An optimized Design for a shared vehicle Service

Master thesis
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Strategic Product Design
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March 2021

LeasePlan

TU Delft

Master thesis
March 2021

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Preface

I hereby present my master thesis titled: "An optimized Design for a shared vehicle Service". This thesis is the result of my graduation project and is the capstone of my studies in Delft. A time which I enjoyed to the fullest, but also a time where I learned a lot. I do see this graduation project as something that includes everything I learned in the past years, as it should be in my opinion.

This project is conducted with the established fleet management company LeasePlan. LeasePlan and its employees made it possible for me to conduct my graduation project as close to normal as possible, despite the weird times we are in right now. A big thanks to everyone at LeasePlan that helped me during this project.

I also would like to thank my graduation committee, which excellently guided and pushed me to make this project a great success. My mentor, Han van der Meer, always made time to walk through the project, even on the weekend. My chair, Dirk Snelders, never left the meeting without giving me inspiration on what to do next. And my company mentor, Viola Kieffer, that encouraged every idea that came into my mind.

Finally, I would like to thank my friends and family who did not only read and assess my draft versions, but most of all, always support me in everything I do.

As I enjoyed this graduation project to the fullest, I am also glad I completed it and can look back on the ride. Presenting and defending is what's left.

Enjoy reading.

Carlo van Gilst
17th of March 2021, Rotterdam

Executive Summary

LeasePlan Tripp is a new Service proposition that answers major changes the mobility and fleet management industry is facing. Before the Tripp pilot went live in February 2021, several questions emerged: How could the Tripp Service be improved and scaled up effectively? Therefore, this graduation project assignment was raised: "Design an optimized shared vehicle Service for LeasePlan". The assignment existed out of two components: user and business-oriented, both executed academically and using the corresponding creativity tools.

In the project's analysis phase, pilot details were sifted through, a trend research was done, shared vehicle benchmarks were conducted and internal interviews were held with employees. From the trend research, it became clear some research is done on how millennials perceive private versus shared vehicles. Millennials are willing to use shared vehicles instead of private ones but are also aware of the freedom and flexibility a private vehicle gives them.

From the internal interviews, it became clear some employees are skeptical against the fact millennials are willing to swap their private vehicle for a shared one. They also mention the LeasePlan Tripp Service proposition might not serve a bigger goal: having any vehicle, anywhere at any time. For this reason, the private versus shared vehicle perception became the main subject of the qualitative interviews with the potential LeasePlan Tripp users.

A total of eight interviews were conducted with potential users from all three pilot locations. A design paradox emerged in where the potential Tripp user does not perceive a shared vehicle equal to a private one. They can however be perceived as similar when a shared vehicle is just as flexible and gives you the same feeling of freedom as a private vehicle. All other insights of the qualitative interviews can be seen on page 32-35 in this report.

As an answer to the design paradox and the request to optimize the Design of the shared vehicle Service Tripp, a proposal was made. In this proposal, four building blocks are presented. These building blocks emerged from the created Customer Journey Maps and conducted creative sessions. The four building blocks are: an operational liquid fleet, a dynamic pricing structure, a travel assistant and a vehicle exchange platform. Further elaboration on the building blocks can be seen on page 44-47.

In the business-oriented part of the assignment, an exploration on various Business Models was done. Three Business Models were selected that would be beneficial for both LeasePlan Tripp and its users. The experience-oriented Business Model was chosen as preferred. It is expected to increase customer satisfaction, can boost usage via marketing-related events and involves less risk to implement.

The current and proposed Business Models were quantified in the Business Case. Also a scaled-up LeasePlan Tripp was quantified in the Business Case. The most important recommendations that arose are: 1. to increase pricing and 2. decrease operational costs. The extra profit from these two measures could be invested in hiring new employees dedicated to Tripp or in events organized for Tripp users. All Business Case outcomes can be seen on page 56-61.

In the last part of the project, a future concept for LeasePlan Tripp was presented. This concept involves a Service that is scaled up towards almost 100 locations and has implemented a dynamic pricing structure, a vehicle exchange platform and an experience-oriented Business Model. This future concept went through a gap assessment, or bridging workshop, attended by Business Development and Flexible Fleet. The main insights from this gap assessment were summarized in the final upscale advice for LeasePlan Tripp:

- Reach a positive Business Case by adjusting parameters; increase pricing or cut in operational costs. Add marketing elements that align with the experience Business Model to increase Service usage and customer satisfaction.

LeasePlan Tripp future concept

A Service application that is scaled up to 100 locations and has implemented a dynamic pricing structure, a vehicle exchange platform and an experience-oriented Business Model.

- Prepare for hiring additional employees, such as a location manager that monitors all LeasePlan Tripp locations and/or an event manager that organizes all Tripp events. Start developing the Tripp Service application in-house for processing incremental changes faster and better.

- Expand the Service to locations with the same characteristics as the pilot locations in the first year. The implementation then becomes more of a copy-paste action that involves less risk. After the first year, the Service can expand to more diverse locations.

The full outcome of the gap assessment can be seen on page 64. Further elaboration on the upscale advice can be seen on page 65.

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1. Project introduction

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1.1. Project brief

Since I have lived in Rotterdam, I am highly interested in the municipal council's developments to make the city center almost car-free. Shared mobility is going to be one of the solutions to make this happen. I thought it would be great to use my creativity to contribute to a solution by applying for this graduation internship at LeasePlan. Quite ironic for a student that still does not have his driver's license.

In the project introduction, a short explanation will be given about the company LeasePlan. After that, we will dive into the context in which the company is operating and the shared vehicle Service proposition as an answer to this. After that, the client's assignment will be explained and an introduction will be given about the Business Development team.

1.1.1. The company LeasePlan

The first things that might come into your mind when thinking about LeasePlan are words like: "car lease", "car fleet management" or "occasions". These words do correctly describe what LeasePlan offers to its clients and customers in terms of products. But if we narrow it down ultimately, LeasePlan is simply a bank that does not transfer money from and towards its clients and customers, but cars. This idea was conceived in 1963 in the Netherlands.

Now, LeasePlan is a global company that has over 6600 employees, is operating in 32 countries and has almost 2 million vehicles in its fleet (LeasePlan, n.d.).

LeasePlan is a Business to Business (B2B) company at its core and has started to expand its product portfolio towards Business to Consumer (B2C). Since 2018, the company sells occasion cars with their CarNext sub-brand. Consumers can reach this platform online, via an application or by visiting the physical stores throughout the Netherlands. CarNext and its corresponding business model are created to shake up the infamous occasion market that has a lack of trust among consumers (CarNext, n.d.). In figure 1, the CarNext occasion center can be seen.

1.1.2. Changing context and corresponding strategy

LeasePlan is currently in an industry that faces major changes. People, companies, municipalities and governments are rethinking how people should move in and around cities (McKinsey, 2017) as 66% of the world population will live in urban areas by the year 2050 (United Nations, 2014) making cities even more crowded.

Figure 1. The CarNexr delivery center (LeasePlan, n.d.)

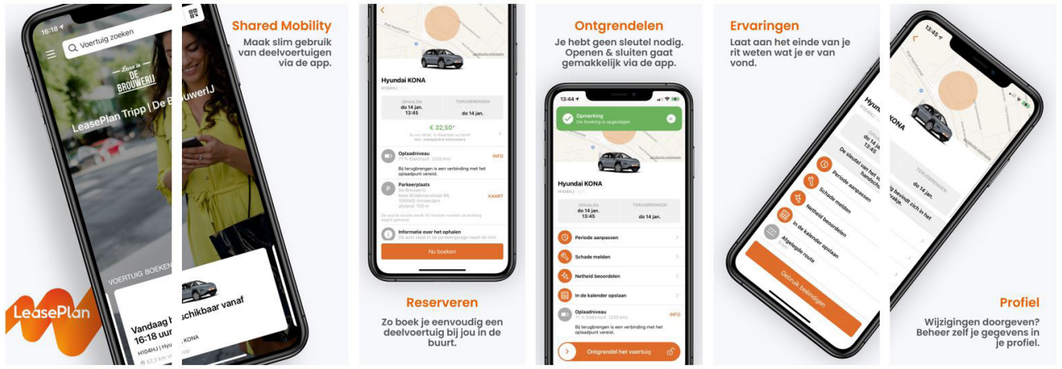


Figure 2 App-store images LeasePlan Tripp (LeasePlan, n.d.)

LeasePlan therefore developed a new strategy for the coming three years to be ahead of the changing industry. The strategy "The Movement is Yours" is focused on the changing field of mobility and has the ultimate goal to change the behaviors of LeasePlan employees, clients and customers.

LeasePlan wants to be a leader in moving people through their environment. Next to that the new strategy emphasizes making these movements more sustainable and smarter. Eventually, the company wants to be a mobility firm that focuses on digital integration.

1.1.3. LeasePlan Mobility as a Service – from idea to pilot

As an answer to the LeasePlan strategy and changing context the company is in, the idea arose to provide shared vehicles (cars and e-bikes) to consumers in apartment complexes. This was later shaped into a Service proposition called "LeasePlan Tripp". This Service proposition is in collaboration with a big real estate investment company in the Netherlands (CBRE) and the facility company (The James Company) in the real estate buildings where a pilot of the idea will start. In figure 2, the app-store images of LeasePlan Tripp can be seen.

CBRE Global Investors

CBRE an internationally operating real-estate company that has existed for almost 40 years. They have a wide range of offices, houses and stores located in the Netherlands. Assets that are managed by CBRE in the Netherlands are over €6.4 billion. They also claim to be a client-focused and innovation-driven real-estate company that is constantly expanding its knowledge (CBRE, n.d.).

CBRE is an important stakeholder in Tripp's Service proposition. The Tripp pilot starts in three residential buildings that are CBRE real-estate properties. When the pilot becomes successful, expansion of the Service proposition is planned to be in more CBRE properties. Besides that, LeasePlan can also choose to partner up with other real-estate companies.

But what's in it for the CBRE real-estate company when there is a LeasePlan branded Service proposition in the garage of apartment buildings? Well, as described, CBRE wants to profile itself as a non-ordinary innovation-driven real-estate company that cares about clients and tenants. Partnering with LeasePlan on this new Service proposition is something that adds value to their real estate properties.

The James Company

The James Company is a facility management company operating in the Netherlands. They provide on-site Service to clients and customers working in offices and living in apartments (The James Company, n.d.). It is up to real-estate companies whether they include a hospitality Service such as The James Company into their properties.

Adding a shared vehicle proposition to a real-estate property is directly not beneficial for a company such as The James Company. However, The James Company's image as a hospitality company might be lifted to a new level with LeasePlan Tripp. The new proposition does require extra effort from the hospitality crew on-site.

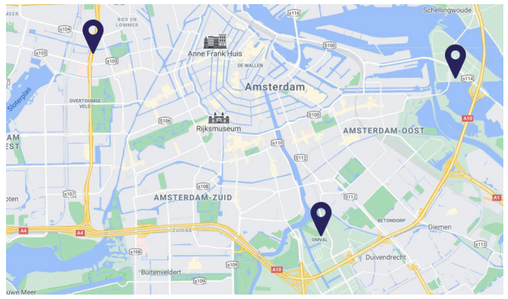


Figure 3. Three CBRE pilot locations, from left to right: Rhapsody, Ada-Branie & De Brouwerij (Google Maps, n.d.)

Figure 4. The setup of a LeasePlan Tripp location (Leaseplan, n.d.)

The Service proposition consists of a shared mobility solution to residents in garages of apartment buildings. Residents of a specific building can book an (electric) vehicle when they are in need of mobility. When booked, the user can walk to the vehicle, open the vehicle via the application and start driving. After the ride, the user has to put the vehicle back at the same spot in the garage and pays via credit card.

The Business Development team has set the target to upscale LeasePlan Tripp if the pilot is successful. Before that, a pilot of the idea will be conducted at three different real estate locations in Amsterdam (all real estate properties of CBRE); Rhapsody, Ada-Branie and De Brouwerij. In figure 3, a map of Amsterdam can be seen including the apartment buildings. All three residential buildings are situated near de highway that's around Amsterdam.

This pilot and LeasePlan's corresponding Service Tripp takes place in a closed environment (parking garages of the apartment buildings). Only the residents of the apartment buildings can use the application and therefore LeasePlan Tripp. After the pilot, the decision will be made whether the Service expands to other apartment buildings and/or will go to a more open-source platform. In figure 4, the set-up of a LeasePlan Tripp location can be seen.

1.1.4. The client's assignment

The LeasePlan Tripp pilot starts at the beginning of the year 2021 and will last for approximately six months. The application and outline of the Service are determined. However, the functionalities and the new Service details need to be discovered and further developed after the pilot. An improved or optimized Service proposition is desired to make this pilot succeed and grow from pilot to scale-up idea within the LeasePlan company. Eventually, this idea can be expanded to other locations in Amsterdam, other cities in the Netherlands and even outside the Netherlands. The assignment for this graduation project is therefore stated as follows: ***"Design an optimized shared vehicle Service for LeasePlan."***

This is obviously a very broad assignment that can be interpreted in multiple ways when approaching it in a strategic manner, as I have learned during my studies. The Business Development team and I made the assignment more explicit and determined that the assignment consists of two parts:

- User-oriented: investigate the potential Tripp user by conducting qualitative interviews and making Customer Journeys
- Business-oriented: improve the Business Model and Business Case of the Tripp Service proposition

Personal learning goals

Since I aspire to work as a Customer Journey expert or an Analyst when I am graduated, I also set a personal goal: to explore the relationship between Customer Journey maps and (scalable) Business Models. By comprehending and clarifying this relationship, the project will be better structured and that the conclusion will be drawn clearly to convince management teams within the LeasePlan company. A personal learning goal document is made to capture all learning goals. The complete document can be found in appendix A.

1.1.5. Business Development

The shared vehicle Service proposition and corresponding graduation assignment were raised by the Business Development team. This team was established in the summer of 2019 and is led by Bruce van Egmond. The team's ambition is to elevate LeasePlan to become a digital partner for new mobility-related Services. Directions to accomplish this ambition are:

- Establish new partnerships
- Implement new Services
- Scale-up current LeasePlan products
- Carry the vision of LeasePlan's commercial partnerships

Simply said: the Business Development team comes up with new products and Services that answer consumers' or clients' needs. The team also has the role of being an expert in Electric Vehicles and mobility questions.

The Product Development manager within the Business Development team is Viola Kieffer. She is also the company mentor for this graduation assignment. She is the driving force behind all general product and Service-related ideas that start within the team. In the past she initiated and implemented various ideas and pilots regarding car-sharing for company clients (+pay-as-you-go), flex contracts for clients, connected cars and e-bikes. During my graduation project, Viola will coach me and assess my work and the corresponding deliverables conform to the client assignment.

1.2. Project approach

To deliver the client's assignment stated in the previous section, the assignment needs to be translated into research questions that can be answered academically during my graduation project. I therefore state the following main research question and corresponding sub-questions:

1. What does the optimized shared vehicle proposition look like?
2. What does the targeted user want concerning a shared vehicle Service?
3. What does the Customer Journey of the current shared vehicle proposition look like?
4. How does the improved (scalable) Business Model of LeasePlan Tripp look like?
5. How can we upscale LeasePlan Tripp in the coming years?

1.2.1. Methods used during the project

The project will cover an amount of approximately 20 weeks. During these weeks, various elements of the design process will pass the scene. Since this project starts with an already existing idea that is piloted upfront, the popular double diamond model cannot be applied to this project (Design Council, n.d.) because the discover and define phase are already partly done by the Business Development team. This project requires a different approach.

Integrated Creative Problem Solving (iCPS)

During this project, I make use of the basic principles of Integrated Creative Problem Solving (iCPS). This method does not only provide a large set of creativity tools, moreover it can be used as a backbone for creative project management that incorporates the facilitation of creative sessions. The method stresses to always keep the four subprocesses (Project Management, Content Finding, Information Finding and Acceptance Finding) in mind (Buijs et al., 2009).

In figure 5, an illustration is given of these four principles. In figure 6 on the next page, an explanation is given on how three of the four principles relate to each other proportionally in this graduation project. (Heijne & Van der Meer, 2019).

