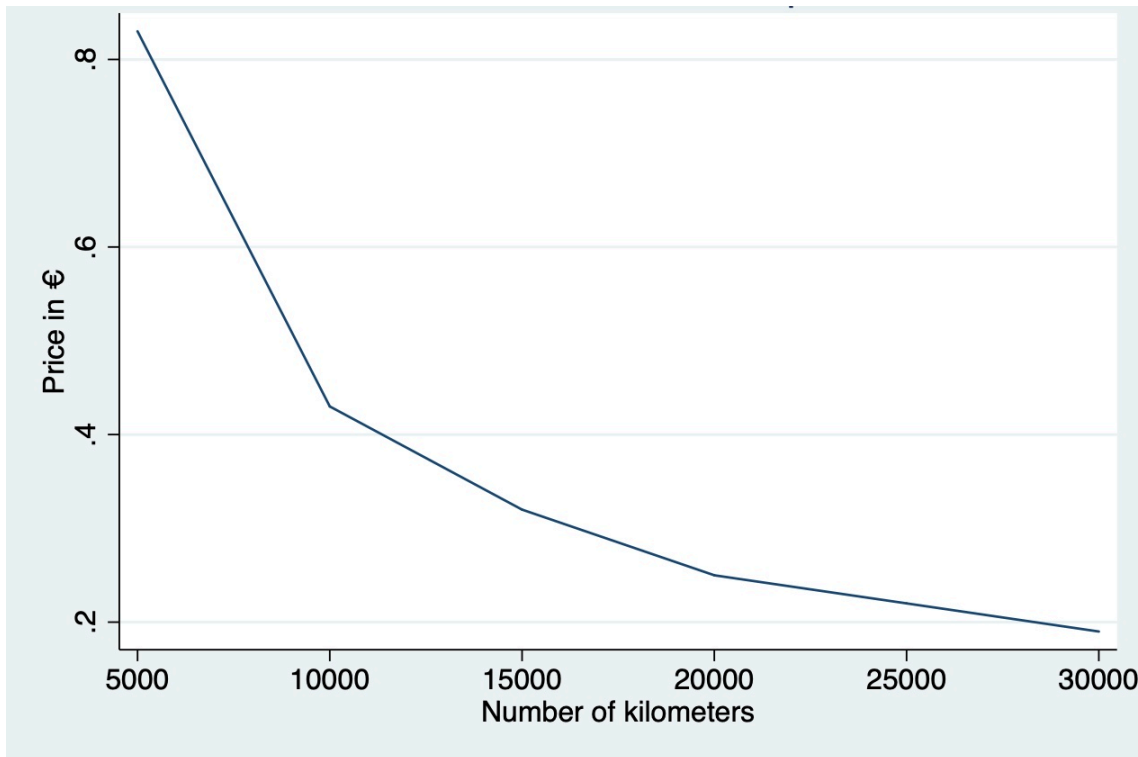


Figure 16. Price per kilometer of ownership based on ANWB calculations.

The third and fourth scenarios replicate respectively the reference and first scenario, only with a decreased average speed in kilometers per hour. Adapting the average speed results in an increase in hours driven on a yearly basis, given that the same number of kilometers is driven. In this case, the costs of carsharing compared to car ownership increase. In scenario 3, the cost of carsharing are 10.230 € per year at the average rate of *car2go*. In the reference scenario, these costs are 9.616,20 € per year at the average rate. These costs are calculated based upon the same number of kilometers. The price difference is due to the slower average speed in scenario 3.

