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Business Plan: Software for Workshops and Clients

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MSc in Business Administration

Supervisor:

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Abstract

The following business plan presents two solutions for the automotive aftermarket industry. They consist of an ERP program for auto repair shops and a mobile application for their customers and the general public. Previously to this endeavor, various gaps were identified in an industry characterized by inefficiencies, lack of transparency, and convenience. Thus, in an attempt to bring solutions and improve the overall aftermarket industry, this project was born.

With the help of the ERP program, auto shops will be able to optimize their productivity, get better timeline results, improve their customer base, and serve an overall better experience to their clients. On the other hand, given the current technological environment, the mobile application was thought as the best way to connect the customers with the auto shops. Within the app, the clients will be able to schedule services at convenient times, track their vehicles' repair progress, get virtual diagnostic help, book specialized services, and broaden their choice of auto shops with verified and ranked mechanics, among many other features.

Having identified these gaps, the goal of this business plan is to elaborate a suitable foundation for the market implementation of these products, under the name of OneJack. Relying on several revenue streams such as ERP and mobile app subscriptions, advertising, and related services fees.

Keywords: Business Plan, Automobile Industry, SaaS, Mobile Application, Innovation, Startup.

JEL Classification:

M13 - New Firms; Startups.

M15 - IT Management.

O32 - Management of Technological Innovation and R&D.

Resumo

O seguinte plano de negócios apresenta duas soluções para a indústria de pós-venda automóvel. Estas consistem num programa ERP desenhado para oficinas de reparação automóvel e numa aplicação móvel para os seus clientes e público em geral. Antes deste empreendimento, foram identificadas várias lacunas numa indústria caracterizada por ineficiências, falta de transparência e conveniência. Assim, na tentativa de apresentar soluções e melhorar globalmente a indústria pós-venda automóvel, surge este projeto.

Com a ajuda do programa ERP, as oficinas poderão otimizar a sua produtividade, obter melhores resultados em termos de prazos, expandir a sua base de clientes e proporcionar uma experiência global melhor aos seus clientes. Por outro lado, dado o atual ambiente tecnológico, a aplicação móvel foi pensada como a melhor forma de ligar os clientes às oficinas. Na aplicação, os clientes poderão agendar serviços em horários convenientes, acompanhar o progresso das reparações dos seus veículos, obter ajuda em diagnósticos virtuais, marcar serviços especializados, e alargar a sua escolha de oficinas automóveis com mecânicos verificados e classificados, entre muitas outras funcionalidades.

Tendo identificado estas lacunas, o objetivo deste plano de negócios é elaborar uma base adequada para a implementação destes produtos no mercado, sob o nome de OneJack. Contaremos com diversas fontes de receita, como assinaturas do programa de ERP e da aplicação móvel, receitas de publicidade e taxas em serviços relacionados.

Palavras-chave: Plano de Negócios, Indústria Automóvel, Software como Serviço, Aplicação Móvel, Inovação, Novas Empresas.

Classificação JEL:

M13 - Novas Empresas.

M15 - Gestão de Tecnologias de Informação.

O32 – Gestão de Inovação Tecnológica e I&D.

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Glossary

ERP – Enterprise Resource Planning

SaaS – Software as a Service

VCFM - Venture Capital Fund Manager

TCO - Total Cost of Ownership

BCG – Boston Consulting Group

EU – European Union

OECD – Organization for Economic Cooperation and Development

IMF – International Monetary Fund

GDP – Gross Domestic Product

IDC – International Data Corporation

AWS – Amazon Web Services

AI – Artificial Intelligence

VAT – Value Added Tax

PESTEL – Political, Economic, Social, Technological, Environmental and Legal

SWOT – Strengths, Weaknesses, Opportunities and Threats

OS – Operating Systems

NPV – Net Present Value

IRR – Internal Rate of Return

CAPEX – Capital Expenditure

CAPM – Capital Asset Pricing Model

WACC – Weighted Average Cost of Capital

IRC – Portuguese Corporate Tax

CEO – Chief Executive Officer

CTO – Chief Technology Officer

CFO – Chief Financial Officer

CMO – Chief Marketing Officer

COO – Chief Operating Officer

MAU – Monthly Active User

CPM – Cost Per Mille

UI – User Interface

UX – User Experience

1. Introduction

This business plan consists in the implementation study of two innovative ideas for the automotive industry, namely, an enterprise resource planning (ERP) system and a mobile application that aim to be interconnected. This project emerged during the time that I started working as an independent car salesman. During this period, I realized that there were many gaps of inefficiencies that prevented me and my customers from having an overall better and safer experience. The main problems derived from the realization that most customers did not feel confident when buying a car, caused by their lack of knowledge in the matter. By this time, I tried to understand what the source of this problem was and what could be causing this type of inefficiency. Soon enough, I understood that the primary reason was something that also affected my workflow directly, and it was the lack of ease of communication between vendors, buyers, and car owners with mechanic shops. This was something that, as mentioned, affected me directly as well because there were innumerous times when I needed a prompt car repair or service, and my usual auto shops were incapable of delivering a timely service. After discussing these issues with my trusted mechanics, I realized that they had many productive obstacles, and in order to fix the problem at the top, it was needed a solution that started from the bottom.

That is how this project began, with the proposal of creating an ERP software program specialized to mechanic shops and a mobile app that connects them with their customers, offering all parties an enriched experience. The ERP's primary goal is to simplify and optimize the daily operations and management of these mechanic shops. It can achieve this by providing a comprehensive suite of tools and functionalities that assist with appointment scheduling, time management, customer engagement, and data handling, among many other functionalities. Aiming to simplify these processes, the ERP software helps auto shops operate more smoothly, reduces the likelihood of errors and resource waste, and enhances customer service, ultimately leading to increased efficiency and improved customer satisfaction. In order to complement the ERP program, the mobile app is designed for auto shop customers. The app will offer a range of features aimed at making the entire vehicle service experience more convenient and efficient for customers. With the app, customers can easily book appointments at any affiliated shop, track the progress of repairs, receive real-time notifications, and conveniently make payments, among many other features.