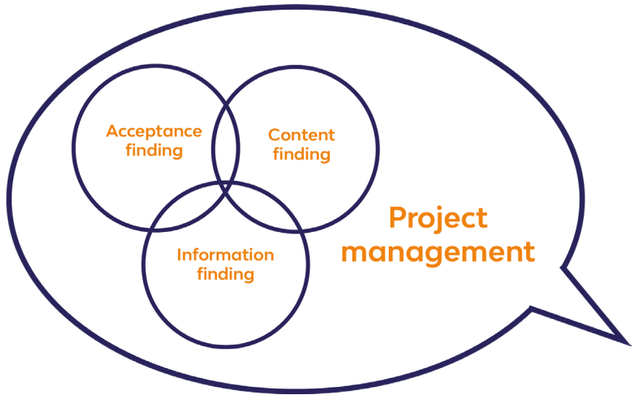


Figure 5. The four principles in Integrated Creative Problem Solving (Heijne & van der Meer, 2019)

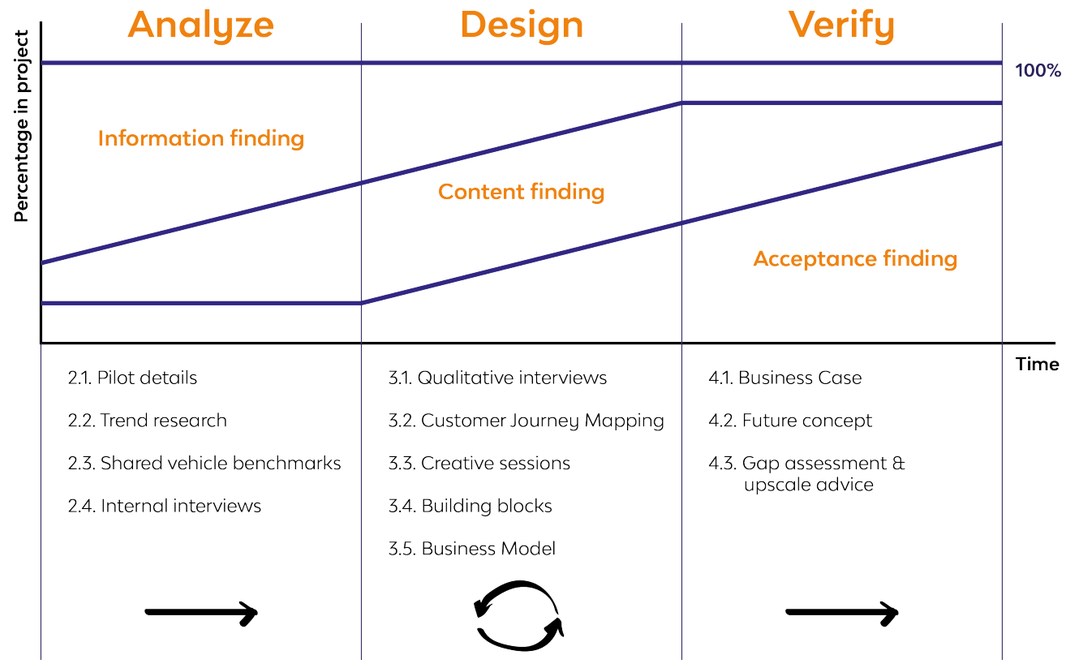


Figure 6. Proportional relation between Information finding, Content finding and Acceptance finding

iCPS blended in the graduation project

In the first phase of the project, Analyze, a solid basis or foundation is made with key takeaways (K#) that can be taken to the next phase (Design). The Analyze phase consists of an elaboration on the pilot details, a trend research, several shared vehicle benchmarks and a set of internal interviews. This phase of the project can be seen as a linear process and covers chapter 2 in the report. Based on the principles of iCPS, this phase in the project covers "Information finding" mostly; Fact-finding or summarizing what is already "out there".

The second phase of the project, Design, is where an iterative process takes place to generate user insights and opportunities (#I) (#O) for the proposal for an optimized shared vehicle Service. Qualitative Interviews, Customer Journey Mapping, Creative Sessions and the exploration of various Business Models will generate these insights and opportunities. This phase of the project can be perceived as a circular or iterative process. Based on the principles of iCPS, this phase of the project covers "Content Finding" mostly. Content is retrieved via different tools and clustered into insights and opportunities.

The last phase of the project, Verify, will consist of a Business Case in where the current Business Model and potential new Business Models are quantified. Also a gap assessment, or bridging workshop, will be organized to discuss which capabilities are needed within LeasePlan to ensure the optimized shared vehicle Service can become a reality and scaled up. This phase of the project is ended with up-scaling advice. This is also a linear process and is characterized mainly by "Acceptance Finding" according to the iCPS method.

Now that the project brief and approach are explained, let's move on to the first phase of the method in this graduation project: Analyze.

2. Analyze

This project's analysis phase will consist of four sections. These are: pilot details, trend research, shared vehicle benchmarks and internal interviews with in-house experts. At the beginning of every section, a short explanation will be given about why this section matters to be in the analysis phase. Also, a description of how every section is executed is given. Each section ends with key takeaways (K#).

2. Analyze

2.1. Pilot details

In this section, the pilot setup of the shared vehicle Service will be explained. As the shared vehicle Service project within the Business Development team has been running for a few months before I started my graduation project, some parameters have been determined already. This also applies to the pilot starting at the beginning of February 2021. For the graduation project and the optimized Service proposition it's important to know what these parameters are, and which parameters could be adjusted before the start of the pilot.

2.1.1. General setup

LeasePlan's shared vehicle Service pilot is planned to take place from February 2021 to August 2021. In these months, residents from three different apartment buildings can book a shared vehicle via an application they download on their mobile phones. They can book a ride and pay afterward via Credit Card. As stated before, the pilot starts at three locations in Amsterdam. The location details can be seen in table 1.

Residents can book a range of vehicles including an electric or petrol car, a cargo bike and normal e-bikes. Each vehicle has its own price per hour and maximum day price. An overview of this can be seen in table 2. All prices are gas/charging and extra kilometers included.

Building	# Households	City	Neighborhood	Rental price (€)
De Brouwerij	215	Amsterdam	Zeeburgereiland	From 1100
Rhapsody	215	Amsterdam	Kolenkitbuurt	From 1000
Ada-Branie	215	Amsterdam	De Omval	From 1450

Table 1. Specifications of the three pilot locations

Vehicle	Price per hour (€)	Price per day (€)	Number per location
Car (petrol)	8-12*	40-65*	1
Car (electric)	10	60	1
Cargo E-bike	5	25	1
Regular E-bike	2	12	2

Table 2. The different vehicles that are included in the Service

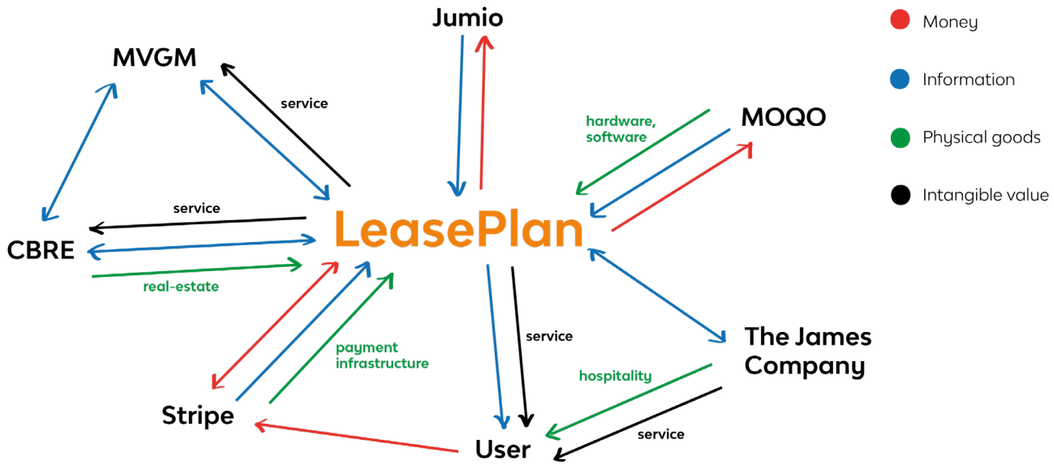


Figure 7. The Value Flow Model of the stakeholders involved in LeasePlan Tripp

2.1.2. Stakeholders

For this pilot, there is a wide range of stakeholders and parties that are involved and will make the shared vehicle Service Tripp possible. LeasePlan is the main stakeholder and provider of the vehicles in the LeasePlan Tripp Service proposition. By mapping out these stakeholders and define what they exchange to each other it will be easier to make a realistic Business Model in the next phase (Design) of this graduation project.

Below, a list is summarized of all stakeholders. How they exactly relate to each other can be seen in the Value Flow Model in figure 7. A Value Flow Model is a mapping tool to support sustainable business modeling, using a case study approach (Bocken et al., 2013).

LeasePlan is the stakeholder that puts most resources into this Service proposition and is in connection with every other stakeholder. Therefore LeasePlan is placed in the middle of the Value Flow diagram. Resource exchange such as; money, information, physical goods and intangible values (experiences or Services) are displayed in a certain color. When an extra explanation is needed, it is written next to the Value Flow arrow.

CBRE: real-estate and investment firm. Exchanges information about tenants with MVGM. Adds shared vehicle Service in its real-estate portfolio.

MVGM: real-estate property manager and responsible for owner's association. Provides the possibility for LeasePlan to implement their Service in the residential buildings.

The James Company: facility management company in the apartment buildings. Hospitality floor managers will help in executing Service-related and offline requests from users.

MOQO: hardware and software provider for LeasePlan Tripp. MOQO builds the hardware into the Tripp cars and bikes. Makes sure the software and application are running smoothly.

Stripe: payment provider of the Service application. Makes sure the users of LeasePlan Tripp can pay with their Credit Card.

Jumio: user authorizer of the Service application. Checks and validates driver's licenses of the users that made an account for LeasePlan Tripp.

User: potential users of LeasePlan Tripp (habitants of the residential buildings).

2.1.3. Set goals by Business Development

LeasePlan and CBRE have set several goals for Tripp and its pilot. These goals can fungate as boundaries or targets for the proposed improved Service proposition and will help to make a solid Business Case in phase three of the project; Verify.

The pilot can be seen as a success when LeasePlan Tripp:

- Is used by more than 20% of the households in the residential buildings more than one time
- Has an occupancy rate of more than 30% in (from 08:00-22:00)
- Has over 1500 hours of booked cars per year

2.1.4. Key takeaways pilot details

- LeasePlan Tripp's pilot lasts for approximately six months, targets have been set (K1)
- A total of approximately 650 households can be reached with the shared vehicle Service (K2)
- There is a large number of stakeholders that are involved in the LeasePlan Tripp Service proposition (K3)
- LeasePlan, potential users (or residents of the three buildings), The James Company and CBRE are the main stakeholders in this Service proposition; they exchange most goods (K4)

2.2. Trend research

Throughout the project, it is important to know the context in which LeasePlan Tripp will be operative. It is also essential to understand how this context might change in the future so that a sustainable design proposal can be made. Accordingly, a trend research will be conducted. Different trends that apply to LeasePlan's shared vehicle Service Tripp will be elaborated on. This trend research aims to sum up the developments in the sectors that are applicable to LeasePlan Tripp, now and in the future. The main question of this trend research will be: "How will the different trends influence the shared vehicle Service in the future?"

2.2.1. Approach trend research

Literature used to answer this question comes primarily from journals in the field of Design, transportation, Electric or Autonomous Vehicles, or demographics via Google Scholar. Also, sources from European Committees and Dutch governmental institutions that are founded on the web are included.

The trend research' results are divided into themes; developments in the mobility field, users and their perception of shared vehicles, re-planning of the cities and policies of government & municipalities.

2.2.2. Developments in the mobility field

Shared Mobility or Mobility as a Service (MaaS)

The mobility domain is changing in the coming years towards a Service-oriented domain. Owning a private car is in the capital of Finland not necessary anymore by the year 2025 and other European cities are following (Deloitte, 2017). Companies in the domain of mobility are rethinking their business model towards a future-proof one, one with MaaS in it.

But how can we define MaaS? MaaS is defined as a mobile app platform that integrates aspects of travel experience, booking, payment and information before, during and after a trip (Jittrapirom et al., 2017; Kamargianni et al., 2016). The use of MaaS by consumers is proved to increase their travel satisfaction (Sochor et al., 2016; Kamargianni et al., 2016). MaaS in general does not focus on how we travel. This can be with any kind of vehicle.

To make MaaS happen, close cooperation between public and private actors is necessary. Furthermore, new business models are needed to address the challenges associated with future integrated urban mobility solutions (Sochor et al., 2015). The exploration of Business Models for LeasePlan Tripp in this graduation project is therefore a step towards making the Service successful.

Electric Vehicles

With a sales share of sold cars 3,6% across Europe and even 15% in the Netherlands, the Electic Vehicles (EVs) are gaining terrain in the automotive domain. The European Electric Car Report even expects the general share of Electric Vehicles will rise to 11% in 2025 (icct, 2020). It is therefore imaginable the automotive industry is heading towards an important transitional period in the coming years.

This change of an increasing amount of Electric Vehicles will influence our power system. In the short term, it is expected that coal-based power will provide this larger share (Hedegaard et al., 2012). The influence of Electric Vehicles on our power system could be something that has to be taken into account when designing the proposal for the shared vehicle Service LeasePlan Tripp.

Autonomous Vehicles

A strong increase in Autonomous Vehicles (AVs) over the next 30 years can also be expected on top of the rise of Electric Vehicles. Several forecasts expect Autonomous Vehicle sales will be 50% of total sales by the year 2050 (Bagloee et al., 2016). Autonomous Vehicles have a beneficial effect on road capacity, fuel efficiency, emissions and road accidents. The

different autonomous levels (1 to 5) will increase the magnitude of these beneficial effects (Mikalis et al., 2017).

The introduction of Autonomous Vehicles into cities represents a unique opportunity to reimagine the way we think and design road space. Combining Autonomous Vehicles with shared mobility also presents great opportunities in urban Design. If cars currently spend 96% of their lifespan parked, Autonomous Vehicles, when combined with car-sharing schemes, will be circulating at a much higher rate (Duarte & Ratti, 2018). For LeasePlan Tripp, Autonomous Vehicle technology could be the key towards an optimized vehicle Service that balances supply and demand.

2.2.3. Users and their perception of shared vehicles

Ownership is no longer the ultimate expression of consumer desire (Chen, 2009; Marx, 2011). However, there are questions about really changing people's behavior towards using shared vehicles instead of having their own vehicle. In particular, the flexibility in using different vehicles for different purposes and the affordability in using a vehicle without owning it (Sarasini & Langeland, 2017).

Millennials have been reluctant to buy items such as cars, music and luxury goods. Instead, they're turning to a new set of Services that provide access to products without the burdens of ownership, giving rise to what's being called a "sharing economy." 30% do not intend to buy a car in the future (Goldman Sachs, 2018). This group of millennials is expected to be the largest group of users of LeasePlan Tripp.

A study in Berlin among 330 students showed that 60% would choose to have a for example car-free city center. Improving bike lanes, public transport and recreational areas is also improving the acceptance of a car-free city center (Gundlach et al., 2018). Another German research (Kuhnminhof et al., 2012) shows that car ownership is declining among millennials or young adults. Also the acceptance of other ways of transportation; walking, biking and riding public transport is gaining popularity.

Shared vehicle Services may be greater accepted by people that think having an own vehicle is not that important. These people are characterized by using public transport more often and by having a greater concern about the environment and healthy commuting life (Fioreze et al., 2019). However Freudendal-Pedersen (2009) states private cars are perceived as the only transport mode that gives people an independent way of living.

2.2.4. Re-planning of the cities

A major trend we can see globally, but also in The Netherlands is urbanization. The Dutch Central Bureau for Statistics expects the largest four cities (Amsterdam, Rotterdam, The Hague and Utrecht) to grow a substantial amount in the next decade (CBS, 2016). They do mention that economic, immigration and real-estate developments in the future are uncertain. These can affect the urbanization predictions positively or negatively.

By the year 2050, 66% of the total world population will live in urban areas (United Nations, 2014). An increasing number of cities are planning to become (partly) private car-free. They mainly focus on the reduction of private car use in city centers. Furthermore, the number of cars is reduced, and therefore the need for parking places and road space (Nieuwenhuijsen & Krheis, 2016). This development obviously has a positive effect on LeasePlan Tripp as this proposition can contribute to a private car-free city.

