NOVA SCHOOL OF BUSINESS & ECONOMICS

Brisa

Work Project presented as part of the requirements for the Award of a Masters Degree from NOVA School of Business and Economics

Consulting project for the *Brisa's* Marketing Department:
Strategic recommendations to capture the senior segment in the mobility industry

Consulting Lab carried out under the supervision of:
Professor Constança Monteiro Casquinho

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"Those who pass by us, do not go alone, and do not leave us alone; they leave a bit of themselves, and take a little of us."
Antoine de Saint-Exúpery.

CONSULTING LAB

The consulting lab aims to provide a hands-on approach for students to solve a company's real challenge.

OVERVIEW

The Consulting Lab provides master students the opportunity to conduct a real-life consulting challenge. In this case, the team had the challenge of identifying a business opportunity within the senior mobility sector and developing strategic guidelines for *Brisa* to capture this market. The project was carried out under the supervision of Professor Constança Casquinho who has a strong professional background in consulting.

Throughout the past four months, the team worked at *Brisa*'s headquarters and was able, through hard work and syndication, to create a strong relationship with the company's team and deliver relevant results.

The team was also able to immerse in the client's corporate culture and create value to the company.

OBJECTIVES

- **Immerse in company's corporate culture**
- **Understand and meet the client's expectations** so real value can be added to the company
- **Apply the theorectical concepts** learnt during the academic path to real-life situations
- **Develop hard skills** as data analysis, **and soft skills** as teamwork and empathy creation
- **Learn working methodologies** that will be an asset throughout one's professional career.

ADVISORS

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EXECUTIVE SUMMARY: BUSINESS CONTEXT

Brisa Auto-Estradas de Portugal is the biggest company on transport infrastructure in Portugal. After connecting the Portuguese population through infrastructure, Brisa now wants to connect with people, and seniors appear to be a strategic segment for *Brisa*.

COMPANY BRISA

- Founded in 1972, *Brisa Auto-Estradas de Portugal* is the biggest company on transport infrastructure in Portugal.
- With a strong know-how in operational and technological sector, *Brisa* is known by the efficiency of its highway leases and for the development of new solutions for mobility.
- Innovation is on *Brisa's* DNA such that *Via Verde* (*VV*) made Portugal the 1st country with a system of non-stop payment on the highways. Nowadays, the system works for other kinds of payments as well, such as parking, drugstores, gas stations and *McDrive*.
- Car sharing services are changing the patterns of transport in the world and *Brisa* wants to be part of these trends. In a recent past, *Brisa* launched solutions, such as *DriveNow*, *VV Boleias*, *VV Planner* and *VV Estacionar*.

New ideas will occur, and certainly *Brisa* will contribute for this development.

ABOUT THE PROJECT

It is known that the senior population represents more than 20% of the Portuguese population. Having this said, this is a segment that attracts attention from companies and hence, *Brisa* wants to understand their needs in order to create mobility services adapted to this segment.

Collecting and analyzing secondary research about the segment allowed to have an overview of this population and define the steps needed to undertake this project. Later, the senior population was interviewed regarding their mobility habits for the short and long-distance trips so the customer journeys and personas could be built upon. The information collected allowed to identified the several emotional responses one goes through during their journeys and determine the problems *Brisa* is facing. In order to solve these problems, brainstorm sessions together with *Brisa* took place in order to identify possible solutions. These were then evaluated and ranked based on their impact and effort of implementation to find the quick-win solutions. Lastly, these solutions were tested near the potential customers in order to assess its acceptance.

EXECUTIVE SUMMARY: CHALLENGE AND OBJECTIVES

The goal of the project is to identify a business opportunity in the senior mobility sector and propose solutions to capture this market.

CHALLENGES

Is there a business opportunity in the senior mobility sector?	What are the needs and wants of the senior population in terms of mobility?	What are the trends and challenges of senior mobility in a global level?	How can *Brisa* implement senior mobility solutions in Portugal?

AIM AND OBJECTIVES

Aim

- To identify a business opportunity in the senior mobility sector and propose solutions to capture this market.

Main Objectives

- Understand the needs and wants of the senior population in terms of mobility;
- Analyse the current trends nationally and internationally regarding senior mobility;
- Identify personas and their customer journey to comprehend their pain and pleasure points;
- Recommend actions to mitigate the pain points;
- Develop implementation plans and perform P&L analysis.

EXECUTIVE SUMMARY: RECOMMENDATIONS

This project allows *Brisa* to better address the needs and wants of the senior population. Three quick-win solutions are believed to address the issues found in the senior mobility sector.

RECOMMENDATIONS

After researching about the segment, there are three recommendations proposed:

Adapt the new trends of mobility to this segment. A step back on app's usage by adapting ride-hailing services to the 65+ population by **creating a contact line by phone** that will substitute the app and the adding new services to the existing ones.

Expand the existing *VV Planner* platform to increase highways traffic, tourism and will induce a more active lifestyle among elderly people. This platform aims to create touristic routes though highways, making these trip more attractive to this customer.

Offer exclusive discounts for 65+ customers on *Colibri* Service Stations, through *Viagens & Vantagens* loyalty program. *Brisa* is the owner of these Service Stations and we recommend having **exclusive discounts for this segment** to attract this segment, improving customer's engagement.

TOTAL VALUE ADDED

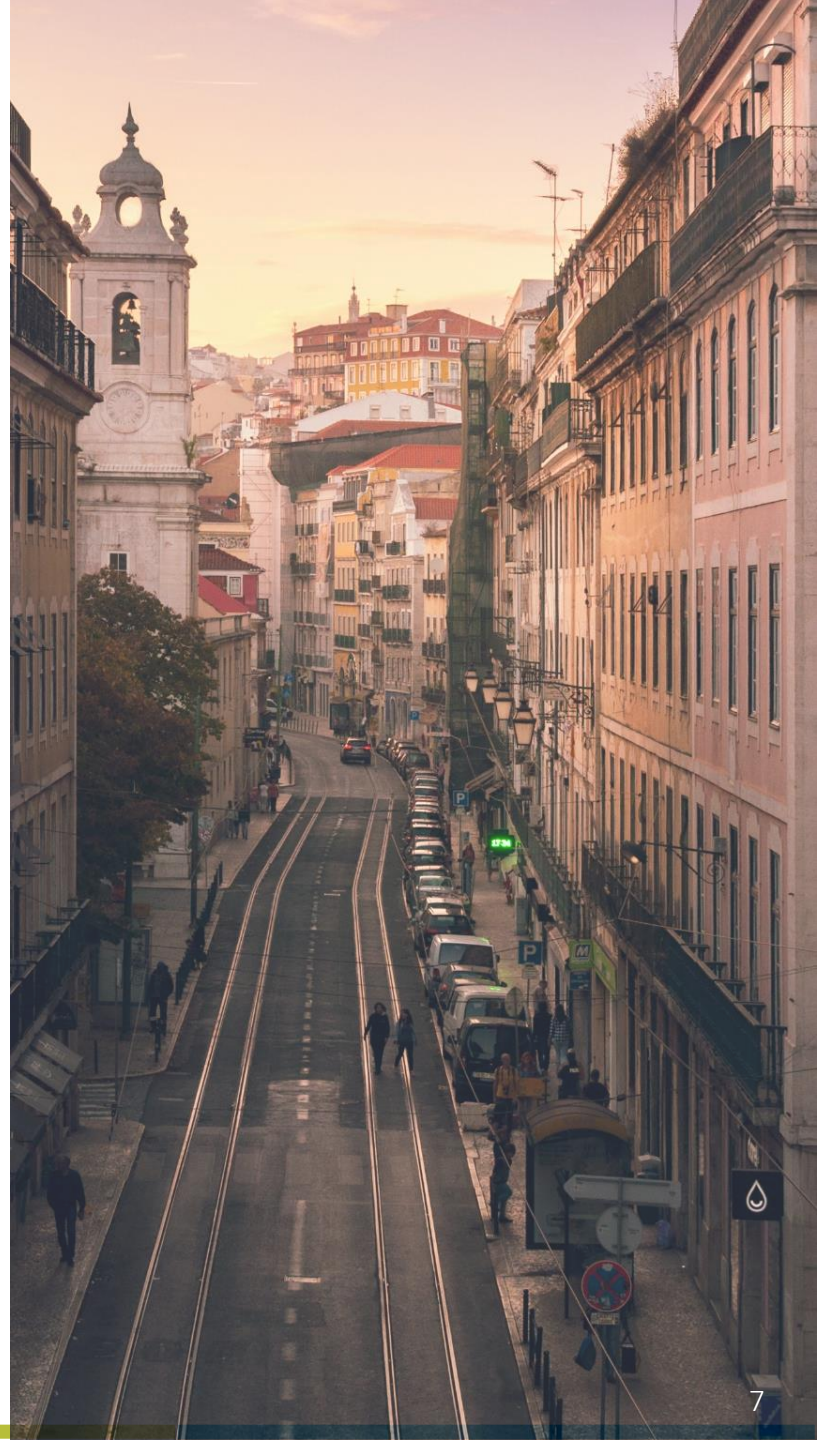
This project gives *Brisa* a deeper knowledge about the senior population. Now *Brisa* knows the issues and needs of this population and how to answer it.

Revenues coming from phone calls, as the calls to request for a ride would be paid by the customer and its revenue would go directly to *Brisa*. A commission on the transport service's revenue is suggested, however this component is subject to partnership agreement conditions.

Facilitating the planning of a journey and stimulating customers to make more trips would result in an increase in **highways' flow**. Since the platform displays many *Viagens & Vantagens* benefits it would also increase the **users of the program.** Deepen the **relationship** with consumers and widen the touchpoints between the company and the consumer.

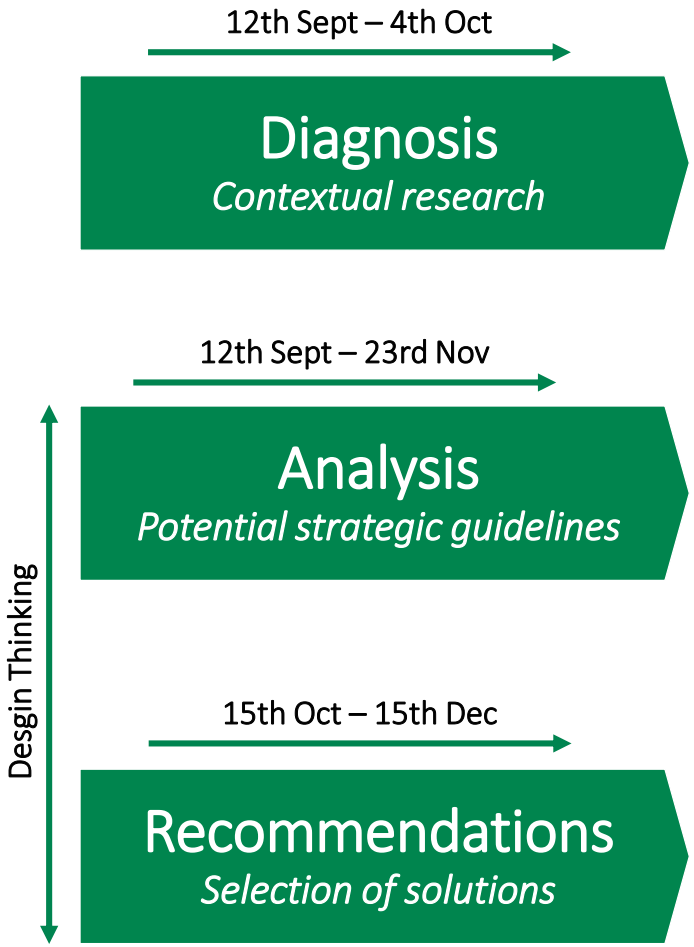
Increase the number of ***Colibri* Service Stations' customers** and the money spent. Increase the number of **users of the *Viagens & Vantagens* program** and expand the costumer's database as customers would need to give off some personal information in order to get access to the discounts.

AGENDA



I. METHODOLOGY: GENERAL METHODOLOGY

The project was divided in three main phases: diagnoses, consisting in a contextual analysis of the internal and external situation, followed by the analysis of the customer journey and lastly, identification and selection of solutions.



- Internal Analysis
- External Analysis

- Data Gathering (qualitative)
- Customer Journey Mapping
  - Identification and characterization of personas
  - Identification of Pain and Pleasure points
- Problem stating

- Identification, selection and development of solutions
- Data Gathering (Quantitative)
- Solutions prototype and testing
- Definition of KPI's
- Development of implementation plans

I. METHODOLOGY: PHASE I DIAGNOSIS

Firstly, it is important to analyse *Brisa's* current situation assessing its strengths and weaknesses to compete in the market.

Internal Analysis

Objective: Analyse *Brisa's* internal environment to identify the company's strenghts and weaknesses when competing in the market.

Method: Understand the company's current situation by evaluating its resources and capabilities (human, informational, financial and supply resources), assessing its current offerings (products or services) and analysing its previous performance (customer segments, profit by products, etc), allowing the company to learn from the past[1].

Components:

Organization	Detail the company structure, how *Brisa* is divided and identify the decisionmakers and their relationship with the other sectors; enabling the identification of different roles within each fragment and understand how the subsegments interact, communicate and work together.
Business Model	Analyse *Brisa's* business segments and get an overall picture of the company, to deeply understand the company and its management.
Current Offer	Identify *Brisa's* current portfolio, facilitating the understanding of the main focuses of the company and the upcoming critical analysis of these services.
Key Financial Figures	Review *Brisa's* financial performance, which allows to comprehend the company's health and pinpoint any financial issues and aids the future prospects of the company.

[1] (Woods, *Essential Guide to Makreting Planning*, 2010)

I. METHODOLOGY: PHASE I DIAGNOSIS

Analysing the industry environment enables the identification of opportunities the company can invest on whilst being aware of threats that may arise.

External Analysis

Objective: Analyse external environment to identify the opportunities and threats that can affect the company's performance.

Method: Understand the industry environment by analysing the trends and changes in the political, economic, social-cultural and technological context and in the competitive factors[1]. These analysis should cover the threats the company is facing and the opportunities it can leverage from but also a research on the market and customers (by reviewing trends in market share, product demand, consuming habits and customer satisfaction regarding mobility services) as they might influence a company's performance and ability to achieve its goals[2] .

Components:

World Trends	Identify global trends that can affect the interactions between companies, governments and consumers.
Industry Trends	Identify and analyse trends that have the most impact on the automotive industry and which require companies to act and adapt to them.
Portugal	Understand how the Portuguese government and its society will bring about the changes mentioned, what responses should be expected to new trends and how are companies and society perceiving such tendencies.
Lisbon Market	Comprehend the micro market of Lisbon which will be the main focus of the project; find its current opportunities and challenges and its prospective plans.
Customer Trends	Understand the needs, wants, habits, behaviours and consumption patterns of the senior consumer.

[1] (Woods, *Essential Guide to Makreting Planning*, 2010)
[2] (Hiit, Ireland & Hoskisson, *Strategic Management: Competitiveness and Globalization*, 2007)

I. METHODOLOGY: PHASE II & III - DESIGN THINKING APPROACH

On a second phase, to deeply understand the senior segment and identify opportunities to serve it, a design thinking approach was employed.

Design Thinking

Objective: Design thinking aims to provide a solution-based approach to solving problems. Comprehending the users involved and redefining the problem using a human-centric approach enables the company to identify alternative strategies and solutions[3].

Method: Design thinking is a five-stage process that entails empathizing with the segment in order to understand who they are and the needs they have, defining the problem based on the insights collected, ideate as much solutions as possible to propose innovative recommendations and prototyping and testing solutions[3].

Components[4]:

PHASE II: ANALYSIS

- **Empathize** — Understand seniors by observing, empathizing and interviewing them to assess their experiences, needs and motivations. Empathy allows a human-centric approach, benefiting from the users insights to gain a personal understanding of the problem.
  This step entails: customer journey mapping; personas definition; pain & pleasure points identification.
- **Define** — Analyse the segment' experiences, needs and motivations and the insights collected to define the core problem they are facing.
  This step entails: pain points analysis; problem statement.

PHASE III: RECOMMENDATIONS

- **Ideate** — Start of the creative process. Generate as much ideas as possible to tackle the problem identified in the previous stage.
  This step entails: brainstorming; decision matrix.
- **Prototype & Test** — Creation of a scaled down model of the solutions proposed to test their features near the potential buyers. Allows the team to have a clear idea of what users are expecting, how they feel and think about the product and the problems inherent to it. These stages enables the team to review the solutions and improve them before entering the market.
  This step entails: estimate personas' size; minimum viable product development; assess solutions acceptance; implementation plan.

[3] (Dam & Siang, *What Is Design Thinking and Why Is It So Popular?*, 2018)
[4] (Dam & Siang, *5 Stages in The Design Thinking Process*, 2018)

I. METHODOLOGY: PHASE II ANALYSIS - QUALITATIVE DATA GATHERING

As part of the design thinking approach, in-depth interviews were conducted to seniors to understand their mobility habits and needs.

Qualitative Analysis: In-depth Interviews

Objective: Understand mobility habits of the portuguese senior population and the customer's profile, needs, motivations, pain and pleasure points in short and long-distance trips in order to build the different personas and customer journeys.

Method: In-depth interviews are suitable for collecting data on a customer's opinions, feelings and experiences regarding a specific phenomena or event. Moreover, it is a great learning tool to explore personal perspectives on sensitive topics [5]. The interviewing process requires preparation from the interviewer as there is a goal to reach. Adopting an active listening posture may help in getting the most out of the interviewee's time and follow-up questions should be asked based on the customers' responses [6].

Even though only people aged over 65 are considered seniors, people aged over 55 year were considered for research purposes, as they are the future seniors of our society, to understand the senior's mobility trends. They were interviewed regarding their mobility habits for the short and long-distance trips so the customer journeys and personas could be built upon. The interviews covered topics such as daily activities, transports used for daily mobility, the perception customers have of it and whether they know other transport alternatives that equally satisfy their needs, as well as the knowledge and perception of the mobility services provided by Brisa. Additionally, the motives of these trips and which type of routes they take were topics that were mentioned in order to define the customer steps on their customer journey. Finally, questions concerning smartphone and computer usage and interviewee's demographic questions were asked.

Components:

Interview Guide	Delineate the information needed Define topics to be mentioned during the interview
In-depth Interviews	Register customer experiences and needs Track mobility habits for short and long distance trips List transportation used and pain/pleasure points of each
Data Analysis	Identify the several personas Define the possible customer journeys according to transportation used Analyse pain and pleasure points

[5] (Mack *Et. al, Qualitative Research Methods: A Collector's Guide*, 2005)

[6] (Rasiel, *The McKinsey Way*, 1999)

I. METHODOLOGY: PHASE II ANALYSIS - QUALITATIVE DATA ANALYSIS

After conducting the interviews, the information was then analysed to then define personas and customer journeys.

Qualitative Analysis: General Methodology

Objective: Define groups of customers with similar profiles and match them with the respective customer journey.

Method: The information collected through interviews was analysed using a content analysis grid according to a verbal analytical model. This analysis enables the identification of mobility and lifestyle trends, hence the definition of personas. It was then possible to match the personas with the customer journeys, based on mobility habits such as the type of trip made, transports used, pain and pleasure points identified along the journey.

Finally, pain and pleasure points analysis was performed to identify the most relevant problems among the sample collected. Pain points analysis enables the creation of solutions to better position the company/product/service, tackling the issues identified by the customers [7] .

Components:

Interviews analysis	Transcribe the recorded in-depth interviews Analyse of the information using a content analysis grid according to a verbal analytical model
Define Journeys and Personas	Identify mobility and lifestyle patterns in interviewees' answers, allowing to build personas Identify which are the transports used and the relevant aspects of the experience, building customer journeys Matching personas with the customer journeys
Pain & Pleasure Points Analysis	Identify which pain and pleasure points were mentioned by interviewees as part of their experience Define which pain and pleasure points are more relevant for the segment, considering their characteristics

[7](Shewan, *Pain Points: A Guide to Finding & Solving Your Customers' Problems*, 2018)

I. METHODOLOGY: PHASE II ANALYSIS - QUALITATIVE DATA ANALYSIS

Based on mobility and lifestyle patterns identified, personas that represent potential user types of *Brisa*'s services were then defined.

Persona

Objective: Understand the several customer's profiles, the differences in their mobility habits in the short and long-distance trips and how they interact with *Brisa*.

Method: Personas are characters created based on qualitative research to represent the several user types that experience a service and/or product in a similar way[11]. Thus, in order to match consumers' preferences with the different journeys key characteristics need to be defined. Additionally, to build the different profiles information on customers' demographic chacteristics, needs & wants, motivation and behaviors needs to be collected [12].

For this project, six personas were built based on the in-depth interviews perfomed and then divided into two big segments (Grey & Silver) according to their characteristics.

Persona's template

Objective: Illustrate the persona's profile.

Method: The persona's profile highlights the key characteristics about the typical customer, the transports used for short and long-distance trips, digitalization index and whether it is a *Via Verde*'s Client. The persona's storyline is also presented. Additionally, data collected through quantitative research about the persona to support the analysis is exhibited.

On total, six personas were defined to represent *Brisa's* potential customers among the Portuguese senior population.

[11] (Dam & Siang, *Personas: A Simple Introduction*, 2018)
[12] (Vedenin, *How To Create a Persona in 7 Steps*, 2017)

I. METHODOLOGY: PHASE II ANALYSIS - QUALITATIVE DATA ANALYSIS

Customer Journeys were built for each transport used for short and long-distance trips based on relevant aspects of the experience.

Customer Journey Map

Objective: Mapping the customer journey aims to analyse the various stages and touchpoints users go through in their mobility routines and their possible interactions with *Brisa*. CJM enables the company to empathize with its users by capturing their emotions (pain and pleasure points) throughout the process of interaction with the company[8] [9] .

Method: Build a diagram that highlights the steps customers go through when interacting with the company in order to understand the touchpoints that are used and how it affects the journey[10].

Through qualitative research is possible to understand a customer's motivations and emotions (pain and pleasure points) throughout the process and how they change along the experience[8].

Users with similar characteristics are put together with the purpose of analysing their behaviors to define the most relevant journeys.

Customer Journey

Objective: Mapping senior population's mobility habits in short and long-distance trips to comprehend which transportation they use, which actions they take and how it affects the journey itself.

Method: Through in-depth interviews, customers were able to describe their mobility habits and how *Brisa* plays a roll in their everyday life by explaining the type of trips they make throughout the year, the actions they take, the transportation used and their motives. These interactions were grouped in stages to better understand how the experience unfolds, allowing a more detailed analysis of the journey.

Furthermore, similar journeys are combined in order to identify behavioral patterns amongst the sample and to find the most relevant journeys. Nevertheless, mobility habits may change from customer to customer as different Brisa's services are used or different trips are made.

[8] (Marquez, Downey & Clement, *Walking a Mile in the User's Shoes: Customer Journey Mapping as a Method to Understand the User Experience*, 2015)
[9] (Richardson, *What You Can and Should Be Doing With Your Customer Journeys*, 2016)
[10](Richardson, *Using Customer Journey Maps to Improve Customer Experience*, 2010)

I. METHODOLOGY: PHASE II ANALYSIS - QUALITATIVE DATA ANALYSIS

Pain and pleasure points were identified and defined as more or less significant for seniors in comparison to an average adult.

Pain & Pleasure Points

Objective: Understand what elements can improve or worsen the customer experience and how they influence the decisions made.

Method: Identifying users' emotional responses throughout their journeys enables documenting what is negative and positive regarding the company's services, classified as pain and pleasure points, respectively.

Identifying pain points allows the company to focus on its weaknesses and find opportunities for improvement whereas pleasure points highlight the strenghts and what the company should leverage from in order to succeed [7].

The problems identified were based on the pain points mentioned by the customers during the in-depth interviews. These are divided according to the segment and type of trip (short and long-distance).

Problems Identified

Structure:

Grey Market	Short-distance Long-Distance
Silver Market	Short-distance Long-Distance

[7](Shewan, *Pain Points: A Guide to Finding & Solving Your Customers' Problems*, 2018)

I. METHODOLOGY: PHASE II ANALYSIS - QUALITATIVE DATA ANALYSIS

An appropriate illustration of each customer journeys, highlighting relevant pain and pleasure points was developed.

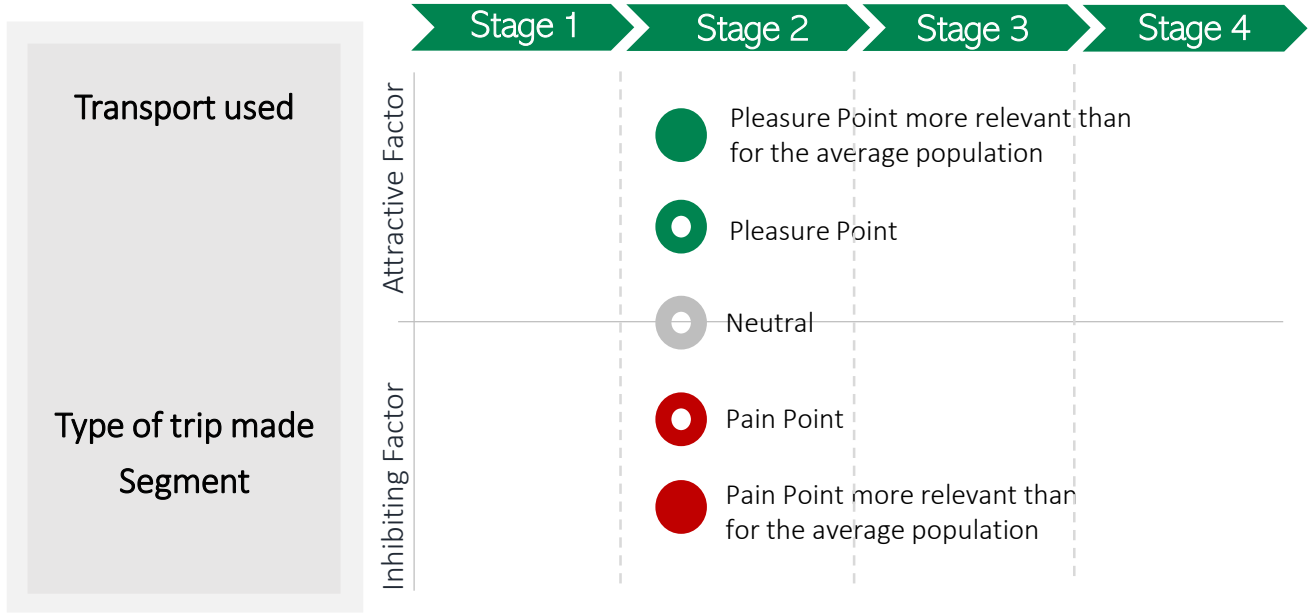
Customer Journey's Template

Objective: Illustrate the transportation used, type of trip made and pain & pleasure points along the journey.

Method: Each journey was built based on the segment's mobility habits, entailing the transportation used and whether it is a short or long distance trip. The journeys are also divided according to the four most relevant phases of a trip: planning, check-in, trip and check-out.

Afterwards, pain & pleasure points were distributed along the journey as they were mentioned by the different segments. Pleasure points are identified in green in the top section, neutral points are identify in grey in the middle section and pain points are identified in red in the bottom section.

Pain & pleasure points that are more relevant than to an average adult are represented by a full circle. Pain & pleasure points with lower relevance are represented by a donut.



I. METHODOLOGY: PHASE III RECOMMENDATIONS

After identifying pain & pleasure points of each journey, a brainstorming session took place to mitigate the problems delineated.

Brainstorm

Objective: Generate as much ideas as possible to mitigate the pain points and empower the pleasure points by interviewees to capture the senior market in the mobility industry.

Method: The final solutions presented went through a five-step process entailing a group brainstorming session to discuss possible ideas within the group and with *Brisa*'s team, a decision matrix to rank the ideas based on effort required to implement the idea and the impact of the solution to select the quick-wins[13], a validation session with the client to select the most interesting one, later these were tested near the customers to assess their acceptance and lastly, the implementation plans were developed.

For the brainstorming session, the *Metaplan* technique was used to list the ideas proposed by the team. This methodology intends to involve all participants in the group discussion by creating an informal environment free of judgements. In the first step, all group members write down their ideas and only then these are evaluated, organized and ranked. By promoting a more visual image of the ideas, this approach may reveal insights the team was not aware of.

[13] (ASQ, *Impact Effort Matrix*, 2010)

I. METHODOLOGY: PHASE III RECOMMENDATIONS

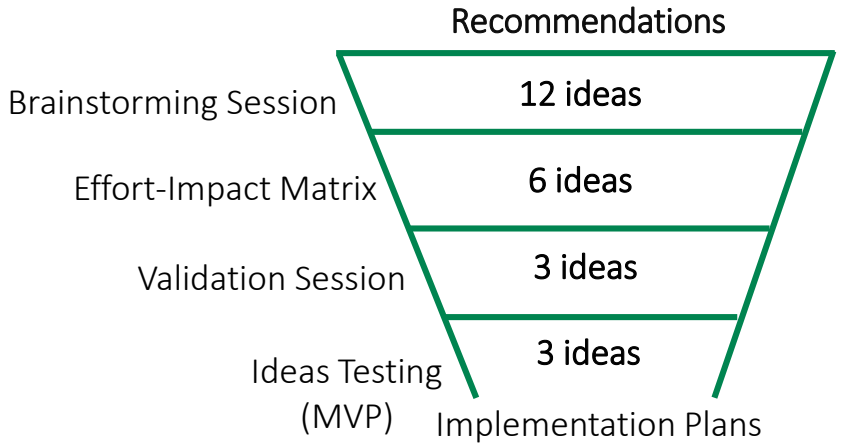
The ideas were then ranked and discussed with the client and, to meet their expectations, the three quick-win solutions were chosen.