This being said, I chose to elaborate a business plan that can assess the viability of implementing such products into the market. Throughout this project, we collected data from shops and

customers to understand if our previous assumptions were true. Later on, this data was used to elaborate an adequate implementation plan and evaluate the financial viability and profitability for the investors of said venture.

2. Literature Review

2.1 Business Plan

In this review, I will analyze the literature of several concepts such as the business plan, innovation, software, and the European car market. These concepts were selected having in mind the theme of this project. In any of them, I aim to review and evaluate how these terms have evolved throughout time and how authors determine them, also trying to debate and contrast authors' opinions.

One of the first tasks that an entrepreneur must take care of when starting a new venture is to design a business plan. Some authors disagree on the need for this step in the endeavor, but first, what is a business plan? According to Haag (2013), the business plan is "the owner's road map for a successful enterprise—a blueprint, a statement of goals and hopes, a compass, and a guideline to planned action." Also, it should reflect the current and future image of the endeavor. This plan is a written document that "details a firm's strategic and operative aspects" in which it must contain enough data for the proper assessment of its commercial and financial viability (Fernández-Guerrero et al., 2012). In this sense, generally, the main goal for the elaboration of the plan is to gain financing for the development of the business, being crucial at the start of most businesses to scale and recruit human capital (Cerdeira, 2017). This author also adds that sometimes when the aim is not funding, it's to "gain legitimacy and credibility for their business". Still, there are more purposes than these two mentioned, for example, many authors including Nunn & McGuire (2010) argue that the formulation of this plan also serves as a guide to help the entrepreneur on "how to develop and operate the business", which should give the business a path in any normal or adverse circumstance.

The plan should have several components, such as the description of the product or service, the definition of the business goals, the necessary steps to achieve these goals, a SWOT for internal and external analysis, and a financial projection of the business (Cerdeira, 2017). Additionally, it should contain a specific analysis of the company's potential customers and competitors. The exact structure or order in which it should be done is debatable. Nonetheless, Nunn & McGuire (2010) offer a template that shows the way they think is correct: (1) Title Page, (2) Table of Contents, (3) Executive Summary, (4) Business Description, (5) Management (6) Market and Business Analysis, (7) Business and Market Development, (8) Marketing and Sales, (9) Financial Data, (10) Application of Funds, and (11) an Appendix. In this paper, the authors also define the characteristics of a good business plan, which should be "well written, organized into

sections and include detailed financial projections". If the idea and the business plan are interesting, then it will stimulate initial interest (Nunn & McGuire, 2010).

As we mentioned before, the main goal of the plan is to attract the interest of investors who can help the business take off. As such, Mason & Stark (2004) deepen the analysis of the investment criteria by the three main investor figures: the Bankers, the Venture Capital Fund Manager (VCFM) and the Business Angel. Their study aims to demonstrate why business plans have to be adapted differently for each of the interests of these three figures. The authors criticize that most literature fails to draw the attention of readers to the different ways in which bankers and venture capitalists interrogate business plans (Mason & Stark, 2004). The authors then concluded that, for bankers, the decision will be "dominated by financial considerations" and, the entrepreneur's capabilities or the business opportunity itself will not be the focus. On the other hand, VCFMs will pay attention to both the financial projection and the characteristics of the entrepreneurial team. This is mainly because the Venture Capitalist will work closely with the team and generally has a stake in the company, while the banker is only issuing a loan. Lastly, the Business Angel will have a similar approach to the VCFM but will give even more emphasis to the quality of the team and generally will be more inclined to invest if the business belongs to their area of expertise. Overall, the Business Angel will be the most challenging figure, especially because they will consider involvement in the business, hence their risk is higher.

Finally, we can conclude that the proper creation of a business plan consists of an important tool for any starting business. Even if this implies a considerable amount of time and resources spent, as Cerdeira (2017) states "the benefits of planning the business exceed the resulting costs".

2.2 Innovation

In this section, I will start by analyzing the literature that best captures the notion of innovation. The aim is to compare and contrast the literature of the authors that might be more relevant to the subject, and by doing so, perceive how the term has evolved over time and how it is pertinent to this study.

One of the main authors in this field is J. Schumpeter, which was nicknamed "The 'Godfather' of Innovation Studies" (Bessant & Tidd, 2013), mainly for being one of the first academics to introduce the concept. For Schumpeter (1983) innovation was "the commercial or industrial

application of something new" that could encompass products, processes, and methods of production. Thompson (1965) described innovation as "the generation, acceptance and implementation of new ideas, processes products or services", providing a broader definition for the term. Drucker (1985) focused on defining innovation as a "specific tool of entrepreneurs" and how an individual can transform ideas into new or different businesses or services. For two more recent authors such as Albury (2005) and Hartley (2006) innovation is similarly characterized as a "successful development" or implementation of something new such as "processes, products, and services".

The main takeaway from the authors' definitions is the focus on the terms "new" and "implementation" or "application", which opens for debate on two important questions when trying to define innovation. First, does an innovation has to be something new in order to be one? Rogers (2003) separates the concept of innovation as having to be something new, referring that the innovation might not be new in the sense of being recently developed, but it has to be new to the person adopting it. As long as the idea is perceived as new to the people involved, it is an 'innovation' even though it may appear to others to be an 'imitation' of something that exists elsewhere (Van de Ven et al, 1986). Second, can we only call it an innovation when it's successfully implemented? For Albury (2005) and Hartley (2006) that is certainly the case, as they both include "successful" as an imperative requirement for their definitions. To West, Michael, and Neil (1996) "Innovation is the effective application of processes and products", which consolidates the fact that the majority of authors consider that something can only be determined as an innovation when it is implemented or applied in practice.