2.2.5. Policies of government and municipalities

Municipalities of the larger cities in the Netherlands also have their own policies in making the mobility (especially in the city centers) future-proof and more sustainable. Amsterdam made a long-term vision 2019-2025 in where they want to become a pioneering city in smart mobility (Municipality of Amsterdam, 2019). They want to establish this vision by providing organizations the resources to upscale from a pilot and by connecting & learning from each other.

You could argue big cities will be overwhelmed by all kinds of start-ups, spin-offs and big organizations that want to benefit from the rise of smart mobility. The municipality of Rotterdam already has an answer to this. They refuse to collaborate or end collaboration with parties that do not take responsibility for their actions. It is therefore important the company LeasePlan remains to have a healthy relationship with municipalities, also when the Service goes from closed community to public.

2.2.6. Key takeaways trend research

- LeasePlan Tripp's Service proposition can benefit from the MaaS developments in the future (K5)
- The impact of EV on our power system is a boundary condition that has to be taken into account when designing an optimized shared vehicle Service (K6)
- AV's could provide an answer in how LeasePlan Tripp manages supply and demand towards an optimum (K7)
- Young adults (millennials) are willing to give up their own private car in exchange for a shared one. However, people also well know of the freedom a private car can give them (K8)
- Large cities become even more crowded in the future. Municipalities are therefore re-planning the city centers towards car-free (K9)

2.3. Shared vehicle benchmarks

In this section, three different benchmarks of shared vehicles will elaborate on how LeasePlan's Tripp is positioned in the competitive field of shared vehicles. LeasePlan Tripp is provided in a closed environment and seems therefore not to be a competitor for shared vehicle Services that are public. But an assumption is that potential users are expected to compare LeasePlan Tripp Service with public competitors that are nearby.

Benchmarks can be described as a systematic comparison of parts of organizations' performance and their similar Services (Jansen et al., 2010). The benchmarks' main goal in this graduation project is to give insights on how LeasePlan's Service Tripp, in a closed environment, would stand in the market when it's an open-source vehicle sharing Service. Comparing pricing and other variables from these potential competitors may also help set up the Business Model in the Design phase.

Figure 8. The three main shared scooter providers in the city of Rotterdam (RET, n.d.)

2.3.1. Approach shared vehicle benchmarks

Through extensive research on the internet and via internal research at LeasePlan, a list of shared vehicle competitors in various categories was made. The three different benchmarks that were made are: shared cars, shared (e-) bikes and shared scooters. The benchmark for shared cars is done more extensively since this plays a bigger part in the LeasePlan Tripp Service proposition. Excluded from the car benchmark scope are:

- (Car)pooling platforms and Services
- Companies that are only operating outside Europe
- Companies that only offer shared vehicles B2B
- Pilots from Municipalities; operate non-profit

A complete overview of the three benchmarks in Excel can be seen in appendix B. In appendix C, an overview with descriptions can be seen of all shared car companies that were taken into account.

2.3.2. Elaboration on the shared car benchmark

What can we learn from the competition when it comes to providing mobility as a Service? There is already a large number of players on the field. But when looking at the Excel sheet several conclusions can be made; no other has set the price per hour or day so low as LeasePlan is doing. Some Services seem to have it, but they have an extra price per kilometer driven with the vehicle.

Also, the fact LeasePlan offers its vehicles in a "closed" environment will have a positive effect on how the consumers in the closed community will see the cars. The expectation is that there will be more social security around the Service. Almost every stakeholder of the LeasePlan Tripp pilot expects the vehicles to be treated better than shared vehicles that are on the streets and available to the public.

The shared car Services and platforms' pricing differs quite from each other: pay per time slot or per time slot plus an extra fee per kilometer. Some Services also tend to target short and quick rides as they start charging the user per minute in the first hour. The Services and platforms with an extra kilometer fee obviously have a lower price per minute, hour or day.

2.3.3. Elaboration on the shared (e-) bikes benchmark

When looking at the e-bike Services and platforms that have been in the Netherlands in the past, we can conclude a lot disappeared from the competitive landscape. Platforms from major companies such as Mobike and Uber JUMP did not succeed in making a profitable Service in the Dutch cities. The COVID-19 pandemic starting in begin 2020, made both companies decide to remove all their (e-)bikes until further notice (Business Insider NL, 2019).

The pricing of a regular shared bike varies from 1,5 to 3 euros per hour. In comparison, a shared e-bike from Donkey Republic is more than 6 euros per hour. Not one of the shared (e-)bike providers has a per-minute pay. For the LeasePlan shared mobility project, prices have been set at 2 euros per hour for an e-bike and 5 euros per hour for a big cargo bike. We can therefore conclude LeasePlan offers its products at a competitive price.

Other direct competitors

Shared vehicle Services and platforms are not the only direct competitors for LeasePlan Tripp. The Service is also directly competing with public transport and "ownership of a private vehicle". Therefore the comparison between these transportation modes is made in table 3.

Assumptions

- *The parking costs for a private car are the estimated parking costs per month of a parking spot in one of the three residential buildings where the Tripp pilot takes place. This value is obtained from CBRE*
- *The public transport mode is based on one trip per week with the train, from Amsterdam to Rotterdam and backward, full pricing*
- *The Tripp mode is based on taking a shared electric car for one full day per week. Maximum day price applies*

	Private car	Public transport	LeasePlan Tripp
Parking	100		
Fuel	70*		
Insurance	60*		
Tax	20*		
Maintenance (APK)	20*		
Price AMS-RTM		38,2**	
Price per day			60
Total per month	270	152,8	240
Regular E-bike	2	12	2

Table 3. Overview of the costs per transportation mode

*From United Consumers (n.d.). Retrieved from: https://www.unitedconsumers.com/blog/auto/kosten-auto-per-maand.jsp
**From Nederlandse Spoorwegen (n.d.). Retrieved from: https//www.ns.nl/reisplanner

2.3.4. Elaboration on the shared scooter benchmark

In the entire Netherlands, three major shared scooter Services can be defined. In the city of Rotterdam, small lightweight 4-wheeler EV's are also available for driving. All mobility providers want to establish a first-time use by offering free minutes for the consumer. Some of the mobility providers do have a starting fee varying from 50 cents to one euro. The electric scooters and 4wheelers all have to be placed back in the "Service" zone after use.

In Rotterdam, we see two shared scooter platforms that spent a bit more attention to their look and feel of the application (Felyx and Check) than to the other one (Go Sharing). Felyx and Check's scooters are also perceived as more decent and easier to ride on (Bright, 2019). The Service provider Felyx even has their own special blankets users can put over their legs to keep them warm in the wintertime. These kinds of elements could be interesting to implement in the pilot of LeasePlan's shared vehicle Service.

2.3.5. Key takeaways

- The pricing LeasePlan Tripp has set is comparable to other providers. However, LeasePlan Tripp is cheaper with its "basic" cars (K10)
- The shared (e-)bike field can be seen as turbulent as a lot of new Services and platforms also left the past few years. Negative Business Cases could be the cause for this (K11)
- Shared scooter companies' Services and platforms succeed in their availability of the vehicles and a smooth working application (K12)
- LeasePlan Tripp in a close community has its advantages; less abuse of the vehicles, and disadvantages; harder to manage supply and demand of the vehicles (K13)

2.4. Internal interviews

An idea that evolves in a Service proposition such as LeasePlan Tripp does not just appear out of the blue. There are several experts at LeasePlan that helped in shaping this proposition. There are also other experts within LeasePlan whom insights and opinion must be taken into account. By conducting internal interviews, opportunities and challenges for LeasePlan Tripp can be identified. These opportunities and challenges help in shaping the optimized shared vehicle Service proposal.

2.4.1. Approach internal interviews

A total of six interviews have been conducted with LeasePlan employees in the first few weeks of the graduation project. These interviews lasted for approximately 20-30 min and were held via Microsoft Teams due to the COVID-19 restrictions.

Before the interview, a small interview guide with questions was written in my notebook. These questions provided structure during the interview. During the interview, I took notes of the answers interviewees gave me. An overview of who has been interviewed and what their role within the LeasePlan company is can be seen in table 4.

After all interviews took place, the most important quotes written in the notebook were written on sticky notes and were clustered into themes (Heijne & Van der Meer, 2019). Important to know is that almost every important quote could be defined as a perceived opportunity (marked with a plus sign) or challenge (marked with a minus sign) for the Service proposition.

Who	Subdepartment	Role
Employee 1	Business Development	Director
Employee 2	Business Development	Product Development Manager EV
Employee 3	Business Development	Implementation Manager
Employee 4	Marketing	CRM Manager
Employee 5	Consultancy	Consultant
Employee 6	Flexible Fleet	Account Manager

Table 4. An overview of the interviewees

2.4.2. Insights from interviews

There are several common opportunities and concerns that were stated by the interviewees. All interview notes and quotes can be found in appendix D. The notes are subdivided into five different themes and are summarized and listed below.

+ The rise of new technologies and changing policies

As stated in the trend research, the rise of Electric and Autonomous Vehicles will change the automotive landscape dramatically. Most interviewees see this as a big opportunity for LeasePlan's shared vehicle Service in the future. Also, the fact the Dutch government and several large municipalities are focusing on smart and shared mobility is perceived as a positive push in the right direction. One interviewee stated "LeasePlan has to be ahead of the movement towards new ways of mobility.".

+ Advantage of a community setup

Another advantage of the shared vehicle Service and particularly the pilot is the fact all three locations have a private garage below the apartments. Interviewees know from other shared vehicle providers users can mistreat a shared car, scooter or bike more easily than when it's from themselves or someone that stands close to them. The fact the shared vehicles are in a relatively small (250 households) closed community makes that there is more social control over using the vehicles properly.

- Concern about upscaling

Next to opportunities the interviewees also mention a lot of concern about how to go from a successful pilot to a Service that can be widely adopted in the entire Netherlands. As interviewees state: "LeasePlan is originally a Business to Business company from its core and with this new Service moving towards Business to Consumer". This not only results in a different Customer Journey for LeasePlan Tripp but also requires an organizational change.

- Having your personal vehicle

Another concern interviewees state is the fact whether consumers are (now or anywhere in the future) ready to give up the freedom of having their own personal vehicle. One internal expert stated: "Is this proposition going to meet the real need of the consumer: having any vehicle anywhere at any time?". Another interviewee mentioned the fact millennials could easily say they do not need a car when they grow older, but when the time comes this eventually will change.

- Targeted consumer

The previous concern might not be an issue anymore in the future, where the supply of vehicles is perfectly matched on demand. But one interviewee also stated the relevance of this Service to total society when it is scaled up to different cities and neighborhoods. Cultural differences will come forward at that moment since the pilot only focuses on the above-average rental segment. It is then very important to incorporate the relevance of this idea to total society instead of the top 10%.

2.4.3. Key takeaways

- Internal experts doubt whether the LeasePlan Tripp Service proposition and its shared vehicles will be perceived as equal to private vehicles by the potential users (K14)
- In addition to this, internal experts think when millennials become older, they move to another place, needs will change and therefore purchasing a private car might me inevitably (K15)
- Scaling up LeasePlan Tripp from pilot to an established Service product is perceived as the biggest hurdle (K16)
- The fact LeasePlan Tripp is provided in a closed community is perceived as an advantage; the vehicles are threatened better during use (K17)

3. Design

In this phase of the project, we have three sections that are responsible for bringing the insights (I#) and opportunities (O#) into the graduation project: qualitative interviews with the potential users, Customer Journey Mapping and the execution of creative sessions. These insights and opportunities are used to make the optimized shared vehicle proposition. Furthermore, different Business Models will be explored, of which three will be selected to be quantified in the next phase: "Verify".

3. Design

3.1. Qualitative interviews

From the analysis phase, it has become clear that a potential design issue might emerge when we look at the shared vehicle service users. The trend research showed that people are more willing to give up their car for a shared one (K8). However, internal experts at LeasePlan are a bit skeptical to assume the gross of a city's population is willing to give up their vehicle for a shared one (K14) + (K15).

To gather more insight on this issue, qualitative interviews with potential LeasePlan Tripp users are held. These potential users are the same group as the previously stated households of the three residential buildings where the pilot will start. The main goal of these interviews is to investigate how potential Tripp users perceive private vs. shared vehicles. This question arose in the previous phase "Analyze". The output of the interviews is clustered to generate insights. These insights are later used for shaping the optimized shared vehicle proposition.

3.1.1. Research goal

Eight qualitative interviews were conducted with potential users of the shared vehicle Service Tripp. The research goal of conducting these interviews is to gain deep user insights into how Tripp's potential users perceive shared vehicle Services. Qualitative interviewing is especially suitable when a researcher aims to uncover individuals' values and feelings (Byrne, 2016). They allow revealing in-depth insights, something that cannot be revealed with, for example quantitative surveys (Brinkmann, 2013).

To make sure the complex research goal is reached step-by-step, the following research questions were made before interviewing:

- How often are certain vehicles used? In which situations?
- How do users perceive a private vehicle versus a shared one?
- What tradeoffs do users make to decide how they move to another place?
- What do the users think of the shared vehicle Service Tripp?
- What is their general view on shared vehicle Services?

3.1.2. Research Approach

Interview guide

As it is desired interviewees address their thoughts about several topics, a semi-structured interview guide has been developed. This guide makes sure the interviewer checks all issues that have to be discussed. Semi-structured interviews are especially suited for situations where a researcher wants to know an independent individual's thoughts. Mainly probes and open questions are used in the interview to generate a deep-dive into the interviewees' thinking (Adams, 2015). The complete semi-structured interview guide can be seen in appendix E.

Sampling strategy

Patton (2002) states that a purposeful sampling strategy is required in qualitative research. The sampling strategy partly determines how rich the information will be that is derived from the interviews. For this research, the sampling strategy is limited because interviewees are selected from the three pilot locations; Ada-Branie, de Brouwerij and Rhapsody (a total of 650 households). As the three locations differ from each other concerning rental price and demographics, it is desired to interview a few potential users of a building. In this way, we can see whether there might be differences in answering questions across locations.

Physical and e-mail invites were sent to all households. This eventually resulted in the following sample for the interviews that can be seen in table 5 on the next page.

Person	Gender	Age	Location
A	Male	25-35	Ada-Branie
B	Male	25-35	Ada-Branie
C	Female	25-35	Ada-Branie
D	Male	25-35	Rhapsody
E	Female	25-35	Rhapsody
F	Female	25-35	Rhapsody
G	Male	25-35	Brouwerij
H	Male	>50	Brouwerij

Table 5. Interview sample for the qualitative interviews

Remote interviews

The interviews did not take place in real life due to the COVID-19 restrictions. Instead, an invitation for a video call was sent to the interviewees one day before the planned date and time. The interviewees received a link for a Microsoft Teams call. This software also allowed it to record the interview session after the approval of the interviewee. When recorded, the interviewer watched the video back and transcribed all the interviewees' quotes into a word document. In that way, the data became anonymized. The video recording was removed automatically by Microsoft Teams twenty-one days after the interview date.

Clustering the data into themes

All 450 quotes were typed into a word document, color-coded per person and then printed (Word document can be found in appendix F). The reason to color code the quotes is to get "true" themes in the clustering process. For example, an interviewee states a lot of phrases that have the same thought in them. This will automatically lead to a theme during clustering but is created by one person and is not fair in summarizing findings out of what eight interviewees said. The different colors per person will prevent this and still monitors the privacy of the interviewees.

The printed items or quotes were cut and clustered into themes. Clustering into themes allows the researcher to process and summarize qualitative data while maintaining the richness (Macia, 2015). The themes that emerged due to the clustering were written down on larger sticky notes with another color (pink). This was done in two iterations to make sure the themes cover as many quotes as possible and no extra themes were emerging anymore e.g. when saturation occurs. In appendix G, photos can be seen of the second clustering iteration.

3.1.3. Interview quotes and explanations

A total of five themes and six sub-themes came out of clustering. These are summarized per theme and supported by quotes stated by the interviewees. These quotes are translated from Dutch to English.

Vehicles - Possession

Every interviewee has their bike at the location. However, only two interviewees have their car down in the garage. Interviewees agree that having a car in the city of Amsterdam is quite a hassle that might change when the time comes.

"If I do not live in the city of Amsterdam anymore, I think it can be practical to have my car."

Two interviewees have their private car and state they only have one because they want to drive a car at any time they want.

"I have a car downstairs, just because of the fact I want to drive anywhere anytime."