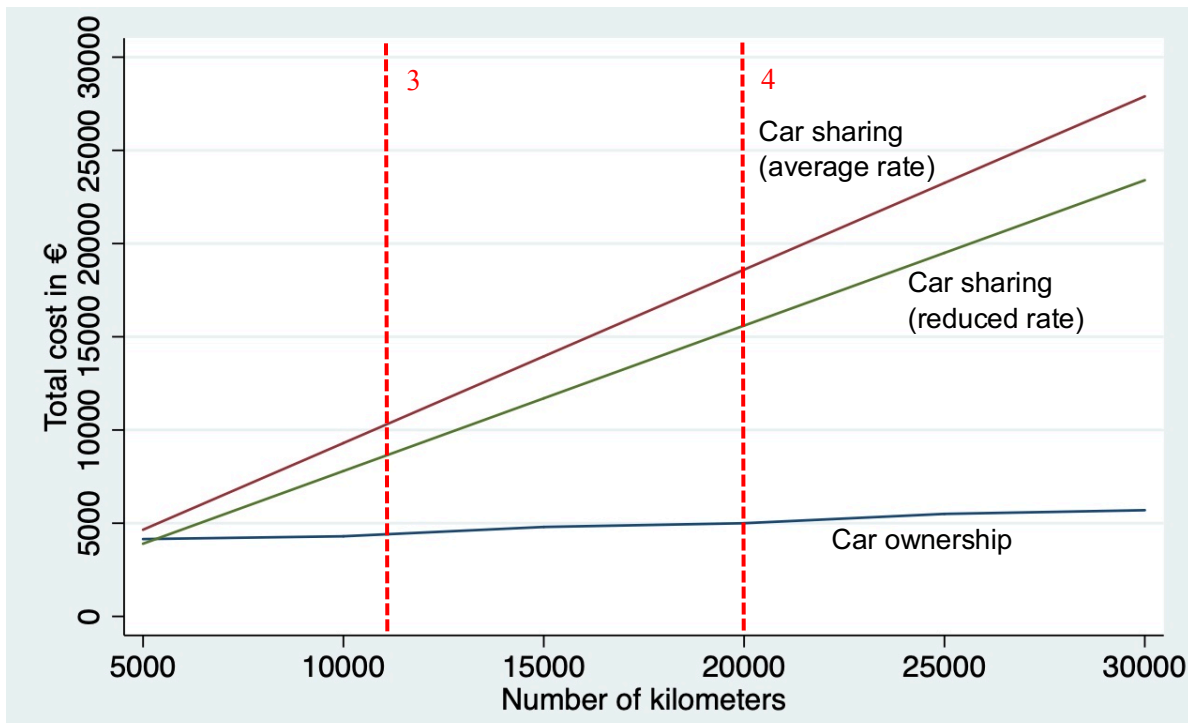


Figure 17. Scenarios at an average speed of 20 kilometers per hour.

The price increase leads to the implication that carsharing become less financially attractive if the average speed decreases compared to car ownership. The fourth scenario provides a fundament for this result, as the cost of carsharing — for 20.000 kilometers — amount to 18.600 € per year at an average speed to 20 km/h. The cost for the same number of kilometers in scenario 1, but at an average speed of 35 km/h, amount to 9.616,20 € per year.

8.4 Conclusions

Carsharing seems to be attractive to consumers that drive smaller amounts of kilometers and shorter distances within a city. As soon as the number of kilometers increases significantly – such as in scenarios number 1 and 2 – the costs of carsharing become higher than the cost of car ownership. The tipping point of financial attractiveness of carsharing is strongly related to the price per minute that is quoted by the provider. As we can see in the reference scenario, the reduced rate versus the mean rate enhances a difference of almost a thousand euros on a yearly basis. This has a vast influence on the consumer trade-off between carsharing and ownership in the reference scenario.

With a higher number of kilometers driven per year, such as in the second scenario, carsharing is financially less attractive than ownership in any case – despite of potentially reduced rates.

Looking at the third scenario, carsharing seems to be most financially attractive in case of a drive of short duration in combination with a higher average speed. Slow traffic drives up the cost of carsharing rather quickly, because the meter keeps running per minute.