Lastly, we can conclude that the present literature does not offer a clear definition of innovation among researchers, mainly because of its multidisciplinary nature. Pointing out that the significance of innovation is not restricted to the business organization (Baregheh et al., 2009).

2.3 Software

In the sequence of describing what the literature tells us about innovation and its progress over the last decades, we can now explore what has been perhaps one of the most influential innovations in our present life, which is software. In this section, I aim to define and characterize this phenomenon according to the literature that, in my view, best describes it.

The vast majority of the authors don't dare to put out a clear definition of the term, naturally because of its complexity and ambiguity. However, Osterweil (2018) defines it as being "a collection of constraints and relations" which form the final product. In this line of thought, it is also described as a "tangle" and a "knot" that in conjunction with the material (hardware), form an ensemble that can be monitored and directed by the programmer (Berry, 2016). These misty definitions, complement the characteristics that many authors grant to this technology. Chun (2011) states that reaching a "comprehensive definition of software is impossible" and thinks that this intangible product that considers "barely a thing" and has a "ghostly presence", can make us change the world. This is a very common way for software to be characterized in the literature. In fact, software is "visible and invisible at the same time", it is something that cannot be seen or touched, it is, therefore "an illusion" (Kittler & Johnston, 2013). Software is often referred to as programs, and vice versa, and what they really are is a set of instructions that tell a computer how to perform a task. Where there is a clear distinction between the hardware that serves to display the "linguistic, or logical, entities" that are these programs (Priestley, 2011). There seems to be a subliminal discussion to see whether software is more important than hardware itself. Many authors argue that software is far more important than hardware because of its ubiquity, simply because software can be present in many types of devices and machinery (Manovich, 2013). It takes away the old mechanical processes that machines used to have.

It is inevitable to remark on the influence and importance that software has brought to our daily lives. It has changed the functionality of several types of machinery, from simple alarm clocks to complex electricity grids. Software makes these structures function, and "can revolutionize the limitations of the physical world" (Berry, 2016). Manovich (2013) aligns with this view and states that software "drives the process of globalization", being the main tool for technological progress in our society. Therefore, it is the responsible technology for managing physical and tangible entities of our current world, making us dependent on its constant evolution to witness the changes in the real world (Osterweil, 2018).

2.3.1 SaaS

Expanding on the concept of Software, it's time to go further and analyze the models in which software can be offered. I aim to expose a clear understanding of what *Software as a Service* (SaaS) is, and how it is relevant to this study.

SaaS is one of the three types of service models that exist in cloud computing:

- *Software as a Service (SaaS)*
- *Platform as a Service (PaaS)*
- *Infrastructure as a Service (IaaS)*

For the sake of relevance to this project, we are only interested in analyzing SaaS.

But first, what is cloud computing? According to Mell & Grance (2011), cloud computing is "a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources" that is flexible and easily managed. In the cloud, applications are hosted in environments such as Data Centers and they are accessible through traditional networks, namely the web browser (Dillon et al., 2010).

Being the service in this structure that is conceived for the end consumer, SaaS is defined as a model of software deployment where an application is hosted as a service provided to customers across the Internet (Kulkarni et al., 2012). These customers are generally businesses rather than normal consumers.

The consumer does not manage or control the underlying cloud infrastructure of the servers, networks, operating systems, etc. In this model, the user loses control of the software's central management as opposed to the traditional on-premise form (Mell & Grance, 2011). This can either be viewed as a positive or negative feature, depending on the needs of each customer.

SaaS allows the provider company to achieve economies of scale because the cloud infrastructure permits a "multi-tenancy system architecture" where all the applications are integrated into a single environment on the SaaS cloud. It also alleviates maintenance costs for the consumer as there's only one main infrastructure and allows the provider to monitor efficiently the issues along the way (Dillon et al., 2010). This model is appealing to most companies as it lets them focus on their core business and avoid capital expenditure on software maintenance, IT infrastructure management, and installations (Godse & Mulik, 2009).

The economic benefits to the consumer are clear since there is no upfront investment in servers or software licensing, contrary to commercial software. Additionally, SaaS works on an annual or monthly subscription and a one-time implementation cost. Offering consumers, the flexibility and freedom to quit the service whenever they wish to (Godse & Mulik, 2009).

2.3.2 On-Premise Software

The traditional form of software that is offered is licensed on-premise software. This type of format has some advantages and disadvantages compared to SaaS. Being our main goal in this section to review the respective literature and reach an understanding as to which model would suit best this project.

According to Olsson et al. (2019), on-premise software is "software that is installed and runs on the premises of the organization using the software, rather than at a remote facility such as the cloud." This inevitable comparison between traditional licensed software and cloud-sourced software is commonly seen among authors. Most papers show a relative comparison of both, where they try to show companies how to decide in which software model to invest.

From the provider's perspective, on-premise software demands less effort for the provider to gain and maintain loyalty with clients because it is a licensed product, and the vendor doesn't have to worry about customer lifetime value (CLV). Contrarily, SaaS-based companies have to compete for the loyalty of their clients because their model is only profitable when clients stay with them for a certain amount of time. However, providers also like the "predictability and continuity of revenue and customer stickiness that Cloud delivery enables" (Fisher, 2018).

On-premise software requires the setup and installation of servers, IT administration systems, and other fixed infrastructures that cloud doesn't require. The user acquires a perpetual license right at the beginning, which gives the user the right to use the software for perpetuity (Fisher, 2018). In case the user skips maintenance payments and pauses the use of the software, they can still use it afterward.