Vehicles - Usage in general

All potential users travel less during the COVID-19 pandemic. Most of them mention they do not use a car as often as before the lockdown; 1-4 times per month instead of a minimum of 4 times a month.

"During Corona, I use a (shared) car only a few times in a month. Mostly in the weekends."

In a normal situation, interviewees state they use a car more than once a week and use their bikes almost daily.

Some interviewees also mentioned shared vehicles such as cars slow down your use compared to when you have a private car, which could be a good thing in terms of sustainability.

"A shared vehicle slows down your usage, while a private one might increase it."

Vehicles - Meaning

Having your private vehicle is perceived as having the freedom to go wherever you want, whenever you want.

"Having my own vehicles equals freedom to me."

"I think mobility is important to me, but it does not have to be private."

They also do not see the car as a status symbol and think they do not need to own one when living in a big city such as Amsterdam.

"Having a private car does not mean anything to me, I don't need it."

"A car is something purely functional to me, not a status symbol."

Choice of transportation - Situations

The car is chosen as the preferred vehicle a few times a month and mostly for; weekend vacations, rides to the supermarket, visiting friends or family, going to the mega-stores, or driving to the park/beach.

"When going to a mega-store or if you want to go to friends on the weekend, I like to take a car."

Interestingly, all interviewees prefer to use the subway or bike when they want to go into the city. They prefer to use a shared (car) or the train when moving out of the town.

"I only take the public transport like the metro when I have to go towards the city center."

"I always use the car to go out of the city. But when a train station is nearby my destination, I go by train."

Choice of transportation - Economic, price

When using a car only a few times a month, interviewees know a shared car is less expensive for them. Additional costs that come with purchasing a car let the interviewees conclude that it is not a financially attractive option.

"A shared car might seem expensive, but it is cheap compared to having your own car and all additional costs that come with it."

"Parking your car in Amsterdam is way too expensive."

Price is the first thing interviewees consider regarding their choice of transportation and they agree on the current pricing structure Tripp has and think it's competitive.

"The pricing of the vehicles of LeasePlan Tripp is not bad at all."

Choice of transportation - Ease, comfort

Interviewees agree on the cost reduction a shared vehicle can give them but do expect it to be available whenever they want e.g. the comfort of having your own car. The two interviewees that have a private car state this as the main hurdle they wish to overcome.

"Availability is principle number one for me."

"I want to abandon my personal vehicles if the shared vehicles are available when I want them."

Some interviewees do think public transport is more of a hassle and has its awkwardness.

"When taking the train, you have last miles to think of."

"The train is much more awkward than having your private car. Even more during the pandemic."

Tripp's Service

Interviewees mention a good vehicle sharing Service should have an application that runs smoothly and without bugs.

"The WeGo application was so bad in the beginning, not smooth at all."

LeasePlan Tripp is provided in a closed environment to its users and interviewees see this as an advantage and disadvantage. Lack of availability of the vehicles is seen as the main disadvantage as there are only a few cars.

"A disadvantage of shared mobility in a closed environment is the lack of responding to demand and supply by the Service provider."

However, they also perceive an advantage because the cars can be reached without exposure to different weather circumstances from their houses.

"It's really nice to walk to the cars while not getting wet when it's raining."

Payment methods

The ways to pay are all standard methods; iDeal and Credit Card are the preferred ones. Paying the bill that is sent by e-mail is the least preferred payment option.

"I don't really mind how I pay for this Service, iDeal or Credit Card it's all nice."

Interviewees do prefer not to pay partly via a subscription model. They think this even might lead to unuseful usage of the vehicles.

"With a subscription structure, I feel like going an X amount of times per month to break even. This should not be the intention of this concept."

Sustainability

All interviewees are aware of the fact private cars are making the city of Amsterdam less livable. They are also aware of the amount of space parking spots are taking.

"I am a big fan of shared mobility as it takes less space away in the city."

3.1.4. Insights from interviews

All interviewees state to make use of vehicles such as bikes almost one time a day. Public transport and private & shared cars are used one up to four times a month. Interviewees use a shared vehicle, specifically a car, occasionally. For example to go on a holiday, weekend trip, to friends or when they want to visit the park or beach (mostly on weekends) (I1).

Some interviewees do not perceive a personal car as a status symbol anymore. They do think a shared vehicle becomes equal to a private one if it is always available. This is a very conflicting aspect in terms of operations. The interviewees state sharing a car with others should still feel like driving your own car (I2).

Tradeoffs interviewees make when choosing a (shared) vehicle depend on price, comfort and context. Price is perceived as the most important pillar, but in some situations, comfort is more important. When a trip is too much of a hassle, interviewees are willing to pay a higher price in exchange for more comfort and ease (I3).

Interviewees react positively to the pricing and Service strategy of LeasePlan Tripp. Some interviewees have reservations about the fact some offered cars are not electric. They also have difficulties imagining which situation they could use the electric cargo bike and other e-bikes (I4).

An ultimate vehicle sharing Service is described as something that has a smooth running app, decent vehicles and an acceptable availability. Interviewees also mention shared vehicle Services can make few mistakes with them. The amount of providers (especially in large cities) is rising and the interviewees are aware of this (I5).

3.2. Customer Journey Mapping

The LeasePlan Tripp Service proposition was already shaped before this graduation project started. A Customer Journey setup was made by the Business Development team but far from done. By designing a Customer Journey of the current Service proposition, Service opportunities can be addressed and new Service opportunities can be taken into account when ideating for an optimized shared vehicle Service. The Service opportunities will eventually be used in shaping the optimized shared vehicle proposition.

3.2.1. About Customer Journeys

The customer journey is defined as the process customers go through before, during, and after the purchase or the Service encounter, encompassing a series of touchpoints (Halvorsrud et al., 2016; Lemon & Verhoef 2016; Patrício et al. 2011). Customer Journey Mapping is a marketing tool and became more complex through the years as customers now interact with firms through myriad touchpoints in multiple channels and media, resulting in more complex customer journeys (Lemon & Verhoef, 2016).

A Customer Journey Map is an emerged method for designing and assessing customer experiences in Service Design (Bucolo & Matthews, 2011; Johnston & Kong, 2011). Creating a Customer Journey Map in this project is to generate Service opportunities that can be added to the shared vehicle Service Tripp. Therefore, this section of the project will be concluded with identified Service opportunities.

Customer Journeys are visual representations and are typically displayed on a horizontal axis that represents time with corresponding actions of the persona(s) (Rosenbaum et al., 2017). Different aspects, such as actions, emotions and touchpoints are expanded on this horizontal time axis vertically.

When a Customer Journey is extended towards a systematic scheme of how the touchpoints work through an organization, it becomes a Service blueprint (Bitner et al., 2008). This is however not how far it comes in this graduation project.

3.2.2. Personas

Four personas were made for walking through the Customer Journey of LeasePlan's Tripp and resulted in four independent Customer Journeys. Personas are illustrations or estimations of consumers who share common characteristics and needs (Pruitt & Adlin, 2006). Personas are represented through a fictional individual, representing a group of real consumers with similar characteristics (Pruitt & Adlin, 2006; Turner & Turner, 2010). The developed personas for walking through the LeasePlan Tripp journey can be seen in figure 9 on the next page.

Four personas were developed for the following reasons:

- Four different personas, with each representing a particular group of potential users (retrieved from a report owned by CBRE), make sure a larger amount of people living in the residential buildings are represented.
- Four different personas and corresponding characters will lead to different Customer Journeys and increase the chance of identifying more Service opportunities.
- It is expected that four Customer Journeys will lead to better-validated Service opportunities (e.g. one opportunity that can be spotted in more than one Customer Journey).
- One persona is going through the Customer Journey of the e-bike, which is slightly different than the ones that take the car for transportation.

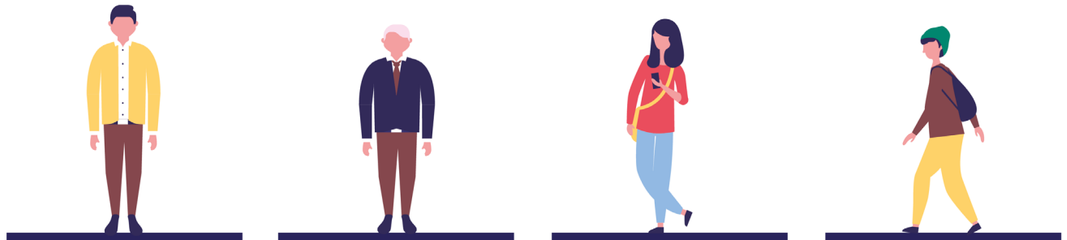


Figure 9. The four personas

3.2.3. Customer Journeys LeasePlan Tripp

In the figures 10 and 11 on the next page, two Customer Journeys of the current shared vehicle Service (Tripp) can be seen. Levy wants to go to the beach on an afternoon with a good friend in a shared car in one Customer Journey. Adriana wants to buy some new plants in town in the other Customer Journey and takes the shared cargo e-bike.

Actions, emotions, concerns and opportunities are displayed from top to bottom. At the left, a short description of the persona Levy or Adriana is shown. The two other Customer Journeys (Frans and Monique) can be found in appendix H.

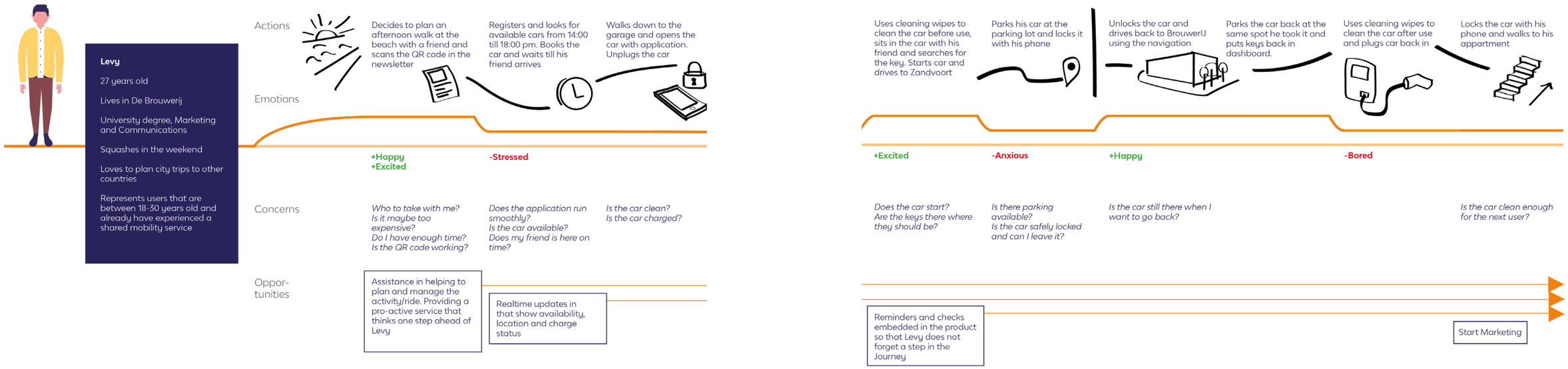


Figure 10. Customer Journey (Levy), LeasePlan Tripp

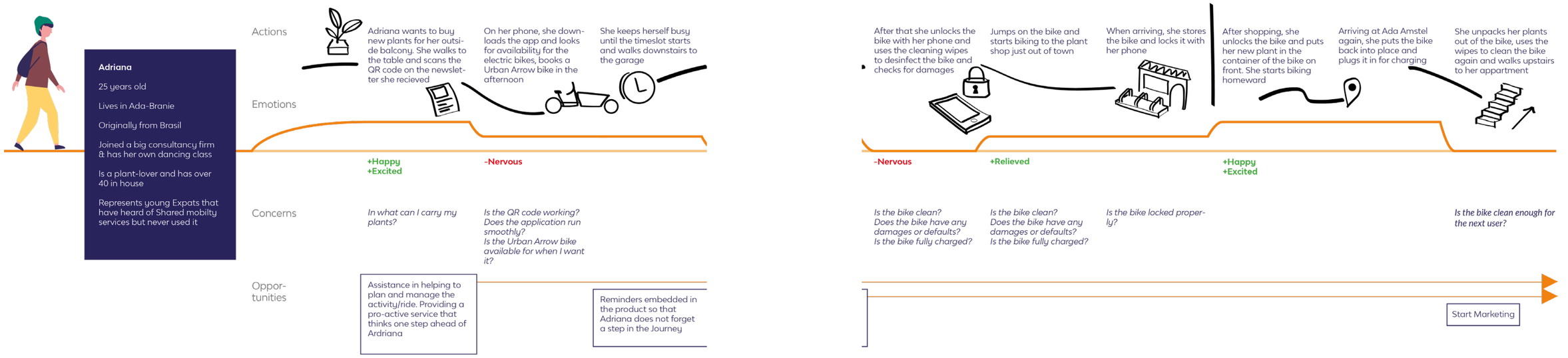


Figure 11. Customer Journey (Adriana), LeasePlan Tripp

3.2.4. Identified Service opportunities

By comparing the Customer Journeys next to each other, reoccurring Service opportunities can be seen. When a Service opportunity is discovered in more than one Customer Journey, it is listed below as an identified Service opportunity for LeasePlan Tripp.

Assistance throughout the entire journey

It is expected the end-users need help in especially planning the activity. LeasePlan's Tripp needs to be one step ahead every time of its user, making the Customer Journey more seamless. You can think of linking the application to other applications on the user's phone. When it is linked to agenda, weather app and contacts, the shared vehicle Service can take away concerns that might arise before, during and after the ride with the shared vehicle (O1).

Realtime updates in the application

Another thing that is expected is that the user benefits from an application that provides constant feedback during the Customer Journey. In this way, the user cannot forget a single important step in the Customer Journey. Also, real-time updates concerning the booking system in the shared vehicle Service application are expected to be desired so that the user knows when a specific vehicle is available (O2).

Elements of marketing that result in more usage

The last conclusion drawn from the Customer Journeys is that there is no concrete plan for marketing activities. Usage rates of 30% or higher are stated as KPI for LeasePlan Tripp. It is expected that rates like these can only be met if there is an active marketing plan that makes sure the users book a shared vehicle more than one time. This insight is also used as the main problem statement in the creative sessions (O3).

3.2.5. Other insights

Next to the above-stated Service opportunities, other insights were drawn from the four Customer Journeys:

- The assumption is that emotions and their fluctuation can differ significantly from each persona in the Customer Journey (I6)
- Questions that could rise concerns are: What are the costs and when do I have to pay? What are the terms and conditions? What happens when I forget my booking? Is the car fully charged/fuelled? Does the car have damages? Is the car locked properly? (I7)
- Differences in concerns could be when the Service's payment has to be complete, whether there are special seats for children, whether to arrive on time or not (on schedule) (I8)
- When a vehicle is booked for a fun activity, the Service can add value in making the ride more of a fun event (I9)
- When a vehicle is booked for an obligatory or less fun activity, the hassle of a shared car could enlarge the negative emotions associated with this Customer Journey (I10)

3.3. Creative sessions

The Business Development team's goal for the LeasePlan Tripp pilot states usage percentages must be above 30 to let the idea and pilot succeed. Such rates are met quicker if LeasePlan has marketing elements embedded in the shared vehicle Services that "chases" the user to book more than just one ride over a period of time (O3). Creative sessions with multiple groups of people were held to come up with a large number of answers. The creative sessions' output can be used when the optimized shared vehicle Service is designed at the end of phase two.

3.3.1. Approach creative sessions

In order to answer this question correctly, two creative sessions were planned. The creative session is held with four Strategic Product Design students, the second one with managers from the Business Development and Digital Strategy team. The shared goal of these sessions (each lasting for one hour) is to come up with a wide variety of ideas as an answer to the given research question. Creativity techniques that are used in the sessions are derived from the book: "Roadmap for Creative Problem Solving Techniques" (Heijne & Van der Meer, 2019).

The two creative sessions will be held in a digital environment due to the COVID pandemic restrictions. Documentation program MURAL is used by the facilitator (me). In this program, participants of a creative session can fly over a creative board and insert text and post-its (digitally). To stay in contact with participants, a Microsoft Teams meeting will run parallel to the MURAL program. In table 6, the specifications of the two sessions can be seen.

The big difference between the two sessions is that the first session will be conducted with Strategic Product Design students (myself included), whereas the other one is with LeasePlan managers. It is expected that the results from the first creative session are more outgoing and might not be that feasible, which can be a good thing. The student does not have a company context regarding what is feasible when looking to LeasePlan's resources. The "student session" will also operate as a learning moment for LeasePlan employees' session the week after. Also, the first session will be held in Dutch, the second one in English.