Ideas Validation

Objective: Analyse, validate and test the solutions proposed to tackle the problems identified.

Method: The ideas were ranked on an effort-impact matrix (presenting four quandrants: quick wins, maybe and no go) in order to find the most interesting ones from the client's point of view as they were looking for short-term solutions. The selected ones were the solutions with the highest impact and lower effort of implementation, called the quick-wins. A questionnaire and a prototype of the quick-wins was carried out in order to test their acceptance near the potential customers [14] [15].

In order to assess the solutions acceptance, a minimum viable product (MVP) had to be developed. The MVP is a protype that is not just functional, it is reliable, usable and designed. This tool is useful to test the market as it allows to get a deeper knowledge on the product (issues and strengths) and on what customers want without investing a huge amount on product development. Hence, the funding needed for an MVP is typically low, so companies prefer to test the product through a low-cost MVP and only after that make a detailed and more realistic P&L account [16]. Additionally, the data gathered through the MVP provides feedback to be considered when building the final product.



[14] (Metaplan, *Structure & Strategy Consulting*, 2018)
[15] (Metaplan, *Metaplan Basic Techniques*, 2009)
[16] (*Minimum Viable Product and Design: Balancing Risk to Gain Reward*, 2018)

I. METHODOLOGY: PHASE III RECOMMENDATIONS - SOLUTIONS TESTING

Quantitative research was needed to validate the conclusions retrieved from qualitative research and to test the solutions found.

Quantitative Analysis: Questionnaire

Objective: Understand the relevance and estimate size of the personas created as well as test the ideas proposed to tackle the identified problems.

Method: Quantitative data gathering improves the process and the quality of the decisions made. Moreover, is a tool that enables to fill out any gaps qualitative data gathering might have left regarding customer behavior. Questionnaires are carefully structured to provide empirical evidence to support the hypotheses previously defined. The results can be easily compared and generalized to some larger population [17].

This questionnaire relied on convenience sampling as people had to agree and be available to answering to the survey. The topics adressed were the same as the interviews, nonetheless, it also allowed to assess the solutions' acceptance and understand how Brisa's service offering is perceived by customers and how the company can improve it in order to better respond to their needs. To do so, questions concerning the new services' features were asked to understand how willing the population is to use them in the near future.

Components:

Questionnaire Proposal	Delineate the information needed Define the questions to be asked
Questionnaire	Register customer preferences Test solutions provided to targeted respondents Profile and technology usage questions
Data Analysis	Estimate the size of the personas created Assess solutions' acceptance Understand how Brisa can improve its service offering

[17] (Statistics Solutions, *Quantitative Research Approach*, 2018)

I. METHODOLOGY: PHASE III RECOMMENDATIONS - SOLUTIONS TESTING

Quantitative data was collected through a questionnaire and the information was analysed using cluster analysis.

Quantitative Analysis: General Methodology

Objective: Validate conclusions and hypothesis and test solutions to decide whether they should be accepted[18].

Method: In order to quantify the personas previously created and validate the conclusions retrieved from in-depth interviews, the questionnaire was built in order to easily identify which kind of persona would the respondent be, for that questions about his mobility, technology usage and profile questions were done. The data obtained throuh questionnaire was treated, and for symplification a digitalization index was created for both computer and cellphone, then a data analysis was performed through cluster analysis to segment the individuals of the sample into their respective personas type, this segmentation was made in order to obtain segments that are mutually exclusive, ranking cluster variables such as (by order) autonomy; working life; short-distance trip reason; long-distance trip frequency; long-distace trip reason. This analysis enables the quantification and the validation of the personas created.

Finally, to test the solutions' acceptance, respondents that qualified for the test (belonged to the product's target group) were presented the product and asked about the likehood and frequency of using it, perception nd suggestions of improvement, this data was generally analysed focusing on each idea's results.

Components:

Data Analysis	Data collection and treatment Creation on digitalization index for data analysis symplification
Validate and quantify personas	Segmentation of individuals into their respective persona type Cluster analysis through predefined variable's ranking Quantify number of respondents belonging to each segment
Solutions' testing	Analysis of each solutions acceptance rate Analysis of sugestions proposed and reasons not to use the service

Cell phone's digitalization index

N/A: Does not have cellphone
Low: Phone call + SMS + Photographs
Medium: Low + Social Networks + Other Apps with help
High: Medium + Other Apps autonomously + Online shopping + Home banking

Computer's digitalization index

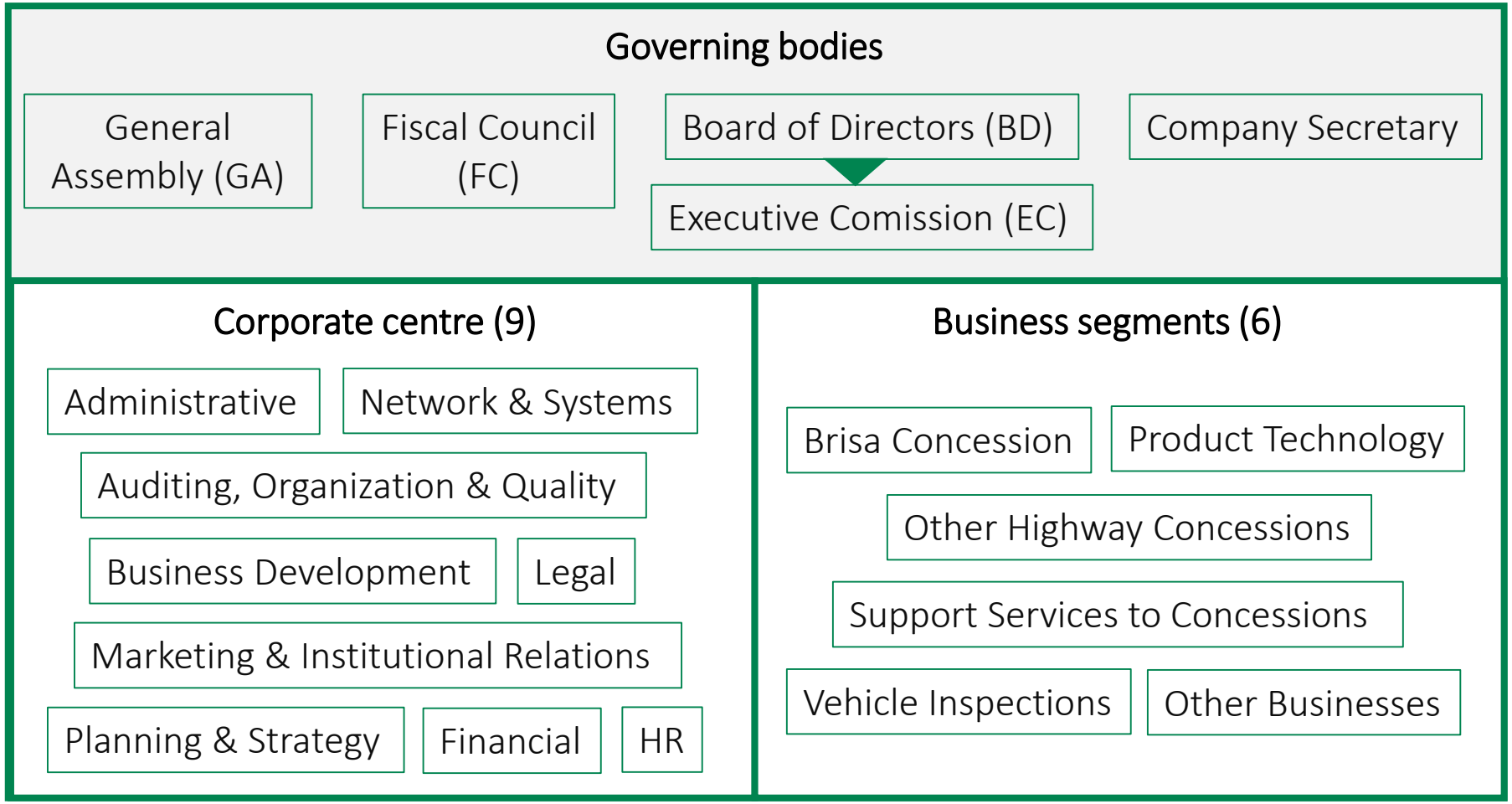
N/A: Does not have computer
Low: Work + E-mail
Medium: Low + Google + Social Networks
High: Medium + Online shopping + Home banking + Videocall

[18] (Anastasia, *Overview of Qualitative and Quantitative Data Collection Methods*, 2017)

AGENDA

II. DIAGNOSIS: INTERNAL ANALYSIS - ORGANIZATION

Brisa operations are organized into 6 business segments and 9 transversal corporate centres which answer to the Board of Directors.



[19](Brisa Website)

II. DIAGNOSIS: INTERNAL ANALYSIS - BUSINESS MODEL

Within *Brisa's* business segments, *Brisa* Concession and Other Highway Concessions are the core business of the company and what *Brisa* is known for, however *Brisa* is currently trying to expand other business segments, such as product technology.

Brisa Concession: Main concession of the group and covers 12 highways, for a total of 1 124 km of the Portuguese road system.

Vehicle Inspections: *Controlauto* has 46 inspection centres and ensures the vehicles' inspection are aligned with the enforced regulations.

Other Highway Concessions: *Brisa* holds interests in other road concessions, totalling 504 km.

Product Technology: Study and development of innovative technological solutions by *Brisa Inovação e Tecnologia* (BIT), with international projection through the brand *A-to-Be*.

Support Services to Concessions: Services supporting the operations and maintenance of the concessions.

Other Businesses: *Brisa* integrates other services such as, *Via Verde Serviços*, *DriveNow* and *BNV Mobility*, that explores new mobility solutions; and investments in infrastructures with *TIIC*.[19]

[19](Brisa Website)

II. DIAGNOSIS: INTERNAL ANALYSIS - CURRENT OFFER

Brisa's portfolio can also be divided in mobility services, *Via Verde* services and other services, counting also with a loyalty program. The project will have a greater focus on optimizing the existing portfolio, in order to create value for the senior consumer.

MOBILITY SERVICES

DriveNow: Carsharing service available in Lisbon.

Via Verde Boleias: Ridesharing app that connects people offering a ride with people searching for one.

Via Verde Estacionar: Allows to pay for parking in a level surface spot through the app.

Via Verde Planner: Digital planning platform for multimodal mobility in Lisbon and Oporto and between the cities.

Via Verde Transportes: The client can pay through the app to travel on *Fertagus* trains and *SulFertagus* buses.

VIA VERDE SERVICES

Instead of manual payments *Via Verde* allows its clients to enjoy the following services and pay directly with *Via Verde*.

Via Verde Toll

Parking

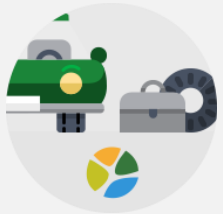
Galp Fuelling

Ferries

McDrive

FarmaDrive

OTHER SERVICES



Controlauto - car's inspection business of *Brisa* Group.

Brisa Áreas de Serviço (BAS) - manage service stations on BCR network, which includes *Colibri*, service stations fully integrated in *Brisa*'s ecosystem of services.

LOYALTY PROGRAM

Viagens & Vantagens: loyalty program in which clients earn points when using *Via Verde* for highway toll's payment or other *Via Verde* services. After collecting points, clients can get discounts on *Brisa* partners (such as leisure activities, hotels and automobile services). [19]

[19](Brisa Website)

II. DIAGNOSIS: INTERNAL ANALYSIS - KEY FIGURES

Brisa is the market leader of road infrastructures in Portugal and its focus on operational efficiency and customer service allows the company to stand out even on an international level.

1972
+45 years of experience

€679,3M
consolidated operating income

2 434
employees

6
Concessions

3,5M
Via Verde on board units

1 628 km
of the Portuguese road system

50 %
market share (travelled km, APCAP 2016)

1,3M
vehicle inspections

12M km
travelled by road assistance vehicles

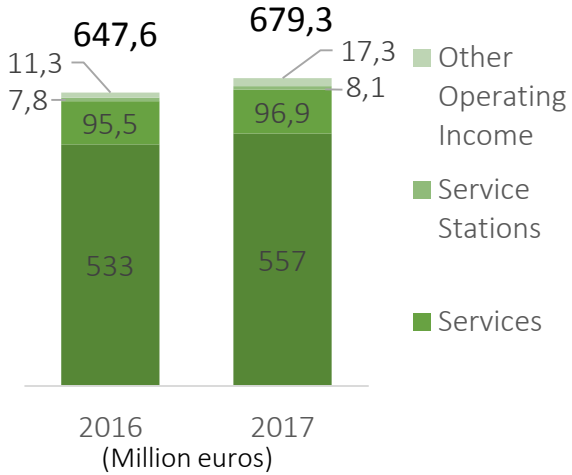
[19](Brisa Website)
[20](Brisa, *Brisa Integrated Report*, 2017)

II. DIAGNOSIS: INTERNAL ANALYSIS - KEY FIGURES

Brisa's constant monitoring of its services and the industry market allows the company to alienate some businesses and invest in more rewarding ones.

BRISA'S OPERATING INCOME [19] [20]

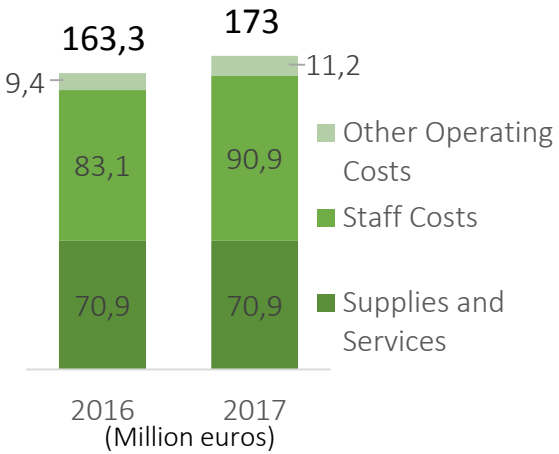
Toll's revenues account for 82% of *Brisa*'s operating income.
Services' revenues increased by 2,5% mostly due to growth in the "Product Technology" business segment.
Service Stations' revenues increased by 2,7%-
Other operating income increased by 5,2% mostly thanks to the new service stations management.



19 20

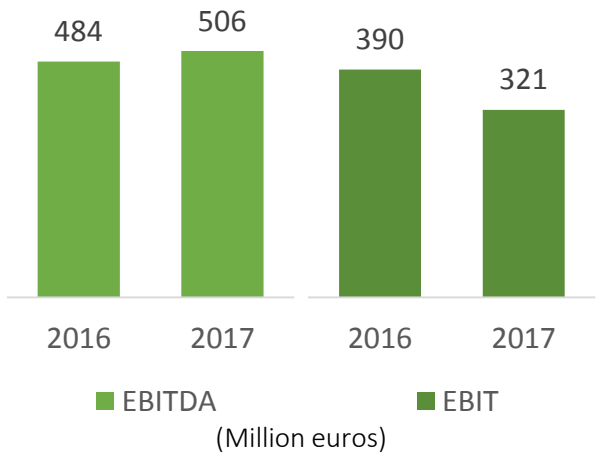
BRISA'S OPERATING COSTS [19] [20]

Brisa invested in new businesses (such as *Via Verde Boleias*) and created *BAS* to improve clients' experience on its highways.
Staff costs grew due to an increase of 90 employees.



BRISA P&L [19] [20]

EBITDA increased by 4,5% and its margin reached 74,5% in 2017,
Amortizations and Provisions increased in 2017, however 2016's value was very low due to the reversal of 2016's impairment related to Northwest Parkway concession in the United States,
EBIT decreased by 17,6%; registering a margin of 47,3% in 2017.



FINANCIAL INDICATORS [19] [20]

Brisa's leverage decreased by 123 million€ allowing the Net Financial Debt / EBITDA ratio to decrease and reach 3,8x.

	2016	2017
Net Financial Debt (€M)	2 041,5	1 918,9
Net Financial Debt/EBITDA	4,2x	3,8x
EBITDA/Interest Expense	4,7x	7,5x

[19](Brisa Website)
[20](Brisa, *Brisa Integrated Report*, 2017)

II. DIAGNOSIS: EXTERNAL ANALYSIS - WORLD TRENDS

A deep understanding of any industry requires a reflection on today's world dynamics and its consumers.

Consumer/Society [21] [22]

- Middle class explosion
- Aging population
- Women in workplace
- Urbanization
- Population growth
- Rich becoming richer
- Shrinking of household size
- Higher education

Consumer patterns [21] [22]

- Increase in private consumption
- Value convenience
- Simplification of choice
- Focus on health and wellness
- Customization
- Focus on shopping experience
- Hyper-connectivity
- Sharing economy
- Pay-per-use models
- Safety awareness
- Omnichannels

Geopolitical [22] [23]

- Rising labour and commodity costs
- Economic power shifts
- Economic interconnectedness
- Freedom of trade
- Security
- Data storage and data monetization
- Strength of IP Laws
- Sustainability concerns

Technological [21] [22] [23]

- Big data
- Internet of things
- 3-D printing
- Lightweight technology
- Advanced robotics
- Autonomous driving
- AI
- Virtual reality
- Wearables
- New energy forms
- Security concerns
- Man-machine dialogue

Environmental [22]

- Climate change
- Polluter-pays principle
- Pollution-free production
- Alternative powertrains
- Strict environmental regulation

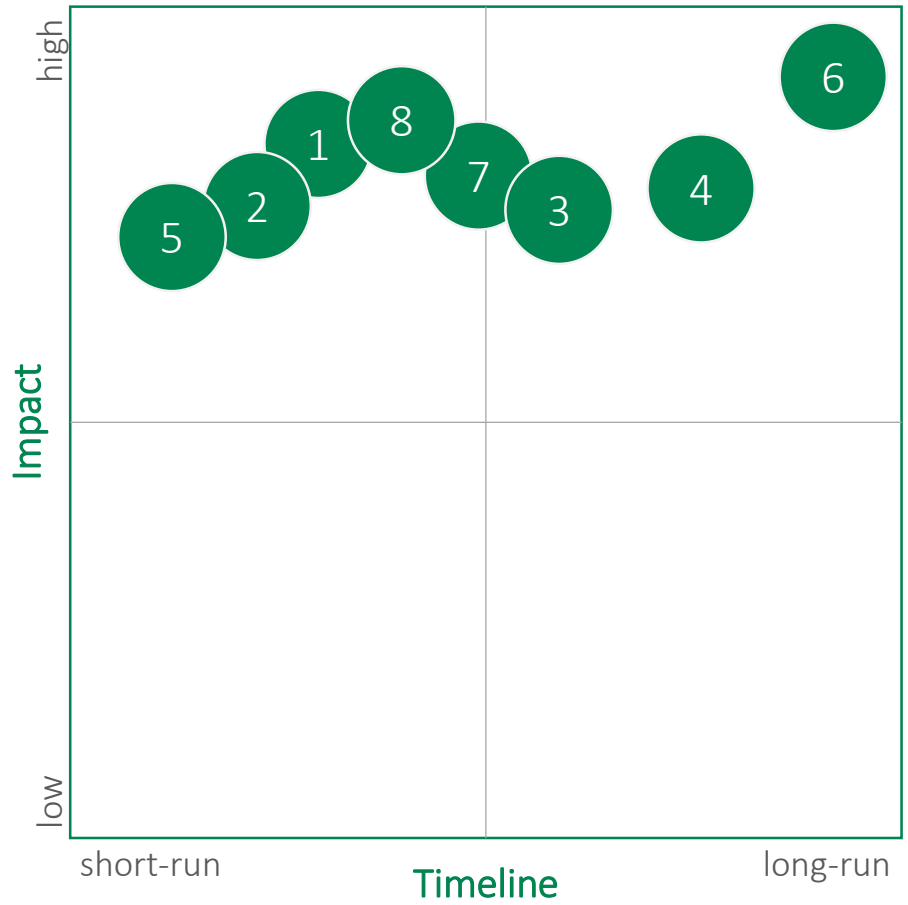
[21](McKinsey, *The consumer sector in 2030: Trends and questions to consider*, 2015)
[22](Deloitte, *The Future of the Automotive Value Chain* , 2017)
[23](Arthur D. Little, *The Future of Mobility 3.0*, 2018)

II. DIAGNOSIS: EXTERNAL ANALYSIS - INDUSTRY TRENDS

After analysing the characteristics of today's society it is needed to assess what these trends entail for the future of mobility and its consumption.

MOBILITY TRENDS [21] [22] [23]

1. Aging population
2. Urbanization
3. Connectivity and Internet of Things
4. Lightweight technology
5. Sharing Economy
6. Autonomous driving
7. Eletric Vehicles
8. Sustainability



[21](McKinsey, *The consumer sector in 2030: Trends and questions to consider*, 2015)
[22](Deloitte, *The Future of the Automotive Value Chain* , 2017)
[23](Arthur D. Little, *The Future of Mobility 3.0*, 2018)

II. DIAGNOSIS: EXTERNAL ANALYSIS - INDUSTRY TRENDS

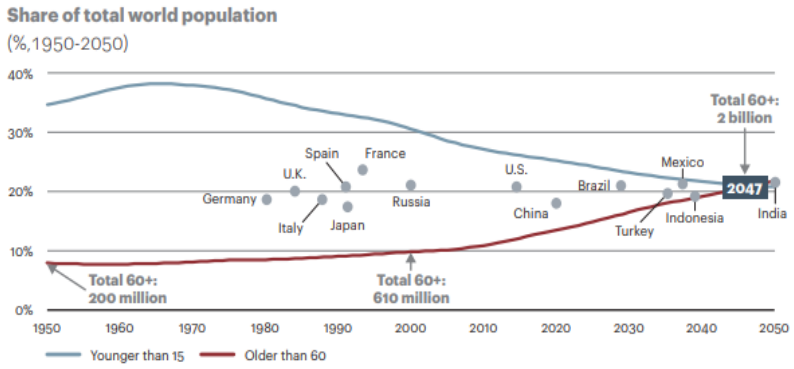
The future of mobility will have to satisfy the aging population needs, allowing them to maintain a social and autonomous life, moreover it will have to accommodate the fact that urban areas are becoming increasingly crowded, with higher levels of traffic and pollution.

1 Aging population

The low fertility and mortality led to the ageing of European populations; and by 2030 it is expected that more than one in eight people in the world will be 65 or older [24].

Elders' deterioration of health, accessibility and even driving privileges do not have to mean a loss of independence. Innovation and technology can help maintain the autonomy of older people.

Providing mobility services and tools that allows seniors to stay connected with their environment will facilitate a social, active and healthy lifestyle. Infrastructure and transportation system changes to facilitate their mobility will enable economic expansion and reduction in heath care costs [25].



To make its subway system more age-friendly, in Seoul elevators at each station were added, the platforms gates are automatic and there are audio and visual information systems. [26]

[24] Mcgraw Hill Financial, *Aging and Urbanization*, 2016)
[25](AtKearney, Understanding the Needs and Consequences of the Ageing Consumer, 2013)
[26](OECD, *Ageing in Cities*, 2015)

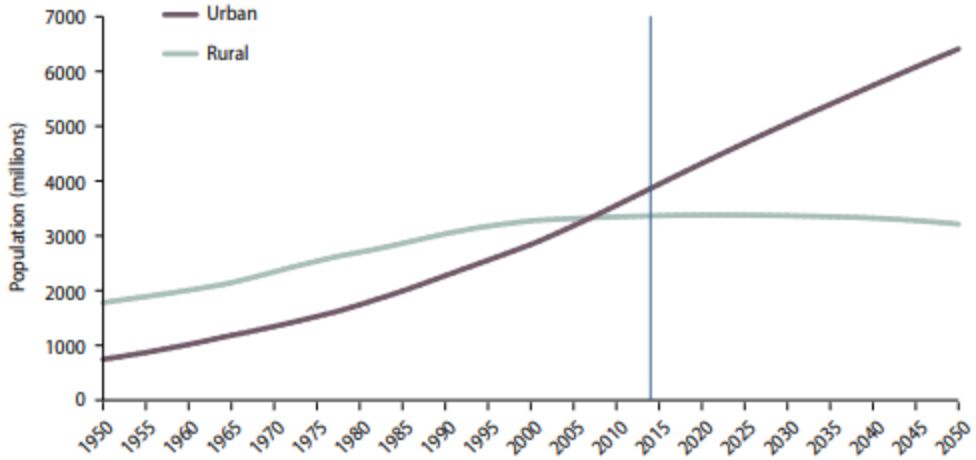
2 Urbanization

It's projected that more than 6 billion people will live in urban areas by 2050[27].

The high population density of urban areas increases the congestion and traffic in the city and intensifies air, water and soil pollution [28].

Sustainable cities require the expansion of transportation and diversification of policies to manage spatial distribution [29].

Urban and rural population of the world, 1950–2050



[27](UN, *Challenges and way forward in the urban sector*, 2016)
[28](McKinsey, *The future of Cities: Meeting the Growth and Age Challenge in European Cities*, 2018)
[29](UN, *World Urbanization Prospects*, 2014)

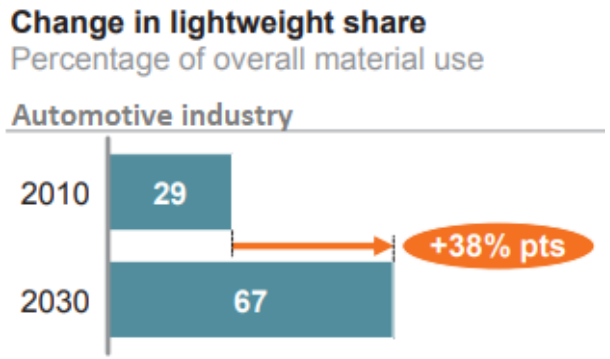
II. DIAGNOSIS: EXTERNAL ANALYSIS - INDUSTRY TRENDS

Innovation in the automotive industry will lead to the usage of lightweight materials when manufacturing cars and the development of highly connected cars facilitating traffic and the consumers experience.

3 Lightweight technology

The automotive industry has been exploring the possibility of using lighter materials to produce cars since weight has direct impact on the vehicle's agility and fuel consumption, but harsh policies normally required the usage of heavier parts considered stronger and safer[30].

However, nowadays materials like aluminium, high-tensile steel, and carbon fibre are both strong and light, fulfilling all necessary criteria. Additionally the increasing concern on CO_2 emissions and the ability of these lightweight materials to minimize fuel consumption, and reduce CO_2 emissions will increase its importance and usage[31].



[30](McKinsey, *Lightweight, heavy impact*, 2012)
[31](Goldman Sachs, *Cars 2025*, 2018)

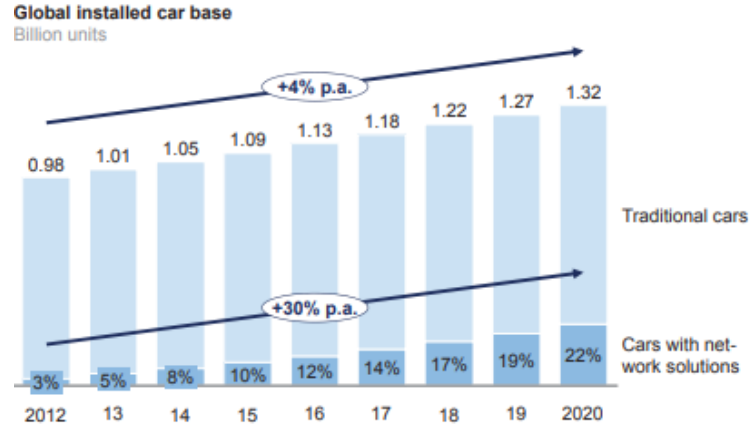
4 Connectivity and internet of things

In a hyper-connected world it's inevitable that cars will become more connected as well. The speedy adoption of mobile technologies has allowed transportation network companies like *Uber* to connect drivers and passengers[31].

A "connected car" will be capable of exchanging data between cars and with the outside world without a mobile device[32] [33].

Data-enhanced driving functionalities, such as accommodate journeys to the traffic, weather or road conditions, will reduce accidents, ease traffic and allow for a safer and more convenient driving for the consumer[34].

A progress in IoT already in place is *Volkswagen*'s Emergency Assist can, after realizing there's an emergency through the car's sensors, stop the car.



[31](Goldman Sachs, *Cars 2025*, 2018)
[32](PwC, *Connected Car Study 2015*, 2015)
[33](McKinsey, *The road to 2020 and beyond*, 2013)
[34](McKinsey, *Competing for the connected customer*, 2015)

II. DIAGNOSIS: EXTERNAL ANALYSIS - INDUSTRY TRENDS

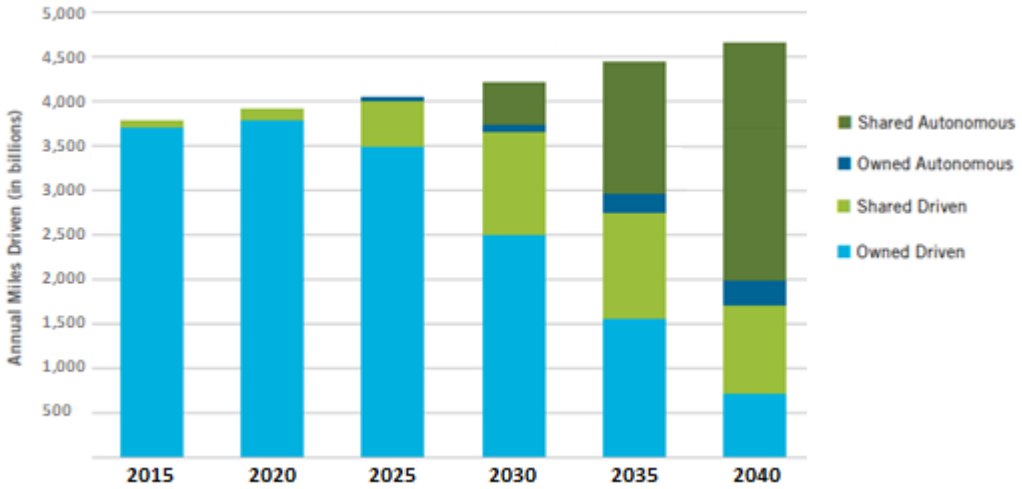
Shared-mobility is already a reality expected to continue growing. Even though there is still much debate around autonomous driving it will become a reality in a near future, so it is important to understand its repercussion for mobility.