Researchers use a Total Cost of Ownership (TCO) approach to measure which choice between SaaS and On-premise suits best for each company. In terms of investment, on-premise systems "typically involve a relatively large, one-time upfront investment in software licenses". Additionally, the user company has to pay a recurring annual maintenance and support fee for "bug fixes, help desk, and product updates" (Gross, 2012). While SaaS, as we've seen, works on a subscription model where all of these services are included in the subscription fee. Expanding a bit further on the TCO approach, Both Gross's (2012) and Fisher's (2018) cases show that, in many cases between these two models, a 10-year period of ownership could favor on-premise software. This is due to the fact that, despite the large initial investment in acquiring the license, on-premise software maintenance cost is relatively low compared to the recurring

subscription payments on SaaS, which makes the relative cost curves tend to converge in the long run.

According to Fisher (2018), the purchase and installation costs for on-premise software can be "capitalized for tax advantages" due to Capex tax incentives, of course, this also depends on several factors such as the organization's marginal tax rates. On the other hand, the cloud subscription fee can be accounted as an operating expense. In contrast, Bibi, Katsaros & Bozanis (2012) state that SaaS reduces "both capital and operational costs". Adding, "SaaS reduces TCO by restricting the offered software's elasticity and thereby saving maintenance costs", overall claiming that this is the most affordable option for companies between both.

To conclude, the customer's choice for a software model depends mostly on the organization's size, the respective financial capability and overall, the specific need for one or another key differentiator.

2.4 European New Car Market

A market emerges once a set of necessary conditions are fulfilled, including, amongst other things, well-defined property rights and liberalized prices. It indicates both demand and supply, buyers and sellers, competition and exchange (Rosenbaum, 2010). In the case of the new passenger car market, specifically in the European region, the recent past years have tested its resilience and ability to grow. According to a recent report published in January of 2023 by the ACEA, about 9.3 million new cars were registered in the EU in 2022, about 4.6% less than the previous year and about 29% less than the market peak in 2019. The industry was first hit with the pandemic, where car sales were down 80% year-over-year at some point in that first year (Kim, 2020). After that, the downtrend performance is due to semiconductor shortages, which is essential in today´s cars, and more recently the war in Ukraine, putting even more pressure on the supply chain. However, the ACEA report expects new car registrations to increase by around 5% this year, setting new car registration volumes on par to 2020 numbers. It is important to highlight that the turnover generated by the auto industry represents almost 8% of the EU's Total GDP.

In terms of growth, the latest Statista data shows that revenue in the passenger car market is expected to show an annual growth rate (CAGR 2023-2027) of 1.72%, resulting in a projected market volume of €431.80bn by 2027.

2.4.1 European Second-hand Car Market

In an attempt to better serve our interests for this project, we should break down some key data points of the used car market. Despite being a derivative market of the new car industry, registration volumes can be much larger in this secondary market. For instance, in the U.S. the number of used-car transactions is approximately three times as large as the number of new-car transactions (Gavazza et al., 2014).

Furthermore, The Bain & Company published a report in February of 2023 showing relevant data for this review. According to this report, 32 million used cars were sold in Europe in 2021, totaling a sales volume of €429 billion for the year. Interestingly, 44% of these sales were done privately in consumer-to-consumer (C2C) transactions.

In another report published in 2014 by the European Commission, it reveals that the highest average prices for used cars were found in Scandinavia, Luxembourg and Portugal. But the main relevance of this report was the survey conducted on European consumers about the experience of buying a second-hand car. For example, consumers were mainly focused on price and car mileage when selecting their vehicle. Also, only 32% of respondents had a lot of knowledge about cars in general, meaning that the vast majority did not know how to properly check the condition of the vehicle they were about to purchase. Not surprisingly, about 41% of respondents reported experiencing problems within a year with their car. Additionally, consumers were asked about the way they performed a check on the car before purchasing. The majority said to have asked a friend or family member, and some paid a third party to perform a vehicle check. Out of those who paid a third party to perform a check, three out of five respondents argued that this check was very valuable.

In sum, the reports show that there is continued growth and resiliency in this market and opportunities to be exploited, with online platforms gaining space to transform this industry.

3. Methodology

The format of this thesis project is a business plan, as such, it requires a particular research approach than other formats.

In this case, as we discussed in the objectives section, the main questions are related to the market needs of this solution both from the perspective of the clients and the businesses (workshops) and if so, what other individual issues can we resolve through this system. The way to achieve this will be through both quantitative and qualitative research since the product is aimed for customers and businesses. As our primary data, first we will collect quantitative research through an online survey, targeting a population that either possesses a vehicle or that wishes to acquire one in the near future. The questions of this survey will mainly serve to test the interest of this population in these services and also help us figure out other ones that might fit in the product. The other part of the primary data will consist in the conduction of semi-structured interviews with randomly selected auto shops to learn more about their necessities in their businesses and to test the viability of this project with them. The interviews will be either in person or through a phone call, with a prepared script, but as we desire qualitative information, we will allow the interviewees to give open answers.

Further on, we will need some tools to prepare the financial projections for this project, there will be needed estimates and assumptions that will be based in secondary data such as industry benchmarks, national and international statistics and governmental data.

3.1 Primary Data

3.1.1 Primary Data Results for the ERP program

As abovementioned, one of the steps for the primary data collection was to conduct semi-structured interviews with auto shops owners or mechanics. The interview consisted of 21 questions, ones with open answers and others of multiple choice. They were divided between 6 different sections about several concerns of the day-to day workflow of the shop. The sections asked questions of topics such as: general characteristics of the shop, time and workload, openness to accept checkups, scheduling and division of work, parts management, and a last

section composed of a quick pitch and two pictures that show our program's features and tests a potential interest of the interviewees in our product.