3.3.2. Creative session framework

The key question of the day was split into three sub-questions by using the method of H2's. With this method, participants get a short amount of time to give as many answers as possible to a simple question. The H2's of the creative session (diverging) are very broad and out of context. The goal is to maximize the output and "out of the box" ideas that can be put back into context in the following exercises:

- How to get someone's attention?/ How to reach someone?
- How to let someone remember something?
- How to activate someone?

After answering the three sub-questions (formulated in H2) the participants got the chance to overlook everything they wrote quickly. Also from each other. They take this into the next exercise to come up with at least two ideas (from which at least one is not feasible or too much fantasy). This part can be described as converging. Each idea also had to include at least one sticky note from each H2 from the previous exercise. At the end of the hour, participants had to pitch their ideas to each other.

Session	People	Amount	Date	Time
1	SPD students	4	20th of Nov	16:00-17:00
2	LeasePlan	4	25th of Nov	13:00-14:00

Table 6. The specifications of the two sessions

3.3.3. Ideas to implement

The MURAL boards of the two creative sessions can be seen in appendix I. All sixteen ideas of the participants have been brought back to six ideas that are all marketing related. Voting dots from the creative sessions given by the participants were taken into account in this process. An online meeting was conducted where LeasePlan employees from Marketing and Business Development were asked which ideas they would favor. All nine ideas can be seen in figure 12. The idea output is also going to be used as input for the improved Service proposition and the to be developed Business Model.

Interactive offline photo wall

Every time you enter the garage after a ride, an action photo will be made while the users makes a crazy face. The photo will be sent via mail to the user and appears after approval on the photo-wall at the apartment entrance.

Show the endless possibilities

Via various channels; mail, app and other social media, content is shown to the user which activities you can do with a shared vehicle. Add a certain promotion to it when it is for example sunny to go to the beach.

The LeasePlan MaaS fragrance

After use, posting a letter to the user with a fragrance sticker on it. When they remove it, the letter will have the smell of "new car". On the letter, there will be an invitation to use the service again.

Join the shared vehicle rally

Promotion event where users can join a certain rally from the Netherlands to Belgium and only by using the shared service from LeasePlan. Make an after movie of this event for exposure of the service.

Cars are bad, but our service isn't

Create a social campaign to positively stimulate the use of shared vehicles and reject the use of your own personal car. Focus should be on the positive effects you can make when making use of the service.

The blinking car or bike

If you walk by a vehicle it will recognize you and starts signing to you (by blinking the car lights for example). Via the app, the user receives a message with a cool video of someone that uses the service.

The great guestbook

Invite other relatives to join you on a trip to somewhere. After that you can add a review in the application, so you create a kind of guest book. Users can also rate their ride.

Trippin' grandma

Animate an old grandma in the MOQO application that asks when you will take a ride again with the service. Sometimes she also can just pop-up in the screen to wave at you.

Search the gold

Create a kind of gamification so that users can book the car and can go on a search for one kilo of gold in the city of Amsterdam. Via a notification you can inform your neighbors about the search so that they can also try.

Figure 12. Nine ideas to implement in LeasePlan Tripp

3.4. Towards an optimized Design for a shared vehicle Service

Previous parts of the Design phase were useful to generate opportunities and insights. In this section all opportunities and insights are put together into a proposal for an optimized LeasePlan Tripp design. This proposal consists of multiple "building blocks" with ideas and concepts that can be implemented to a certain extent in the current Service proposition. At last, two building blocks that have the most potential will be chosen to pass on to the next phase: "Verify".

3.4.1. About Service Design

Services nowadays represent a significant force behind labor and value creation in the world economy (Secomandi & Snelders, 2011). But how to define a Service and its Design? Services cannot be possessed such as products; they can only be experienced or created. Most products and Services are symbiotically linked to each other (Shostack, 1982). LeasePlan Tripp is a Service and improvements for it need to be designed accordingly.

Edvardsson and Olsson (1996) state that service concepts are detailed descriptions that fulfill the corresponding user's needs and wishes. In redesigning a Service, it is essential managers and designers make decisions about every component of it. A delivered Service (concept) such as LeasePlan Tripp should function seamlessly for customers who perceive it (Goldstein et al., 2002).

3.4.2. Design issue to be solved

Throughout the entire project, there is a contradictory issue among users and their perception of shared and private vehicles. From the literature research in the analysis phase, it became clear that millennials are especially ready for a transition towards shared vehicles instead of private vehicles. Internal experts at LeasePlan agree with seeing this phenomenon but also have a critical note that this might change when potential users enter a new phase in their lives.

From the qualitative interviews with the potential users of LeasePlan Tripp it became clear the car is not perceived as a status symbol. They want to perceive a shared vehicle as equal to a private vehicle is it's just as flexible and available. A shared vehicle should give them the same feeling of freedom and trust as a private vehicle (I2). Therefore above is transformed into a user need in making the improved shared vehicle Service.

"How can we solve the shared versus private vehicle paradox with LeasePlan Tripp?"

3.4.3. Solving the shared versus private paradox

In an optimal situation, shared vehicles are perceived as equal to private ones by the users. The shared vehicle Service Tripp can accomplish this by implementing below stated building blocks into the Tripp Service proposition. In this way, the Service becomes optimized and improved concerning the current. By creating building blocks, the Business Development and Management team can decide which combination of building blocks they want to implement and to which extend.

The building blocks are created by combining the key insights from the analysis phase and insights/opportunities from the qualitative interviews, Customer Journey Maps and creative sessions. The corresponding tags are written down at each building block.

3.4.4. Proposed building blocks

Building block 1 – Operational liquid fleet

As an answer to the request of having a flexible Service with the vehicles' increased availability, the operational liquid fleet building block is proposed as a preventive tool to optimize the vehicles' supply and demand. This building block links to the key takeaways stated on the right.

An operational liquid fleet is a vehicle fleet that reacts and adapts to the demand users create. When caused demand by the user is high, the liquid fleet will respond to this by adding a vehicle to the fleet. When demand is too low, vehicles will be removed from the fleet. Changing the fleet by demand can be done within and between apartment complexes.

Shared scooter companies are already experimenting with (re-)positioning of the vehicles in the city to maximize availability for the users. LeasePlan Tripp is however in a closed environment and starting at three pilot locations which makes it harder to relocate vehicles.

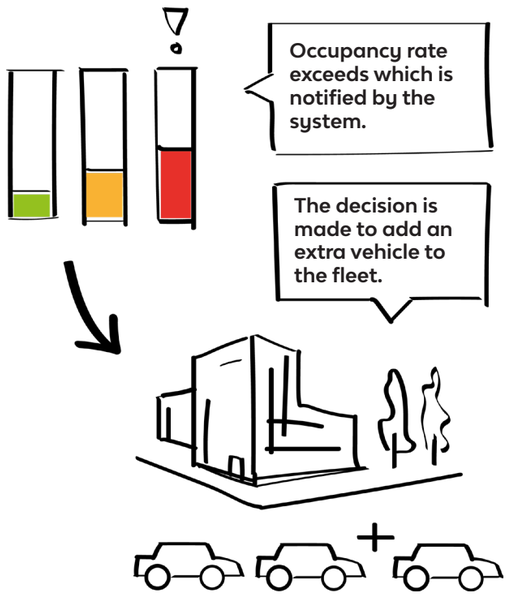


Figure 13. Illustration for building block 1

Constructed out of:

- *AV's could provide an answer to how LeasePlan Tripp manages supply and demand towards an optimum (K7)*
- *Shared scooter companies' Services and platforms succeed in their availability of the vehicles and a smooth working application (K12)*
- *LeasePlan Tripp in a close community has its advantages; less abuse of the vehicles, and disadvantages; harder to manage supply and demand of the vehicles (K13)*

Applied now

Different signal values can be retrieved from the back-end application in the Service's operation system to determine whether an extra vehicle has to be added to one location. A percentage of the exceeded usage rate or a car that is booked for more than three days will lead to a decision to add an extra vehicle to a location.

In the future

All vehicles that LeasePlan Tripp provides are autonomous and can manage supply and demand by themselves. Interaction between the vehicles lets them decide where demand is high; an extra vehicle needs to be added for the user. In a situation where supply and demand are optimal, vehicles nearly standstill on their parking spot.

Building block 2 – Dynamic pricing structure

A dynamic pricing structure building block is proposed to have a flexible service with the vehicles' increased availability. It can be used as a repressive tool to influence supply and demand and spread usage. This building block links to the key takeaway and insight stated on the right.

A dynamic pricing structure adds to the Service that allows the price of a ride to depend on the supply and demand of the vehicles at a specific time. When the demand for a vehicle is low, e.g. when a vehicle is standing still for a while, the pricing lowers to stimulate usage in time slots that are less popular among users.

A best practice example is Uber, whose prices fluctuate between two values adapting to the taxis' supply and demand. Uber cars also get more expensive if demand is very high and available cars low. This system could result in a more even distributed usage of the Service.

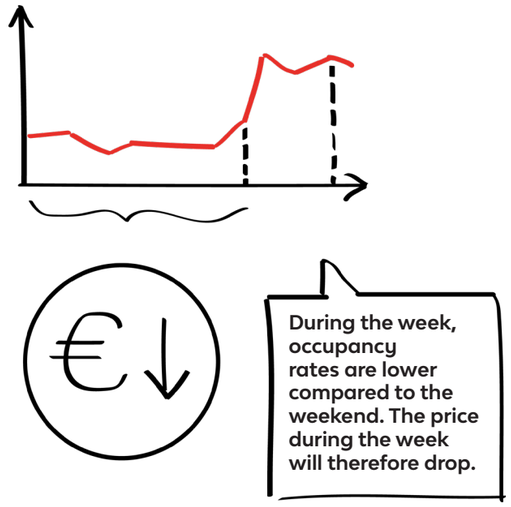


Figure 14. Illustration for building block 2

Constructed out of:

- *The pricing LeasePlan Tripp has set is comparable to other providers. However, LeasePlan Tripp is cheaper with its "basic" cars (K10)*
- *When a trip is too much of a hassle, interviewees are willing to pay a higher price to exchange more comfort and ease (I3)*

Applied now

This add-on would be rather expensive to be in the current MOQO platform. But a more simplistic version of this could also work for LeasePlan Tripp now. Making the prices lower when demand is lower; during the daytime in the week—and making the prices higher on the weekends. This might result in a better spread of car usage.

In the future

When LeasePlan Tripp is a public Service, a dynamic pricing algorithm works at the back-end of the system to optimize vehicles' supply and demand. When a usage percentage peak of the Tripp vehicles is perceived prices will increase. When demand is low, prices will drop and users can book a ride relatively cheaply.

Building block 3 – Tripp travel assistance

As an answer to the Service opportunities that emerged from the Customer Journeys and the fact a trusted Service is desired, a Travel assistant building block is proposed that makes the Service more pleasant. This travel assistant is built into the LeasePlan Tripp application and links to the key takeaways, insights and opportunities stated on the right.

The travel assistant helps the user in making trade-offs that emerge during the planning of an activity. Questions that could arise during the Customer Journey are answered pro-actively. The journey therefore becomes more smooth and unpleasant emotions such as stress or anxiety are taken away.

An example that explains the above best is the current travel application that is built-in Google Maps. This extension makes customized travel plans where the user can decide which trade-offs have to be made by the application. For example, get to a particular location the quickest and where to go when doing certain activities.

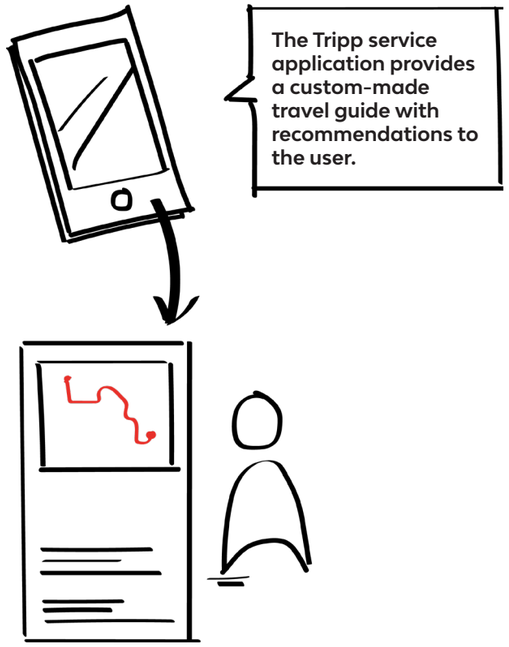


Figure 15. Illustration for building block 3

Constructed out of:

- *For example to go on a holiday, weekend trip, to friends or when they want to visit the park or beach (mostly on weekends) (I1)*
- *They also have difficulties imagining which situation they could use the electric cargo bike and other e-bikes (I4)*
- *It is expected the end-users need help in especially planning the activity. LeasePlan's Tripp needs to be one step ahead every time its user makes the Customer Journey more seamless (O1)*
- *Another thing that is expected is that the user benefits from an application that provides constant feedback during the Customer Journey (O2)*

Applied now

Extra messages and push notifications make sure the user can personalize the trip. The application makes suggestions that make the journey more pleasant. When for example the sun is shining and the users want to go out for a small number of groceries, the cargo e-bike is advised as the best transportation mode

In the future

A user talks to the digital assistant on the phone. He/she wants to book a vehicle at a particular time in the evening. The assistant tells all vehicles are booked at that time slot and asks whether he could also go with a (cargo) e-bike. When this is not possible, the assistant suggests a timeslot on another day. Or another timeslot on the same day and plans around it.

Building block 4 – Vehicle exchange platform

As an answer to the private versus shared vehicle issue in general. An exchange platform is advised as a fourth building block. This building block describes how LeasePlan can act as a mediator between private vehicle owners and people in need of shared vehicles via the Tripp Service. This building block links to the key takeaways and insights stated on the right.

The gap between private car owners and shared vehicle users becomes smaller by expanding the shared vehicle with an exchange platform. It could be a solution to the transition period that moves from being a shared vehicle user towards a private car owner. LeasePlan offers private cars from owners that approved to lend their cars for the Tripp users.

An example of how this building block could be can be seen while observing Snapcar. This is a platform where customers can offer their cars to customers who want to use a car for a few hours or days. The customers that offer their car can determine the price. The customers that wish to have a car can choose which car they want.

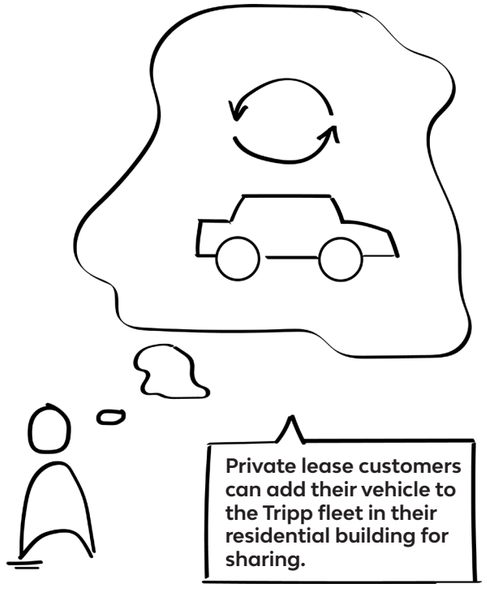


Figure 16. Illustration for building block 4

Constructed out of:

- *Young adults (millennials) are willing to give up their private car to exchange a shared one. However, people also well know of the freedom a private car can give them (K8)*
- *Internal experts doubt whether the LeasePlan Tripp Service proposition and its shared vehicles will be perceived as equal to private vehicles by the potential users (K14)*
- *In addition to this, internal experts think when millennials become older, they move to another place, needs will change and therefore purchasing a private car might me inevitably (K15)*
- *The interviewees state sharing a car with others should still feel like you drive your own car (I2)*

Applied now

To facilitate the transitional period the user might have from a shared vehicle to a private one, LeasePlan could offer the cars for sale that were used for the Tripp Service. In this way, the users that might be attached to a specific shared vehicle can buy it when it is too old to be in the fleet. On top of this, LeasePlan makes an extra profit that adds to the Tripp Business Case.