The minute rate *car2go* calculates to their users does not decrease as a consumer's use of the service increases. In the light of car ownership, cost per kilometer do decrease when the consumer adds on more kilometers. According to the source used to retrieve the data, the ANWB, the cost per kilometer decreased with 19 euro cents from the step of the reference scenario to scenario 1.

An important note that needs to be highlighted is that the cost structures in this comparison of a consumer trade-off are solely applicable at an individual level, not a broader societal degree. Ownership of cars can be looked upon as more expensive than sharing cars in terms of societal costs, due to its requirement of more public space and negative influence on the environment.

The conclusions drawn in this examination are in line with a similar investigation into the costs of carsharing and car ownership, which was conducted by Gelfort and McMahon (2018), in the United States. Even though, the United States is a different market than the Netherlands, the consumer trade-off between carsharing and ownership shows similarities. The research concluded that in the US, when driving over 6.000 miles per year (9656 kilometers), private car ownership is in most cases economically more sustainable on a household level than carsharing. This research also included *car2go*'s services at the regular and the reduced rates.

9 Conclusions and recommendations

In this section the main findings of this thesis will be recapitulated. From those findings, recommendations for the case company have been derived, which will also be discussed.

The main lesson derived from the second section is that *car2go* is a key player in the carsharing concept within Europe. The prospective merger mentioned in section 2.4 will further contribute to the firm's development. Merging with DriveNow enables *car2go* to utilize a larger market power. A larger market power is beneficial in various factors determining a carsharing firm's success, such as obtaining the required high capital investments or the required legislation from governments.

The application of Porter's Five Forces Framework to *car2go* showed the firm has to deal with both a relatively high threat of new entrants and substitutive products. The rivalry among the existing firms in the European industry is moderately low. The rivalry substantially decreased in Europe due to the merger with DriveNow. In its turn, the lower rivalry leads to a lower bargaining power of the suppliers towards the carsharing firm. On the contrary, the bargaining power of customers in *car2go*'s business model is high. This is in coherence with the high threat of substitutes. Concerning the micro-environment, the firm's first-mover advantage and innovative service were highlighted as competitive advantages.

The market research process covered in section 5 and 6 led to the conclusion that the expansion within an already operated market (Amsterdam) is the preferred next step for business expansion. The selected market is the Netherlands. *car2go* would preferably expand activities in the city of Amsterdam due to several factors. First of all, various obstacles (i.e. legislation) have already been overcome in this location. Secondly, the carsharing market in Amsterdam shows unexploited potential and high prospective growth.

Deciding the location of business expansion is the first part of the answer to the research question mentioned in section 1:

What is the preferred next step for business expansion for carsharing firm car2go?

The second part of the answer to the research question is provided through the sum of insights derived from sections 7 and 8, examining respectively the desired strategy and the consumer trade-off in carsharing. In relation to section 6, the strategy in section 7 concluded that expansion of activities in Amsterdam is the viable option for car2go. In terms of business strategy, section 7 emphasized the importance of determining whether the firm should do more of the same or explore new paths in the existing market. In consideration of this dilemma, section 8 examined the economic trade-off between carsharing and ownership that consumers in the Dutch market are confronted with. The results of the numerical exercise (Fig. 15) suggest the kind of user that car2go should target for the success of the expansion. The carsharing concept offered by car2go in Amsterdam seems to be economically appealing to those who drive a relatively small number of kilometers (approximately 10.000 annually). That the economic tipping point of the trade-off is strongly related to the price per minute quoted by car2go is an important conclusion. This insight could justify a strategy recommendation of dropping fares initially to attract new customers, discouraging them for purchasing cars. Once a customer has decided not to purchase a car but to use a carsharing scheme instead, it is not easy to revert this decision. Once this clientele has been captured, fares could rise to the levels that are indicated in section 8.

To further justify the decision and the abovementioned strategy recommendations, car2go is recommended to study in depth the current use of the car fleet in Amsterdam. Additional insights obtained through a diligent examination could lead to supplementary information to this thesis of business expansion.