There were 5 interviews conducted in total, 2 in person in the Lisbon area, and 3 phone calls to 3 shops of different locations, were the interviewees kindly accepted to openly answer our questions. Their answers helped us build some of the assumptions for our demand estimates and preferences.

Although most of the responses varied from shop to shop, here are the main takeaways from these interviews: 60% of mechanics work between 8-9h a day, which indicates most do extra-time because around 80% said that their shop was open 8h per day. Of the 5 interviewed, 80% said that they had between 70% to 100% full workload on hours available in the last 6 months. This explains why 40% of them answered that they currently could not accept any client that shows up without an appointment, while another 40% responded that they could accept around 2 of these clients in any given day, and that is mainly explained because of the number of employees that these shops have. Moreover, the majority said that they do have tools for estimating a service time, but also some mentioned that they are not 100% accurate or reliable, and most of them rely on their experience to do these estimations, despite the tools that they have. Also, most have a time stipulated for finishing a given job, but none of them have a tool that controls the actual time to finish these services.

In regard to check-ups, all of them responded that they could perform a check-up of a car that a client wants to buy, although 2 of them said that it depends on the available schedule, and it had to be booked in advance. It is important to mention that these 2 respondents worked in small shops that only had around 3 mechanics. Regarding the pricing of this service, the answers were a bit distributed, but most consider that it should be an hourly rate or between 30-60€ fixed rate for the job. Moreover, we asked the interviewees if there is a previously planning of their weeks to-do jobs, which all answered that they have a previously organized schedule, but it is not made automatically by any program that they use.

At last, we explained a bit of our project and solutions, also showing them images of some of the description of the features and pricings. When asked if they would be interested in such program, 40% replied positively and 60% said that they could consider it. Regarding the choice of the plans, the 2 smallest shops said they would opt for the Lite plan (the most basic plan), another 40% said that they were interested in the Essential plan (medium), and the interviewee who ran the biggest shop said that they liked the Pro plan. Lastly, 2 of the interviewed said they

would probably need one additional user and one said that they could need two additional users, while the other two interviewed predicted that they would not need any additional user.

The full version of this interviews can be found in Annex A.

3.1.2 Primary Data Results for the Mobile App

The second step to obtain our primary data about the mobile app was to make an online questionnaire. This questionnaire was made with Google Forms and was distributed across social media platforms as WhatsApp, Instagram, Facebook, and by email. Just as the ERP interviews, the questions were made and answered in Portuguese as that is our main target and it was more likely to get more responses. This survey also had 21 questions allocated in 5 different sections where the respondents were asked about their experiences with their latest vehicle acquired, as well as their experience and satisfaction with their auto shops, and also what they thought about having assistance of mechanics when purchasing a used car. With this survey we obtained a sample size of 139 responses. Here are some takeaways:

Out of the 139 respondents, 53,2% were females and 46,8% were male. The age distribution was large, with more than 15% respondents on each of the age groups, but with emphasis to the group of 45 to 54 years old which were 23,7% of the sample size. An important side note is that the author being from Madeira Island, naturally the largest group of respondents were from there. About 45,3% of the answers came from Madeira Island residents, 23% came from the Lisbon area, 15,8% came from the Porto area, and the rest were divided between the North and the South of Portugal. Moreover, 90,6% of respondents affirmed they owned a car, of which 62,8% said they purchased a used car. If the respondent answered that they did not possess a car or if they purchased a brand-new car, they would skip the next section. Out of the 82 respondents that claimed to have purchased a second-hand car, 51,2% responded that they bought directly to another person, while 45,1% said that they bought it from a car dealership. In the moment of purchase, 45,1% said that they were accompanied by a family member or friend, 30,5% went on their own and 24,4% paid a mechanic to help them. In that experience, 58,5% replied that they experienced some difficulties in evaluating the mechanical condition of the car or the veracity of the kilometers and number of owners of said vehicle. In the next section, answerers were asked if they felt more confident having a mechanic by their side when doing this type of purchases, which 63,3% said it would increase their confidence. At the end

of the purchase experience, we plan to add an extra form provided by us to the mechanic where he delivers it fully checked to the client to make an informed decision. Thus, we asked if they feel that is important to have estimates on the possible repairs that the car might need after the purchase, to which 65,5% consider that it is "very important". Lastly in this section, we asked how much respondents would be willing to pay for this kind of service, to which 37,4% showed that they would be willing to pay between 41€ and 50€, followed by 21,6% who said they would be willing to pay between 51€ to 60€.

In the last section, we wanted to know how their experiences with auto shops has been and how often do they resort to them. When asked how long they normally have to wait to get an appointment, 32,4% said between 1-3 days, 27,3% replied that it takes less than a week, 18% responded that they have waited more than a week, and the rest have experienced longer or shorter waiting times. When asked if they normally get an appointment to their most convenient time, 33,1% said yes, 35,3% said "sometimes" and 25,2% said no. Also, 49,6% of the respondents affirmed that they go to auto shops 1 to 2 times a year, 35,3% said they usually go 3 to 4 times a year, and 14,4% said they go between 5 to 6 times in a year. Lastly, they were asked about some of the negative aspects that they like the least when having to resort to an auto shop, to which the majority, or 35,3%, said that it was the waiting time for the repair to be finished, 30,2% said it was the difficulty of booking an appointment, and 28,8% said that their usual auto shop is located far from their residences.

The full version and answers of this survey can be found in Annex A.