In the future

LeasePlan Tripp and its fleet are formed by LeasePlan's vehicles and by vehicles that are shared Person to Person (P2P). In the Tripp application, it is easy to offer your private vehicle or use a vehicle for a few hours or days owned by someone. LeasePlan acts as mediator and platform provider and checks whether the vehicle is appropriate enough for sharing.

3.4.5. Preferred building blocks

The building blocks are assessed on viability, feasibility and desirability. Two building blocks are selected together with Viola Kieffer as most promising for improving LeasePlan Tripp in the coming years; dynamic pricing structure and vehicle exchange platform. Reasoning per building block can be seen below.

Dynamic pricing structure

The dynamic pricing structure in LeasePlan Tripp could lead to a more evenly distributed occupancy of the use of shared vehicles. This would be beneficial for LeasePlan as it might increase usage rates on average, but even more for the user as the vehicles are cheaper when usage occupancy is low. Also, this building block is relatively easy to implement after the pilot, described in the "applied now" section. It is a building block that scores best on all three assessment criteria.

Vehicle exchange platform

The vehicle exchange platform answers a transitional period the Tripp Service users might have when switching from using a shared vehicle towards a private one. This exchange platform is beneficial for the user, increasing the Tripp fleet and therefore available vehicles. It also increases profit for LeasePlan Tripp, as Tripp vehicles can be sold to users when they are removed from the fleet. This last benefit increases the viability and feasibility so that it is also perceived as the most promising building block.

3.4.6. Other recommendations

Next to the proposed building blocks, some other recommendations for an optimized Service proposition are stated below.

Provide a range of Electric Vehicles to gather user data

The Tripp fleet consists of two different electric cars. However, it might be interesting to add or replace other types of electric cars over time to see changes in usage occupancy. When occupancy rates rise a substantial amount with a specific type of car, it is better to include that particular car in the fleet instead.

Provide users a feedback loop with vehicle info

A feedback loop on how the vehicles perform and how they are fixed when broken might increase customer engagement and trust in the Tripp Service. By giving monthly updates on how the vehicles perform and what is added, removed or replaced in the Service, LeasePlan Tripp could increase a community's feeling within an apartment complex.

Ensure a consistent Service

It's important to remember that every change of the Service is done with care. Processing many changes in the Tripp Service in a short amount of time could break down the customer engagement. When users know what to expect from the Service Tripp, they are expected to be more loyal. Implementing small changes over a larger amount of time could help.

Ensure the privacy of the users

The Tripp proposed Tripp travel assistant asks a lot of data from the users. It therefore important LeasePlan ensures to protect all data gathered from the users that are necessary for Tripp. This data becomes more when ideas such as the travel assistant are implemented in the Service. Running penetration tests to search for data leaks in the Service could be the solution.

3.5. Business Model

After the pilot, LeasePlan Tripp will be scaled up when it has proven to be successful. For the pilot, the Business Development chose to keep the Business Model simple; "pay-per-use". However, the team can choose an incredible amount of Business Models from when the Service proposition is scaled up. Choosing another Business Model might be beneficial for LeasePlan and the users of LeasePlan Tripp. Therefore, this section provides an exploration and finishes with a proposed Business Model adapted for LeasePlan Tripp. In phase three (Verify), the proposed Business Models are put to the Business Case test.

3.5.1. The need for a Business Model

There are generic elements that can be addressed in a business model, such as customers (value, relationships, segments), resources (infrastructure, activities, partners, logistics) and the cost/income structure (Osterwalder & Pigneur, 2010). MaaS and shared vehicle Services (such as LeasePlan Tripp) are enabled by developments in technology, such as mobile applications. It is mainly a non-technical innovation focusing on new markets and business model innovation (Cohen & Kietzmann, 2014). New business models in mobility Services can contribute to a more sustainable mobility system (Sarasini et al., 2016; Spickermann et al., 2013). Therefore, it is essential to include an exploration of various business models that can be implemented in an optimized version of the LeasePlan Tripp Service proposition.

3.5.2. Approach Business Model exploration

Various methods were used to explore which kind of Business Models would be suitable for when LeasePlan Tripp is ready for upscaling. In figure 17, a chronological scheme can be seen.

Figure 17. A chronological scheme of the Business Model exploration approach

First, the Business Model Canvas from Osterwalder was used to map out how the current Business Model would look like when it's scaled up. The Business Model Navigator (Gassmann et al., n.d.) was then used to map out which new Business Models would be suitable for LeasePlan Tripp. Few Business Models were then compared in a case study. Finally, three Business Model concepts were chosen via a list of selection criteria and with Viola from team Business Development to be investigated in the next phase of the Project; Verify.

3.5.3. Business Model exploration

In figure 18 on the next page, the Business Model Canvas (Osterwalder & Pigneur, 2010) for a scalable LeasePlan Tripp can be seen. It is interesting to see that several categories in this canvas stay the same when the Service is scaled-up. Core-activities, proposition, client relationship, channels and costs structure remain the same. What changes when the Service proposition is scaled-up to other residential buildings and cities are partners, client segmentation and income. Income changes were automatically due to upscaling. This is adressed in orange.

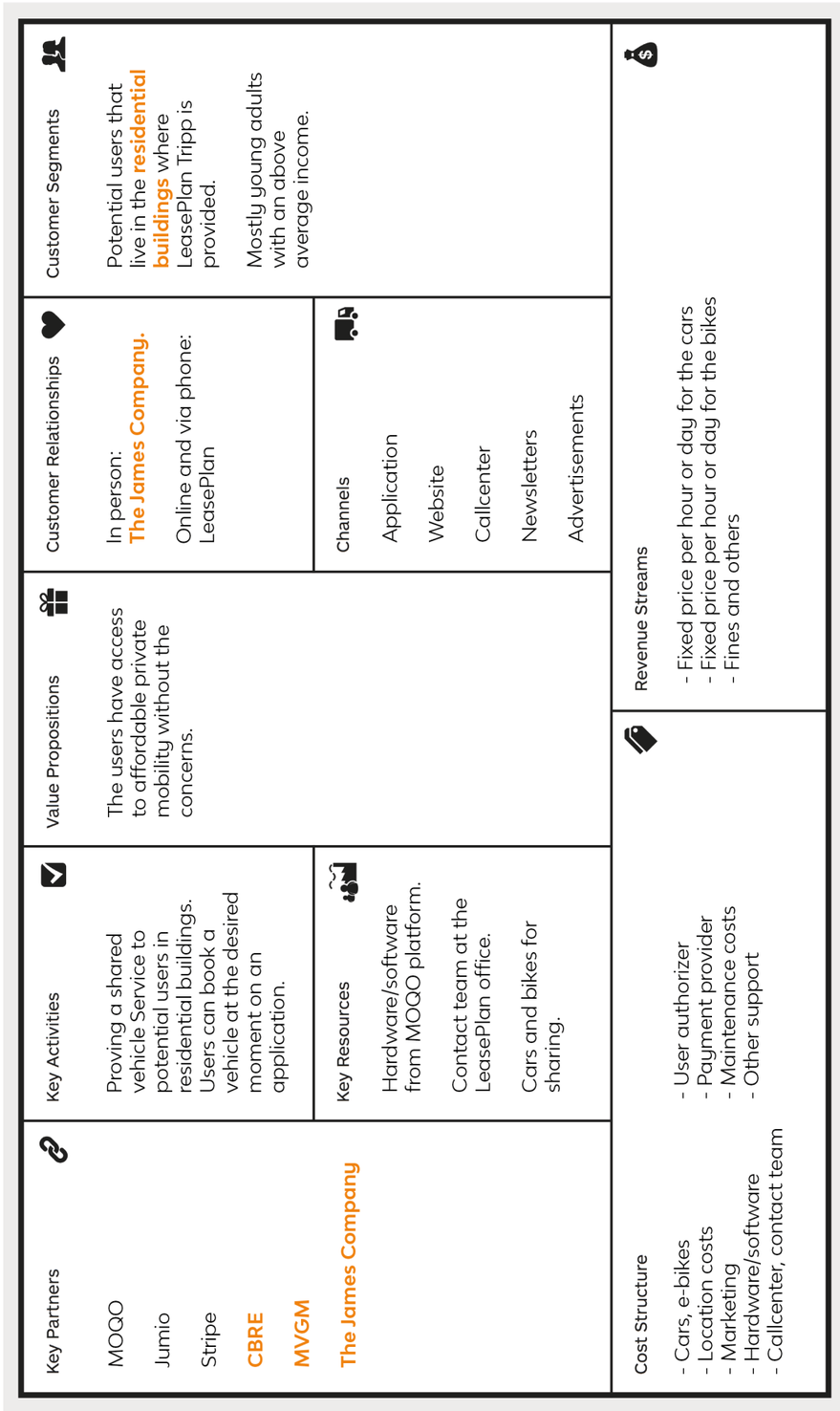


Figure 18. The Business Model Canvas for a scalable LeasePlan Tripp

In table 7, the case study can be seen. For this case-study, a selected amount of Business Models were investigated. Examples, positive & negative aspects and how it can work for LeasePlan Tripp are written down in the scheme. This case study was taken into account when further negotiation took place with Viola to which model could pass through to the next phase of this project; Verify.

	Add-ons	Pay what you want	Subscription	Customer loyalty	Experience selling
How does it work?	Extra's that can be bought by the customer on top of the initial product.	The customer decides what to pay for the product. The customer is expected to estimate the amount that has to be paid.	Customers pay a fixed amount per period of time. The product can be used unlimited in return.	A cumulative discount will be subtracted from the initial price of the product. Every new purchase will lower the price.	Customers pay for an intangible aspect that is (part of) the product.
Best practice	Buy extra wide seats at Ryanair	Auction websites: vakantie-veilingen.nl	Monthly based subscriptions: Basic Fit, Netflix	Cumulative discount on your fitness: Trainmore	In-store experiences at Starbucks or Nespresso
Pro's	Low pricing initial product	High customer satisfaction	Steady revenue stream.	Increases usage.	High customer satisfaction
Con's	Turn off if initial product is far from desired.	Could also result in no revenue.	Might stimulate wrong usage.	Might stimulate wrong usage.	Market too niche
How would it work for LeasePlan Tripp?	Extra options next to the ride: extra car wash, bottle of sparkling water, Spotify premium in the car.	Let users decide what they want to pay extra for a more luxurious vehicle.	Subscription fee per month that gives the user a 40-50% discount on all booked rides.	Cumulative discount everytime a vehicle ride is booked.	Luxurious cars that can be booked. Events organized with leisure oriented companies for Tripp users.

Table 7. A case study with potential Business Models

3.5.4. Business Model selection

To bring down the number of potential Business Models for LeasePlan Tripp was not simple. There were a few parameters that had to be taken into account which led to specific Business Models. These are listed below:

- The Business Development team would have liked to look at a subscription model where users can pay a certain amount of money per month. In exchange, they can book the shared vehicle with a fierce discount. The motive for this request is that the main competitor works with the same kind of Business Model.

- An alternative for the subscription Business Model could be a pricing model that includes a cumulative discount on every ride you book. This Business Model is interesting for LeasePlan as it stimulates the user to book more sustainable rides with the shared vehicle Service Tripp.

- From the Customer Journeys, it became apparent a ride with the shared vehicle Service Tripp can act as a magnifying glass on someone's emotions (I6), (I9) & (I10). I therefore suggest a Business Model that incorporates "pay for experience". This is a model that includes luxurious cars for specific events or trips that can increase positive emotions.

The three selected Business Models (or extensions of the current LeasePlan Tripp Business Model) can be seen in figure 19. Note: these Business Models are not bounded and could overlap each other. In the next phase, Verify, these Business Models will be put to the test in a Business Case.

Subscription

People who use the Service often can take a subscription, paid per month. A subscription gives the user a 40% discount on all rides (cars and bikes).

A subscription Business Model is beneficial for the user as the Service can be used unlimited. For LeasePlan, it generates a solid cash flow every month.

Loyal customer

Every time a user books a next ride, they get a cumulative discount till they hit bottom price. This could be 50 percent of the normal price per hour/day.

This Business Model stimulates the usage of the vehicles which is beneficial for LeasePlan. The user could benefit from attractive pricing.

Experience-oriented

Users can choose whether they ride a normal or more luxurious vehicle. Special leisure oriented events are organized for the Tripp users.

Experiences create intangible value for the users and increase satisfaction. For LeasePlan, events could stimulate usage of the Service in general.

Figure 19. The three selected Business Models

4. Verify

When a new or improved Service proposition is made and presented to employees and managers, the proposition acceptance is important. Therefore in the phase Verify, several Business Cases are made to quantify the shared vehicle Service Tripp's proposed improvements made in previous phase. Also a future concept is presented, which will be used in a "bridging" workshop, or gap assessment. The gap assessment output is used to build an upscale advice for the Business Development team.

4. Verify

4.1. Business Case

A realistic proposal for potential Business Models for LeasePlan Tripp is made in this section. Before that, a Business Case of the current pilot is made. The goal is to understand what costs and income are expected of the existing Service and its Business Model. By mapping out gross revenue, gross profit and cumulative profit, a good comparison can be made later on with the current Business Model and proposed Business Models.

4.1.1. Build up Business Case

The Business Case is built upon calculating the operational expenses (mostly given) and assumed revenue per month. The assumed revenue is calculated by multiplying the assumed amount of hours the vehicles are booked by the price customers have to pay. Gross profit is then calculated per month by subtracting gross revenue from the operational expenses.

This is done for a total of 25 months (two years) to have a good impression of whether the current Service is profitable after a long period. In the figures, the cumulative gross profit for month 13 (after one year) and month 25 (after two years) is shown per different data input.

4.1.2. Parameters and assumptions

The current Business Model for LeasePlan Tripp is based on pay-per-use. The customer books a ride, makes his trip or journey and pays when this is completed via Credit Card. The price is determined and includes fuel/electricity costs, maintenance costs and insurance costs. The Business Case is built upon several parameters that are determined by the Business Development team and are listed below:

- The pricing of the vehicles per hour and maximum price per day (from 6 hours).
- The "working hours" of the shared vehicles in which we measure their occupancy for the Business Case is from 08:00 AM to 10:00 PM.
- Each location has a fleet of one petrol car, one electric car, one e-bike and one cargo bike.
- External operational costs such as payment provider Stripe, user authenticator Jumio, ANWB call center and platform builder MOQO are included.
- Internal operational costs such as own personnel costs, maintenance of the cars, fuel, and lease contracts are included.
- One-time investment costs in MOQO platform can be neglected.
- Depreciation of the vehicles are included in the vehicle costs per month.

The next assumptions are added in the Business Case of this graduation project:

- Costs, revenue and profit are tax excluded.
- The maximum price per day (after 6 hours) is not considered in this Business Case. This is relatively negligible because of the low occurrence.
- The price per hour for each vehicle is an average of the different pricing ranges. The distinction between cars and e-bikes & cargo bikes is made.
- The petrol cars and electric cars have a 1:1 rate in occupancy.
- The car fleet is simplified to 2 types of cars in costs.
- Costs for the parking spots could be a trade with the real estate companies.
- The price for parking is excluded. These costs are assumed to be for CBRE.
- Extra FTE are not included.

4.1.3. The current Business Case

Two of the three residential buildings had another shared vehicle Service (WeGo) before LeasePlan Tripp. The Business Development team received usage rates from this party, which can compare to the set goals for LeasePlan Tripp. The input is limited to the average duration of a booking per month and the total amount of bookings per month. The data is from the years 2018 and 2019.

The calculated gross profit is first made with the WeGo data (booked hours per month) from the years 2018 and 2019. This is multiplied by the prices the Business Development team has set for the LeasePlan Tripp pilot. The gross profit per month was then calculated. In figure 20 (1), the cumulative gross profit for LeasePlan Tripp (with WeGo input) in months 13 and 25 can be seen. The vertical axis with price heights are not shown in the figures due to confidentiality.