References

- Ansoff, I. (1957). Strategies for Diversification. *Harvard Business Review*, 35(5), 113-124.
- ANWB. (2019, March 1). *Tests en specificaties*. Retrieved from ANWB: <https://www.anwb.nl/auto/tests-en-specificaties>. Accessed on April 21, 2019.
- BBVA Research. (2016, December 12). *European Urbanization Trends*. Retrieved from BBVA Research: https://www.bbva.com/wp-content/uploads/2016/12/European-urbanization-trends_.pdf
- Bonsall, P., Jopson, A., Pridmore, A., Ryan, A., & Firman, P. (2002). *Car share and car clubs: Potential impacts*. Leeds: Institute for Transport Studies, University of Leeds.
- car2go. (2017, November 1). *Pioneer and market leader in free-floating carsharing*. Retrieved from car2go: https://www.car2go.com/media/data/germany/microsite-press/files/factsheet-car2go_november-2017_en.pdf
- car2go. (2018, July 25). *Terms and conditions*. Retrieved April 2, 2019, from car2go: https://www.car2go.com/media/data/na/legal/terms-and-conditions_us_ca_en.pdf. Accessed on March 14, 2019.
- car2go. (2019a, March 1). *car2go joins SHARE NOW*. Retrieved from car2go: <https://www.car2go.com/US/en/joining-forces.html>. Accessed on March 12, 2019.
- car2go. (2019b, February 1). *car2go on the App Store - iTunes - Apple*. Retrieved from Apple: <https://itunes.apple.com/us/app/car2go/id514921710>. Accessed on March 10, 2019.
- car2go. (2019c, February 1). *How it works*. Retrieved from car2go: <https://www.car2go.com/ES/en/madrid>. Accessed on March 12, 2019.
- car2go. (2019d, March 20). *Pricing in Amsterdam*. Retrieved from car2go: <https://www.car2go.com/NL/en/amsterdam/costs>. Accessed on March 14, 2019.
- CBS. (2012, March 3). *Personenauto's rijden gemiddeld 37 kilometer per dag*. Retrieved from Statistics Netherlands: <https://www.cbs.nl/nl-nl/nieuws/2012/10/personenauto-s-rijden-gemiddeld-37-kilometer-per-dag>. Accessed on May 2, 2019.
- CIA. (2019, May 1). *The World Factbook*. Retrieved from CIA: <https://www.cia.gov/library/publications/the-world-factbook/geos/nl.html>. Accessed on April 24, 2019.
- Corcobado, M. Á. (2019, April 24). *Por qué los coches compartidos pueden ser perjudiciales para la salud*. Retrieved from El País: <https://motor.elpais.com/conducir/coches-compartidos-salud>. Accessed on May 5, 2019.
- Doherty, M., Sparrow, F., & Sinha, K. C. (1987). Public Use of Autos: Mobility Enterprise Project. *Journal of Transportation Engineering*, 1(113), 84-94.
- ERF. (2019, April 1). *Road Network 2017*. Retrieved from European Union Road Federation: <http://erf.monogramstrategy.com/statistics/road-network-2017>. Accessed on April 14, 2019.