4. Market Analysis

4.1. Market Overview and Trends

The vehicle repair and maintenance market in Portugal is a relatively big sector in the Portuguese economy. According to eInforma, an online database, there are 13.276 registered companies in this sector in Portugal. In comparison, there are 11.483 registered businesses in the accommodation sector, which tells us that there is a good opportunity in this market. Additionally, and according to the *Associação automóvel de* Portugal (ACAP), there were 5.41 million passenger vehicles registered in this country in 2022, which means that there is one repair shop for every 407 passenger cars. However, the major business flow in Portugal is concentrated in Lisbon and Porto, where there is a bit over 50% of the repair shops located in Lisbon alone and over 36% in the city of Porto.

According to a *Boston Consulting Group* (BCG) report from 2021, the European car parc is "aging and slowly growing", mainly because the Covid-19 pandemic triggered a shortfall in key car manufacturing parts and consequently a shortfall in new cars available for the market. This created a snowball effect on new passenger car prices, which made consumers turn for used cars, thus slowing the renewal of the European car parc. According to this report, the average passenger car in Western Europe is 11 years old, which will translate into 75% of the European fleet to be older than 8 years by 2030. This is particularly beneficial for repair shops because the older the vehicles, the more likely it is to need maintenance and repairs as it hits higher kilometers in its engines.

Electrification factor

Over the past years, the automobile industry suffered the biggest transformation in decades, with the mass production and distribution of electric vehicles. This impacts every sector of the industry, including the aftermarket sector which includes repair and maintenance. This will both create opportunities and present some threats for this sector in the future. According to BCG, one of the biggest threats is autonomous driving, simply because it will reduce collision rates between 10% and 20%, and the bigger the number of vehicles equipped with this technology, the higher this rate will be. Thus, it will progressively shrink the number of damaged vehicles to repair.

Another backlash that the sector is set to face is the fact that electric vehicles, especially the battery electric vehicles (BEV), need less maintenance than combustion engine do, and this is due to several factors such as having less engine components or having regenerative braking systems. Nonetheless, these vehicles will still require skilled maintenance. In fact, a report by the Social Market Foundation (SMF), estimates that by 2030 there will be a shortfall of qualified mechanics to cope with the rising fleet of BEV's. Hence, there will also be opportunities for this sector, that rise from this upcoming trend.

4.2 PESTEL Analysis

4.2.1 Political analysis

In terms of political stability, Portugal underwent legislative elections last year, where the Socialist Party (PS) took the majority of the votes and therefore the control of the Portuguese parliament. This could either be considered good for political stability or the opposite for having only one party controlling the political decisions. The latest data from the Global Economy shows that in 2021, Portugal had a 0.95 score out of 2.5 possible, in terms of stability. Which shows a relatively good result when compared with the world average of -0.07 points.

Nonetheless, when it comes to politics, the main implication for business owners is taxes. In Portugal, the income tax code (CIRC) says that any company that is headquartered in national territory or is operating here even if they are headquartered in other country, must pay taxes. Also, is important to notice that resident companies have to bear taxes both on income from commercial activities in Portugal and from outside, while foreign firms are taxed on profits originated in Portugal.

The corporate tax rate is called IRC and it applies to the net income of the business, while it also varies according to the region that the company is located. In continental territory the normal corporate tax rate is 21%, while in the Autonomous Regions of Madeira and Azores, the rates are 20% and 16,8%, respectively. Also, small and medium-sized companies benefit from a 17% tax rate for the first 25.000€ of taxable income.

Furthermore, some companies might be subject to some additional surcharges, such as:

- State tax: applicable to all resident and non-resident companies, this is an additional tax on taxable profits over certain amounts.

  3% additional tax – over 1.500,000€ and 7.500,000€ in profits.

  5% additional tax – over 7.500,000€ and 35.000,000€ in profits.

  9% additional tax – over 35.000,000€ in profits.

- Municipal surtax: this is another additional surcharge that companies have to bear in most municipalities and according to the fiscal authorities in 2023, most of them charge up to 1.50% and, in general, there is an exception for companies that have reported less than 150.000,00€ in profits.

According to the OECD, Portugal has the highest corporate tax rate in the UE, when adding all the central and subcentral taxes. This confirms why there are so many complaints about this matter in the political spectrum and demonstrates that Portugal still has to revise some of these policies to be more competitive and attract foreign companies.

4.2.2 Economic analysis

The Portuguese economy has grown over the past years, and it organically correlates with the rest of the EU economies. Looking at the past 10 years, in 2013 Portugal was going through the last phase of economic contraction since the world financial crisis of 2008. Alike most economies, this led to stressed coming years in terms of financial stability, especially in 2012 where Portuguese GDP fell by 4.06%.

According to Pordata, the real GDP turned positive in 2014, which coincides with the ending of the IMF austerity program in the country. Thus, marking the start of 6 years of economic growth in the Portuguese economy. Overall due to the increased disposable income, lower interest and unemployment rates.

The Covid-19 pandemic was an unexpected "bump in the road" for every country worldwide, leading to large shutdowns which aggravated the economic activities. The IMF database shows a downfall of 8.3% for the Portuguese GDP in 2020, marking the worst economic contraction of the 21st century so far. After that, 2022 came with another unexpected geopolitical shock with the invasion of Ukraine by the Russian Federation. An article published by the European Central Bank (ECB), exactly 1 year after the beginning of the war, explains that "The war added

heavily to the inflationary pressures building up in the euro area during the post-pandemic recovery and pushed up consumer prices, especially for energy and food." These factors kept the European countries from recovering faster after the Covid outbreak.

Despite this, Portugal's real GDP grew in the periods of 2021 and 2022 by 5.5% and 6.7%, respectively. The 2023 and 2024 forecasts are positive but show some variances across the sources. The IMF predicts a slowdown in growth with just 1% growth on real GDP for 2023 and 1.7% for 2024, while "Banco de Portugal" and the European Commission (EC) predict a slightly better scenario for 2023 with 1.8% and 2.4%, respectively. The biggest difference is that the EC predicts a slight decrease in 2024 while the IMF and "Banco de Portugal" predict a slight growth in that economic year.