5 Shared economy

The shift from privately owned to shared-mobility has started and in 2016 shared-mobility market in China, Europe and the US was nearly 54$ billion [35].

Ride-hailing services like *Uber* and car-sharing or moto-sharing services like *DriveNow* and *eCooltra* present consumers the benefit of eliminating the costs of purchasing and owning a car[33].

Shared vehicles allows to reduce costs and increase efficiency of mobility, as privately owned vehicles are parked 95% of the time. Thus, allowing for better city planning with less cars being used and less time of parking [36].



[35](McKinsey, *How shared mobility will change the automotive industry*, 2017)
[33](McKinsey, *The road to 2020 and beyond*, 2013)
[36](Forbes, *Top 6 Digital Transformation Trends In The Automotive Industry*, 2017)

6 Autonomous driving

Technologic developments, such as artificial intelligence and machine learning enabled the creation of autonomous vehicles.

"Driverless cars" are currently being tested, but there is still a lot of debate around its use since giving the control of a car to a software makes it vulnerable to hackers and other liabilities[37].

Nevertheless, self-driving cars will ease congestion, reduce mobility costs, reduce accidents and fatalities and provide mobility to more individuals [31].

In the US, Nevada, Florida, Michigan, and California states have already created legislation regarding autonomous vehicle technology[38].

Google's self-driving vehicles have already driven more than 500,000 miles and there were no crashes related to its automation. [37]

[37](Perkins+Will, *Designing For Future Mobility*, 2018)
[31](Goldman Sachs, *Cars 2025*, 2018)
[38](RAND Corporation, *Autonomous Vehicle Technology: A Guide for Policymakers*, 2016)

II. DIAGNOSIS: EXTERNAL ANALYSIS - INDUSTRY TRENDS

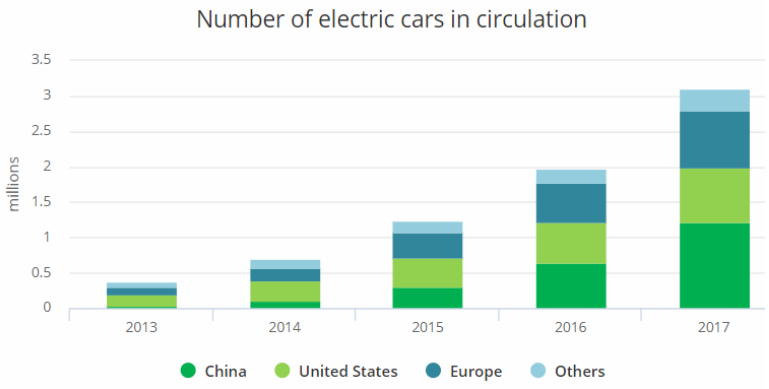
Climate change has increased the importance of sustainability and regulations on environmental consequences. Electric vehicles answer some of the environmental issues raised, hence its adoption and production is projected to rise.

7 Eletric vehicles

Sales of electric vehicles are expected to reach 1.6 millions in 2018, a very significant sales increase from the few hundred thousands in 2014[39].

Environmental concerns and potential government restrictions are forcing car producers to move away from diesel and create vehicles more efficient with lower CO_2 emissions[39] [36].

This will make the shift for electric vehicles a global trend and by 2025 it is expected that 25% of cars sold will have electric engines [40] [41].



In 2015 Sweden started testing fully electric buses in one of its largest cities. The buses are charged with electricity created by the wind and hydropower. If all 400 city buses were run on the same type of energy the annual reduction of CO_2 emissions would be 33 thousand tons. [42]

[39](UN, *Mobilizing Sustainable Transport for Development*, 2016)
[36](Forbes, *Top 6 Digital Transformation Trends In The Automotive Industry*, 2017)
[40](IEA, *Global EV Outlook 2018*, 2018)
[41](Bloomberg, *Electric Vehicle Outlook 2018*, 2018)
[42](McKinsey, *Elements of success: Urban transportation systems of 24 global cities*, 2018)

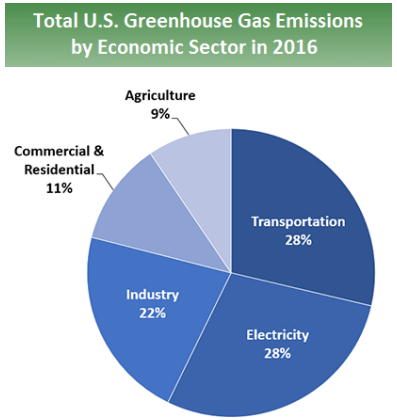
8 Sustainability

For the last 2 years transportation has remained the sector that emits more CO_2 in the US [43] and in Europe this sector is the only one in which emissions are still increasing.

The EU 2050 Strategy along with the UN 2030 Agenda for Sustainable Development and the Paris Agreement explore actions that can cut emissions of greenhouse gases and help the fight against climate change [44].

Stronger regulation and pressure from policy makers will demand for drastic changes in the automotive industry, in which public, electric and shared transportation will be preferred [45].

Oxford intends to be the first zero-emission city, starting by restricting the usage of non-zero emission vehicles to only 6 streets and by 2035 the circulation of this vehicles will be prohibited in the city. [46]



[43](EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016*, 2018)
[44](Wired, *Germany has proven the modern automobile must die*, 2018)
[45](France 24 , *EU agrees 35 percent cut in car emissions by 2030 in wake of UN report*, 2018)
[46](The Guardian , *Oxford aims for world's first zero emissions zone with petrol car ban*, 2017)

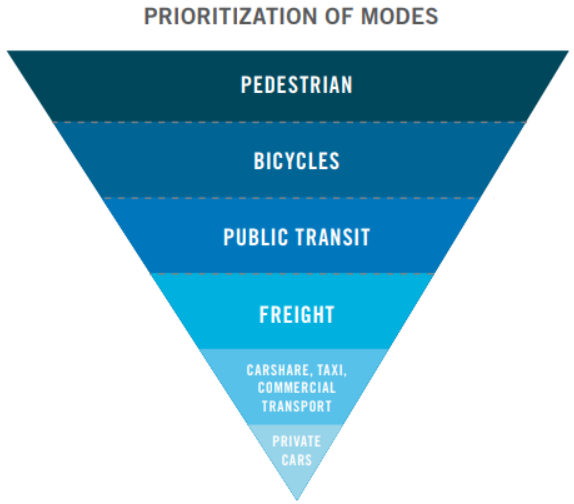
II. DIAGNOSIS: EXTERNAL ANALYSIS - IMPLICATIONS

Regulation should prioritize active, sustainable, shared and multi-occupancy mobility hence industry players should create solutions that are aligned with the regulation.

Regulation [37]

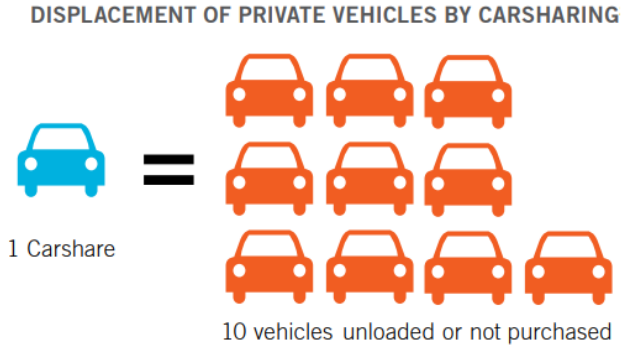
Active transportation

Active transportation, such as pedestrians and cyclists, will be preferred by policy makers, thus decisions about future mobility should put active transportation first.



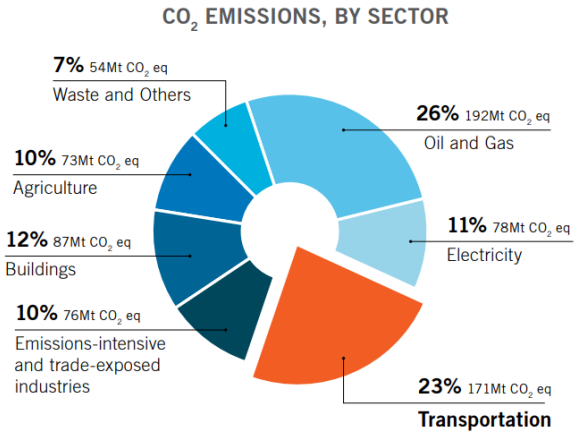
Shared

Shared mobility eases traffic and reduces number of vehicles in circulation and the number of parking spaces needed, thus regulatory changes should be made to discourage private vehicles usage.



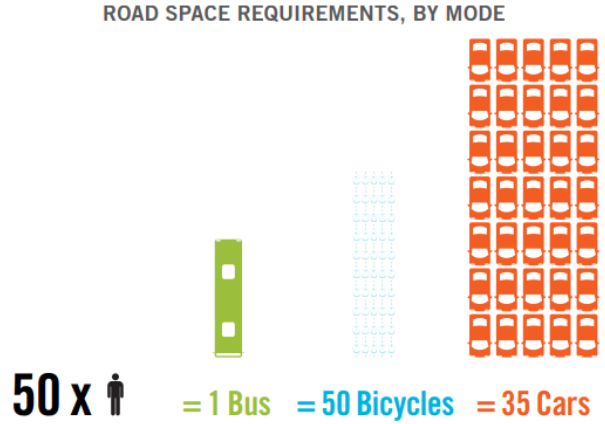
Carbon emissions

Governments will incentivize low carbon mobility and invest in making these sustainable options accessible and affordable to decrease CO_2 emissions.



Multi-occupancy

Public and active transportation are the modalities that save the most city space and ease the congestion problem, hence policies ought to always prioritize high occupancy vehicles and governments will have to supply high-quality public transportation.



([37]Perkins+Will, *Designing For Future Mobility*, 2018)

II. DIAGNOSIS: EXTERNAL ANALYSIS - IMPLICATIONS

Mobility is expected to become cheaper and more convenient leading to an increase in personal and vehicle mileage and sales. Along with technology improvements roads will become safer and cross-industry partnerships will arise.

Consumer

Costs: Shared vehicles will reduce the cost/km, as expenses are shared between all the consumers of the transportation.
Self-driving vehicles will allow to decline the perceived "cost" of time, since the consumer can now use the time he would be driving for leisure or work [37].

Private vs. shared: Cities' typology will determine mobility behaviour and usage - high density cities with a lot of congestion will adapt shared mobility while low density rural areas will continue to value private car usage.

Greenhouse gas emission: The impact on greenhouse gas emissions is still uncertain as the increase in miles travelled might actually increase pollution it all depends on the usage of the transportation options.

Multimodal mobility: Shift from one vehicle for all types of trips to a solution for each need and purpose.

Safety: Data analysis and crash avoidance technologies assimilated on autonomous vehicles will reduce accidents and mortality rate.

Industry

Cheaper mobility
Increase in mobility demands
→ Increase in personal mileage → Increase in vehicle mileage → Increase in vehicle usage → Increase in vehicle sales

R&D budget: R&D budget will move from product range to software development [47].

Automotive value chain: The automotive value chain will be extended to all the vehicles users across its lifetime and go beyond its factory sale.

Privatization: Tech, digital and automotive companies play a big role in shaping today's mobility, so in the future private and public sector should coordinate their actions and share data on the consumers.

Partnerships: The rise of connectivity and mobile apps transformed mobility into a service. Partnerships with tech companies will be increasingly relevant for the automotive industry [48].

[37](Perkins+Will, *Designing For Future Mobility*, 2018)
[47](McKinsey, *Automotive revolution: Perspective Towards 2030*, 2016)
[48](McKinsey, *Disruptive trends that will transform the auto industry*, 2016)

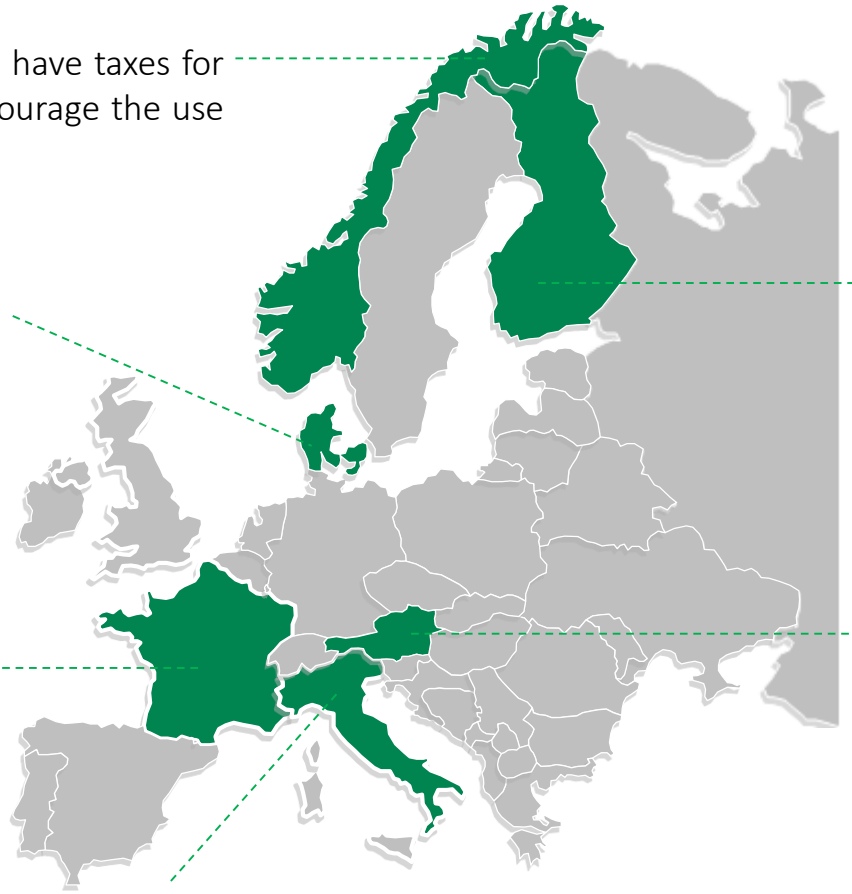
II. DIAGNOSIS: EXTERNAL ANALYSIS - INDUSTRY BENCHMARK

European countries have designed apps to ease mobility and created policies that discourage the use of fossil fuel vehicles, Portugal should follow the same path.

Norway decided not to have taxes for plug-in vehicles to discourage the use of fossil fuel vehicles [49].

Copenhagen's car-free zones, wide spread of bicycle lanes, the existence of bicycle highways and a good bike sharing system has helped to make the city one with the lowest rates of car ownership in Europe [49].

Paris plans to ban diesel cars by 2020, it wants to create more pedestrian-only areas and double cycle lanes. Recently the city has triplicated the parking price and increased the price of car impound [49].



Helsinki launched a mobile app called *Moovel* for a convenient "mobility on demand" service in which consumers tell their origin and destination and the app plans the journey and chooses the best transportation option for that trip, from driverless cars to buses. The main goal is to mitigate the need of personal cars and make them irrelevant by 2025 [49] [51].

Vienna developed a smartphone app (*Smile*) that informs consumers about all the available means of transportation and lets them pay for it through the platform. This has increased multi-modality and public transport usage, resulting in a more sustainable behaviour [49] [52].

Milan is testing incentives to make commuters use public transportation, for example sending vouchers with the amount of a public transportation ticket every time citizens leave their cars at home [49] [50].

[49](McKinsey, *Future of Mobility: Trends and implications,* 2017)
[50](Fast Company, *7 Cities That Are Starting To Go Car-Free*, 2015)
[51](The Guardian, *Helsinki's ambitious plan to make car ownership pointless in 10 years,* 2014)
[52](Smile-einfach mobil website)

II. DIAGNOSIS: EXTERNAL ANALYSIS - PORTUGAL PESTLE

From a macro to a micro level governments and legislators are catalysing the emergence of a new sustainable mobility ecosystem that reduce the number of vehicles in circulation. The automotive industry represents 4% of Portugal's GDP and to keep its competitiveness it must adopt to the new industry trends.

Political

EU strategies, such as the EU's Sustainable Development Strategy and Europe 2020, stimulates European countries to develop sustainable and energy-efficient initiatives in the transportation sector[53] [54].

The Lisbon Strategy 2010-2024 and the Lisbon Master Development Plan set as one of its goals "reduce the number of vehicles in circulation" and switch its usage to environmental friendly transportation options.

Lisbon has implemented strategies to decrease the number of vehicles in the city, such as restructuring streets and restricting vehicles accessibility [55].

"The Strategic Charter of Lisboa intends to provide an answer to a set of issues which the city of Lisboa faces and which represent the present main strategic challenges for planning the City, for envisioning the future, by planning and fulfilling what we altogether presently ambition for the City of Lisboa.
There are six main strategic questions faced by the future of the city:
(…)
How to turn Lisboa into an environmentally sustainable and energetically efficient city?"
– Câmara Municipal de Lisboa on Lisbon Strategy 2010-2024

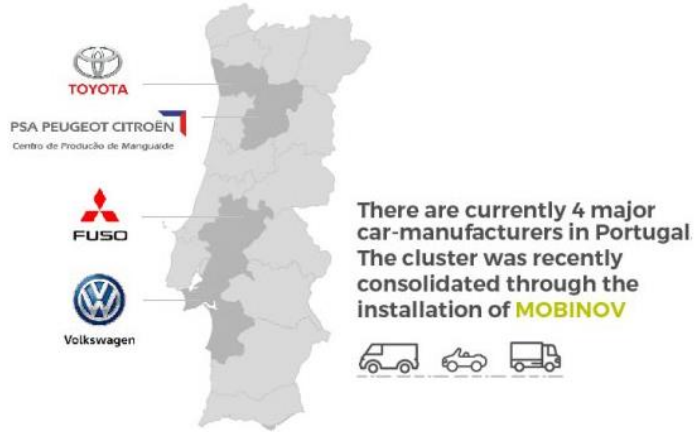
Economical

Portuguese economy has been recovering since the deep recession of 2010. Car purchases have increased since the economy started recovering after the crisis.

Automobile industry is an important sector of the Portuguese economy, representing 4% of the country's total GDP. [56]

In 2017, 175 000 vehicles were produced, representing an 23% increase on production[20].

Portuguese public incentives, such as Interface and *Indústria 4.0*, and European policies, like Europe 2030, seek to stimulate innovation in the sector [56] [57].



[53](EU, *EU Sustainable Development Strategy,* 2017)
[54](EU, *COUNCIL RECOMMENDATION (EU) 2015/1184,* 2015)
[55](Câmara Municipal de Lisboa, *The strategic charter of Lisboa 2010-2024*, 2009)
[56](Portugal In Website, 2018)
[20](Brisa, *Brisa Integrated Report*, 2017
[57](Âgência Portuguesa do Ambiente, *Relatório do Estado do Ambiente 2018*, 2018)

II. DIAGNOSIS: EXTERNAL ANALYSIS - PORTUGAL PESTLE

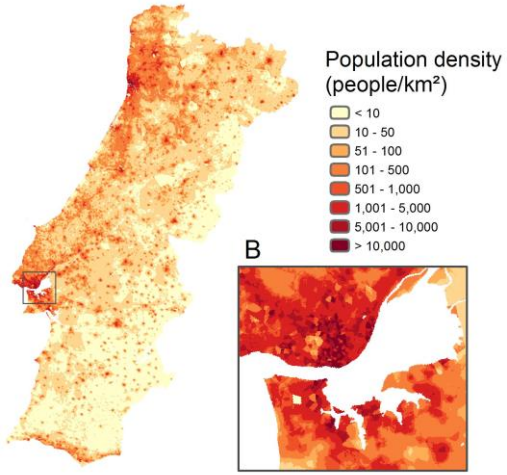
Lisbon is one of the most congested cities in Europe, around 30% of the Portuguese population lives in the capital, representing a big challenge for mobility. Although there has been a shift towards technological mobility options the elder Portuguese population isn't yet comfortable with technology, so a solution for this segment should respond to the lack of technological know-how.

Social

It is alleged that the migration to urban centres continues, which will lead to more congestion.

27% of Portugal's population lives in the metropolitan area of Lisbon, making it one of the most populous urban areas in Europe. Furthermore, it's the 20th European city with the most congestion, with a 36% congestion level (increase in travel time in comparison to a uncongested situation) [58].

The median age of Lisbon residents is 39.16 years, underlining that there's a big population that is not comfortable with technology and new forms of mobility [59] [60].



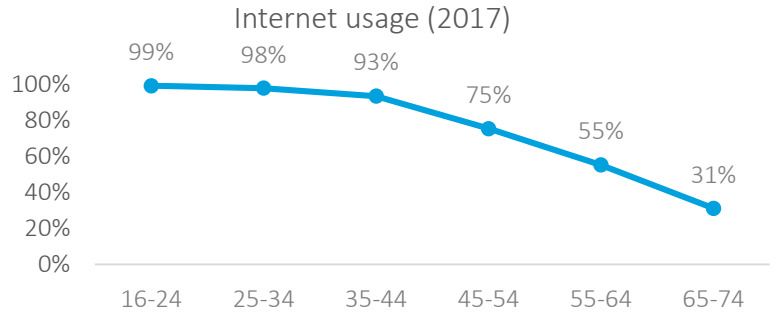
[58](Tomtom Website, 2018)
[59](Pordata, *População residente: total e por grandes grupos etários,* 2016)
[60](EU Website, *Lisbon Metropolitan region*, 2018)

Technological

In the Global Competitiveness Index Portugal is ranked in the 26 position out of 137 countries for Technological Readiness [61].

The emergence of new technologies such as electronic payment processes and digital safety systems to unlock vehicles have nurtured the perception of mobility as a service.

Adoption of new technologies has been quicker through the years. However, even though technology and digital services are easily accessed by newer generations, Portugal is still behind to other European countries when it comes to seniors usage. Only about 31% of the senior population has and uses technological devices. And only 6.7% of the population makes purchases of products or services online [62] [63].



[61](WEF, *The Global Competitiveness Report 2017-2018*, 2018)
[62](Observatório das Desigualdades, *Internet usage rate in Portugal and EU: increases with the level of formal educational attainment (2016)*, 2017
[63](Pordata Website, 2018)

II. DIAGNOSIS: EXTERNAL ANALYSIS - PORTUGAL PESTLE

International and Portuguese authorities established regulations to limit some unsustainable practices. The transport sector has a large negative impact in the environment, thus more changes should occur in the sector to make it more environment-friendly.

Law

International treaties, EU regulations and the Portuguese law have set regulations regarding CO_2 emissions, environmental protection and climate change.

Portugal has signed the Kyoto Protocol, and ratified the Paris Agreement, both committed to the environment protection [64] [65].

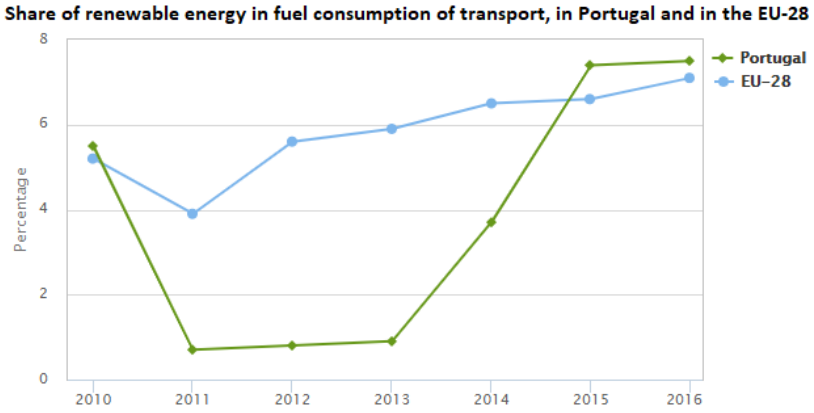
"All Parties should strive to formulate and communicate long-term low greenhouse gas emission development strategies, mindful of Article 2 taking into account their common but differentiated responsibilities and respective capabilities, in the light of different national circumstances."
– Paris Agreement

Environmental

The transport sector is the third most energy intensive sector, the incorporation of renewable energy in this sector reached 7.5% in 2016, slightly higher than the EU-28 average (7.1%) [66].

This sector is the second most impactful in regards to the generation of stratospheric ozone, responsible for 34% of its creation in 2016 [57] [67].

In 2018 Portugal holds an ecological footprint of 3.69 gha (area that each person needs to produce what it consumes and absorb the waste created) per person, which is very big in comparison to Portugal's biocapacity of 1.27 gha/person [68].



[64](Sustainable Governance Indicators Website, 2018)
[65](Âgência Portuguesa do Ambiente, *7th National Communication to the United Nations Framework Convention on Climate Change*, 2017)
[66](EU, *Environmental Indicator Report 2018*, 2018)
[57](Âgência Portuguesa do Ambiente, *Relatório do Estado do Ambiente 2018*, 2018)
[67](Portal do estado do ambiente Website, 2018)
[68](Público, *Se o mundo imitasse a pegada ecológica de Portugal precisávamos de 2,2 planetas*, 2018)

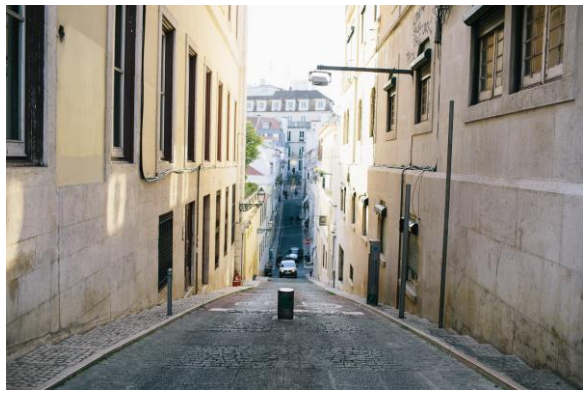
II. DIAGNOSIS: EXTERNAL ANALYSIS - LISBON

As Lisbon's citizens have a high dependency on private cars there are programs in place to promote and improve active and sustainable mobility in the city.

Current mobility in Lisbon [69]

Traffic:

- Narrow, hilly roads, poor signage and reduced parking that reinforces traffic and accidents;
- High dependency on private cars (53% of all journeys).



Public Transportation:

- Easy payment on the transportation system;
- Public transportation is not disabled-friendly;
- Safe public transportation;
- Metro is a reliable system (98% on-time).

Regulations and initiatives:

- Initiatives for sustainable transportation;
- No clear regulation for future autonomous vehicles.

What does the future hold?

Traffic:

- Develop pedestrian areas, shared public spaces and extend bicycle lanes;
- Promote active mobility (bicycle and pedestrian);
- Installation of more electric vehicle charging points;
- Introduction of electric cargo bikes
- Create car parks near transport stations with integrated monthly fees with public transportation;
- Forbid heavy vehicles to enter the city during working hours.

Public Transportation:

- Commitment to modernize public transport;
- Get electric vehicles for public transportation;
- Install free Wi-fi on public transportation;
- Improve public transportation to be fully accessible for disables..

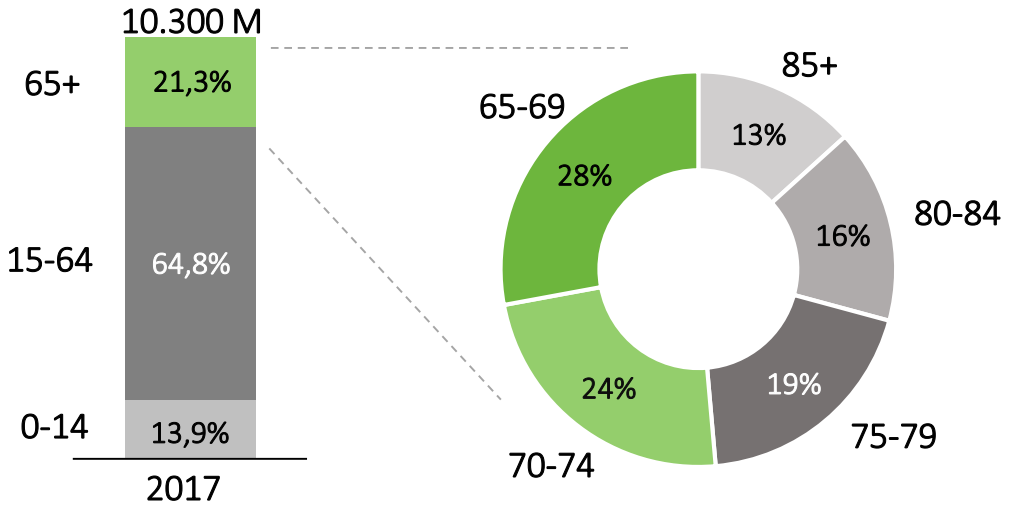
[69](Deloitte, *Deloitte City Mobility Index - Lisbon*, 2018)

II. DIAGNOSIS: EXTERNAL ANALYSIS - PORTUGUESE SENIORS

More than 1 in 5 Portuguese are older than 65 years, a segment that has higher income than the population's average and less technologic capabilities. In a world focused on millennials and new technology trends this segment represents an opportunity for companies that want to expand their target.