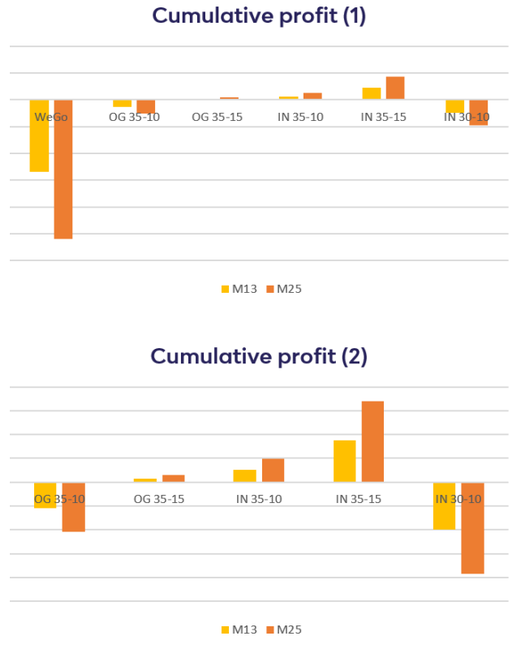


Figure 20. Cumulative profit for LeasePlan Tripp after one and two years. Various occupancy rates included

After this, the gross profit is calculated with the Business Development team's set goals: a 35% occupancy of the cars during working hours and a 10% occupancy of the bikes during working hours. The outcome is a negative cumulative gross profit and for that reason, a calculation has been made for a 35% occupancy for the cars and a 15% occupancy for the bikes. The height of these outcomes can also be seen in figure 20 (1).

Change in the pricing of the shared cars

An increase in pricing per hour for the car has been made to see whether how the Business Case reacts to this. This is again done for a situation with 35%-15% (cars-bikes) and 35%-10% occupancy rate. In figure 20 (1), an increased cumulative gross profit can be seen.

Another calculation has been made to see whether the increased pricing results in a positive Business Case with lower occupancy rates—this time for a 30%-10% occupancy rate. In figure 20 (1), a negative cumulative gross profit can be seen for this situation after 1 and 2 years. In figure 20 (2), the Business Case with the WeGo input is removed to view the impact of other calculated cases better.

Index

WeGo	WeGo occupancy in current Business Case
OG 35-10	Original pricing, 30% car occupancy, 10% bike occupancy
OG 35-15	Original pricing, 35% car occupancy, 15% bike occupancy
IN 30-15	Increased pricing, 30% car occupancy, 15% bike occupancy
IN 35-15	Increased pricing, 35% car occupancy, 15% bike occupancy
IN 30-10	Increased pricing, 30% car occupancy, 10% bike occupancy
	M13; after one year
	M25; after two years

4.1.4. LeasePlan Tripp scaled up

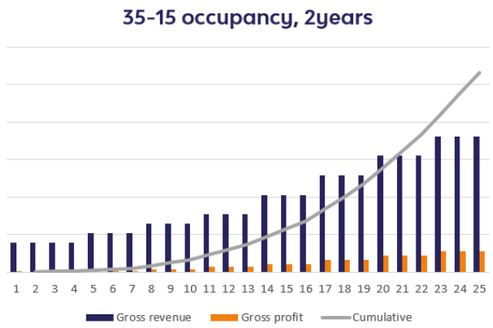
The LeasePlan Tripp pilot might be the beginning of an established shared vehicle Service in the LeasePlan product portfolio. Before this is the case, the Service is expected to be scaled up to more than the current three pilot locations. Therefore, it is interesting to see how the Business Case reacts to upscaling and whether the Service proposition is still profitable.

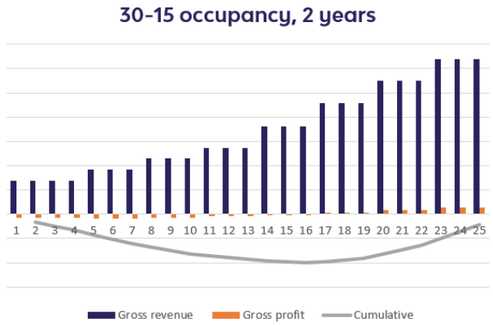
The scaled-up Business Case is at its core the same as the Business Case on the previous pages. Assumed gross revenue and operational expenses are the same and calculated for every month, just like gross profit. However, in this Business Case the Service expands with a new location every three months. Therefore the following assumptions are added to earlier stated:

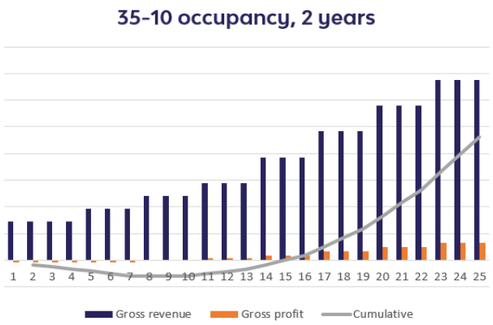
- In the first year, a new location is added every three months
- In the second year, two locations are added every three months
- In the third and fourth year, 10 locations are added every three months.

Adding a new location to the shared vehicle Service requires an investment of several thousands of euros. These are taken into account as capital expenditures in the Business Case but can be depreciated over time. Therefore it's decided together with the Business Development team to spread the investment costs of a location over 24 months in the Business Case.

Four different situations with corresponding occupancy rates for cars and bikes are calculated. The situation with a 35%-15% rate (cars-bikes) can be seen in figure 21 at the top. The situation with a 35%-10% occupancy can be seen in figure 21 as second, the situation with a 30%-15% occupancy in figure 21 as third and the 30%-10% occupancy in figure 21 at the bottom. Gross profit, gross revenue and cumulative profit are displayed on the graph and mapped out vertically. On the horizontal axis, the months can be seen. The vertical axis with profit heights are not shown in the figures due to confidentiality.







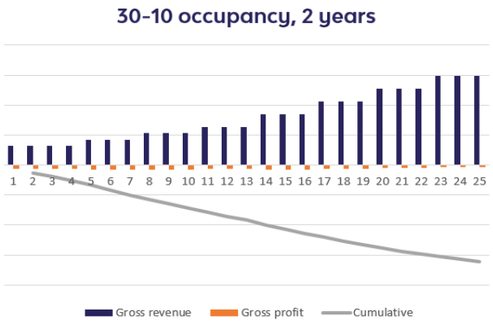
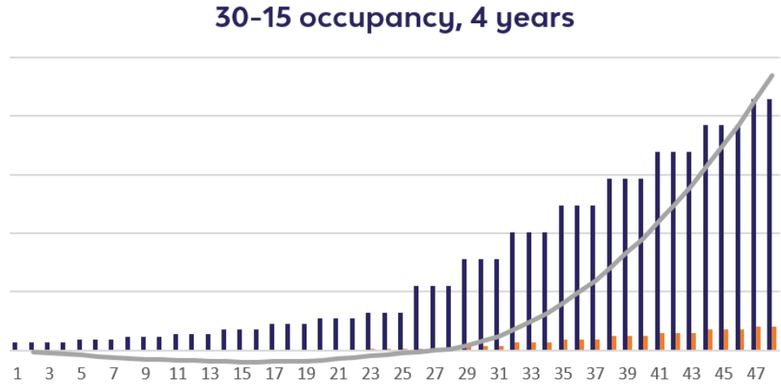


Figure 21. Four different situations in occupancy rate and their effect on the Business Case t=2 years

What happens after 2 years?

We see a cumulative profit in the 35%-15% and 35%-10% situation and a cumulative loss in the 30%-15% and 30%-10% situation. Therefore, it is interesting to look at what happens in the third and fourth year for the two situations where there is a cumulative loss. These graphs can be seen in figure 22. When scaling up to almost 100 LeasePlan Tripp locations, we see that the cumulative loss turns into a cumulative profit. The vertical axis with profit heights are not shown in the figures due to confidentiality.



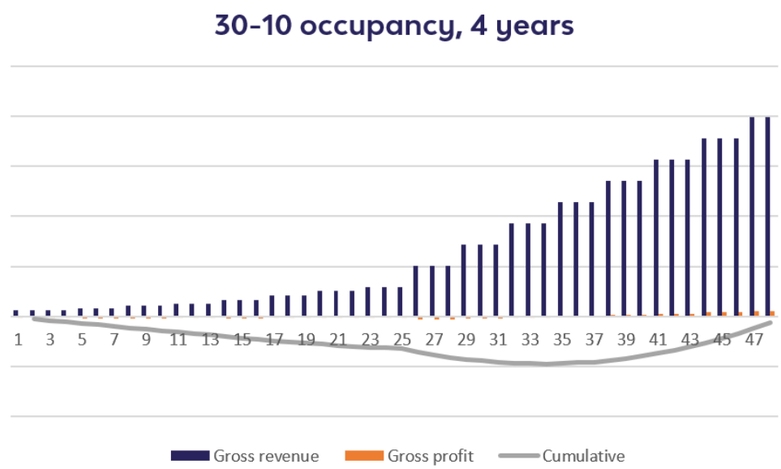


Figure 22. Two situations in occupancy and their effect on the Business Case t=4 years

4.1.5. Other Business Models

In the previous phase of this project, an exploration of potential Business Models for LeasePlan Tripp was done. Three Business Models were proposed to look at how they would behave in the Business Case; Subscription, Experience and Loyal Customer. In this part, possible effects the Business Models could have on the current Business Model are investigated. Afterward, recommendations will be given on which Business Model could suit best for the Tripp Service proposition.

General assumption: All other Business Models are applied to a situation where the cars have an occupancy of 35% during working hours and bikes a 15% occupancy. The time pace of this Business Case is two years.

Subscription Business Model

This Business Case is based upon the assumptions that are stated previously. The next assumptions are added:

- 15% of the households are willing to take a subscription.
- The price for a subscription to LeasePlan Tripp is 30 euros per month.
- Households that are subscribed will have a 40% discount on all pricing.

Figure 24 shows that the subscription Business Model causes an increase in gross profit as the grey line represents the current Business Model. The revenue stream that emerges from the subscriptions is high enough to compensate for the booking discounts.

Experience-oriented Business Model

This Business Case is based upon the assumptions that are stated previously. The next assumptions are added:

- One more luxurious car is replaced per fleet of a residential building. The cheaper petrol car is swapped with a Tesla Model 3.
- The Tesla Model 3 has an increased price to cover the higher operational costs of the car. The amount of these increased costs are calculated by LeasePlan.

In figure 24, it can be seen that the experience Business Model does not cause an increase in gross profit. But this can be explained by a different ratio between the revenue for the more expensive shared vehicle and the operational costs.

Loyal customer Business Model

This Business Case is based upon the assumptions that are stated previously. The next assumptions are added:

- Four different pricing categories are distinguished to simulate the cumulative discount users have with this Business Model.
- The highest pricing category makes up 40 percent of the total car vehicle revenue.
- The higher pricing category makes up 30 percent of the total car vehicle revenue.
- The lower pricing category makes up 20 percent of the total car vehicle revenue.
- The lowest pricing category makes up 40 percent of the total car vehicle revenue.

In figure 23, it can be seen that the loyal customer Business Model causes an increase in gross profit. But this can be explained by a different ratio between the revenue for the more expensive shared vehicle and the operational costs. The vertical axis with profit heights are not shown in the figures due to confidentiality.

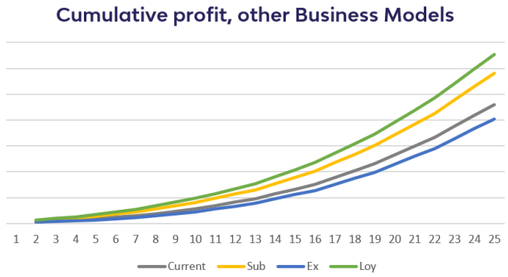


Figure 23. Four Business Models compared to each other

4.1.6. Conclusions from the Business Case

The following conclusions can be drawn from the Business Case of the current Business Model, the current Business Model when scaled up and the other Business Model that are interesting to implement in the Tripp Service in the future:

Pricing strategy & cutting operational costs

The current pricing structure leads to a small amount of cumulative profit after two years when the cars' occupancy rate is 35% and the bikes rate is 15%. When either of these occupancy rates drops, the small profit will change in a cumulative loss. It is therefore advised to keep a close look at the occupancy rate of the Service.

When the targeted percentages are not met, it is strongly advised to increase the cars' pricing per hour or maybe even remove a vehicle from the fleet. Consequences for raising the price are expected to be limited as LeasePlan already has solid competitive pricing compared to other shared vehicle providers (K10). Increasing profits will also compensate for potential low occupancy in wintertime and can even be put back into other Service activities.

Scaling up the Service

When LeasePlan is scaled up to 100 locations, almost all situations in occupancy give a cumulative profit. The situation with a 30% occupancy rate of the cars and 10% for the bikes still has a cumulative loss. This turns however into profit in the fifth year. It is advised to scale up slowly in the first year to look at how the Business Case works in real life.

Implementation of other Business Models

The other three Business Models that were quantified in the Business Case show an increase or decrease in cumulative profit over time. The loyal customer and subscription Business Model can lead to more profit over time if applied correctly with calculated parameters, which would be beneficial for LeasePlan. However, there are some significant uncertainties when applying these Business Models.

The amount of residents that are willing to take a subscription is something that can be very different compared to the assumption in the Business Case. During the qualitative interviews with the potential users, it became clear they are skeptical about a subscription-based system. Therefore it is advised to investigate this and the height of the price they are willing to pay for LeasePlan Tripp with for example a quantitative survey.

The loyal customer Business Model is now based on cascading percentages per pricing category. It could also be inverted, as usage output from the first month shows a group of people who use the Service one or more per week. The relatively high pricing for the first few bookings could also be an absolute turnoff for the potential user, which will look for cheaper alternatives in the neighborhood.

The experience Business Model where LeasePlan Tripp can experiment with more luxurious and less standard cars is expected not to increase profit. But it does not have such large uncertainties and risks stated with the other Business Models. By adjusting the price per hour relatively slightly higher than the car's increased operational costs, increased cumulative cash flow will follow. Users might be willing to pay more per hour when they need a luxurious car because there are no alternatives in the shared vehicle domain.

LeasePlan Tripp towards experiences

It is advised to investigate how the current Tripp Business Model could be transformed towards a more experience-oriented Business Model. The Business Development team can expand the Service with other types of cars that can offer another experience to the Tripp Service. LeasePlan could also organize events or special activities for Tripp users such as those brought up during the creative sessions.

4.2. Future concept

Where will LeasePlan Tripp be in two years after a successful pilot? A future concept in this part of the graduation project will elaborate on a LeasePlan Tripp that has implemented the potential most promising building blocks and Business Model stated previously in this graduation report. The future concept will be used as input for the bridging workshop (or gap assessment) as it illustrates where Tripp could be and what is needed to make this happen.

4.2.1. LeasePlan Tripp 2.0

The future concept of LeasePlan Tripp can be seen in figure 24. The dynamic pricing structure and vehicle exchange platform are chosen as preferred building blocks that are added to the Tripp Service proposition. The experience-focused Business Model is also processed into the future concept.

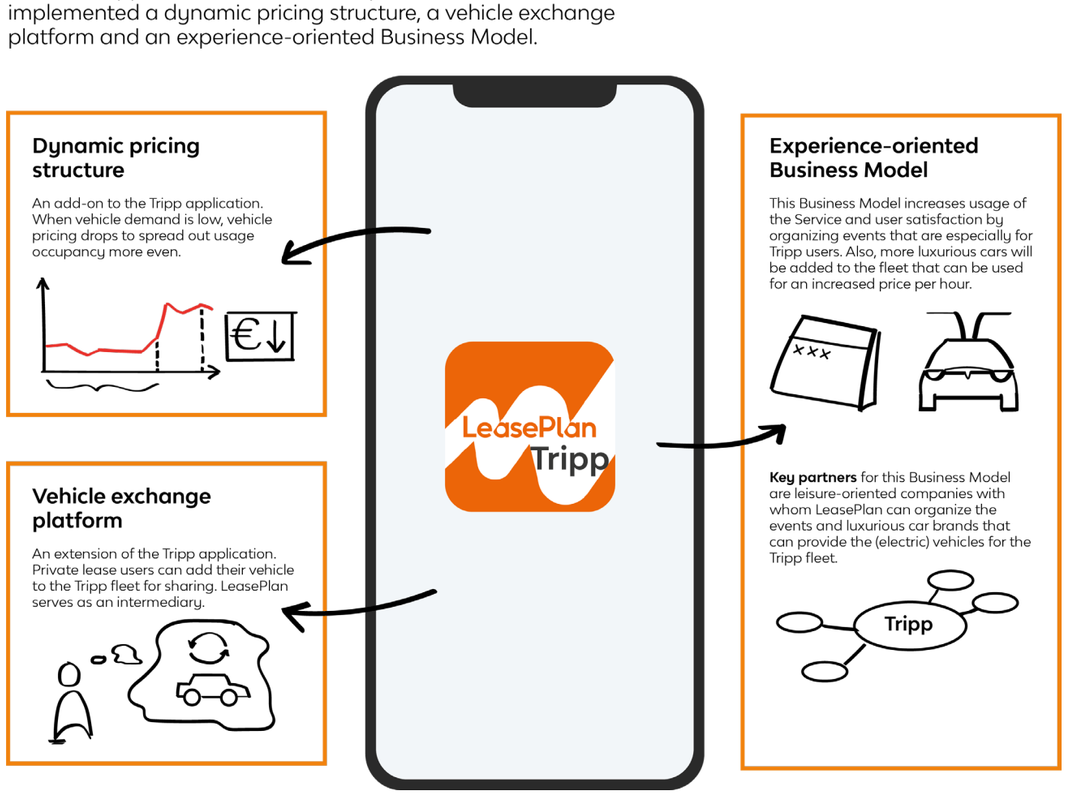


Figure 24. LeasePlan Tripp future concept explained

4.3. Gap assessment & upscale advice

The previously stated future concept does require a lot of effort from LeasePlan and the Business Development team. To know what LeasePlan needs to do internally and externally to make Tripp a success in the coming two years, a gap assessment or bridging workshop is conducted. The outcome of this bridging workshop is used to answer how the Business Development team can upscale LeasePlan Tripp.