The European Commission attributes these forecasted results to the "increase in Tourism" and the "strong rise in job-seeking activity" which support the economic growth for the period of 2023-2024.

Figure 4.1 - Portugal's real GDP growth rate from 1961-2022,

Source: Pordata.

4.2.3 Social Analysis

The last census performed in Portugal in 2021 showed a resident population of around 10.3 million people, being a number that hasn't oscillated much over the past few decades. Similarly to most European countries, Portugal also faces an aging population, with a low birth rate of about 1.35 children per woman which is just slightly lower than the 1.50 average from the EU.

According to Statista, in 2021 almost 23% of the Portuguese population was 65 years and older with only 13.3% being 0-14 years old.

The unemployment rate sits at 7.2%, which has been about the average for the last 5 years where it has fluctuated between 6% and 7%. The worst scenario so far was verified in 2013 when 17.1% were unemployed in the backlash of the financial crisis. But actually, the most concerning number is the percentage of emigrants by the total population. The government entity, ACM, revealed that almost 20% of the Portuguese population lives abroad, making it the EU country with more percentage of the population living outside of their native land.

Up until 2021, the average salary in Portugal was 1.082€, progressing slowly over that 10-year period at around 1.95% yearly growth. This made Portugal, way below the 33.500€ EU average and also the 10th worst-paying country according to a Eurostat survey in that year.

Nonetheless, the number of existing cars in Portugal has grown, and as reported by the "Instituto de Mobilidade e Transportes (IMT)", the country has more than 5.6 million passenger cars. The tendency has been upwards in the last 10 years and it shows that more GDP per capita and more disposable income make people buy more vehicles. According to INE, in 2021 there were 680,4 vehicles per one thousand habitants. In terms of total vehicle types, the last data shows that there were more than 7.1 million in circulation on the Portuguese roads. This makes an increase of 14.68% when compared to the same indicator in 2010. These numbers are explained by the gradual economic growth of the past years, the bad quality of public transportation in the main cities, the lack of alternatives for people who moved to the outskirts of the cities, and the pandemic which motivated people to move in isolation.

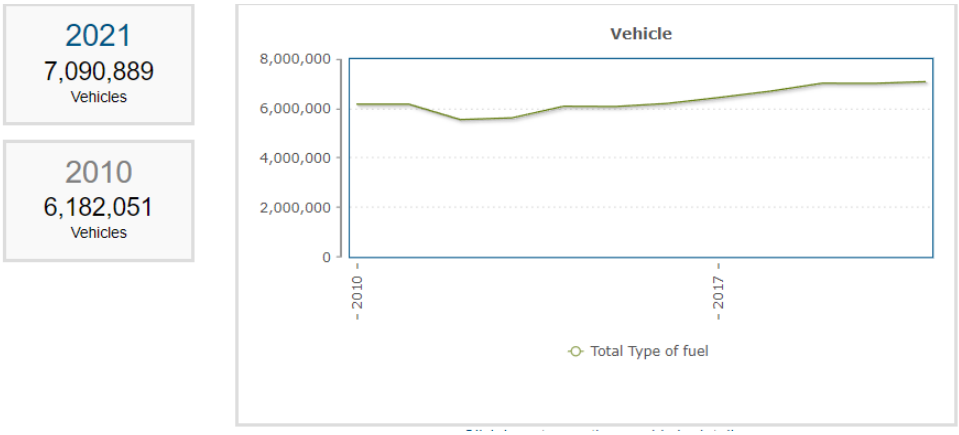

Figure 4.2 - Total motor vehicles in circulation in Portugal from 2010-2021.

Source: Pordata.

4.2.4 Technological Analysis

The technological environment in the Portuguese territory is at some levels surprisingly good, especially if we are focusing on telecommunication services. The National Authority of Communications (Anacom) released a report in May of 2022 revealing that Portugal is the 4th EU country with the highest proportion of accesses with 100 Mbps or more. This shows how the telecom companies in partnership with the government have invested substantially in infrastructure to improve the quality of their services. Also is interesting to notice that Portugal surpasses the EU average both in the rate of access to fixed broadband by families in 81% (77% EU) and by companies in 95% (94% EU).

According to a study by Marktest in 2020, there were 7.2 million people in Portugal using smartphones. This represented a penetration of more than 84% of the population, which by itself was triple the smartphone usage seen in 2012. In fact, IDC confirmed this upward trend with a market study this year in which it saw a smartphone coverage rate of more than 85% of the population. Additionally, the referred Anacom's report showed that Portugal is on pair with the UE average in terms of "Digital intensity of companies" and scored higher in "AI technology usage" with 17% (8% EU).

All of these are good prospects, but what really matters is to analyze present and past cases of success in the tech industry in our country, because this can be the best indicator of confidence that it is possible to build incredibly successful companies in this sector in Portugal. These companies are called "Unicorns", a term popularized by VC Aileen Lee and serves to categorize private companies that hit over US$1 billion in valuation. There are already seven firms in Portugal that have achieved this threshold, although some of them have now moved their official headquarters, they were all born in Portugal. Some of the names are well-known, such as Farfetch, Outsystems, and Talkdesk, among others.

Another success story that offers a more similar product in terms of features is the Portuguese Aircourts App, which is a racket sports reservation app with an integrated system in the associated clubs that allows the players to reserve a court in their preferred schedule and also gives the clubs both a tool for managing the reservations and data of the players as well as a platform that provides them visibility and traffic from thousands of active users. Recently, the company was sold to a direct competitor that was already bigger in Spain and other markets.