Demography

Portugal is the 4th EU country with the oldest population. Currently, 43% of individuals older than 65 live in the metropolitans areas of Lisbon and Oporto [70] [26].



Money

The average annual net income of a senior (11 543€) is higher than the population average (9 352€). The main expenses of the seniors are in housing, food, health, HORECA and transportation [71].

Housing

51% of Portuguese from 50 to 75 years old live with their descendants (daughter, grandsons and grand grandsons) and 8% live with their ancestors (parents, stepparents) [72].

Education

Nowadays seniors have more education:
Data from 2017 shows that from 23% have no education level; 65% completed elementary school; 4,5% completed high school and 7% completed a degree of higher education [73] [74].

Tourism

The 65+ segment represents 16% of the total of tourists in Portugal and 85% of those seniors do tourism in Portugal.

- 44% travel to visit family and 43% for recreation;
- From the ones who do not travel 44% say it is due to economical reasons and 17% because of health reasons [75] [56].

Technology

Only 30% of seniors use computer or/and smartphone and 68% never used the internet [75] [77].

[70](Coresight Research, *The Silver Wave – Understanding The Aging Consumer*, 2016)
[26](OECD, *Ageing in Cities*, 2015)
[71](INE, *Inquérito à Utilização de Tecnologias da Informação e da Comunicação pelas Famílias*, 2015)
[72](Observador, *Quem são e como vivem os idosos em Portugal*, 2014)
[73](Jornal de Notícias, *Idosos estão mais cultos, saudáveis e ativos*, 2012)
[74](Público, *Estudo europeu conclui que população idosa portuguesa é pouco saudável*, 2018)
[75](Pordata Website, 2018)
[76](INE, *Estatísticas do Turismo 2016* , 2017)
[77](Público, *Portugal é um dos países mais envelhecidos da UE à frente de Espanha*, 2018)

II. DIAGNOSIS: EXTERNAL ANALYSIS - PORTUGUESE SENIORS

Seniors are the biggest group of consumers in Portugal and have different needs, behaviours and attitudes from the rest of the population, which must be taken into account when marketing to them.

Biggest consumers: The group from 50 to 64 years old is the consumer with the highest weight on consumption (38,1%), followed by the consumers with more than 65 years (24,1%) [78].

Buy > Rent: Only 9% of seniors rent materials as they want to use their products without restrictions [78].

Prefer human contact: Seniors value the personal relationship in the act of buying [78].

Most important factor when buying is the price [78] :
1st Price
2nd Quality
3rd Functionality

Non-digital shoppers: Little boutiques in the city and the shopping mall are the preferred shopping places. Only 7% shops online [78] [79].

User-friendly tech: As IoT becomes more advanced and sophisticated brands also release simpler and more intuitive products for non-digital natives, like *Gen X* and *Boomers* [78] [80].

Safe tourism and low season: Seniors have the money, the time and the availability to travel at any time. Seniors focus more on safety than younger generations and search for a diversity of experiences on low season [78] [81] [82].

[78](Observador, *O Observador Cetelem*, 2016)
[79](Jornal Económico, *Os 'baby boomers' amadureceram…*, 2018)
[80](McKinsey, *Guia para a Integração a Nível Local da Perspetiva de Género na Mobilidade e Transportes*, 2018)
[81](Trend Hunter Website, 2018)
[82](Imagens de Marca, *Principal alvo das marcas: as gerações*, 2018)

II. DIAGNOSIS: EXTERNAL ANALYSIS - BENCHMARK

Services have been developed to fulfil the needs of seniors, however they mostly answer broad mobility needs (e.g. *Uber*) or mobility needs related to health (e.g. *Zoomability* and *Veyo*).

Mobility services for seniors in Portugal [83] [84]

Seniors benefit from discounts on public transport.

Increase of specialized transport services for this segment, especially related to health (eg. *Serviço de Apoio ao Idoso*).

Increase of digital mobility platforms (eg.: *Uber*, *Cabify*, *Taxify*).

Benchmark of services for seniors [85] [86] [87]

Many of the private sector responses aim to improve the lives of less autonomous and more isolated seniors by combating:

- Isolation in their residential area (e.g. *Favor Exchange*);
- The complexity of using smartphones (e.g. *GoLivePhone*);
- The difficulty of day-to-day mobility (e.g. *Zoomability*);
- Precarious and unmonitored health (e.g. *Doctor On Demand*);
- The lack of help in situations of danger (e.g. *Honor*);
- Scarcity of transportation to health facilities (e.g. *Veyo*);
- Unutilized professional skills (e.g. *BiTWiiN*)

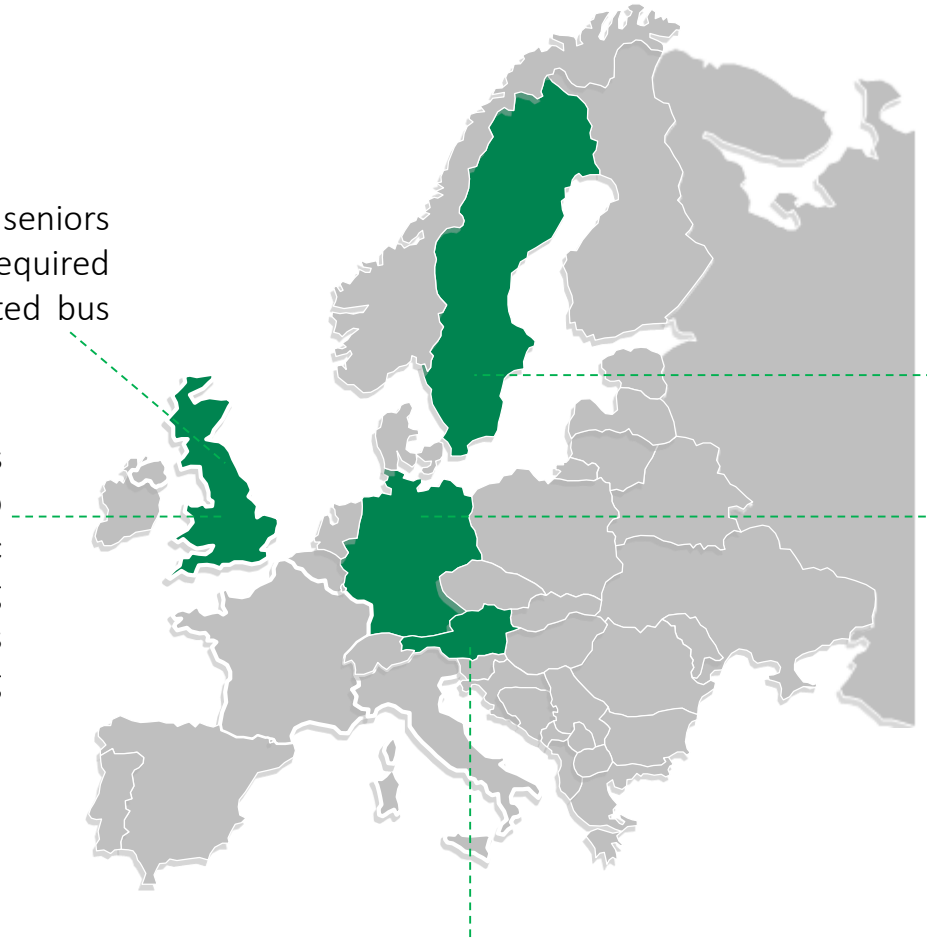
[83](Assembleia da República, *Apoios Sociais a Idosos*, 2018)
[84](Local Gender Equality, *Guia para a Integração a Nível Local da Perspetiva de Género na Saúde e Ação social,* 2016)
[85](EU, *Older people in Europe EU policies and programmes*, 2014)
[86](EU, *Silver Economy - Active aging*, 2015)
[87](EU, *Services for older people in Europe*, 2008)

II. DIAGNOSIS: EXTERNAL ANALYSIS - BENCHMARK

European cities have started to accommodate their public transportation to the struggles of seniors, showing the importance of such measures.

Manchester and **West Bromwich** realizing seniors avoided using public transport when it required them to change during a trip, implemented bus interchangers stations network [88].

Shopmobility in **Birmingham** gives seniors with mobility disabilities the possibility to borrow mobility aids, such as electric scooters and walking frames, when arriving at a shopping centre. This complements the public transportation by facilitating their mobility [88].



Göteborg has travel assistants on public transports that can assist seniors on request; they can help with luggage, assist at interchangers or even orientate at stations [88].

Rhine & Ruhr area's public transportation authority created *BearTicket* for seniors with the intent to encourage them to be active members of society. It's valid all day and guarantees 1st class access and during off-peak hours the senior can take along an adult or up to 3 children with them [88].

Salzburg bus operator created a training program for both elder passengers and drivers, in which passengers learn how to enter the bus and to move around safely and drivers can understand the struggles of seniors. This has proven to make seniors feel safer and use the bus more frequently [88].

[88](Rupprecht Consult, *Older People & Public Transport*, 2007)

II. DIAGNOSIS: SWOT ANALYSIS

Brisa is a market leader well known by the Portuguese population, however since its name is deeply connected to the tolls business it can make it difficult for Brisa to embark on other mobility endeavors.

Strengths

- High brand awareness and equity
- Market leader (highways concessions)
- Innovative company
- Powerful group
- **Business diversification**
- International scope and presence

Weaknesses

- Limited liquidity
- Large debt
- Mostly known for the tolls' business

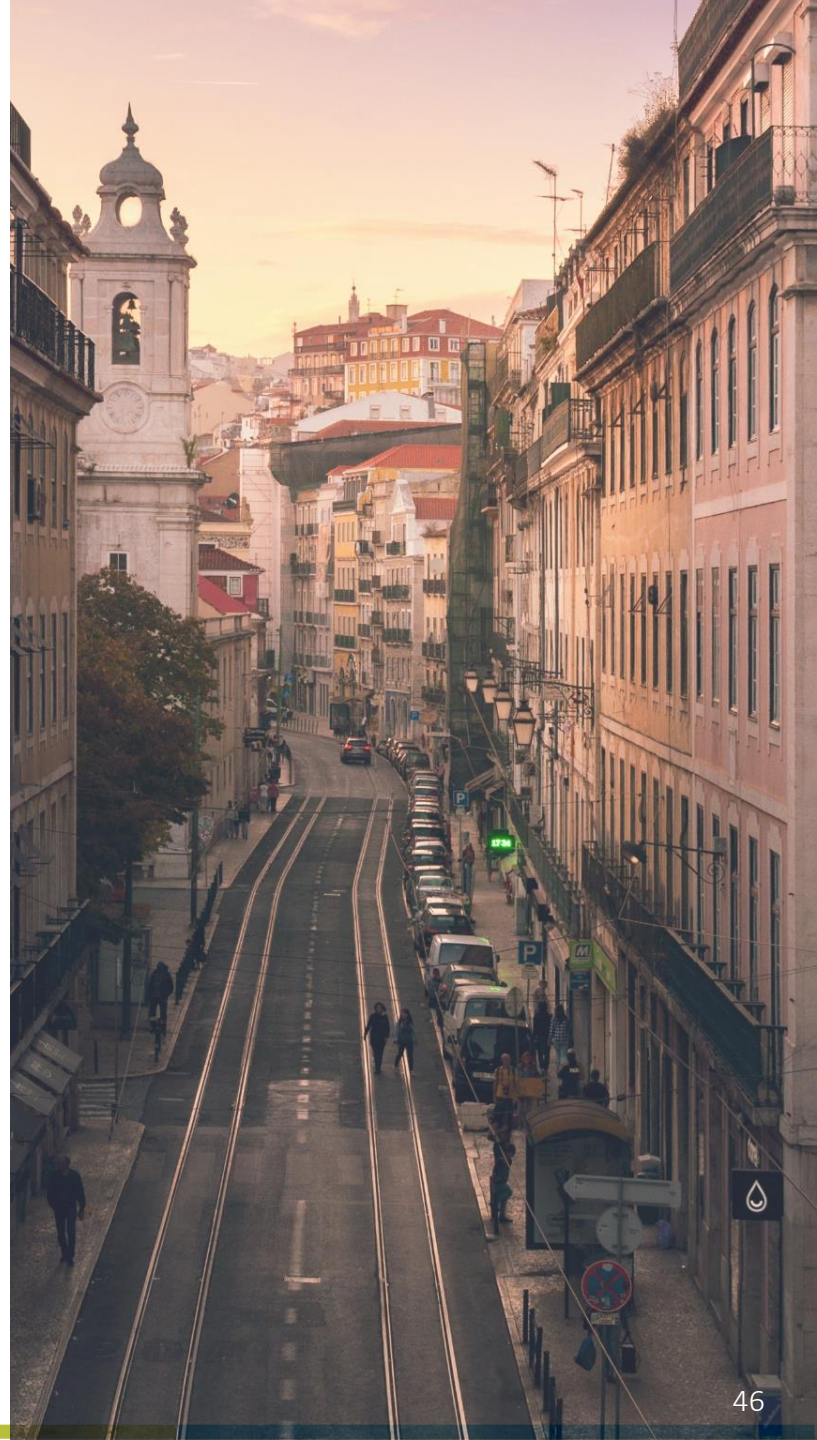
Opportunities

- New mobility trends
- Social responsibility awareness
- Cross-industry partnerships
- Technological innovation

Threats

- Investment in public transportation
- Economic recession
- Environmental regulations
- Increase in oil prices
- Financial risks

AGENDA



III. ANALYSIS: DATA GATHERING OVERVIEW

To understand the habits and needs of the senior population living in urban areas, 36 people were interviewed, and the conclusions of those interviews were validated through a quantitative questionnaire.

Qualitative Research

36 In-depth interviews

People from Metropolitan Area of Lisbon

Structure

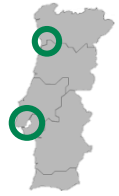
1. Pre-recruiting questionnaire
2. In-depth interview using direct method

Sample Details

Gender	Male: 50% Female: 50%	Drive	Yes 61% No 39%
Age	55-64: 25% 65-74: 50% 75-84: 25%	Own a car	Yes: 64% No: 36%
Work Life	Working: 17% Retired: 83%	Via Verde's Client	Yes: 53% No: 44%

Quantitative Research

455 Valid Answers



People from Metropolitan Area of Lisbon and Porto

Structure

1. Convenience sample
2. Pre-recruiting questionnaire
3. Mobility habits questionnaire
4. Prototypes' testing
5. Demographic profile questionnaire

Sample Details

Gender	Male: 42% Female: 58%	Drive	Yes: 76% No: 24%
Age	55-64: 25% 65-74: 50% 75-84: 25% +85: 3%	Own a car	Yes: 81% No: 19%
Work Life	Working: 48% Retired: 52%	Via Verde's Client	Yes: 66% No: 34%

Outcome

1. Personas
2. Customer Decision Journey (Pain & Pleasure Points)

(Group Analysis)

IV. ANALYSIS: PERSONAS

Based on the insights gathered from 36 interviews and applying Design Thinking methodology, 6 different Personas were identified depending on what are their habits and how they move around in the metropolitan area.

Qualitative Analysis

Elderly

Graça
80-90 years old
Pensioner
Moves around the city with her children, caregiver or by specialized transport

Active Retired

José
65-75 years old
Retired but has a part-time job
Moves around the city by car and by foot
Travels to his home town, 3 times a year

Grandparents

Manuel and Maria
65-75 years old
Retired, taking care of their grandchildren
Move around the city by car and public transport
Travel to their home town, at least twice a year by car

Explorers

João and Vera
60-70 years old
Newly retired
Move around the city by car
Travel at least 3 times a month by car

Excursionists

António and Lurdes
70-80 years old
Retired
Move around the city by public transports
Go on excursions 3 times a year

Worker

Judite
55-65 years old
Working age
Moves around the city by car, “commuter”
Travels at least 3 times a year by car

IV. ANALYSIS: PERSONAS

The Elderly have little mobility, visit the doctor regularly accompanied by their sons or caregiver and only use their mobile phone for phone calls, which translates into a low digitalization index.

Qualitative Analysis

Elderly

Graça, 84 years old

Lives in Anjos

Born in Penacova

Widow

2 children and 4 grandchildren

Not *VV Client*

Graça

- Pensioner, never worked.
- Has a formal caregiver (5h per day).
- When she needs to go out of the house, her children drive her or she uses a specialized transport service, mostly to go to the doctor, where she goes monthly.
- Sometimes her children take her, when they go to their hometown in Penacova.

Quantitative Analysis

Sample size 15*/455

Conditions
Retired
Not autonomous
Does not drive

Demografics

Age
55-64: 20%
65-74: 20%
75-84: 40%
+85: 20%

Digitalization Index

Phone
N/A: 13%
Low: 60%
Medium: 7%
High: 20%

Computer
N/A: 66%
Low: 7%
Medium: 27%

Short-distance Mobility

- Most of the days they are at home, going outside for shopping (60%) or to go to the doctor (47%) with the help of a caregiver (67%) or their relatives (27%).

Long-distance Mobility

- 47% do not do any long-distance trip in a year.
- The remaining ones that do, go either by car (50%), taxi (15%) or public transports (35%), to visit friends and relatives (80%).
- The ones who travel by car, do not drive the car (100%), and stop in service stations to refuel, rest and have snacks (80%).

(Group Analysis)

*Sample with less than 30 observations, can be biased.

IV. ANALYSIS: PERSONAS

The Grandparents take care of their grandchildren during the day and move around primarily by car, complemented with the use of public transports and taxis. As for their technological know-how they are familiar with the computer but use mobile phone just for calls.

Qualitative Analysis

Grandparents

Maria, 68 years old
Manuel, 72 years old

Live in Campo de Ourique
Born in S. Pedro do Sul
50 years of marriage
2 children and 3 grandchildren

VV Client

(Group Analysis)

Maria

- Retired, used to work as a seamstress.
- Does not have a driver's license.
- When Manuel can't drive her, she goes by public transport to the city centre, the supermarket and cafe.
- Takes care of her grandchildren everyday after school and prepares their meals.
- Occasionally visits her doctor, and most of the times she takes the taxi to get there.

Manuel

- Retired, used to be a cop.
- Drives his own car.
- Drives his grandchildren to school everyday.
- Has a boat in Alcântara Docks and enjoys going fishing with his friends during afternoons.
- Drives to S. Pedro do Sul, at least every summer to spend August in his and his wife's hometown.

Quantitative Analysis

Sample size **80**/455

Conditions Retired
Autonomous
Short-distance trip: Family Responsibilities

Demografics

Age	55-64: 24%
	65-74: 57%
	75-84: 18%
	+85: 1%

Digitalization Index

Phone	N/A: 4%
	Low: 45%
	Medium: 15%
	High: 36%
Computer	N/A: 21%
	Low: 4%
	Medium: 30%
	High: 45%

Short-distance Mobility

- Move around the city (41%) mostly because of family responsibilities (grandchildren) (100%) and for shopping (69%).
- Use the car for their daily mobility (61%), and sometimes (once a week) use taxi (41%) and public transports (39%).

Long-distance Mobility

- 41% do a long-distance trip three times a year, to visit friends and relatives (71%) and for tourism (57%).
- Travel mostly by car (80%), driving (76%). They stop on service stations to refuel, rest and have snacks (93%), and in new villages to explore them (21%).

IV. ANALYSIS: PERSONAS

The Excursionists have a lot of free time and do a lot of excursions; on their daily lives they move around the city by public transports. Regarding the usage of technological devices they use the computer at ease and the smartphone with some limitations.

Qualitative Analysis

Excursionists

António, 75 years old
Lurdes, 74 years old

Live in Benfica
Born in Lisbon
48 years of marriage
2 children and 4 grandchildren

Not *VV* Client

(Group Analysis)

António

- Retired, used to work as a banker.
- Has a driver's license but prefers to use public transports.
- Enjoys jogging in the morning with his neighbour.
- Visits the doctor occasionally and when he does, he goes by taxi.

Lurdes

- Retired, used to be a primary school teacher.
- Has a driver's license but uses public transports.
- Spends her afternoons at *Califa* or shopping with her friends.
- Does aqua aerobics on Wednesdays in Benfica's swimming pool.
- Visits the doctor occasionally and when she does, she goes by taxi.
- Schedules excursions with António every month through the internet, excursion agencies or Benfica's parish.

Quantitative Analysis

Sample size 23*/455

Conditions
Retired
Autonomous
Long-distance trip: Tourism; at least once a year

Demografics

Age
55-64: 26%
65-74: 39%
75-84: 26%
+85: 9%

Digitalization Index

Phone
N/A: 4%
Low: 31%
Medium: 39%
High: 26%

Computer
N/A: 21%
Low: 4%
Medium: 30%
High: 45%

Short-distance Mobility

- Move around the city (48%) for leisure activities (91%) and to go to the doctor (83%).
- Use public transports for their daily mobility (30%), and sometimes (once a week) use taxi (48%) and car (35%).

Long-distance Mobility

- 39% do a long-distance trip three times a year for tourism (87%) and cultural trip (57%).
- Travel mostly by excursion's bus (57%) or by public transports (39%).

*Sample with less than 30 observations, can be biased.

IV. ANALYSIS: PERSONAS

The Active Retired has a part-time job, moves around the city by car and by foot, and uses his computer and smartphone autonomously.

Qualitative Analysis

Active Retired

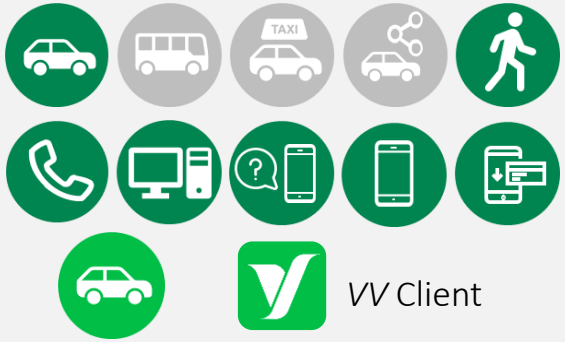
José, 65 years old

Lives in Algés

Born in Ponte de Lima

Widower

1 children and 2 grandchildren



José

- Retired, used to work as a lawyer, nowadays he is a law's advisor in the firm he used to work in.
- Moves around the city by car or by walk.
- Occasionally takes care of his grandchildren.
- Likes to take walks to Belém.
- He is studying at the University for seniors.
- Follows the English Football League on the Internet.
- Drives to Ponte de Lima at least twice a year.

Quantitative Analysis

Sample size 33/455

Conditions
Retired
Autonomous
Short-distance trip: Work

Demografics

Age
55-64: 54%
65-74: 37%
75-84: 9%

Digitalization Index

Phone
Low: 30%
Medium: 27%
High: 43%

Computer
N/A: 18%
Low: 3%
Medium: 33%
High: 46%

Short-distance Mobility

- Move around the city (43%) for work (100%), shopping (67%) and leisure activities (67%).
- Use the car for their daily mobility (30%), and sometimes (less than once a week) use public transports (42%) and taxi (39%).

Long-distance Mobility

- 55% do a long-distance trip three times a year to visit friends and relatives (67%) and for tourism (63%).
- Travel mostly by car (80%), driving (87%) and stop not only on service stations to refuel, rest and have snacks (100%), but on locations close by to explore new villages (38%).

(Group Analysis)

IV. ANALYSIS: PERSONAS

The Explorers travel very often by car, moving around the parish. They use computer and either a smartphone autonomously or a mobile phone just for calls.

Qualitative Analysis

Explorers

João, 63 years old
Vera, 63 years old

Live in Restelo

Born in Lisbon
35 years of marriage
4 children and 8 grandchildren

VV Client

(Group Analysis)

João

- Retired, used to work as an auditor.
- Drives his car every day.
- Meets his former colleagues to dinner once a month.
- Enjoys Golf with his friends, once a week..
- Loves to read and is writing a book about the trips he did with Vera.
- Always plans their monthly road trips to discover new places.

Vera

- Retired, used to work as an administrative.
- Drives her own car.
- She is a volunteer in *Banco Alimentar*.
- Practices Yoga at *Ginásio Infante Sagres*.
- Speaks daily with her friends through Facebook.
- Plans weekly family dinners at her place.
- Only goes to the doctor when she is sick, going by car.

Quantitative Analysis

Sample size 63/455

Conditions Retired
Autonomous
Long-distance trip: Tourism; by car; at least once a year

Demografics

Age
55-64: 34%
65-74: 40%
75-84: 21%
+85: 5%

Digitalization Index

Phone
N/A: 5%
Low: 46%
Medium: 9%
High: 40%

Computer
N/A: 24%
Low: 8%
Medium: 25%
High: 43%

Short-distance Mobility

- Move around the parish (41%) for shopping (84%) and leisure activities (79%).
- Use the car daily (52%), and sometimes (less than once a week) use public transports (46%), taxi (38%) and *Uber* (11%).

Long-distance Mobility

- 35% do a long-distance trip three times a year and 29% more than monthly to visit friends and relatives (68%) and for tourism (56%).
- Travel mostly by car (100%), driving (63%) and stop on service stations to refuel, rest and have snacks (81%), and other locations to discover new villages (32%).

IV. ANALYSIS: PERSONAS

The Worker has little free time and moves around the city by car and car sharing services. Uses autonomously the computer and smartphone, does online shopping.

Qualitative Analysis

Worker

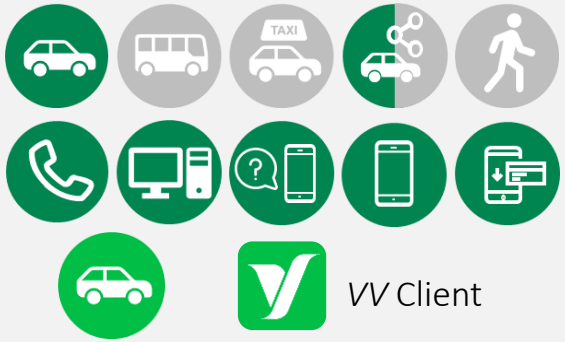
Judite, 63 years old

Lives in Alvalade

Born in Évora

Divorced

2 children



Judite

- Executive administrator.
- Moves around the city and to work by car.
- Drives to Évora, where she has a house, twice a year (Easter and Christmas), generally with her children.
- Has an apartment in Vilamoura, where she goes in the summer.
- Now that her children left the house she enjoys going to the theatre and museums with her friends, on weekends, using car sharing services.

Quantitative Analysis

Sample size 216/455

Conditions Working
Autonomous

Demografics

Age **55-64: 96%**
65-74: 4%

Digitalization Index

Phone Low: 17%
Medium: 15%
High: 68%

Computer N/A: 3%
Low: 10%
Medium: 20%
High: 67%

Short-distance Mobility

- Move around the city (53%) for work (90%), shopping (69%) and leisure activities (58%).
- Use the car for their daily mobility (59%), and sometimes (less than once a week) use taxi (36%), *Uber* (23%) and *DriveNow* (7%).

Long-distance Mobility

- 31% do a long-distance trip three times a year to visit friends and relatives (72%) and for tourism (61%).
- Travel mostly by car (84%), driving (67%) and stop not only in service stations to refuel, rest and have snacks (92%), but to explore new villages (21%).

(Group Analysis)

IV. ANALYSIS: SEGMENTS

Considering the concept of “Silver Market” and “Grey Market” each persona was assigned to one of these two segments, based on their characteristics (digitalization, mobility pattern, daily activities).

Qualitative Analysis

Grey Market

The Grey Market is used to refer to seniors that are less active and have low digitalization index.

Elderly

Grandparents

Excursionists

Silver Market

The Silver Market is used to refer to seniors that are very active and have higher digitalization index.

Active Retired

Explorers

Worker

IV. ANALYSIS: SEGMENTS

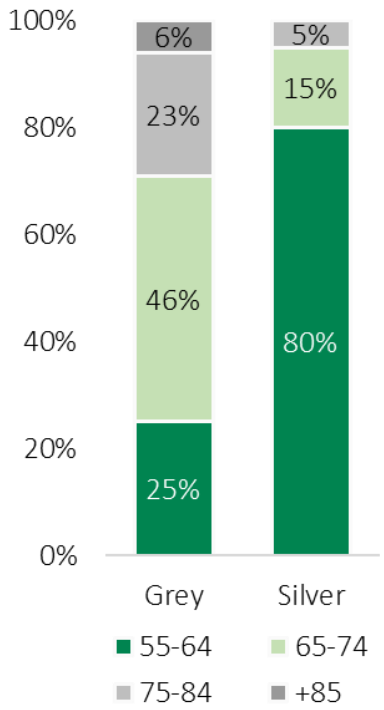
The Silver Market is younger than the Grey Market, consequently it has a higher digitalization index for both phone and computer.