- Eurostat. (2019, May 1). *Population density*. Retrieved from Eurostat: <https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tps00003&plugin=1>. Accessed on April 14, 2019.
- Fenwich Elliott, A. (2018, April 17). *Compared: The new companies shaking up the car hire industry*. Retrieved from The Telegraph: <https://www.telegraph.co.uk/travel/advice/carpooling-sharing-companies-rated>. Accessed on March 14, 2019.
- Gelfort, M., & McMahon, M. (2018). *Car-Sharing vs. Private Vehicle Ownership Costs (household basis)*. Arlington: Arlington Department of Environmental Services.
- George, C., & Julsrud, T. E. (2018). *The development of organised car sharing in Norway: 1995-2018*. Oslo, Norway: Institute of Transport Economics.
- Gesteland, R. R. (1999). *Cross-cultural business behaviour: Marketing, negotiating and managing across cultures*. Copenhagen: Copenhagen Business School Press.
- Harms, L., Jorritsma, P., Berveling, J., Van Meerkerk, J., & Nijland, H. (2016). *Carsharing in the Netherlands: User characteristics and mobility effects*. Apeldoorn: Netherlands Institute for Transport Policy Analysis.
- KpVV. (2014, October 1). *Opnieuw forste groei autodelen*. Retrieved from Koninklijk platform Verkeer en Vervoer: <https://kpvvdashboard-4.blogspot.com/2014/10/opnieuw-forse-groei-autodelen.html>. Accessed on May 12, 2019.
- Lieberman, M. B., & Montgomery, D. B. (1988). First-Mover Advantages. *Strategic Management Journal*, 9, 41-58.
- Loose, W. (2010). *The State of European Car-Sharing*. Berlin: Bundesverband CarSharing.
- Meijkamp, R. (1998). Meijkamp, Rens. Changing consumer behaviour through eco-efficient services: an empirical study of car sharing in the Netherlands. *Business Strategy and the Environment*, 4(7), 234-244.
- Millard-Ball, A., Murray, G., Ter Schure, J., Fox, C., & Burkhardt, J. (2005). *Car-sharing: Where and How it Succeeds*. Washington, DC: Transit Cooperative Research Program.
- Mocker, M., & Fonstad, N. O. (2017). How AUDI AG is Driving Toward the Sharing Economy. *MIS Quarterly Executive*, 4(16), 279-293.
- NU.nl. (2007, August 5). *Deelauto rukt steeds verder op*. Retrieved from NU.nl: <https://www.nu.nl/economie/1183871/deelauto-rukt-steeds-verder-op.html?redirect=1>. Accessed on May 19, 2019.
- Osterwalder, A., Pigneur, Y., Bernarda, G., Smith, A., & Papadacos, T. (2014). *Value Proposition Design: How to Create Products and Services Customers Want*. Hoboken, New Jersey: John Wiley & Sons.
- Porter, M. E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: Free Press.
- Schiller, T., Julia, S., & Pottebaum, T. (2017). *Car Sharing in Europe*. Berlin: Deloitte.

- SEDAC. (2019, May 10). *Population Density Grid*. Retrieved from SEDAC: <https://sedac.ciesin.columbia.edu/data/set/grump-v1-population-density/maps/2?facets%3Dregion:africa%26facets%3Dtheme:population&facets=region:eu>. Accessed on May 2, 2019.
- Seik, F. T. (2000). Vehicle ownership restraints and car sharing in Singapore. *Habitat International*, 1(24), 75-90.
- Serra, C. (2019, April 21). *El 'carsharing', ¿la movilidad del futuro?* Retrieved from El Nacional.cat: https://www.elnacional.cat/es/economia/carsharing-movilidad-futuro-socialcar-drivy_376039_102.html. Accessed on May 16, 2019.
- Shaheen, S. A., & Cohen, A. P. (2013). Carsharing and personal vehicle services: worldwide market developments and emerging trends. *International Journal of Sustainable Transportation*, 7(1), 5-34.
- Shaheen, S., Cohen, A., & Jaffee, M. (2018, March 1). *Innovative Mobility: Carsharing Outlook*. Retrieved from UC Berkeley: Transportation Sustainability Research Center.: <https://escholarship.org/uc/item/49j961wb>. Accessed on February 27, 2019.
- Shaheen, S., Sperling, D., & Wagner, C. (1999). A Short History of Carsharing in the 90's. *Journal of World Transport Policy & Practice*, 5(3), 18-40.
- Smolnicki, P. M., & Sołtys, J. (2018). *Carsharing - Opportunities and Threats for Cities: Proposals of Solutions for Urban Policy*. Gdansk: Gdansk University of Technology.
- The Copenhagen Post. (2016, January 19). *Car2go shutting down in Copenhagen*. Retrieved from The Copenhagen Post: <http://cphpost.dk/news/car2go-shutting-down-in-copenhagen.html>. Accessed on April 22, 2019.
- The Economic Times. (2016, April 22). *Definition of 'Market Development'*. Retrieved from The Economic Times: <https://economictimes.indiatimes.com/definition/market-development>. Accessed on May 18, 2019.
- The World Bank. (2019, April 1). *Ease of doing business index (1=most business-friendly regulations)*. Retrieved from The World Bank: <https://data.worldbank.org/indicator/ic.bus.ease.xq>. Accessed on April 7, 2019.
- The World Bank. (2019, April 1). *GDP per capita (current US\$)*. Retrieved from The World Bank: <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD>. Accessed on April 8, 2019.
- Volkswagen AG. (2018, August 23). *Volkswagen starts "We Share" e-mobility car sharing in Berlin*. Retrieved from Volkswagen AG: https://www.volkswagenag.com/en/news/2018/08/VW_Brand_We_Share.html. Accessed on May 6, 2019.
- Vujovic, B. (2017, November 28). *Value proposition as basis for business model innovation*. Retrieved from New Frontier Group: <http://newfrontier.eu/blog/value-proposition-part-1>. Accessed on March 23, 2019.
- Zeng, H. (2015, December 17). *What's Stopping Carsharing? 4 Challenges Holding Emerging Markets Back*. Retrieved from TheCityFix: <https://thecityfix.com/blog/stopping-carsharing-report-4-challenges-holding-emerging-markets-back-heshuang-zeng>. Accessed on March 12, 2019.