4.3.1. Bridging the valley of death

The bridging workshop, or gap assessment, tries to bridge the knowledge gap between a new or improved product concept and its adoption in the related company. The bridging workshop is there to overcome "The Valley of Death", a phenomenon where a concept loses its momentum and is abandoned due to the challenges that have not been thought of (Waring, 2019). An explanation can be seen in figure 25.

The gap assessment workshop is performed with the Business Development team. During this workshop, the future scenario is presented to the team. After the presentation, the team assesses the alignment of the future Tripp concept and the LeasePlan organization's current state. This is done via answering questions per category: resources, leadership, culture, monitoring, organizational strategy and users.

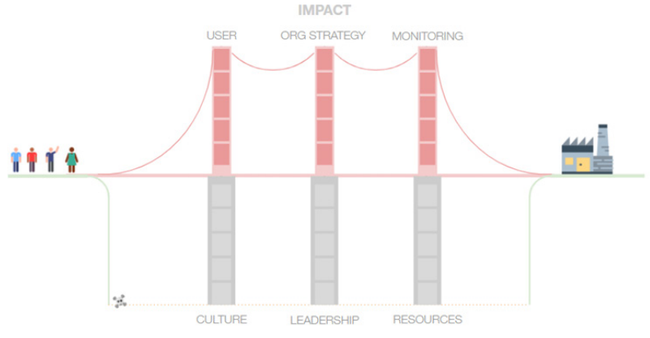


Figure 25. Gap assessment or bridging workshop template (Waring, 2019)

Questions can be answered with a yes (green), no (red) or maybe (orange).

Note: Originally, the subjects are used to be rated from 1 to 5. Because the workshop lasts for a maximum of 90 min, the decision was made to change the 1 to 5 rating to the answers "yes", "no" or "maybe".
Per subject, the following questions are asked to the participants:

- Resources: Are there the necessary skills, equipment and people needed to deliver the future Tripp concept?
- Monitoring: Will this future Tripp concept contribute to how LeasePlan currently measures success?
- Culture: Will the employees be motivated to engage in developing and delivering this future Tripp concept?
- User: Will this future Tripp concept provides the desired outcome to the intended user?
- Leadership: Will the leadership support the adoption and implementation of the future Tripp concept?
- Strategy: Will the future Tripp concept contribute to the broader vision of LeasePlan?

Due to different answers that are given per subject, discussions will emerge that address the potential gaps within the current organization. During the workshop, possible fixes are also discussed, taken into account when making the upscale advice for LeasePlan Tripp.

4.3.2. The outcome of the workshop

The outcome of the workshop will be discussed per subject. In figure 26, the completed bridge can be seen. Per subject, the performance is rated with a red, orange or green color. Notes at the sides of the pillars elaborate on the gaps that need to be overcome and possible fixes.

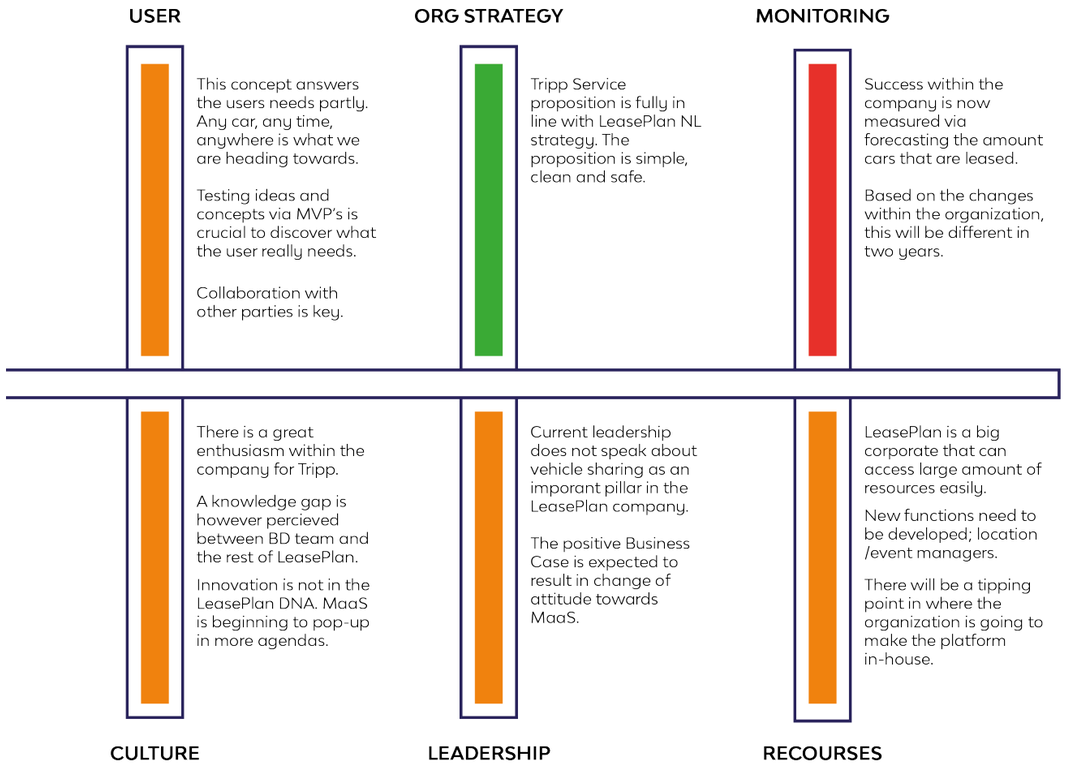


Figure 26. Results of the gap assessment or bridging workshop

4.3.3. Upscale advice for LeasePlan Tripp the coming 2 years

The verification phase ends with final upscale advice for LeasePlan Tripp the coming two years. This is written in three crucial pillars:

- The Tripp Service proposition is in line with the LeasePlan NL strategy. It is expected LeasePlan Corporation will eventually follow after a positive and successful Business Case. A successful Business Case is reached when the targets of the pilot are met (K1). Therefore, it is key to monitor the Service's usage rate and implement marketing elements that can increase these rates when they are not met. The Business Case in this graduation project shows cutting operational costs or increasing prices for the users might also be a solution to meet the set targets.

- When LeasePlan Tripp is growing towards a solid product within the LeasePlan product portfolio, new functions or even a new team of employees need to be made. This team's main task is to make sure the Service keeps running and a great number of locations are managed and added accordingly. Eventually, it is also desired to build the Tripp Service application in-house instead of the current collaboration with MOQO. This will lead to quicker implementation of incremental changes of the application that can be tested with the end-users.

- Expanding Tripp's Service can be done best in locations that are similar to the current pilot locations. The characteristics of these residential buildings can be seen in table 8. The reason for this advice is that the optimized Tripp Service is built on gathered user-insights from a particular profile that lives in these "scoped" real-estate properties. Scaling-up in these types of residential buildings is less risky, as it becomes a copy-paste action. After one year of successful up-scaling, the Business Development team could look for locations with different characteristics and adjust the Service accordingly.

What?	Specifications
Residential buildings	In large cities, in and around the highway
# households	200-400
Parking garage	Yes
Rental price	From 800 euros per month per appartment

Table 8. Specifications residential buildings

5. Conclusion

5. Conclusion

5.1. Recommendations & discussion

Proposed building blocks

The proposed building blocks answer a design paradox that the potential Tripp users confirmed during the qualitative interviews. However, the specific building blocks offered to answer this paradox and optimize the shared vehicle Service still need to be verified with the end-users. The Business Development team can do this via quantitative surveys sent via mailing lists or setting up small user tests in the current Service.

Also, the technical feasibility and privacy-related issues that come with these proposed building blocks need further investigation. As discussed in the upscale advise: it might even be better to develop the Tripp application in-house and add the incremental improvements from the building blocks. This solves the privacy-related issues partly because an extra external party such as MOQO is removed.

Business Case as a starting point

The Business Case from this graduation project fungates a starting point for further decision-making within LeasePlan. For example, to increase profit by cutting operational costs, increasing prices for the users or organizing events for the users boosting usage in general. The Business Case could also help show higher management teams how it could look like when Tripp is scaled up.

But further investigation on the Tripp Business Case and how it behaves is recommended. The Business Case in this graduation project is based on several assumptions that made the case relatively easy to conduct. A more finance or computer science-oriented employee or department within LeasePlan could focus on making the premises more complex and real-life by making predictive models in Python or Java.

Upscaling outside the current scope

LeasePlan Tripp and its current pilot take place in three different apartment buildings in Amsterdam. These apartment buildings have above-average rental prices. Therefore a selected group of Dutch society can afford to live in such apartment buildings and use LeasePlan Tripp. The user-interviews also took place with this particular group, making the graduation project's scope very defined but narrow.

This particular group of people was used to describe the potential Tripp user. Therefore all decisions and recommendations in this graduation report are based on this group. Consequently, it is advised to investigate the target user more thoroughly when LeasePlan Tripp is scaled up towards residential buildings in another pricing category as the user group modifies. Especially when LeasePlan Tripp is expanded outside the Netherlands or changes towards a Sevice that is available in the public space.

iCPS and used creativity tools

For this graduation project, the iCPS methods with corresponding creativity tools were used. The project was divided into three phases: Analysis, a Design, and a Verify phase linked to the four principles of iCPS. The method appeared to be an excellent match in describing the synthesis for this particular project and helped me fill in the project's rest.

But an important side note to this is that the iCPS method is not designed to be used in project management in general. The method is developed and intended for managing well thought creative sessions. By providing a large set of tools, these creative sessions are shaped. The way I used iCPS is the same as its core but applied differently.

COVID-19 restrictions

Almost the entire project was executed digitally. This was due to the COVID-19 restrictions imposed by the Dutch government: the invoked partial lockdown that started on the 14th of October and the hard lockdown that started on the 15th of December. However, due to LeasePlan's excellent digital environment, the entire graduation project could still be executed correctly with a few adjustments.

The interviews and creative sessions were the essential elements that deserved extra attention to be executed online. Applications such as MS Teams, which makes video call recording easy and effortless, and MURAL, which turns every digital home office into a brainstorm-room, were amicable solutions to get as close as possible to what we are used to do. Seeing each other in real-life, inspire and collaborate.

Adjustments and obstacles during the project

When reading this graduation report, it might seem as there were no obstacles or adjusted routes that were taken. This is not the case. All adjustments and "death-ends" are listed below:

- Analyzing the qualitative interviews took longer than assumed in the project planning. The clustering of 450 user-quotes had to have two iterations before I was satisfied with the summary that I could extract out of it. The usage of color-codes did make the clustering fairer, in my opinion.

- The targeted amount of interviewees for the user-interviews was set at 9-12. However, due to a lot fewer registrations than expected, the amount became 8. This might influence the summarized insights from the qualitative user-interviews.

- Between the first and the second creative session in the Design phase, an iteration took place to let the session go smoothly. A purge element was added and the workshop template in MURAL was adjusted to prevent uncertainties.

- During the Business Model exploration, a Creative Matrix tool was used to combine potential attractive Business Models. This tool was not suited for this situation as it led to nothing interesting to further develop.'

5.2. Conclusion

For this graduation project, the following assignment was stated: "Design an optimized shared vehicle Service for LeasePlan.". This would consist of a user-oriented and business-oriented component, both answered with the corresponding academic tools and applied to the current Tripp Service proposition.

The above-stated client assignment was re-written and expanded into the following research questions that had to be answered with the usage of different creative tools:

- What does the optimized shared vehicle proposition look like?
- What does the targeted user want concerning a shared vehicle Service?
- What does the Customer Journey of the current shared vehicle proposition look like?
- How does the improved (scalable) Business Model of LeasePlan Tripp look like?
- How can we upscale LeasePlan Tripp in the coming years?

The optimized shared vehicle Service for LeasePlan Tripp consists of the current Service with the adaption of multiple building blocks that solve a design paradox. This design paradox is an obstacle for the current Tripp Service proposition and its future growth and needs to be overcome.

The paradox is discovered in the analysis phase by conducting internal interviews with in-house experts and doing a trend research in academic literature. During the qualitative interviews in the Design phase, it was confirmed by the potential LeasePlan Tripp users and mentioned how it could be overcome. Users are willing to perceive a shared vehicle equally to a private vehicle if it is just as flexible and available. A shared vehicle should have the same feeling as a private.

The Customer Journey of the current Service led to several Service opportunities, such as; providing a pro-active Service that is always one step ahead of the user & embedding several marketing elements that increase usage and customer satisfaction. These opportunities are also processed into the proposed building blocks and improved Business Model for Tripp.

The improved Business Model consists of an experience-oriented component that could be able to increase profits the Service will make over the years. Moreover, this improved Business Model allows LeasePlan to provide an even better experience to the user than when they are driving their own vehicle. This is done by providing luxurious vehicles and the organization of events that are especially for Tripp users.

At the end of the project, the building blocks that had the most potential: integrating a dynamic pricing structure and a vehicle exchange platform, were presented in the future concept of LeasePlan Tripp. This future concept was assessed on its gaps and possible fixes, which was input for the final upscale advice.

The final advice for upscaling is summarized in three pillars:

- Reach a positive Business Case by adjusting parameters; increase pricing or cut in operational costs. Add marketing elements that align with the experience Business Model to increase Service usage and customer satisfaction.

- Prepare for hiring additional employees, such as a location manager that monitors all LeasePlan Tripp location and/or an event manager that organizes all Tripp events. Start developing the Tripp Service application in-house for processing incremental changes faster and better.

- Expand the Service to locations with the same characteristics as the pilot locations in the first year. The implementation then becomes more of a copy-paste action that involves less risk. After the first year, the Service can expand to more diverse locations.

5.3. Personal reflection

At the beginning of this graduation project, I assumed I knew my biggest challenge and personal learning objective that was ahead of me. I am a team player who gets his energy, creative ideas and inspiration most out of collaboration and offline and informal chats on the work floor. Due to the pandemic, this was obviously not going to happen.

I was still able to make the best out of the situation by continuing to see friends, study peers and family in real-life (also during the week) with whom I could discuss the project. Also, the fact I got excellent guidance from the Business Development team and other LeasePlan employees made it possible my brain was stimulated throughout the project.

The real challenge that was ahead of me was writing the actual graduation report. I am also a person that likes to execute project work but dislikes typing an entire report that explains what has been done. It therefore took until I was halfway through the project to be able to type descent texts with less effort.

Another personal learning objective was to manage my time so I could still perform what I love to do besides my work and studies: sports throughout the week in the evening and having drinks and other activities with friends during the weekend. I almost succeeded entirely in this competence. I did however spend a few weekends finalizing deliverables such as my green-light meeting and this graduation report obviously.

At last, I want to discuss a more professional learning objective. With this graduation project, I wanted to know how making Customer Journeys and (scalable) Business Models would relate to each other and which I would like to do most. The answer to this is that I think the two methods are intertwined. Both can be used as a tool to explore opportunities for a certain product (tangible or intangible).

What I liked most was combining these two tools, and thinking about solving a design issue not in one way. A creatively stimulated brain and the execution of a project that never lost my interest and enthusiasm was the result. The inclusion of project like these in my future job is a must. Stay tuned!

6. References

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