Quantitative Analysis

Sample size 455/455
Grey: 141 Silver: 314

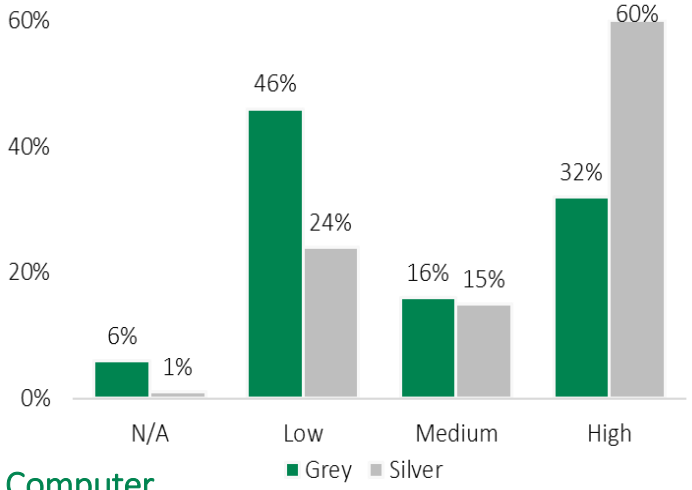
Demografics

Age

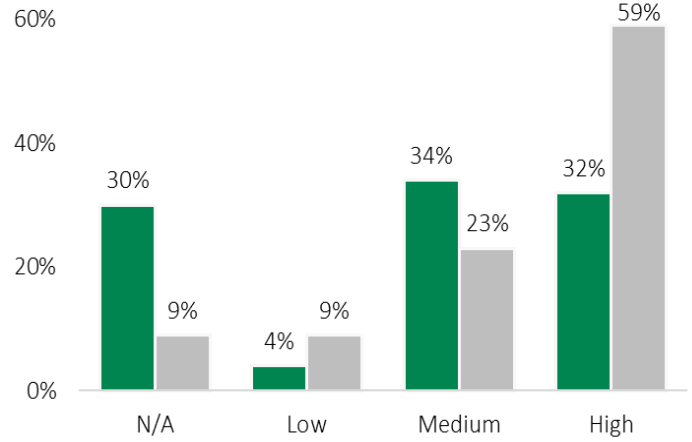


Digitalization Index

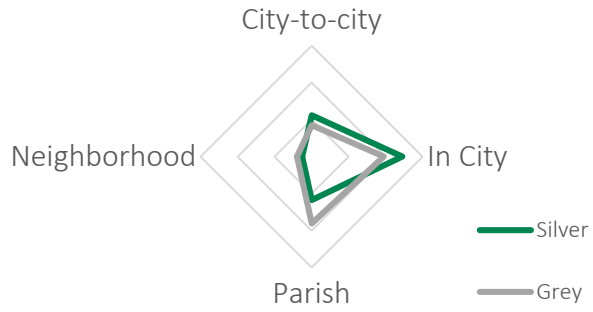
Phone



Computer



Short-distance Mobility



- The Silver Market moves mostly around the city and the Grey Market moves both around the city and around the parish.
- Work (73%) is the motivation for the Silver Market's movements, whereas health (74%) and family responsibilities (60%) are the most common for the Grey.
- Both segments use mostly the car for their daily routine, even though the Silver Market uses it more than the Grey (63% and 47%, respectively), the public transports and taxi are used less often (once a week). The public transports are preferred by the Silver Market (37%) and taxi by the Grey (42%). Car sharing is not a significant transport for any of the segments.

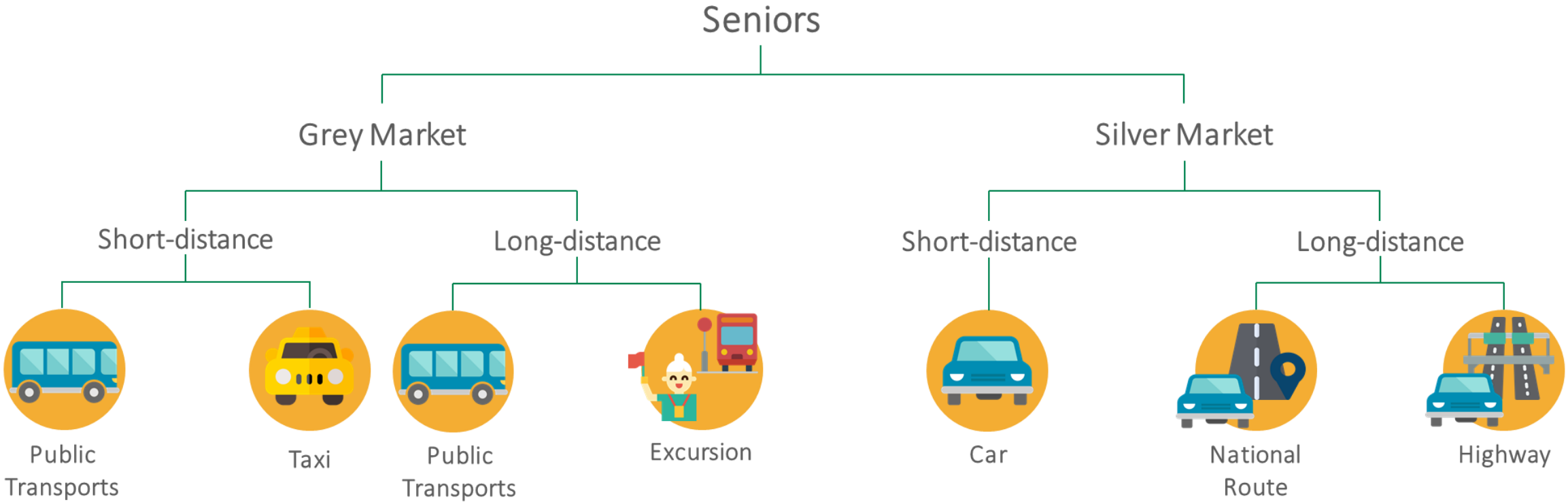
Long-distance Mobility

- Around 68% of both segments travel three times a year, however the percentage of seniors that do not travel is greater among the Grey Market (18% vs. 7%) and the percentage of those who travel more than once a month is greater in the Silver Market (27% vs. 13%).
- The Grey Market travels mostly to visit friends and relatives (67%) and for tourism (60%) and the Silver Market for cultural tours (60%).
- Both segments travel mainly by car, however the Grey Market does excursions (19% vs. 10%) and uses more public transports (20% vs. 1%) than the Silver.

III. ANALYSIS: JOURNEYS

Based on the information collected during the interviews it was concluded that the Grey and Silver Market used different transports for each sort of trip (short and long distance) and journeys for each transport were built.

Qualitative Analysis



III. ANALYSIS: JOURNEYS

The age-discount tickets is the most attractive factor of using public transports for the Grey Market, whereas the biggest disadvantage are the distance to transport's stop and the likelihood of having to stand during the trip.

Qualitative Analysis

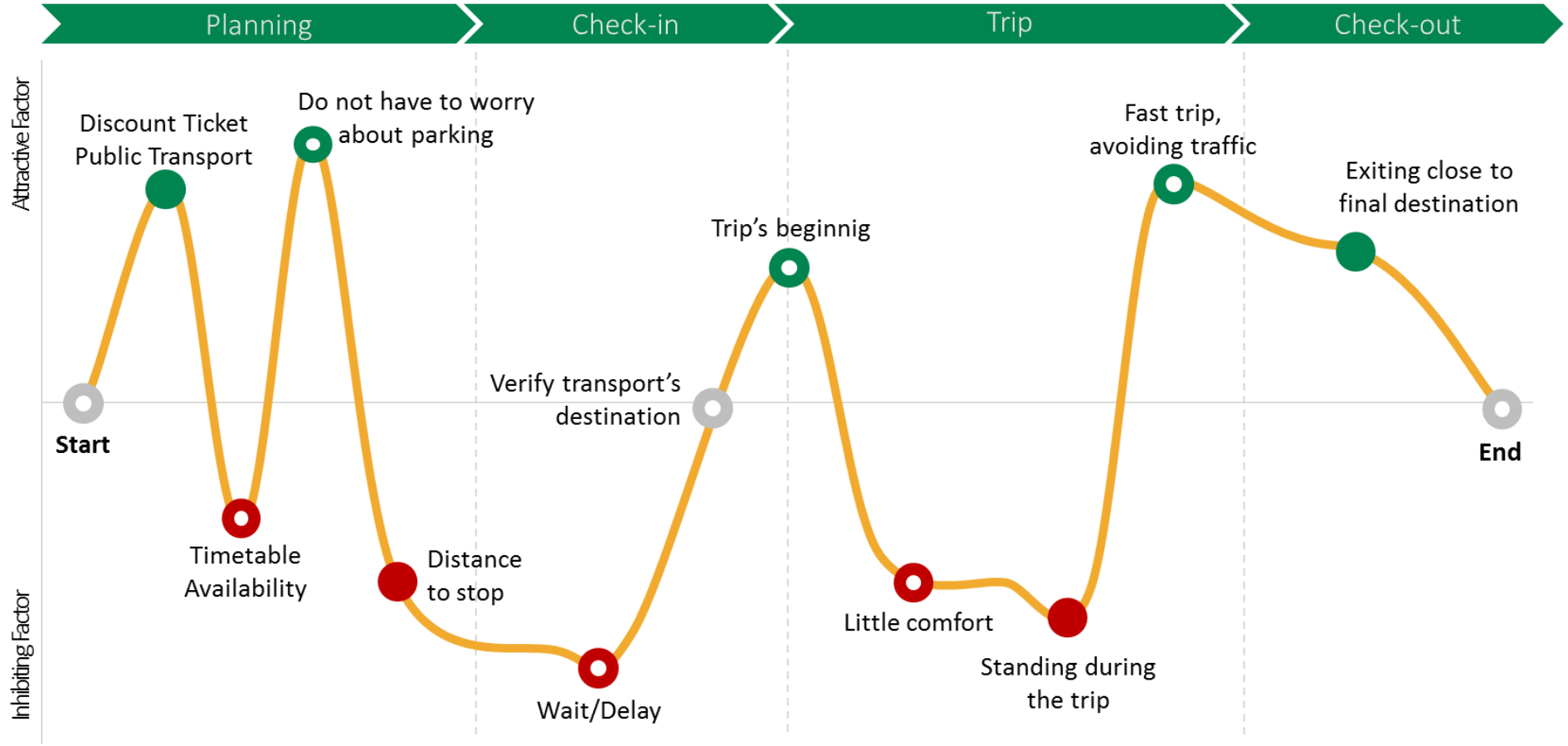
Public Transports

Short-distance

Grey Market

Key:

- Pleasure Point more relevant than for the average population
- Pleasure Point
- Neutral
- Pain Point
- Pain Point more relevant than for the average population



(Group Analysis)

III. ANALYSIS: JOURNEYS

The most attractive factor of using taxi for the Grey Market are the possibility of requesting the service by a phone call and pay it in cash, whereas the disadvantages are the price, the dangerous driving and bad customer service.

Qualitative Analysis

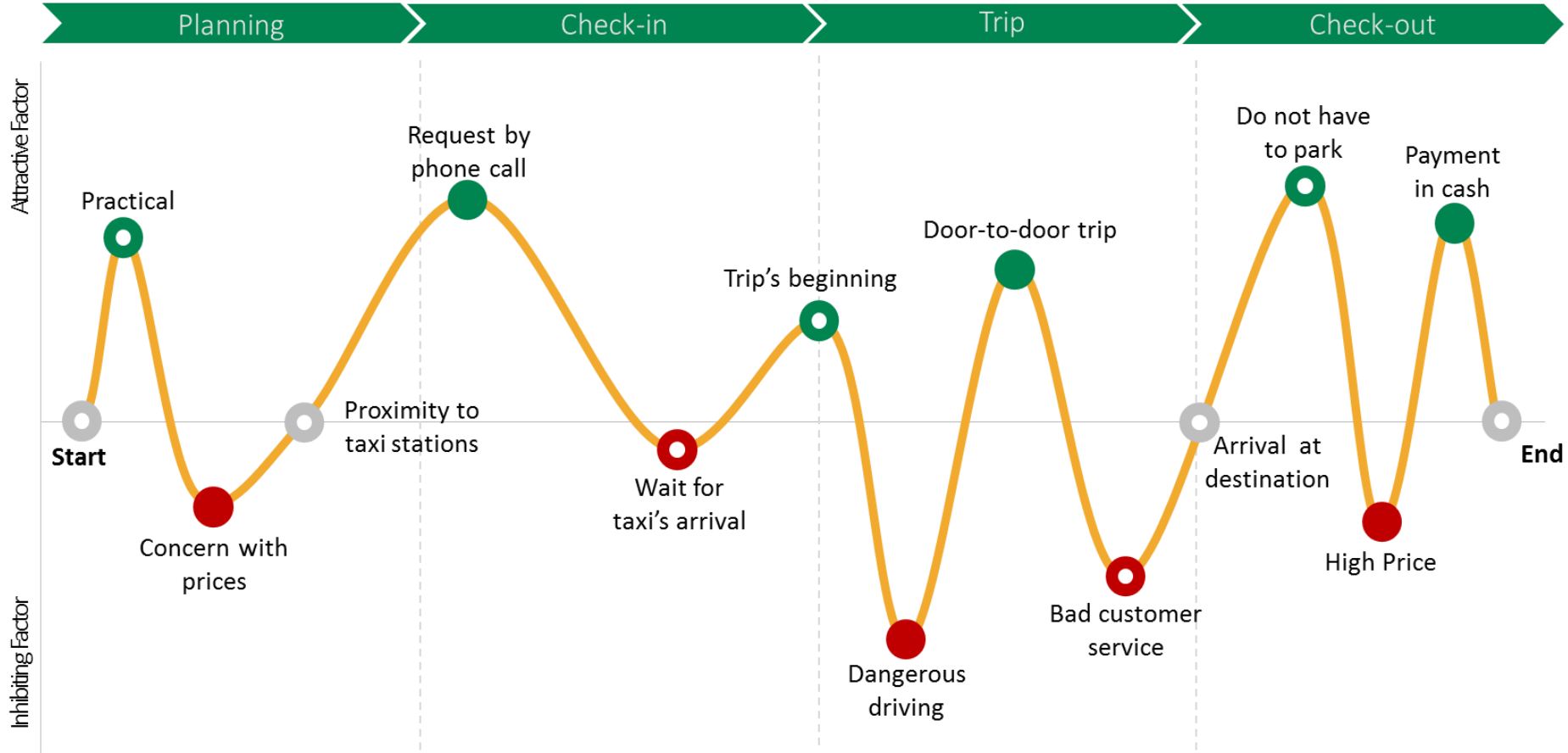
Taxi

Short-distance

Grey Market

Key:

- Pleasure Point more relevant than for the average population
- Pleasure Point
- Neutral
- Pain Point
- Pain Point more relevant than for the average population



(Group Analysis)

III. ANALYSIS: JOURNEYS

The most attractive factor of using public transports in long-distance trips for the Grey Market is the ticket's price, whereas the last mile distance and having to carry the luggage are the biggest disadvantages.

Qualitative Analysis

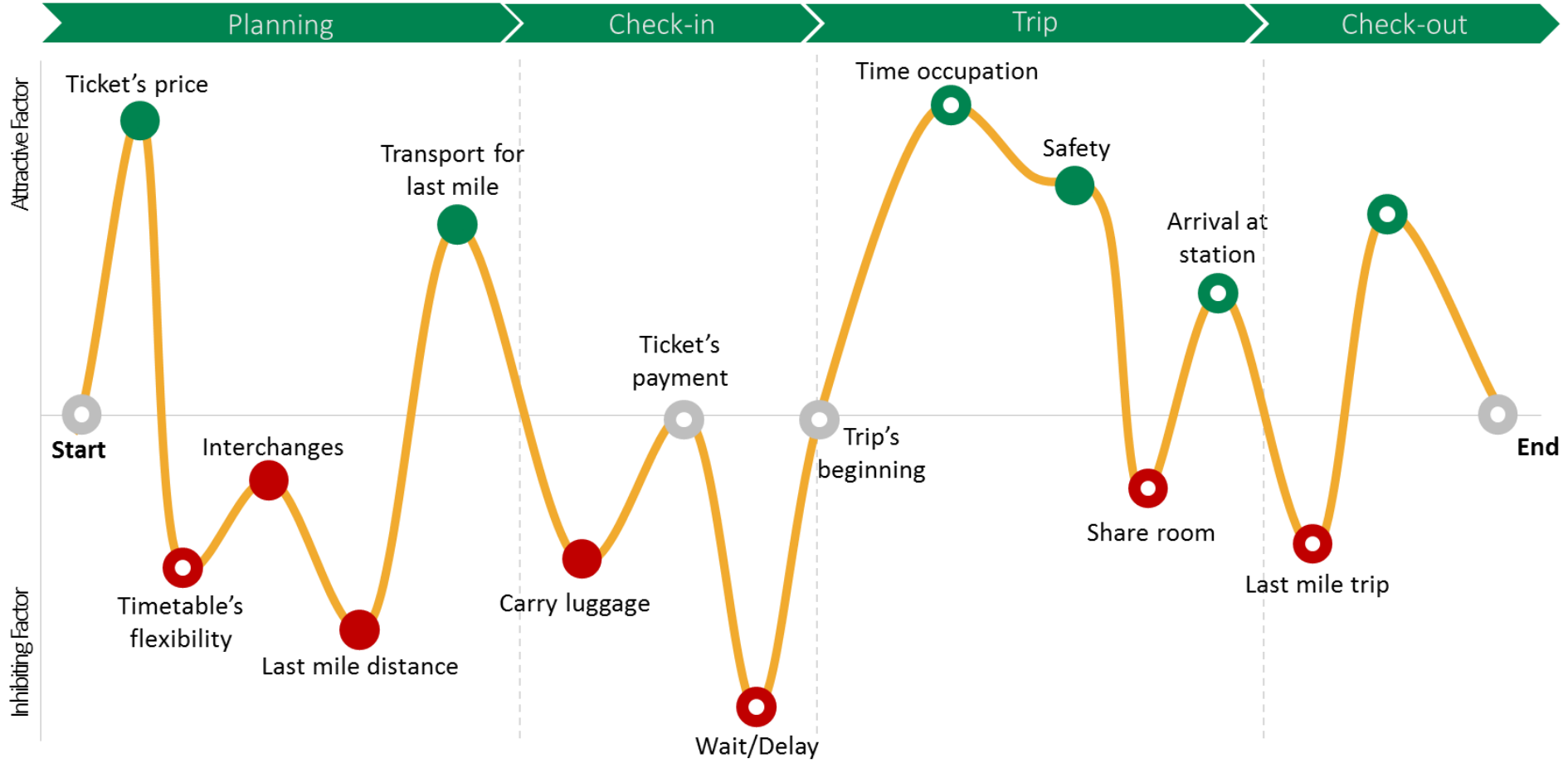
Public Transports

Long-distance

Grey Market

Key:

- Pleasure Point more relevant than for the average population
- Pleasure Point
- Neutral
- Pain Point
- Pain Point more relevant than for the average population



(Group Analysis)

III. ANALYSIS:JOURNEYS

The most attractive factor of going on excursions for the Grey Market are the stops with tour guide and getting to know new people, whereas the inflexible stops is the biggest disadvantage.

Qualitative Analysis

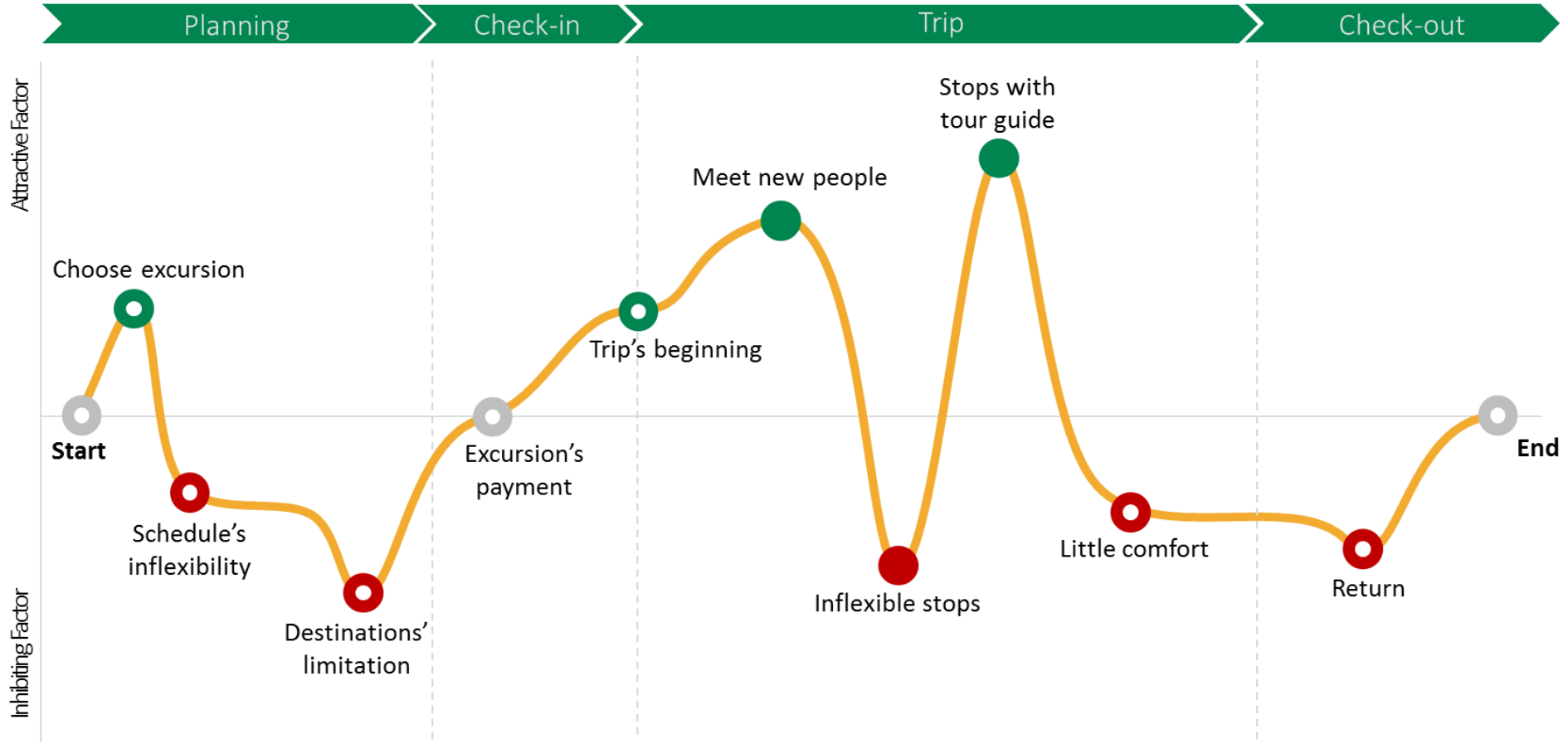
Excursion

Long-distance

Grey Market

Key:

- Pleasure Point more relevant than for the average population
- Pleasure Point
- Neutral
- Pain Point
- Pain Point more relevant than for the average population



(Group Analysis)

III. ANALYSIS: JOURNEYS

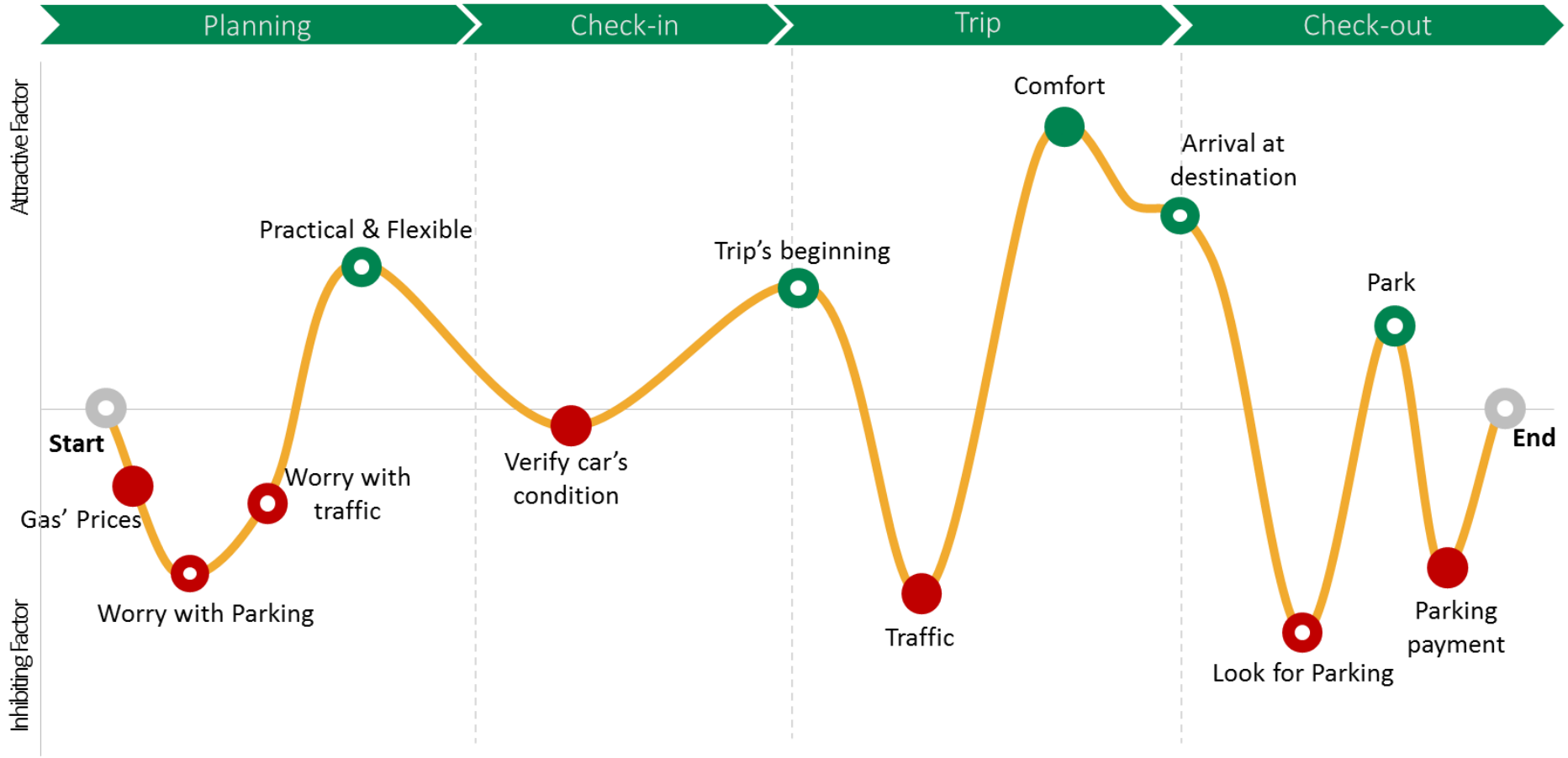
The comfortable trip is the most attractive factor of using the car for the Silver Market, whereas the biggest problem is having to look and pay for parking.

Qualitative Analysis

Car

Short-distance

Silver Market



Key:

- Pleasure Point more relevant than for the average population
- Pleasure Point
- Neutral
- Pain Point
- Pain Point more relevant than for the average population

(Group Analysis)

III. ANALYSIS: JOURNEYS

The most attractive factor of using the highway in long distance trips for the Silver Market is safety, whereas the disadvantages are the toll's and service stations' prices and the boring trip.

Qualitative Analysis

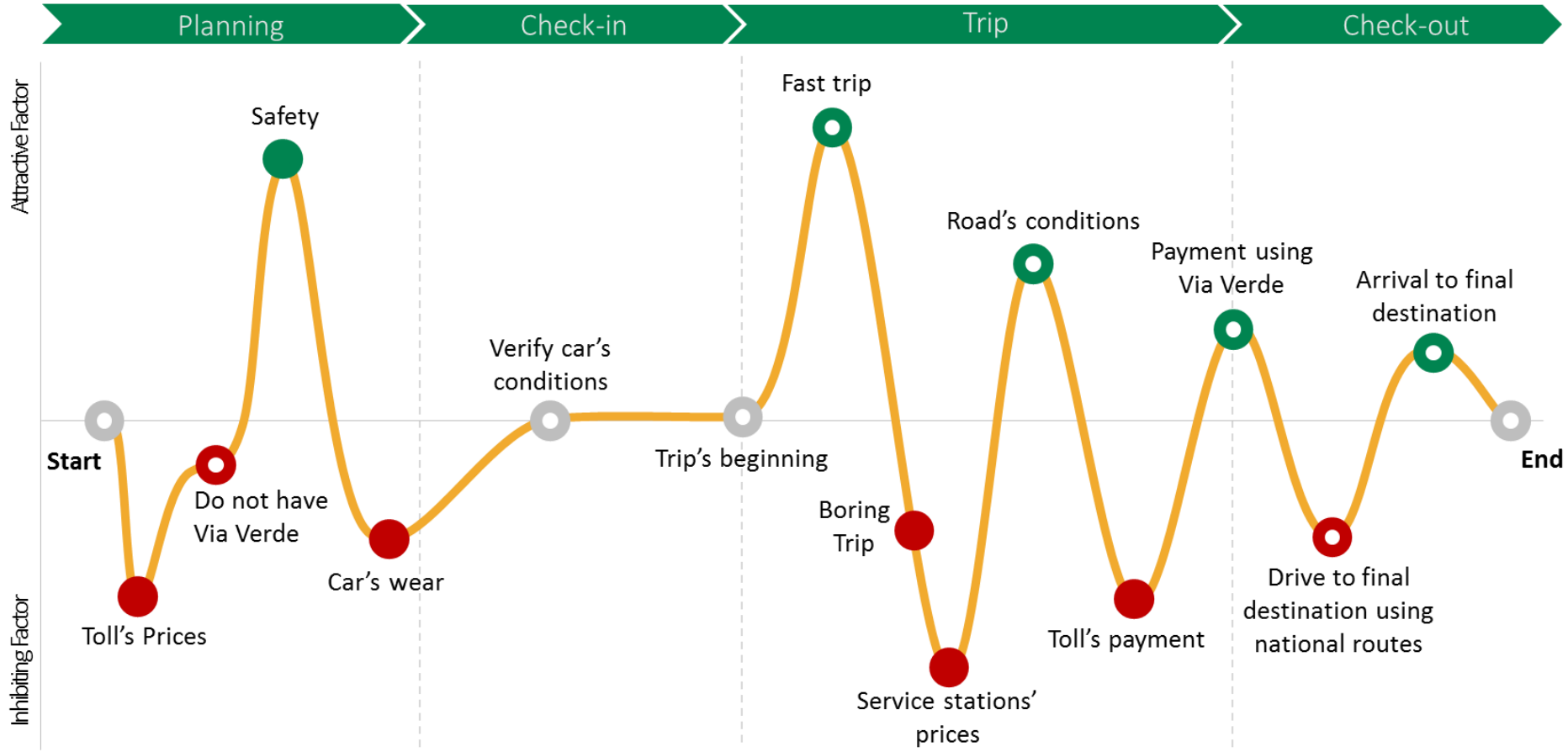
Highway

Long-distance

Silver Market

Key:

- Pleasure Point more relevant than for the average population
- Pleasure Point
- Neutral
- Pain Point
- Pain Point more relevant than for the average population



(Group Analysis)

III. ANALYSIS: JOURNEYS

The Silver Market sees the national routes as the best option to explore villages along the long-distance trip, however bad weather conditions is the biggest inhibiting factor for choosing national routes instead of highways.