Appendix

The cost calculations to the consumer trade-off between carsharing and car ownership are:

Scenario 0 (reference):

Y carsharing

At the regular rate (0,31 € per minute):

*Price per hour * H*

$$(0.31 * 60) * 314 = 5.840 \text{ € per year}$$

At the reduced price of 0,26 € per minute:

$$(0.26 * 60) * 314 = 4.898,40 \text{ € per year}$$

Y car ownership

*Cost per kilometer * K*

$$0.51 * 11.000 = 5.610 \text{ € per year}$$

Scenario 1:

Y carsharing

At the regular rate (0,31 € per minute):

*Price per hour * H*

$$(0.31 * 60) * 517 = 9.616,20 \text{ € per year}$$

At the reduced price of 0,26 € per minute:

$$(0.26 * 60) * 517 = 8.065,20 \text{ € per year}$$

Y car ownership

*Cost per kilometer * K*

$$0.30 * 20.000 = 6.000 \text{ € per year}$$

Scenario 2:

Y carsharing

At the regular rate (0,31 € per minute):

*Price per hour * H*

$$(0.31 * 60) * 1143 = 21.259,80 \text{ € per year}$$

At the reduced price of 0,26 € per minute:

$$(0.26 * 60) * 1143 = 17.830,80 \text{ € per year}$$

Y car ownership

*Cost per kilometer * K*

$$0.23 * 40.000 = 9.200 \text{ € per year}$$

Scenario 3

Y carsharing

At the regular rate (0,31 € per minute):

*Price per hour * H*

$$(0.31 * 60) * 550 = 10.230 \text{ € per year}$$

At the reduced price of 0,26 € per minute:

$$(0.26 * 60) * 550 = 8.580 \text{ € per year}$$

Y car ownership

*Cost per kilometer * K*

$$0.51 * 11.000 = 5.610 \text{ € per year}$$

Scenario 4

Y carsharing

At the regular rate (0,31 € per minute):

*Price per hour * H*

$$(0.31 * 60) * 1000 = 18.600 \text{ € per year}$$

At the reduced price of 0,26 € per minute:

$$(0.26 * 60) * 1000 = 15.600 \text{ € per year}$$

Y car ownership

*Cost per kilometer * K*

$$0.30 * 20.000 = 6.000 \text{ € per year}$$