Qualitative Analysis

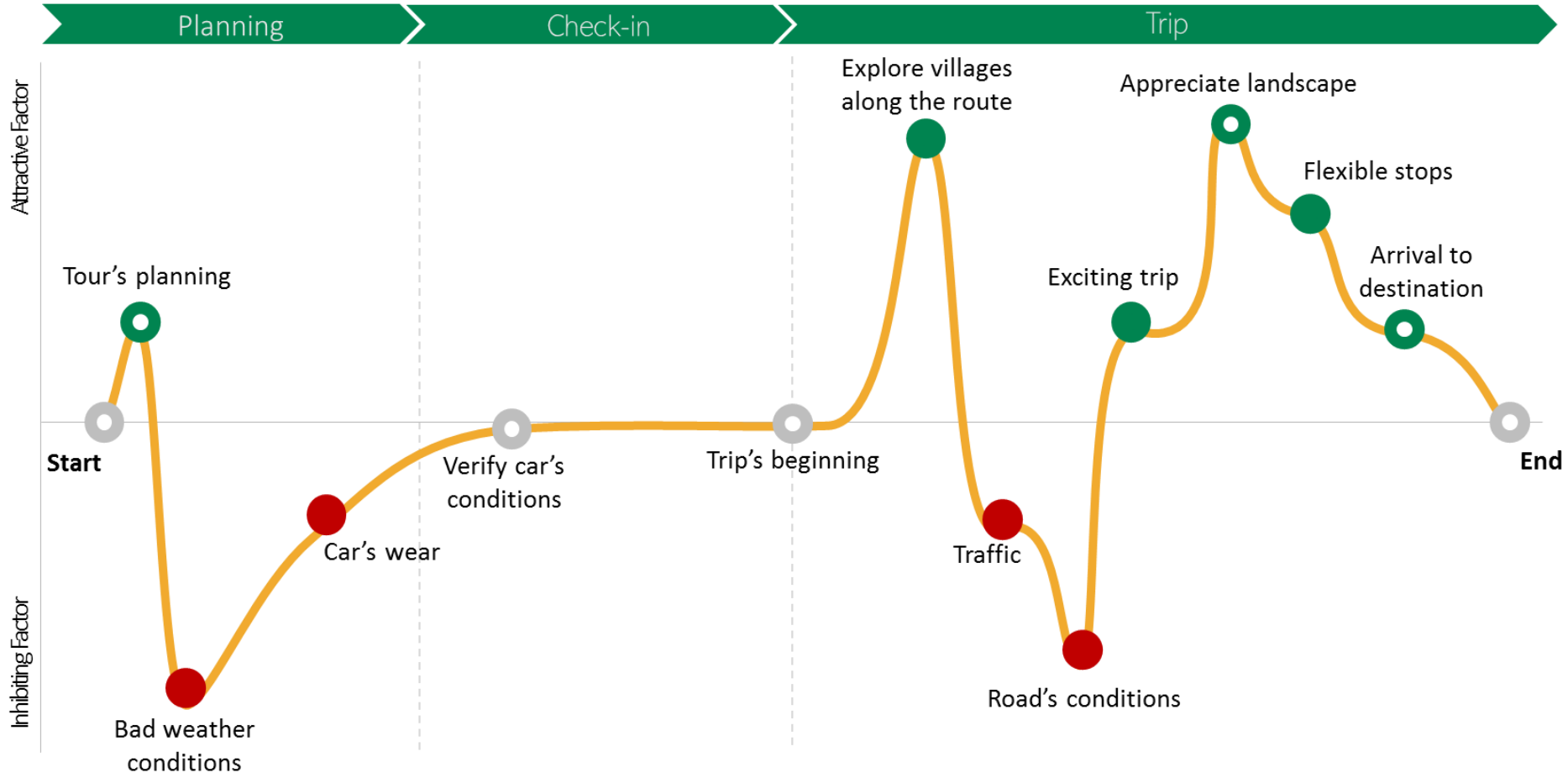
National Route

Long-distance

Silver Market

Key:

- Pleasure Point more relevant than for the average population
- Pleasure Point
- Neutral
- Pain Point
- Pain Point more relevant than for the average population



(Group Analysis)

III. ANALYSIS: JOURNEYS

Each market (Grey and Silver) has different pain points and pleasure points depending on the type of transport used either for short-distance trips or long-distance trips.

Qualitative Analysis

Grey Market

Short-distance

- Not having to park
- Age-discount tickets

- Request by call
- Payment in cash

- Distance to stops
- Standing during trip

- Dangerous driving
- Price
- Customer Service

Long-distance

- Price
- Safety

- Meet people
- Tour guide

- Carry Luggage
- Last mile distance

- Destinations' limitation
- Inflexible stops

Silver Market

Short-distance

- Practical & Flexible Trip

- Find and pay for parking
- Traffic

Long-distance

- Explore villages
- Appreciate landscape
- Exciting trip

- Road's conditions
- Weather conditions

- Fast trip
- Safety

- Boring Trip
- Tolls' and service station's prices

Key:

- Pleasure Point
- Pain Point

(Group Analysis)

III. ANALYSIS: PROBLEM STATEMENT

Analyzing the pain points mentioned by customers allows a deeper understanding of what the main problems are within both segments (Grey and Silver) and where Brisa should act on.

Grey Market

Short-distance

- Distance to stops
- Standing during trip

- Dangerous driving
- Price
- Customer Service

Problem: How can *Brisa* provide a comfortable, door-to-door service with a fair price?

Long-distance

- Carry luggage
- Last mile distance

- Destinations' limitation
- Inflexible stops

Problem: How can *Brisa* reduce the distance between stops and final destination– *Last mile*?

Silver Market

Short-distance

- Find and pay for parking
- Traffic

Problem: How to solve the parking problem (searching and payment) in urban areas?

Long-distance

- Road's conditions
- Weather conditions

- Boring Trip
- Tolls' and service stations' prices

Problems:

How to make highways more attractive and touristic?

How to make service stations cheaper and attractive?

Key:

- Pain Point

(Group Analysis)

III. ANALYSIS: PROBLEM STATEMENT

Following the problem statement, a review of *Brisa*'s portfolio was performed to identify which services are being offered to tackle each problem and to analyze the reasons for them to not be successful amongst the senior population.

Grey Market

Short-distance

Problem: How can *Brisa* provide a comfortable, door-to-door service with a fair price?

DriveNow

Limitation: *Brisa* already has an option that provides a solution for this problem, however because of the need to use the app to use *DriveNow* and the fact that the user must drive a rented car restraints the usage of this service by most seniors.

Long-distance

Problem: How can *Brisa* reduce the distance between stops and final destination– *Last mile*?

VV Boleias

Limitation: *VV Boleias* provides a solution for the last-mile problem as it is available everywhere in the country, some of the limitations are that it is subject to the availability of rides, it is again offered only through an app and most important rides are offered by strangers, which makes senior feel uncomfortable and insecure about using the service.

Silver Market

Short-distance

Problem: How to solve the parking problem (searching and payment) in urban areas?

VV Estacionar

Limitation: *VV Estacionar* is an app that provides a solution for parking payment in some Portuguese cities, again the need of having an app to pay for parking, might be a limitation for this solution, plus its main benefit of paying easily online is seen as a disadvantage in this segment, and this app does not solve the problem of searching for parking.

Long-distance

Problems:
How to make highways more attractive and touristic?
How to make service stations cheaper and attractive?

Colibri

Limitation: *Brisa* developed *Colibri* service stations to make them more attractive to highways' customers, even though there are only three in the country, *Brisa* expects to continue the project by inaugurating nine *Colibri* service stations in 2019.

(Group Analysis)

AGENDA

IV. RECOMMENDATIONS: SOLUTIONS PROPOSITION

Grey Market's little mobility and low digitalization index do not present an obstacle to the company, as it can still capture the market by focusing on providing comfort and a more personalized service.

Grey Market

A Short-distance

Problem: How can *Brisa* provide a comfortable, door-to-door service with a fair price?

Solutions:

A.1 Adapt on-demand ridesharing services to the 65+ segment by creating a call-line (using *VV Contact Centre*) and allowing customers to pay with cash.

A.2 Create short bus routes (called Minibus) that runs through Lisbon, facilitating the access within the neighbourhood and the parish, passing by the closest hospitals and clinics.

B Long-distance

Problem: How can *Brisa* reduce the distance between stops and final destination– *Last mile*?

Solutions:

B.1 Create a passenger transport bundle that would take the +65 customers from the final bus stop to their houses (final destination).

B.2 Create a collective transportation service for the +65 customers (9/12 pax), in partnership with *Rede Expressos* and *CP*, departing from Lisbon/Porto to the seniors' final destination but having more stops throughout the journey.

(Group Analysis)

IV. RECOMMENDATIONS: SOLUTIONS PROPOSITION

By improving and adapting the already existing mobility services, *Brisa* can still capture the Silver Market as they have a high digitalization index.

Silver Market

C Short-distance

Problem: How to solve the parking problem (searching and payment) in urban areas?

Solutions:

C.1 Develop a communication plan for the *VV Estacionar* app targeted to the Silver Market.

C.2 Develop a communication plan for the *VV Boleias* app targeted to the Silver Market.

C.3 Implement parking spaces exclusive for *DriveNow* cars, in Lisbon.

C.4 Allow customers to discount their *Viagens & Vantagens* points on parking spaces.

D Long-distance

Problems: How to make highways more attractive and touristic?
How to make service stations cheaper and attractive?

Solutions:

D.1 Expand the existing *VV Planner* app to long-distance trips. The platform would function as a tourist guide, pointing out the main attractions and events one can attend throughout the journey.

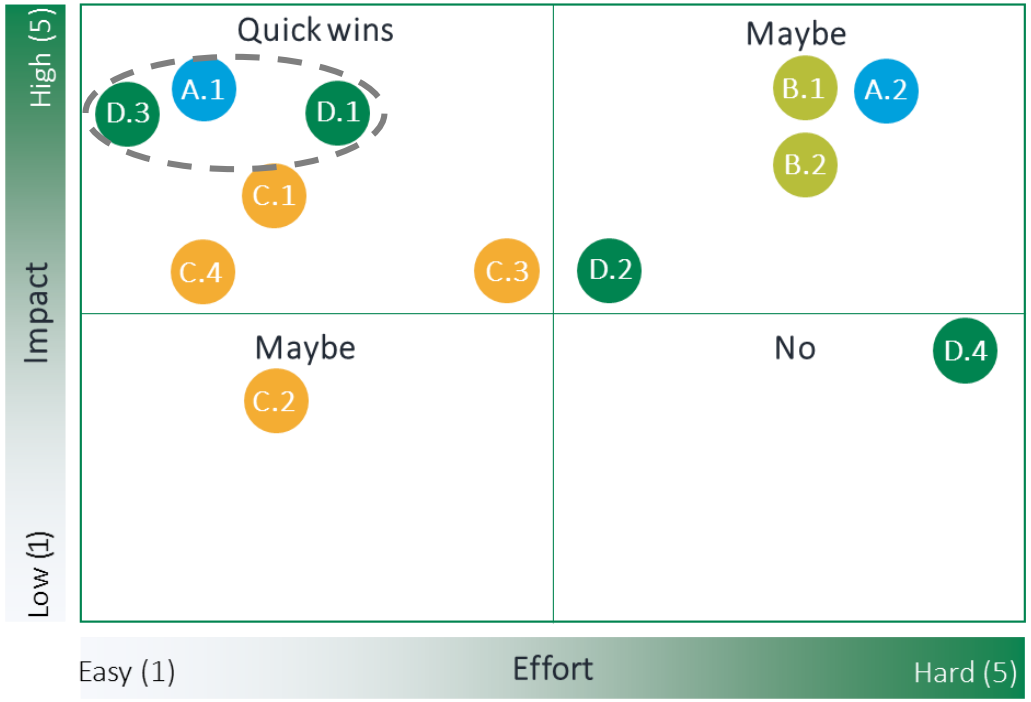
D.2 Extend the *Colibri* concept to improve quality in service stations.

D.3 Offer exclusive discounts for 65+ customers at *Colibri* service stations to improve their experience in these.

D.4 Place more signage with tourist information along the highway on the node where it will pass.

IV. RECOMMENDATIONS: SOLUTIONS PROPOSITION

Building an effort-impact matrix allowed to identify the three solutions that will highly impact the customer journey with a lower effort of implementation (quick-wins). Hence, to improve the customer journeys *Brisa* should be focusing on these first.



The 12 ideas provided were ranked on an effort-impact matrix in order to find the quick-wins that would better tackle the problems identified in the short-term.

These 3 ideas were then developed, prototyped and tested*

Quick-wins: A.1 D.1 D.3

GREY MARKET

A. Short-distance

A.1 Adapt on-demand ridesharing services to the 65+ segment;

A.2 Create short bus routes (called Minibus) that runs through Lisbon.

B. Long-distance

B.1 Create a passenger transport bundle for the Last Mile;

B.2 Create a collective transportation service for the 65+ customers.

SILVER MARKET

C. Short-distance

C.1 Develop a communication plan for the *VV Estacionar* app;

C.2 Develop a communication plan for the *VV Boleias* app;

C.3 Implement parking spaces exclusive for *DriveNow* cars;

C.4 Allow customers to use their *V&V* points on parking spaces.

D. Long-distance

D.1 Expand the existing *VV Planner* app to long-distance trips;

D.2 Extend the *Colibri* concept to improve quality in service stations;

D.3 Offer exclusive discounts for 65+ customers at *Colibri* service stations;

D.4 Place more signage with tourist information along the highway.

*The P&L was just devoloped for the first solution (A1) as it is the only one that has direct impact on the company's revenues. The remaining two quick-wins have high levels of uncertainty.

(Group Analysis)

IV. RECOMMENDATIONS: ACTION PLAN

Adapting on-demand ridesharing services to the 65+ segment by implementing a call-line to order the service and allowing payment with cash enables *Brisa* to address this segment's needs while increasing its interactions in 8%.

A.1: On-demand ridesharing service

Description

A comfortable, door-to-door service with a fair price

- Partnership with an existing company (e.g *Uber, Cabify, Chauffeur Privé, Taxify*).
- The customer requests the service through a phone call to the call centre (*Via Verde Contact Centre*) and provides the picking-point.
- The call centre operator orders the service and provides information about the car (brand, model, color, license plate), the price of the journey, the waiting time and about the driver itself.
- Attending senior population needs only drivers ranked 4 stars or more should be allowed to perform this service.
- The call centre operator asks if there is any additional service needed: help to walk from the car to home and vice-versa or booking a driver for a limited time period. These services will have additional costs that are communicated before ordering.
- The car should be properly identified with the brand logo, so it is easily recognized by the client.
- At the end, the payment should be done through cash or debit card.

Responsible

Via Verde Serviços

Goals

Increasing *Brisa's* brand equity, serving a segment that does not follow the new trends nor uses the mobility services.

KPI's

+15% of services for the partner;
+8% of interactions done by *Via Verde Contact Centre.*

Rationale

72,5% of the portuguese seniors do not have a smartphone, being impossible to use the new services (e.g. *Uber, DriveNow*, etc.).

Success Story: *GoGo Grandparent*

Prototype

Process:

Call *Via Verde Contact Centre*;

Order service;

Pay in cash or debit card.

Differentiating Factor:

Customer service;

Book a driver for a limited time period;

Pre and post trip assistance.

Pain points solving

Distance to stops;
Standing during trips;
Dangerous driving;
High taxi fair;
Bad customer service.

(Group Analysis)

IV. RECOMMENDATIONS: ACTION PLAN

The implementation plan for the on-demand ridesharing service is divided in three stages: analysis (6 weeks), set-up (6 weeks) and pilot (14 weeks).

A.1: On-demand ridesharing service

	Analysis (6 weeks)	Set-up (6 weeks)	Pilot (14 weeks)
Activities	• Analyse the potential market for this service; • Benchmark (national and international); • Study potential partners; • Evaluate service's acceptance; • Define criteria to decide where to implement it; • Evaluate the communication touch points with seniors; • P&L account elaboration.	• Define the role of each partnership's agent; • Communication's plan preparation.	• Monitor results; • Test client's satisfaction (feedback); • Adjust the process based on client's feedback.
Output	• Market size; • Best practices; • Potencial partners; • Consumption patterns and preferences; • Product's adjustment for seniores needs; • P&L.	• Partnership's deal; • Communication's plan implementation.	• Service evaluation report; • Client satisfaction; • Return on investment.

(Group Analysis)

IV. RECOMMENDATIONS: SOLUTION TESTING

The on-demand ridesharing service has shown to have a 75% acceptance rate among the 65+ population showing to be a reliable service for *Brisa* to invest in.

Quantitative Analysis: On-demand ridesharing service

Sample size 455/455
Grey: 141 Silver: 314

Acceptance rate

75% of the respondents would consider to use this product.

The **Grey Market** has an acceptance rate of **71%.**


63%
Elderly


69%
Grandparents


83%
Excursionists

The **Silver Market** has an acceptance rate of **76%.**


65%
Explorers


76%
Active Retired


80%
Worker

Additional services

- For the ones interested in this service, three additional services were suggested:
  - Book a driver for a limited time period;
  - Ask for help to walk from home to the car and vice-versa;
  - Newspapers and magazines.
- The results showed the most wanted services for both markets are booking a driver and having the pre and post trip assistance.
- For the **Silver market, 37%** is interested **in booking a driver** and **27% in the pre and post trip assistance**. Due to their needs, **34% of the Grey Market** has chosen **the pre and post trip assistance** and **33%** is interested **in booking a driver**.
- Having Newspapers and Magazines available during the ride is something respondents do not value, as only 10% of them choose to have this additional service.

Payment system

- Another important aspect to consider is the payment system, therefore respondents were asked regarding their preferred payment method.
- Cash and Debit card were the most preferred for both markets.
- For the **Silver Market, 43%** prefers paying with **a debit card** and **31% in cash**.
- For the **Grey Market**, **48%** prefers to **pay in cash** and **37% with debit card**.
- Paying with *MBWay* (Silver 7%; Grey 4%), credit card (Silver 10%; Grey 6%) or even through *Via Verde* device (Silver 8%; Grey 5) have little expression, which is related to a mistrust in these new payment methods.

IV. RECOMMENDATIONS: SOLUTION TESTING

The value added of this initiative is driven by an increase of the *Via Verde Contact Centre* interactions and hence, on *Brisa*'s profit that is expected to increase by 30%.

Profit & Loss account: On-demand ridesharing service

Scenarios calculation

Lisbon senior population

605 721

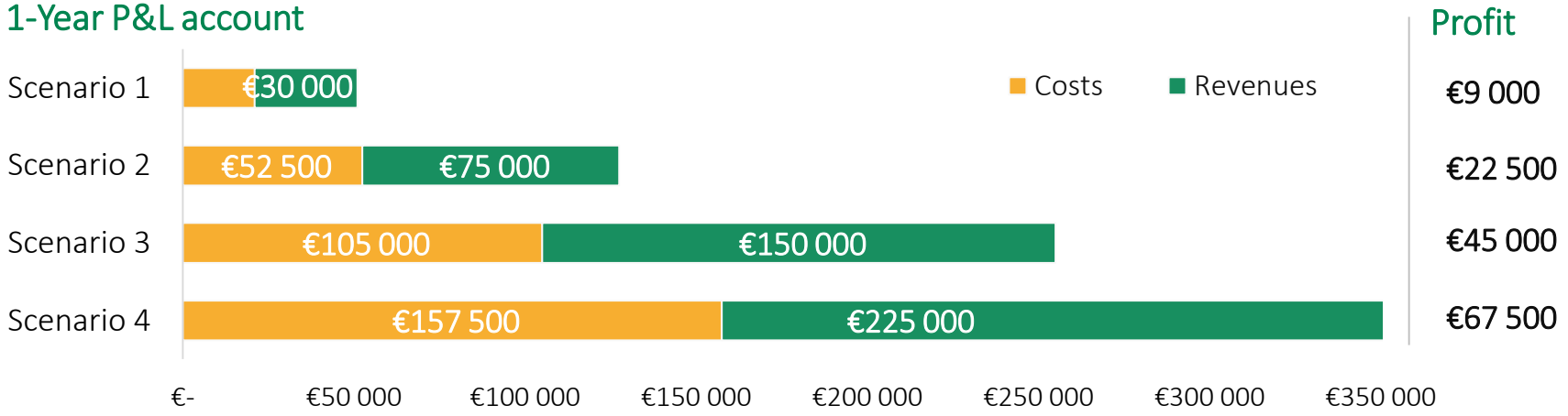
Scenario 1 (10%): 60 000 services/year
Scenario 2 (25%): 150 000 services/year
Scenario 3 (50%): 300 000 services/year
Scenario 4 (75%): 450 000 services/year

Scenario 4 was built based on the acceptance rate obtained through the questionnaire:

Acceptance rate x Lisbon senior population*

Nevertheless, scenarios with a 10%, 25% and 50% acceptance rate were also calculated in order to understand the viability of the project.

1-Year P&L account



Revenues

0,50 €/Phone Call

Suggestion: *Brisa* might negotiate with the partner to get a share of each trip that is booked through the *VV Contact Centre*.

Costs

0,35 €/Phone Call

For the *VV Contact Centre* to be able to respond to the estimated amount of phone calls, it will have to increase:

Scenario 1: +3 workers;
Scenario 2: +8 workers;
Scenario 3: +15 workers;
Scenario 4: +23 workers.

*As most potential partners operate only in Lisbon, the scenarios were only calculated based on the Lisbon senior population

(Group Analysis)

IV. RECOMMENDATIONS: PARTNERS COMPARISON

To offer this service *Brisa* will develop a partnership with a ride-hailing platform currently operating in Portugal, thus each service was analysed. However, no conclusion can be reach as Brisa still has to analyse the conditions each company entails.

	Uber	cabify	taxify	chauffeur privé
Entry in Portugal	07/2014 ✚	05/2016	01/2018	09/2018
Cities	Lisbon; Oporto; Braga; Guimarães; Algarve ✚	Lisbon; Oporto; Algarve; Funchal	Lisbon	Lisbon
Fleet	6 000 drivers ✚	(unknown)	600 drivers	500 drivers
Rates	Base value: 1€ Per kilometer: 0,65€/km Per minute: 0,1€/min	1-3km: 1,15€/km 3-11km: 1€/km	Base value: 1€ Per kilometer: 0,60€/km Per minute: 0,1€/min	Base value: 0,95€ Per kilometer: 0,60€/km ✚ Per minute: 0,1€/min
Rate types	Dynamic	Dynamic	Fixed ✚	Fixed ✚
Services	UberX - standard UberBlack - premium UberGreen - electric cars	Lite - standard Group - groups up to 7 people Baby - includes a baby chair	Standard XL – groups up to 8 people	Only a standard service
Price (Marquês de Pombal to airport)	UberX - 6 a 9€ UberBLACK - 14 a 19€ UberGREEN - 6 a 9€	Lite - 8,09€ Group - 20,88€ Baby - 10,10€	Taxify - 7,60€ XL - 11,80€	Standard - 6,75€ ✚
Payment methods	Credit card Paypal Debit card	Credit card Debit card Card machine Paypal ✚	Credit card Debit card	Credit card Debit card

Loyalty program: Every euro paid gives the consumer points that can be converted to discounts

(Jornal Económico, *Uber, Cabify e Taxify: que serviços têm, quanto custa e como pagar?*, 2018)
(Diário de Notícias, *Uber, Cabify, Taxify e Chaffeur Privé, quatro plataformas a operar em Portugal*, 2018)
(MAGG, *Chauffeur Privé: a concorrente da Uber já circula em Lisboa com preços fixos*, 2018)
(Observador, *A Uber tem mais um concorrente: Chauffeur Privé já circula em Lisboa*, 2018)
(Sapo Lifestyle, *Uber, Taxify, Cabify, Mytaxi e Chauffeur Privé: tudo o que precisa saber para se movimentar em Portugal*, 2018)

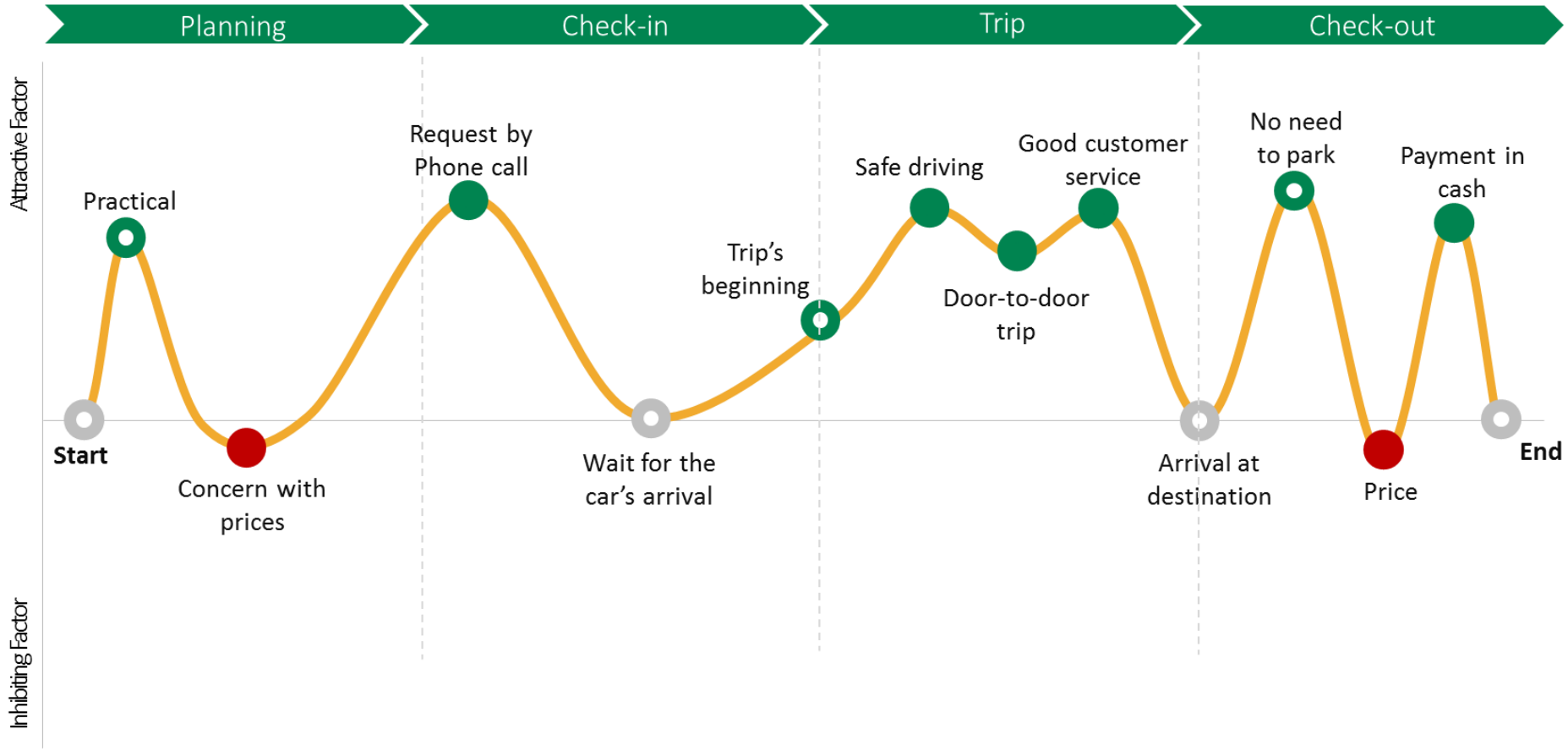
VI. RECOMMENDATIONS: JOURNEY AS IT WOULD BE

The new on-demand ridesharing service improves the customer journey of the Grey Market by providing a safe trip that can be requested through a phone call and paid in cash.

On-demand ridesharing service

Short-distance

Grey Market



Key:

- Pleasure Point more relevant than for the average population
- Pleasure Point
- Neutral
- Pain Point
- Pain Point more relevant than for the average population

(Group Analysis)

IV. RECOMMENDATIONS: ACTION PLAN

Expanding *VV Planner* platform to long-distance trips and allowing the access through a website increases the number of users in 33% while encouraging customers to use the highway which will then impact *Brisa's* revenues.

D.1: Expanding *VV Planner* platform

Description

The platform provides information about the attractions along the journey

- Expanding the already existing *VV Planner* app to long-distance trips.
- Through the upgraded *VV Planner* app or website it is possible to plan a long-distance trip, whether with stops or direct to the final destination;
- With the initial and final destination selected, the *Planner* suggests the attractions one can find on the journey. Additional information about these locations can be consulted and the platform will also show which *V&V* discounts are available in the places chosen;
- The platform adapts the route through highways, showing the total cost of tolls, the gas price, the weather and traffic conditions;
- On the other hand, one can select a thematic or seasonal route suggested by the platform, where all stops are already pre-defined (e.g. Douro wine route);
- The route can be print and consulted on the app/website;
- There is the option of "share route" by e-mail or social media.

Responsible

Via Verde Serviços

Goals

Make the highway trip less monotonous;
Increase Highway traffic.

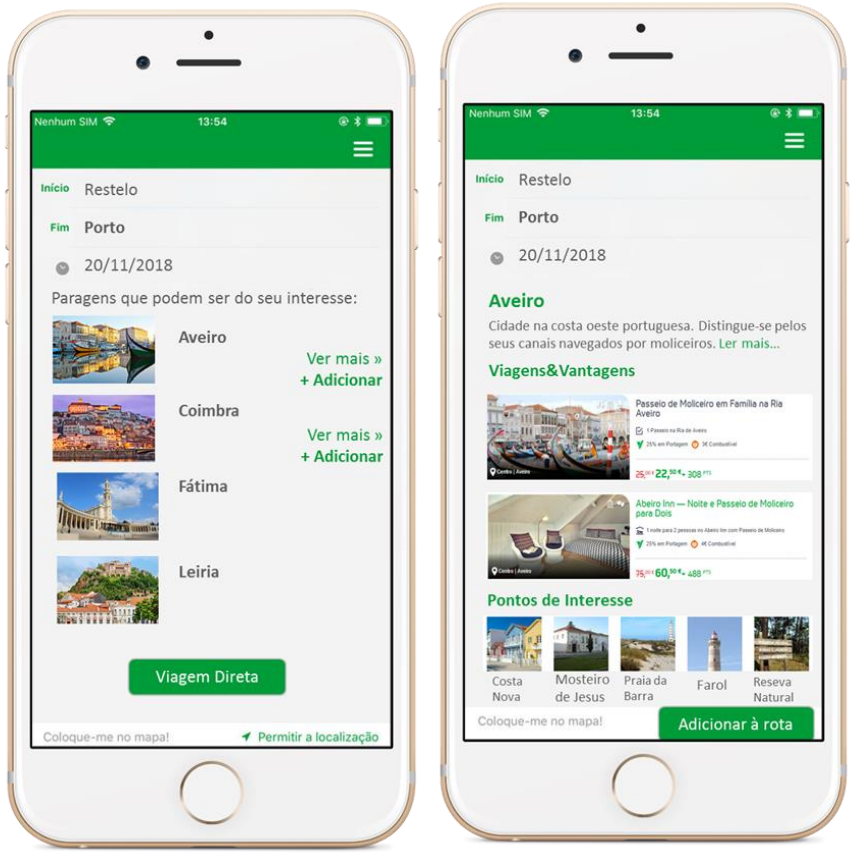
KPI's

+16% App *Planner* downloads;
+33% access *Planner* through website.

Pain points solving

Weather conditions increase National route's insecurity;
Highways' monotony.

Prototype



IV. RECOMMENDATIONS: ACTION PLAN

The implementation plan for the expanded *VV Planner* platform is divided in three stages: analysis (6 weeks), set-up (10 weeks) and pilot (14 weeks).

D.1: Expanding *VV Planner* platform

	6 weeks	10 weeks	14 weeks
	Analysis	**Set-up**	**Pilot**
Activities	• Analyse the potential market; • Study potential partners; • Evaluate product's acceptance; • Study the platforms (App+Website).	• Define the role of each partnership's agent; • Study the possibility of creating a new app or continuing with the existent; • Communication's plan preparation.	• Monitor results; • Test user's satisfaction (feedback); • Adjust the platform based on feedback.
Output	• Market size; • Potential partners; • Consumption patterns and preferences; • Decide on developing a website; • Adjust the service's functionalities.	• Partnership's deal; • Decide between adjusting the existent app or developing a new one; • Planner website development; • Communication's plan implementation.	• Satisfaction Report; • Return on Investment on highways and service station's traffic after the app creation.

(Group Analysis)

IV. RECOMMENDATIONS: SOLUTION TESTING

The expanded *VV Planner* platform has shown to have a 80% acceptance rate, and being able to access the platform through an website increases the potential customers by 30%.

Quantitative Analysis: Expanding *VV Planner* platform

Sample size 330*/455
Grey: 71 Silver: 259

Acceptance rate

80% of the respondents would consider to use this product.

The **Grey Market** has an acceptance rate of **75%.**

60%

Elderly

75%

Grandparents

The **Silver Market** has an acceptance rate of **83%.**

71%

Explorers

78%

Active Retired

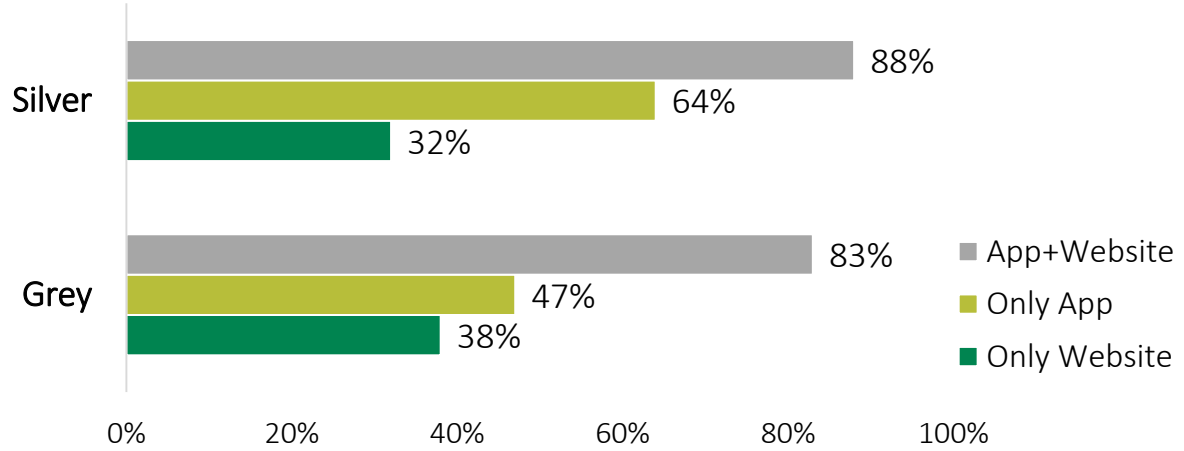
87%

Worker

Additional features

- In order to provide the best solution, respondents were asked about additional features they would value. The most mentioned were:
  - Ability to check gas' prices along the journey;
  - Simulation on toll's total cost;
  - Information about weather's conditions along the journey;
  - Information regarding traffic.
- In order to gather this information, partnerships with other enterprises need to be established. For instance, partner with *VivaGas* app for the gas prices, with *IPMA* to get the weather conditions and lastly, a partnership with *Waze* to have traffic's updates.

Potential users by interface



Preferable interface

- The existing *VV Planner* app can only be accessed through a smartphone. However, the questionnaire has shown that having access to the platform through a website would increase the number of users by more than 30%, as there are respondents that do not have a smartphone.
- Hence, being able to access this platform through an app or a website, *Brisa* would leverage from people that only have access to one or the other (or both) having 80% of the sample as potential customers.

*Only respondents that make long-distance trips, except for the excursionists, were considered

(Group Analysis)

VI. RECOMMENDATIONS: JOURNEY AS IT WOULD BE

The new improvements on the *VV Planner* app will enhance the journey of the Silver Market through the highway as they will be able to check information regarding the trip and the weather beforehand and will benefit from the ability and easiness of exploring new places.

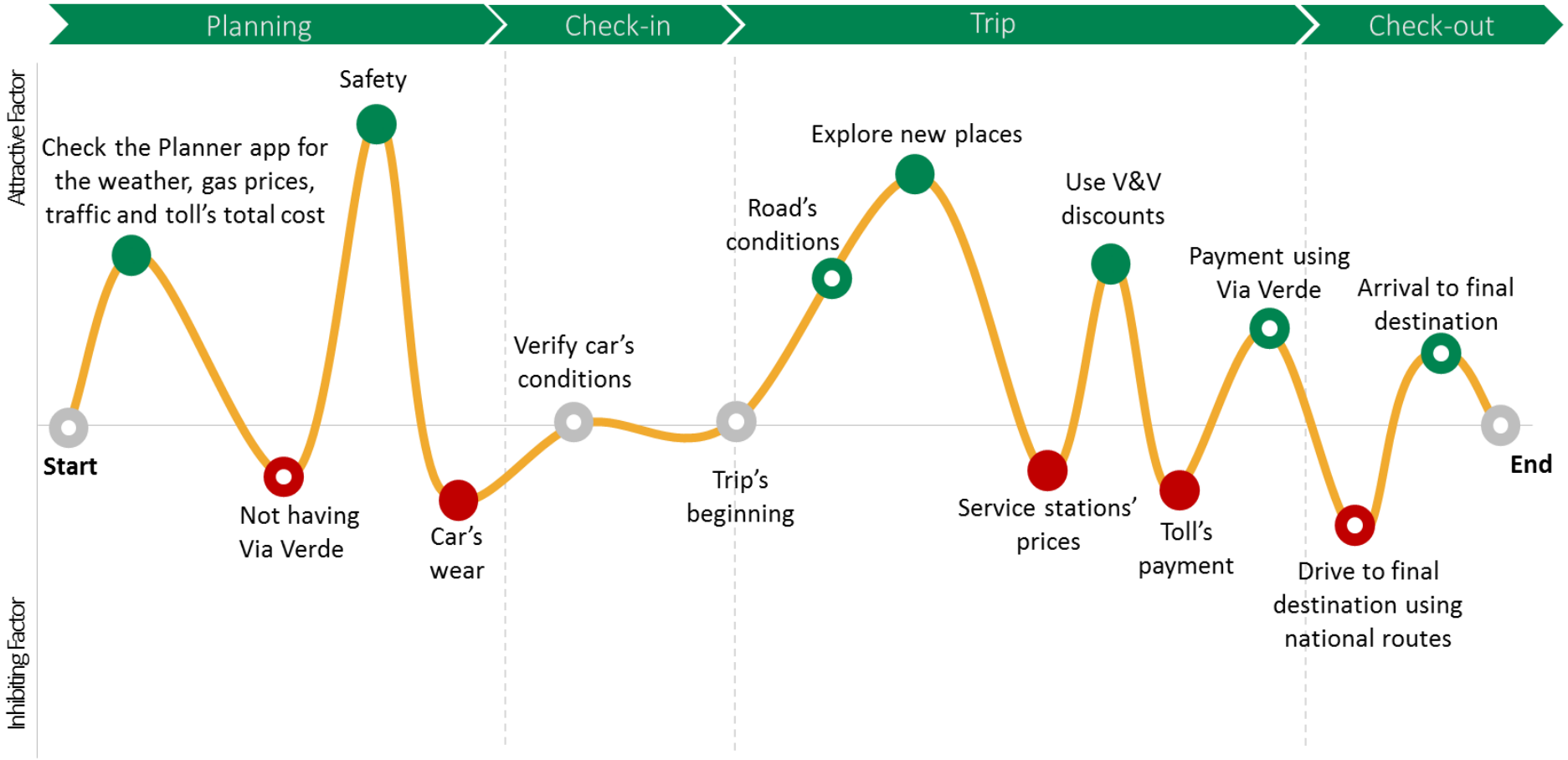
Highways Using Planner

Long-distance

Silver Market

Key:

- Pleasure Point more relevant than for the average population
- Pleasure Point
- Neutral
- Pain Point
- Pain Point more relevant than for the average population



(Group Analysis)

IV. RECOMMENDATIONS: ACTION PLAN

Offering exclusive discounts to 65+ customers will encourage stopping at *Colibri service* stations and at the same time enrich *Via Verde*'s customer database as people must register on the website. Additionally, it will improve the consumers' experience in service stations.

D.3: 65+ Discounts

Description

Offering exclusive discounts for 65+ clients at Colibri service stations to improve the experience in these

- 65+ clients must register on the *Via Verde* app or website, providing their personal data.
- Then, 65+ clients would be eligible to receive exclusive coupons on their e-mail or app, to be used on *Colibri* service stations.
- The coupon would have a code that is associated to the *Viagens & Vantagens* account, so that at the time of purchase the points are debited.
- The client would just have to show the coupon at the time of purchase, paying only the remaining amount (Points + x€ = Menu).

Responsible

Viagens & Vantagens Manager

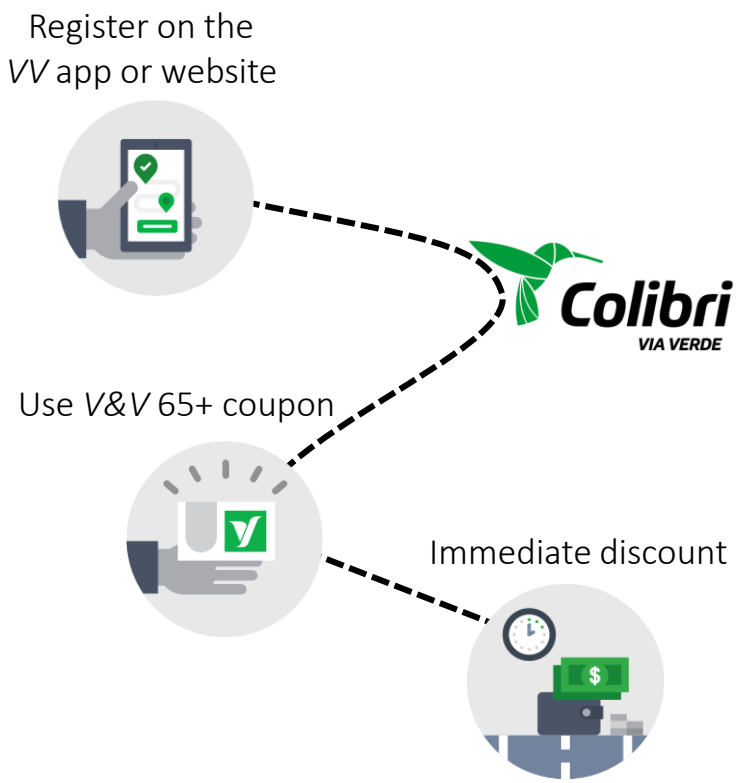
Goals

Encourage stopping in *Colibri* service stations;
Increase traffic in *Colibri* service stations;
Improve the experience in *Colibri* service stations;
Improve Customer Relationship (Engagement);
Improve customer database *VV* (CRM);
Enrich the *Via Verde* database.

Pain points solving

Toll's and service station's high prices.

Prototype



IV. RECOMMENDATIONS: ACTION PLAN

The implementation plan for the 65+ discounts is divided in three stages: analysis (6 weeks), set-up (10 weeks) and pilot (14 weeks).

D.3: 65+ Discounts

	6 weeks	10 weeks	14 weeks
	Analysis	**Set-up**	**Pilot**
Activities	• Analyse the potential market; • Study potential partners; • Evaluate product's acceptance; • Assess the best communication channel to reach this segment; • Study the best way to deliver coupons.	• Define the role of each partner; • Study the best system to collect *Via Verde customer*'s data; • Communication's plan preparation.	• Monitor results; • Test client's satisfaction (feedback); • Adjust the program based on feedback.
Output	• Market size; • Potential partners; • Consumption patterns and preferences. • Elaborate a coupon delivery mechanism. • Adjust coupons to customers' needs.	• Partnership's deal; • Implement system of customer data collection; • Communication's plan implementation.	• Satisfaction report; • Evaluation report

(Group Analysis)

IV. RECOMMENDATIONS: SOLUTION TESTING

The 65+ discounts have shown to have a 70% acceptance rate and both markets prefer to receive them by e-mail.

Quantitative Analysis: 65+ Discounts

Sample size 84*/455
Grey: 40 Silver: 44

Acceptance Rate

70% of the respondents would consider to use this product.

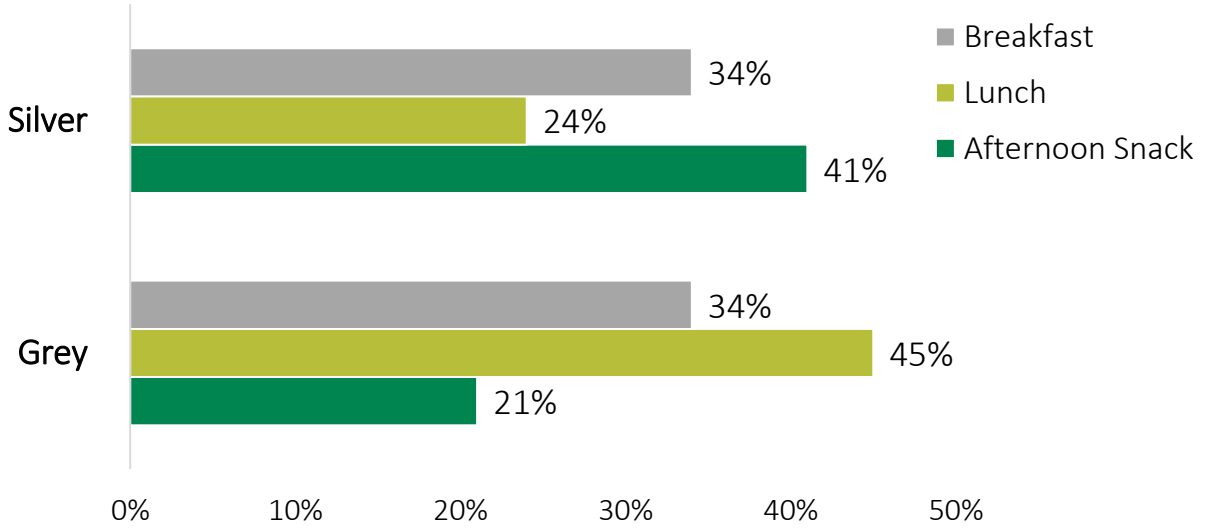
The **Grey Market** has an acceptance rate of **74%.**

The **Silver Market** has an acceptance rate of **67%.**

Preferable channel

- Respondents were asked about the preferable channel to receive the discounts. The options were:
  - App *Via Verde*
  - Mail (letter)
  - SMS
  - E-mail
- The preferred channel by respondents was E-mail (39%), followed by Mail (26%) and SMS (23%).

Preferable meal to enjoy the discount

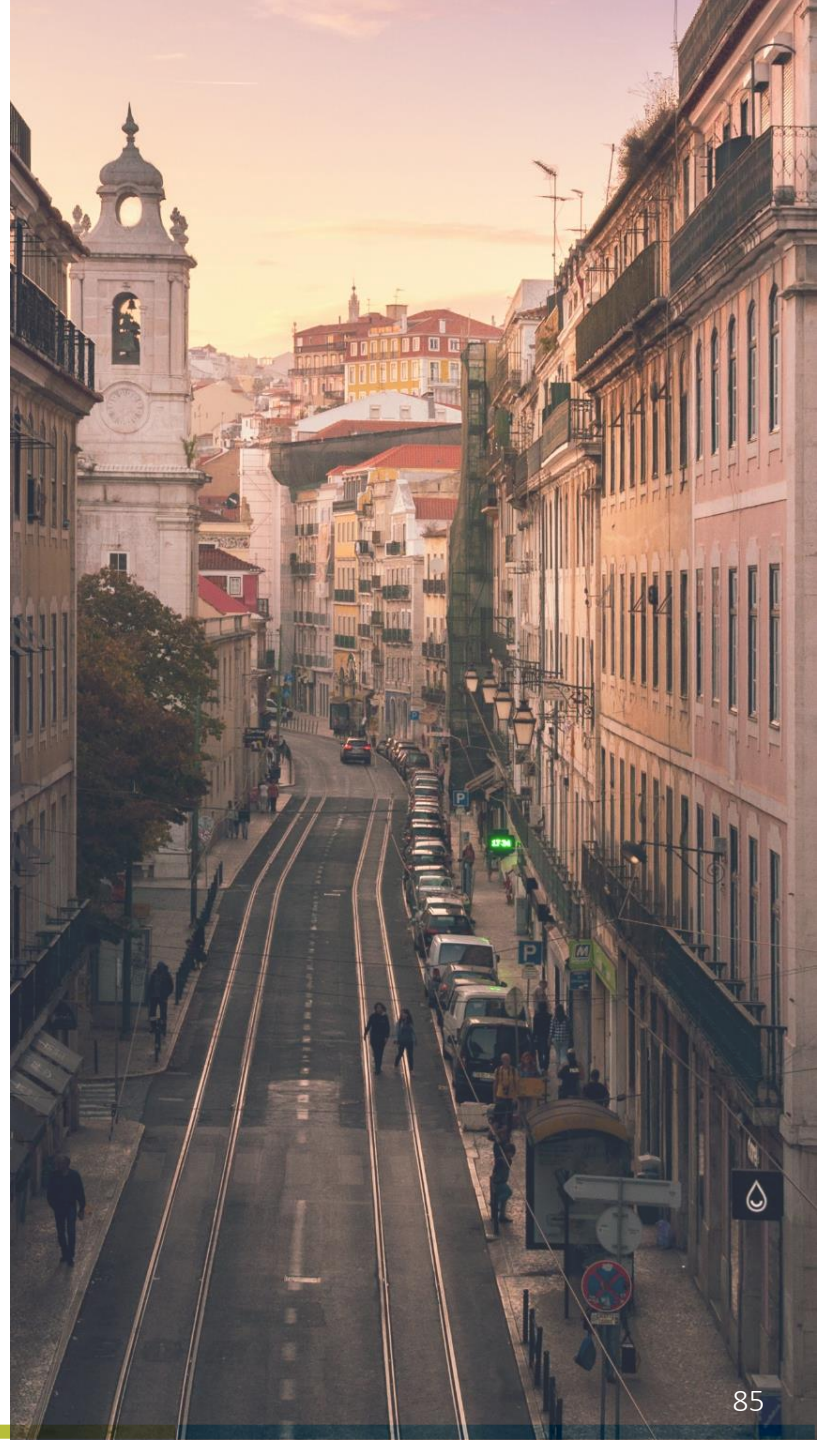


- According to the sample collected, the Silver Market prefers to use the discount for the afternoon snack whilst the Grey Market prefers having the discount at lunch time.
- Through the questionnaire, it was possible to ascertain the average price respondents were willing to pay for each meal:
  - Lunch might be between 5€ and 7,5€.
  - Afternoon snack might be between 2,5€ and 5€.

(Group Analysis)

*Only respondents 65+ were considered.

AGENDA



V. LIMITATIONS AND FUTURE WORK

The lack of information on *Brisa's* database regarding their client's age, the difficulty to get more answers and from other locations and the absence of some important secondary data may have implied some bias in the project findings.

Geography	In-field qualitative and quantitative research should have been done in different geographical regions in order to gather more data regarding customers' needs & wants, motivations, pain and pleasure points and journeys. These could have resulted in different personas and journeys than the ones identified.
Sample Size	Given this segment's dimension, the data collected from almost 500 seniors is still not enough to make an accurate extrapolation that represents the 2Million seniors in Portugal.
Secondary Data	Data regarding annual net income by age group was not available and being such a sensitive topic we were not able to ascertain this data through interviews or questionnaires.
Brisa's Internal Database	*Brisa*'s internal database does not have information on clients' age which makes harder to understand how much this segment represents in *Brisa*'s total services.

V. LIMITATIONS AND FUTURE WORK

For the services to be fully functional *Brisa* must continue the development of the project and coordinate tasks among their employees, create a marketing mix and a business plan, develop the actual services and closely monitor these solutions.

Coordinate tasks

Identify roles and responsibilities of each department and the individual employees;
Create a Process Map anticipating fail points and developing corrective action plans.

Marketing Mix

In order to develop a competitive service the company must determine how each service will be marketed and how will the brand communicate with its consumers

Product	Place	Physical Evidence
Price	People	
Process	Promotion	

Business Plan

To clarify the business purpose, direction, define its future vision and align goals.

Executive Summary	Business Description
Market Analysis	Organization Management
Sales Strategies	Funding Requirements
Financial Projections	

Develop services

Partnership establishment;
Mobile application development and Website creation;
Coordination between teams regarding the discount.

Follow-up Evaluation

Undertake follow-up assessments;
Monitor usage and analyse feedback;
Continuously revaluate and adapt services to new trends.

AGENDA

VI. INDIVIDUAL REFLECTIONS: ANA LEONOR GONÇALVES

I was given the opportunity to make use of the theoretical knowledge acquired during my academic path at Nova SBE's, moreover I had the opportunity to discover myself and improve the way I work in a team, helping me growing as a person and as a professional.

Belbin Results

HIGHEST RESULTS

PRESIDENT: My communication and leadership skills give me the ability to assess my peers' knowledge and skills to productively coordinate and delegate tasks within a group, however it is important to avoid to realize when we might be overbearing others.

INTELLECTUAL: I can always think systematically and critically to find a different and creative way to solve a problem, even though I consider myself an extrovert person that is able to work under pressure, with new people, nonetheless I recognize that I should improve how I deal with criticism.

STRATEGIST: As an extrovert and very active person, I often enjoy being responsible for projects, however I always try to take into account other team's members point of view when taking decisions, I do realize that I need to be self-aware to avoid overlooking.

OPERATIONAL: As a creative and imaginative person, I can easily adapt to new situations, people and beginning of projects, but sometimes it is make it harder for me to work efficiently and thinking in a practical way.

MONITOR: Even though I consider myself an intelligent person who gives feedback to the group, I do consider difficult for me to not let emotions interfere with my analytical judgement and I know that I'm not the best person collecting and dealing with a large amount of information.

PROSPECTOR: I do recognize that it is hard for me to keep the enthusiasm and positive attitude when things are going wrong, nevertheless I do consider myself an extroverted, social person **that is able to work under pressure and is good at improvising.**

LOWEST RESULTS

VI. INDIVIDUAL REFLECTIONS: ANA LEONOR GONÇALVES

I was given the opportunity to make use of the theoretical knowledge acquired during my academic path at Nova SBE's, moreover I had the opportunity to discover myself and improve the way I work in a team, helping me growing as a person and as a professional.

Main Learnings

FLEXIBILITY: The biggest learning that I take with me from this consulting expericence is the importance of being flexible when working in a team and to be able to adapt to different working methods, circumstances, as well as to understand and adopt others' suggestions and ideas.

TRUST IN OTHERS: As a perfectionist person, I often mistrust others' work, specially when I am not used to work with a team, double checking content and sources, but working with such a committed team, eager to deliver quality work and the fact that we were able to delegate tasks according to each others' skills taught me about the importance of trusting in others when team members' objectives are aligned, this way and delegating tasks, teamwork can be much more productive and pleasant.

RECEIVING AND GIVING FEEDBACK: During this project I also learnt about the importance of listening to others' advices and feedback as well as the importance of giving constructive and useful feedback to others, so that we learn something from each others.

MANAGING A TEAM AND DIFFERENT WORK METHODS: To assess each team members' working methods and rhythm, accepting our differences and leveraging on that, was a key success factor to guarantee consensus within the team and that everyone is working towards the same objective

UNDER PROMISE OVER DELIVER: Managing the relationship with the client was one of the main learnings with this experience, to do so it is important to manage client's expectation, as such we should avoid making unrealistic promises and be sure that what we are committed to provide can be successfully delivered and do our best to surpass client's expectations.

SYNDICATION: To keep a close relation with the client's and carefully listen to what they say, was another important thing I've learned, my team and I were successful on keeping a straight relation with Brisa' marketing team, we had weekly meetings for them to know our project's developments and for us to have their feedback and align expectations.

VI. INDIVIDUAL REFLECTIONS: MARIA ALVES

During the consulting lab I had the opportunity to develop not only key professional skills that will positively impact my career but also to develop myself as an individual.

Belbin Results

HIGHEST RESULTS

OPERATIONAL: I am practical and like to work in a methodical manner in order to achieve the goals that were set. Nonetheless, I do recognise some lack of flexibility in adjusting to new situations where objectives are not clear.

TEAM-WORKER: I am concern in listening each team member in order to know their needs and expectations and hence, promote unity within the group and solve the conflicts generated.

PRESIDENT: As a methodical person I strive to define a work structure the team can follow to achieve the proposed goals. Moreover, I have a natural tendency to coordinate people and tasks within the group according to each team member's skills. Nevertheless, it is important to not over-delegate tasks.

PROSPECTOR: I do realize thinking outside the box might be challenging for me, however I do consider myself a social person, enthusiastic and with a positive attitude.

FINISHER: Even though I got a low score in the finisher role, I consider myself a very perfectionist person always looking for errors and omissions in the tasks performed. Additionally, I find very important to define deadlines during the project to guarantee all the work gets done in time.

INTELLECTUAL: As I consider myself a practical and objective person, adopting a more creative and imaginative mindset to think outside the box is sometimes a challenge so I do recognize I have to work on that.

LOWEST RESULTS

VI. INDIVIDUAL REFLECTIONS: MARIA ALVES

During the consulting lab I had the opportunity to develop not only key professional skills that will positively impact my career but also to develop myself as an individual.

Main Learnings

COMMUNICATION: Communicating with the company and within the group was crucial for the project's success. During this project I have learnt to communicate my ideas more clearly and to summarize them, passing on the key message only. This allowed me to align my vision with my colleagues' and company's visions.

RESILIENCE: I have learnt to work through problems to reach solutions even when there are obstacles. Staying focused on the solutions and not letting adverse situations interfere with my work impacted in a positive way my deliveries.

COOPERATION: This project made me realize cooperation is key for any teamwork to succeed. Giving support and help others with a task one might be struggling with only makes the team stronger. Also, we all have something to learn from others, whether it is on a professional or personal level.

SYNDICATION: Being part of the consulting lab taught me how important is to get the client involved in the process, always working alongside with the client. Aligning their vision with ours, managing their expectations and incorporating their constant feedback allowed us to provide feasible solutions.

FEEDBACK: This project has shown me how important providing feedback is. The constant feedback we were getting from the company allowed us to better align the client's expectations with the work we were developing. **Additionally, receiving feedback allowed us to learn and leverage from their experience in the field** and hence, improve our deliveries.

PROBLEM SOLVING: Overcome challenges using a more critical and analytical approach was another skill I have developed throughout the project. I was able to understand the problems we were facing and the right tools to use to reach an efficient solution. Even though it is still a challenge for me, this project made adopt a more creative mindset.

VI. INDIVIDUAL REFLECTIONS: INÊS ANDRADE

The opportunity to work not only with a resourceful team of university peers, but also under the supervision of a knowledgeable client allowed me to get to know myself more and develop important skills for my future.

Belbin Results

HIGHEST RESULTS

MONITOR: I am practical and objective and like to carefully analyse information to make sure it complies with the team objectives and standards, however this can slow the decision-making process and make work tedious.

PRESIDENT: My self-discipline and the ability to realise everyone's strengths and weaknesses allows me to coordinate and delegate work, and I always have in mind that as a team member it's important to not over-delegate tasks to any peer.

TEAM WORKER: Cooperation is key for any teamwork, accordingly I'm capable of promoting unity within the group and serve as a diplomatic and motivating colleague to all members, however sometimes I realize I can be indecisive and hesitant to make a decision in order to avoid conflicts in the group.

FINISHER: Sometimes I'm so focused on concentrating on doing my best with the work I've at hands that I can forget the big picture and other deadlines, this is surely an area that I must improve on

STRATEGIST: I think my indecisiveness and the tendency to overanalyse every project's aspect sometimes doesn't allow me to examine the project from a strategic perspective.

INTELLECTUAL: Even though I recognize that I lack the confidence or the stimuli to develop new ideas by myself, I think I'm usually someone who steps in with new ideas, and the mismatch between the results given and the reality might be because I under valuate this element on a team work.

LOWEST RESULTS

VI. INDIVIDUAL REFLECTIONS: INÊS ANDRADE

The opportunity to work not only with a resourceful team of university peers, but also under the supervision of a knowledgeable client allowed me to get to know myself more and develop important skills for my future.

Main Learnings

MOTIVATION: When the project started there were a lot of moments me and the group felt lost as we were not used to work so freely. It was essential to overcome the uninspired and dull moments at the beginning and look at all the small steps we could start doing.

SELF-ASSESMENT: Working with other doesn't only allow us to get to know other ways of thinking and being it enables us to look at ourselves with an introspective mindset. I was able to reflect and identify my qualities and areas that need more development.

PRIORITIZE AND MANAGE TIME: A busy lifestyle and an ambitious mindset are great assets, however sometimes it makes it hard to manage our time. Balancing the thesis, classes and other academic endeavours taught me how to manage my time wisely, prioritize between tasks and focus in the work I've at hands without letting stress and external pressures jeopardize it.

ASSERTIVE: I've previously realized I lack assertiveness in an working environment as I felt I'm not experienced enough to "make myself heard". In this project I was able to comprehend that I can be confident in my own opinion while knowing my limitations, but I shouldn't be so quick to disregard them

SYNDICATION: One of the most valuable lessons from this consultancy lab was to realize that to fulfil the clients expectations we should go beyond the feedback given. To truly understand what are their expectations regarding the project deliveries we should not be afraid to ask for further clarifications on the goals, objectives and improvements.

TRUST: I was able to completely trust my colleagues, their judgement and their ability to deliver their best work. Creating an environment of trust in which everyone feels valued by others and at the same time confident that their peers are as well prepared and motivated to work as them is essential to any cooperative work.

VI. INDIVIDUAL REFLECTIONS: FREDERICO LACERDA

The consulting lab was a perfect bridge between academic life and my future career, and our work project gave me personal and professional insights that I will bring always in my life.

Belbin Results

HIGHEST RESULTS

PRESIDENT: I recognized that productivity, method and discipline are key characteristics for success. For that it is important to know the team well and their skills. Having a proper and balanced delegation to create harmony between the team members. For high and strict objectives it is important to be coordinated and self disciplined.

MONITOR: It is important to evaluate well all the ideas, see the pros and cons of each one. To take a proper decision it is important to collect and analyse information about that. In addition, it is important to have all members at the same level of knowledge to have a weighted decision.

TEAM WORKER: Creating good environment with the team members, valuing each one, giving them voice and transmit that together the achievement will be greater. It is important that each member knows that they add value for the team and each idea could be a valid idea.

STRATEGIST: Having some tendency to overthink on some situations and delay the decision making process, consequence of a pursuit for a detailed analysis. Although I guess I have always the strategic thinking on my head and working process.

FINISHER: Besides sometimes I put some pressure on the team due to some deadlines, I think that I am a relaxed person, which knew the team value and that we are on the right path. It is important to be relaxed for a good environment inside the group.

INTELLECTUAL: I am not the type of person imaginative and creative. Although I knew the importance of be that kind of person, sometimes is harder to began a project without this creative process. To balance I am very critical with the ideas presented and prefer to develop an existent idea than having a new one.

LOWEST RESULTS

VI. INDIVIDUAL REFLECTIONS: FREDERICO LACERDA

The consulting lab was a perfect bridge between academic life and my future career, and our work project gave me personal and professional insights that I will bring always in my life.

Main Learnings

COMMUNICATION: The project showed the importance of having a perfect communication. Inside the team the communication has to be clear and respectful. It is crucial to value the others opinion and keep the good environment to succeed. The communication with the client has to be objective and clear to get the best feedback and promote the syndication.

PERSONAL RELATION: On this project I learnt a lot the impact of our attitudes on our work. It is very important to enjoy our work. Create a good relation with the client, the advisor, the other team members will help you working better. It is crucial to know in each phase of the project or the day you can be more relaxed or more strict.

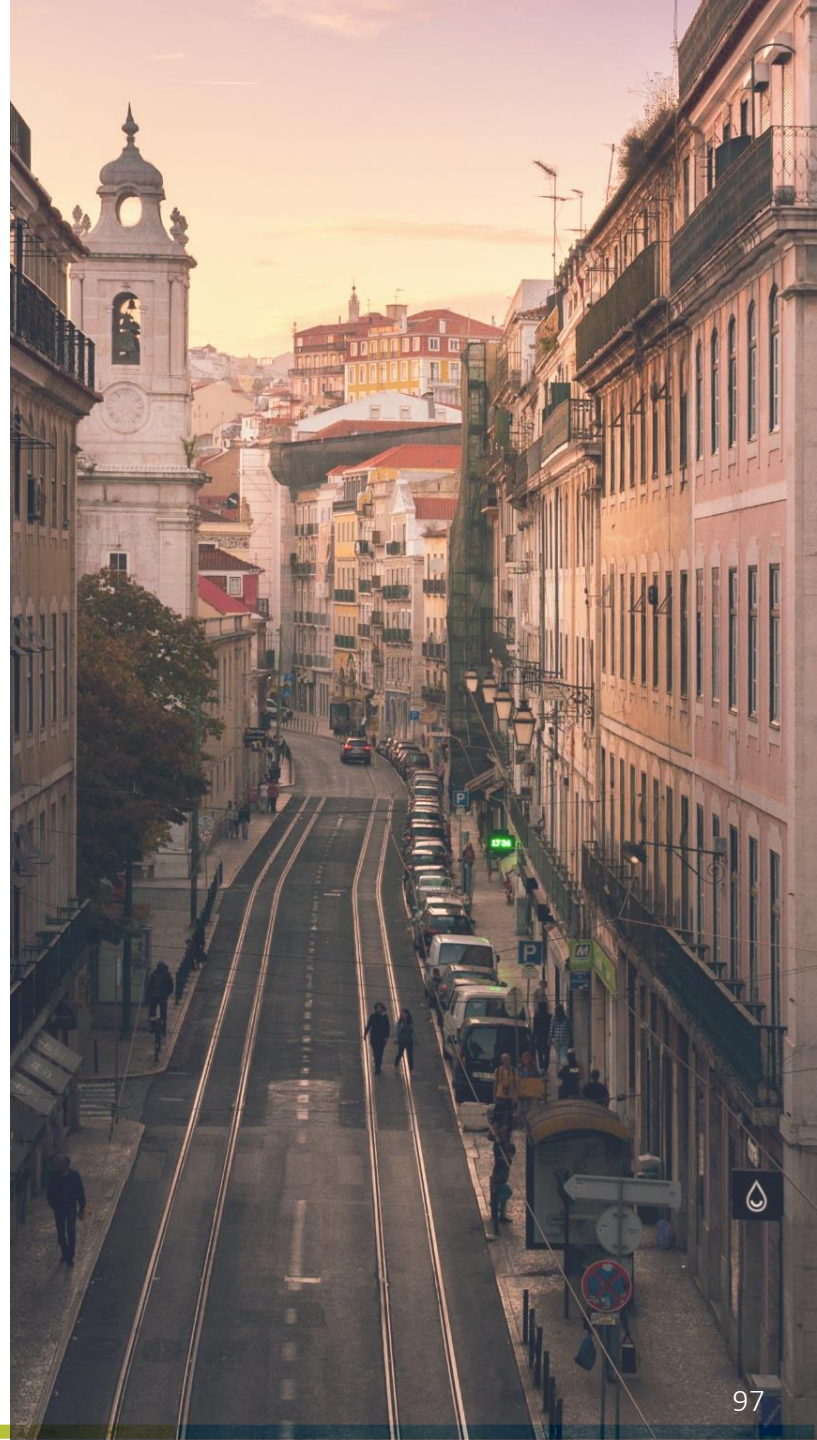
TEAM WORK: Besides I had a vast experience in team work, this project improved my team work skills. In this project I have learned how to deal with the others. Knowing the strengths and weaknesses of each member and know how to distribute the work, how can I help the other and how can the others help me getting better.

SYNDICATION: The project gives us the importance of having a good relation with the client. It is crucial for the success of a project that the interests are aligned. The consultants have to fulfil the client needs and expectations and the client has to give the proper feedback. It is important to recognize the synergies between client and consultants, getting their knowledge and experience to do the best and valuable work for them.

PROBLEM SOLVING: During the project we had a lot of challenges. In each one the group learn how to face it, which tools were needed and how to overcome it with success. There was no situation which stopped us from continuo our day-by-day work. With the help of advisors, the client or intern solution the solution was always found.

DESIGN THINKING: A new methodology of working used by many consultants and companies. It is a very good method to approach and develop many consultancy projects. It is a very good guidance to structure how thinking and that we can use in our future working life.

AGENDA



VII. REFERENCES

Agência Lusa. (2012). *Idosos portugueses estão mais cultos, saudáveis e ativos*. Retrieved from Diário de Notícias: https://www.dn.pt/portugal/interior/idosos-portugueses-estao-mais-cultos-saudaveis-e-ativos-2451666.html

Agência Lusa. (2018). *Portugal é um dos países mais envelhecidos da UE à frente de Espanha*. Retrieved from Público: https://www.publico.pt/2018/03/29/sociedade/noticia/portugal-e-um-dos-paises-mais-envelhecidos-da-ue-a-frente-de-espanha-1808478

Agência Lusa. (2018). *Uber, Cabify, Taxify e Chaffeur Privé, quatro plataformas a operar em Portugal*. Retrieved from Diário de Notícias: https://www.dn.pt/lusa/interior/uber-cabify-taxify-e-chaffeur-prive-quatro-plataformas-a-operar-em-portugal-9867057.html

Agência Portuguesa do Ambiente. (2017). *7th National Communication to the United Nations Framework Convention on Climate Change.* Retrieved from https://unfccc.int/files/national_reports/annex_i_natcom_/application/pdf/28410365_portugal-nc7-1-pt7cn3brfinal.pdf

Agência Portuguesa do Ambiente. (2018). *Relatório do Estado e do Ambiente.* Retrieved from https://sniambgeoviewer.apambiente.pt/GeoDocs/geoportaldocs/rea/REA2018/REA2018.pdf

Agênica Lusa. (2018). *Estudo europeu conclui que população idosa portuguesa é pouco saudável*. Retrieved from Público: https://www.publico.pt/2018/07/16/sociedade/noticia/estudo-europeu-conclui-que-populacao-idosa-portuguesa-e-pouco-saudavel-1838104

Anastasia. (2017). *Overview of Qualitative and Quantitative Data Collection Methods*. Retrieved from Cleverism: https://www.cleverism.com/qualitative-and-quantitative-data-collection-methods/

ASQ. (2010). *Impact Effort Matrix*. Retrieved from ASQ: http://asq.org/healthcare-use/why-quality/impact-effort.html

ATKearney. (2013). *Understanding the Needs and Consequences of the Ageing Consumer.* Retrieved from https://www.atkearney.com/documents/10192/682603/Understanding+the+Needs+and+Consequences+of+the+Aging+Consumer.pdf/6c25ffa3-0999-4b5c-8ff1-afdca0744fdc?fbclid=IwAR0PPrquTlsENeSWzWr2c2maaw5RzM660_FPTfsh81DxcsLJAN3WT0-M_QA

Atkin, E. (2018). *Germany has proven the modern automobile must die*. Retrieved from Wired: https://www.wired.com/story/germany-proves-cars-must-die/

Bloomberg New Energy Finance. (2018). *Electric Vehicle Outlook: 2018.* Retrieved from https://bnef.turtl.co/story/evo2018?teaser=true

Brisa. (2017). *Relatório Integrado 2017.*

Câmara Municipal de Lisboa. (2018). *The Strategic Charter of Lisboa 2010-2024*. Retrieved from Câmara Municipal de Lisboa: http://www.cm-lisboa.pt/en/city-council/city-council/strategic-charter

(2016). *Challenges and way forward in the urban sector.* Retrieved from https://sustainabledevelopment.un.org/content/documents/challenges_and_way_forward_in_the_urban_sector_web.pdf

VII. REFERENCES

Cipriano, R. (2014). *Quem são e como vivem os idosos em Portugal*. Retrieved from Observador: https://observador.pt/2014/09/30/quem-sao-e-como-vivem-os-idosos-em-portugal/

Coresight Research. (2016). *The Silver Wave: Understanding the Aging Consumer*. Retrieved from Coresight Research: https://coresight.com/research/silver-wave-understanding-aging-consumer/

Dam, R., & Siang, T. (2018, December). *5 Stages in the Design Thinking Process*. Retrieved from Interaction Design Foundation: https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process

Dam, R., & Siang, T. (2018). *Personas: A Simple Introduction*. Retrieved from Interaction Design Foundation: https://www.interaction-design.org/literature/article/personas-why-and-how-you-should-use-them

Dam, R., & Siang, T. (2018, December). *What is Design Thinking and Why Is It So Popular?* Retrieved from Interaction Design Foundation: https://www.interaction-design.org/literature/article/what-is-design-thinking-and-why-is-it-so-popular

Deloitte Insights. (2018). *Deloitte City Mobility Index: Lisbon.* Retrieved from https://www2.deloitte.com/content/dam/insights/us/articles/4331_Deloitte-City-Mobility-Index/Lisbon_GlobalCityMobility_WEB.pdf

Durand, R. (2018). *Atenção, Uber, Taxify e Cabify: chegou a Chauffeur Privé e está a dar 50% de desconto no primeiro mês*. Retrieved from Trendy: https://trendy.pt/2018/09/chauffer-prive-lisboa/

EMTA. (2007). *Older People and Public Transport.* Retrieved from https://www.emta.com/IMG/pdf/Final_Report_Older_People_protec.pdf

EPA. (2018). *Inventory of U.S. Greenhouse Gas Emissions and Sinks*. Retrieved from United States Environmental Protection Agency: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks

European Commission. (2006). *Review of the EU Sustainable Development.* Retrieved from http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%2010917%202006%20INIT

European Commission. (2015). *Business Innovation Observatory.* Retrieved from https://ec.europa.eu/docsroom/documents/13419/attachments/1/translations/en/renditions/native

European Commission. (2017). *EU Sustainable Development Strategy*. Retrieved from European Commission: http://ec.europa.eu/environment/sustainable-development/strategy/index_en.htm

European Commission. (2018). *Estratégia Europa 2020.* Retrieved from European Commission: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/european-semester/framework/europe-2020-strategy_pt

European Commission. (2018). *Lisbon Metropolitan Region*. Retrieved from European Commission: https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/lisbon-metropolitan-region

Gabinete de Estratégia e Planeamento. (2017). *A população com 55 e mais anos no mercado de trabalho.* Retrieved from http://www.gep.msess.gov.pt/estudos/pdf/pmvep_2017.pdf

VII. REFERENCES

Gaboleiro, A. (2018). *Principal alvo das marcas: as gerações*. Retrieved from Imagens de Marca: https://www.imagensdemarca.pt/artigo/principal-alvo-das-marcas-as-geracoes/

Goldman Sachs. (2018). *Cars 2025*. Retrieved from Goldman Sachs: https://www.goldmansachs.com/insights/technology-driving-innovation/cars-2025/

Greenfield, A. (2014). *Helsinki's ambitious plan to make car ownership pointless in 10 years*. Retrieved from The Guardian: https://www.theguardian.com/cities/2014/jul/10/helsinki-shared-public-transport-plan-car-ownership-pointless

Greenhouse Surge. (2015). *Lisbon, Portugal.* Retrieved from https://greensurge.eu/products/case-studies/Case_Study_Portrait_Lisbon.pdf

Hitt, M., Ireland, R., & Hoskisson, R. (2007). *Strategic Management Competitiveness and Globalization: Concepts and Cases.* Thomson.

Idosos estão mais cultos, saudáveis e ativos. (2012). Retrieved from Jornal de Notícias: https://www.jn.pt/sociedade/interior/idosos-estao-mais-cultos-saudaveis-e-ativos-2451460.html

Imposto Sobre Veículos . (2018). *Imposto Único de Circulação*. Retrieved from Imposto Sobre Veículos : https://impostosobreveiculos.info/english/portuguese-taxes-on-cars-2018/

INE. (2017). *Estatísticas do Turismo 2016.* Retrieved from https://www.ine.pt/ngt_server/attachfileu.jsp?look_parentBoui=299821677&att_display=n&att_download=y

INE. (2017). *Inquérito às Despesas das Famílias 2015/2016.* Retrieved from https://www.ine.pt/ngt_server/attachfileu.jsp?look_parentBoui=298558326&att_display=n&att_download=y

International Energy Agency. (2018). *Global EV Outlook 2018*. Retrieved from International Energy Agency: https://www.iea.org/gevo2018/

Jones, H. (2017). *Oxford aims for world's first zero emissions zone with petrol car ban*. Retrieved from The Guardian: https://www.theguardian.com/uk-news/2017/oct/11/oxford-aims-to-cut-air-pollution-car-ban-zero-emissions-zone

Machado, J. (1997). *Municipal Master Plans for the Lisbon Metropolitan Area.* Retrieved from https://www.researchgate.net/publication/315504194_Municipal_Master_Plans_for_the_Lisbon_Metropolitan_Area_AML_A_Regional_Approach

Machado, N. (2018). *Os 'baby boomers' amadureceram*. Retrieved from https://jornaleconomico.sapo.pt/noticias/os-baby-boomers-amadureceram-312400

Mack, N., Woodsong , C., MacQueen, K., Guest, G., & Namey, E. (2005). *Qualitative Research Methods: A Data Collector's Field Guide.* USAID.

Marquez, J., Downey, A., & Clement, R. (2015). Walking a Mile in the User's Shoes: Customer Journey Mapping as a Method to Understand the User Experience. *Internet Reference Services*.

Martins, F. (2018). *Chauffeur Privé: a concorrente da Uber já circula em Lisboa com preços fixos*. Retrieved from MAGG: https://magg.pt/2018/09/17/chauffeur-prive-a-concorrente-da-uber-ja-circula-em-lisboa-com-precos-fixos/

McGraw Hill Financial. (2016). *Aging and Urbanization.* Retrieved from https://globalcoalitiononaging.com/wp-content/uploads/2018/06/AgingUrbanization_115.pdf

VII. REFERENCES

McKinsey Global Institute. (2018). *The Future of Cities: Meeting the Growth and Age Challenge in European Cities.* McKinsey Global Institute. Retrieved from http://www.ewrcp.eu/webfiles/odaysOzSpPresentation_files/136-MjAxODA5MjBfRVdDUiBwcmVzZW50YXRpb25fdjdfR1MucGRm.pdf

McKinsey&Company. (2012). *Lightweight, heavy impact.* Retrieved from https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/automotive%20and%20assembly/pdfs/lightweight_heavy_impact.ashx

McKinsey&Company. (2013). *The road to 2020 and beyond: What's driving the global automotive industry?* Retrieved from https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/%20Automotive%20and%20Assembly/PDFs/McK_The_road_to_2020_and_beyond.%20ashx

McKinsey&Company. (2015). *Competing for the connected customer: perspectives on the opportunities created by car connectivity and automation.* Retrieved from https://www.mckinsey.com/~/media/mckinsey/industries/automotive%20and%20assembly/our%20insights/how%20carmakers%20can%20compete%20for%20the%20connected%20consumer/competing_for_the_connected_customer.ashx

McKinsey&Company. (2016). *Automotive Revolution: Perspective Towards 2030.* Retrieved from https://www.mckinsey.com/~/media/mckinsey/industries/high%20tech/our%20insights/disruptive%20trends%20that%20will%20transform%20the%20auto%20industry/auto%202030%20report%20jan%202016.ashx

McKinsey&Company. (2016). *Disruptive trends that will transform the auto industry*. Retrieved from McKinsey&Company: https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/disruptive-trends-that-will-transform-the-auto-industry

McKinsey&Company. (2018). *Elements of success: Urban transportation systems of 24 global cities.* Retrieved from https://www.mckinsey.com/~/media/mckinsey/business%20functions/sustainability%20and%20resource%20productivity/our%20insights/elements%20of%20success%20urban%20transportation%20systems%20of%2024%20global%20cities/urban%20transportation%20systems.ashx)

Metaplan. (2009). *Metaplan Basic Techniques.*

Metaplan. (2018). *Structure & Strategy Consulting*. Retrieved from Metaplan.

Minimum Viable Product and Design: Balancing Risk to Gain Reward. (2018). Retrieved from Interaction Design Foundation: https://www.interaction-design.org/literature/article/minimum-viable-product-mvp-and-design-balancing-risk-to-gain-reward

(2016). *Mobilizing Sustainable Transport for Development.* Retrieved from https://sustainabledevelopment.un.org/content/documents/2375Mobilizing%20Sustainable%20Transport.pdf

Newman, D. (2017). *Top 6 Digital Transformations Trends In The Automotive Industry*. Retrieved from Forbes: https://www.forbes.com/sites/danielnewman/2017/07/25/top-6-digital-transformation-trends-in-automotive/#19f4b25a54e1

VII. REFERENCES

News Wires. (2018). *EU agrees 35 percent cut in car emissions by 2030 in wake of UN report*. Retrieved from France24: https://www.france24.com/en/20181010-european-union-backs-stricter-car-emission-co2-rules-wake-un-climate-change-report

Observador. (2016). *Consumo Sénior.* Retrieved from https://www.centromarca.pt/folder/conteudo/1453_estudo_obs29.pdf

Observador. (2018). *A Uber tem mais um concorrente: Chauffeur Privé já circula em Lisboa*. Retrieved from Observador: https://observador.pt/2018/09/17/a-uber-tem-mais-um-concorrente-chauffeur-prive-ja-circula-em-lisboa/

Observatório das Desigualdades. (2017). *Utilização de internet*. Retrieved from Observatório das Desigualdades: https://observatorio-das-desigualdades.com/2017/04/05/utilizacao-de-internet-em-portugal-mais-de-metade-da-populacao-teve-acesso-a-internet-em-2016/

OECD. (2015). *Ageing in Cities.* Retrieved from https://www.oecd.org/cfe/regional-policy/Policy-Brief-Ageing-in-Cities.pdf

Perkins + Will. (2018). *Designing for Future Mobility.* Retrieved from https://ca.perkinswill.com/sites/default/files/Designing_for_Future_Mobility_Report.pdf

Peters, A. (215). *7 Cities That Are Starting to Go Car-Free*. Retrieved from Fast Company: https://www.fastcompany.com/3040634/7-cities-that-are-starting-to-go-car-free

PORDATA. (2016). *População residente que viajou em turismo: total e por destino da viagem*. Retrieved from PORDATA: https://www.pordata.pt/Portugal/Popula%C3%A7%C3%A3o+residente+que+viajou+em+turismo+total+e+por+destino+da+viagem-2616

PORDATA. (2016). *População residente: total e por grandes grupos etários*. Retrieved September 2018, from PORDATA: https://www.pordata.pt/Municipios/Popula%C3%A7%C3%A3o+residente+total+e+por+grandes+grupos+et%C3%A1rios-390

PORDATA. (2017). *Indicadores de envelhecimento*. Retrieved from PORDATA: https://www.pordata.pt/Portugal/Indicadores+de+envelhecimento-526

PORDATA. (2017). *Indivíduos com 16 e mais anos que utilizam computador e Internet em % do total de indivíduos: por grupo etário*. Retrieved from PORDATA: https://www.pordata.pt/Portugal/Indiv%C3%ADduos+com+16+e+mais+anos+que+utilizam+computador+e+Internet+em+percentagem+do+total+de+indiv%C3%ADduos+por+grupo+et%C3%A1rio-1139

Portugal In. (2018). *Automotive Industry*. Retrieved from Portugal In: http://www.portugalin.gov.pt/automotive-industry/

PWC. (2015). *Connected Car Study 2015.* Retrieved from https://www.strategyand.pwc.com/media/file/Connected-Car-Study-2015.pdf

RAND Corporations. (2016). *Autonomous Vehicle Technology: A Guide for Policymakers.* Retrieved from https://www.rand.org/content/dam/rand/pubs/research_reports/RR400/RR443-2/RAND_RR443-2.pdf

Rasiel, E. (1999). *The McKinsey Way.* McGraw-Hill.

VII. REFERENCES

Relatório do Estado do Ambiente. (2018). *Energy and Carbon Footprint from Transport*. Retrieved from Relatório do Estado do Ambiente: https://rea.apambiente.pt/content/energy-and-carbon-footprint-transport?language=en

Relatório do Estado do Ambiente. (2018). *Portugueses produzem cada vez mais lixo*. Retrieved from Noctula: http://noctula.pt/relatorio-do-estado-do-ambiente-2018-os-portugueses-produzem-cada-vez-mais-lixo/

Richardson, A. (2010). *Using Customer Journey Maps to Improve Customer Experience.* Retrieved from Harvard Business Review.

Richardson, A. (2016). *What You Can and Should Be Doing With Your Customer Journeys.* Retrieved from Harvard Bussines Review.

Rodrigues, J. (2018). *Uber, Cabify e Taxify: que serviços têm, quanto custa e como pagar?* Retrieved from Jornal Económico: https://jornaleconomico.sapo.pt/noticias/uber-cabify-ou-taxify-que-servicos-tem-quanto-custa-e-como-pagar-294682

Santos, N. (2018). *Uber vs Taxify vs Cabify vs MyTaxi*. Retrieved from Medium: https://medium.com/@nrsantos/uber-vs-taxify-vs-cabify-vs-mytaxi-9e36cd9682c1

Shewan, D. (2018, November). *Pain Points: A Guide to Finding & Solving Your Customers' Problems*. Retrieved from Wordstream: Online Advertising Easy Made: https://www.wordstream.com/blog/ws/2018/02/28/pain-points

Smile Einfach Mobil. (2018). *The future of mobility*. Retrieved from Smile Einfach Mobil: http://smile-einfachmobil.at/index_en.html

Statistics Solutions. (2018). *Quantitative Research Approach*. Retrieved December 2018, from Statistics Solutions: https://www.statisticssolutions.com/quantitative-research-approach/

Sustainable Governance Indicators. (2018). *Environmental Policies*. Retrieved from Sustainable Governance Indicators: http://www.sgi-network.org/2017/Portugal/Environmental_Policies

TOMTOM. (2018). *TOMTOM Traffic Index*. Retrieved from TOMTOM: https://www.tomtom.com/en_gb/trafficindex/city/lisbon

TrendHunter. (2018). *Consumer Insights: Life-Stages* . Retrieved from https://www.trendhunter.com/pro/category/trends-for-seniors

Uber, Taxify, Cabify, Mytaxi e Chauffeur Privé: Tudo o que precisa saber para se movitar em portugal. (2018). Retrieved from Sapo: https://lifestyle.sapo.pt/vida-e-carreira/noticias-vida-e-carreira/artigos/uber-taxify-cabify-mytaxi-e-chaffeur-prive-tudo-o-que-precisa-saber-para-se-movimentar-em-Portugal

United Nations. (2014). *World Urbanization Prospects.* Retrieved from https://esa.un.org/unpd/wup/publications/files/wup2014-highlights.pdf

Vedenin, Y. (2017). *How To Create a Persona in 7 Steps*. Retrieved from UXPRESSIA: https://uxpressia.com/blog/how-to-create-persona-guide-examples

Woods, M. B. (2010). *Essential Guide to Marketing Planning.* Pearson.

World Economic Forum. (2017). *The Global Competitiveness Report 2017-2018*. Retrieved from World Economic Forum: https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018