4.2.5 Legal Analysis

Considering that Portugal is a member of the EU, then any company is subject to central laws and acts that are imposed by the European Parliament. One of the main regulations is the GDPR (General Data Protection Regulation), this is a data protection law that applies to any company processing personal data of EU citizens. This law was meant to regulate the abuse of data processing by digital companies. According to the European Council, this law's purpose is to "give individuals more control over their personal data". Other compliances that firms have to make are the User Privacy Policies and the Cookies' consent. The first has to do with providing the customer with what exact personal data the firm collects, and the second is about having the permission of the customer before placing non-essential cookies on their devices.

In terms of protection against copies and imitations, there has always been an open discussion about the subject and how to protect intellectual property. In Portugal, there is a computer program protection decree (Decree n.º 252/94, of October 20th) that states "A computer program is criminally protected against unauthorized reproduction". Furthermore, the owner of the program must register the code with the "Associação Portuguesa de Software" (Assoft), this way the computer program can benefit from some protection of Intellectual Property (IP) and enforce the Copyright.

Other laws that serve to regulate and protect software developers in Portugal include:

- Electronic Communications Law (Law nº 16/2022, of August 16th): Aims to regulate electronic communications services, matters of data protection, privacy, and electronic marketing.
- Intellectual Property Code (Decree nº 110/2018, of December 10th): This code provides regulations and protection for intellectual property rights, such as copyright, trademarks, and patents.
- The Cybercrime Law (Law nº 109/2009, of September 15th): This law defines various cybercrimes, such as unauthorized access and attacks against information systems, illegal interception, data and system interference, and computer fraud. It establishes penalties for individuals or entities involved in cybercriminal activities.

4.3 Porter's 5 forces

4.3.1 Threat of new entrants

The threat of new entrants in the auto repair shop software market is moderately concerning, scoring an average of **3.4** out of 5 (vide Figure 4.3 – Annex). Several factors contribute to this evaluation. While software development may not traditionally provide a cost advantage, established players in the market benefit from operational efficiencies resulting from their size and market share, creating a challenge for new entrants. However, it is worth noting that the industry offers relatively easy access to the necessary tools for developing such products, and regulatory barriers are low, which may attract both existing and new competitors to explore this market. Nevertheless, the successful delivery of a high-quality product requires significant advanced skills and industry knowledge. While the tools may be easily accessible, not everyone possesses the expertise to leverage them effectively.

Additionally, the accessibility to distribution channels and clients has been rated with a low threat score. This is because, OneJack's strategic approach involves establishing exclusivity with clients through medium to long-term agreements, reducing the likelihood of new competitors entering the market.

Overall, the threat of new entrants in the auto repair shop software market is moderately concerning, but various factors work in favor of both established players and potential newcomers. While established players may possess certain advantages, such as operational efficiencies, new entrants can leverage the accessibility to tools and low regulatory barriers. The key lies in possessing the necessary skills, industry knowledge, and strategic client relationships to stay ahead of the competition and maintain a strong position in the market.

4.3.2 Rivalry among existing competitors

In terms of rivalry among competitors, the auto repair shop software market in Portugal showcases a variety of players, including notable companies such as Officegest, Inforap, and PhcGo, among others. While the number of competitors in this market may not be as extensive compared to other industries, it does not imply complete market concentration among these

players. The software industry has been experiencing consistent growth, with ERP systems being one of the most commonly developed solutions by software developers.

Pricing competition varies across different ranges among competitors. Each company attributes a certain value to its program based on the unique benefits it offers to clients, rather than relying solely on competitors' prices. Additionally, many of these players establish their pricing structures based on the number of users required by their clients, further adding to the differentiation in pricing strategies. Furthermore, innovation plays a significant role in intensifying the competition among players. The integration of new capabilities, such as AI tools, can create a competitive advantage for some companies, setting them apart from their rivals. The ability to leverage innovative features and technologies is crucial in gaining an edge in this market.

Overall, the rivalry among existing competitors has been assigned an average score of **3** (vide Figure 4.4 – Annex). This is also influenced by other factors, including the low exit barriers for existing competitors and the lack of strategic alliances between them. Consequently, the market exhibits a highly competitive environment where individual players focus on outperforming one another independently, without significant cooperation or resource-sharing.

4.3.3 Threat of substitutes

When considering the threat of substitutes in the auto repair shop software market, the availability of substitute products is perceived differently compared to typical examples of substitute goods. Computer programs and apps in this context are replaceable, but the substitutes that emerge are typically better-performing and more comprehensive programs rather than completely different products. Although there is a variety of options available in the market for repair shops, these solutions often share similar capabilities without significant differentiation.

In the software and app domains, no service can be considered irreplaceable, which implies companies continually focus on improving and providing the best possible customer experience to gain a competitive edge. The quality and effectiveness of the software play a vital role as customers are generally eager to switch to a better program that can significantly benefit their operations. However, it's important to note that contractual agreements or substantial incentives can influence customer loyalty and stop them from readily replacing their current provider.

Also, it's worth highlighting that one of the significant challenges for customers considering switching services is the associated cost, which includes not only the financial implications but also the time and effort required to train staff on the new program.

Overall, the risk of substitution in the auto repair shop software market is assessed as relatively low, with a score of **2.4** (vide Figure 4.5 – Annex). With a relatively low threat of substitution, customers may consider switching providers if compelling alternatives are available, but factors such as contractual agreements and switching costs play a significant role in their decision-making process.

4.3.4 Bargaining power of clients

As previously referred, the number of existing companies registered in this sector in Portugal is more than 13,000 according to official records. However, this number likely underestimates the true magnitude of the market since there is a significant presence of independent and unregistered operators. Moreover, as a software company, the potential to expand beyond borders presents an exponential increase in the number of potential clients. Therefore, the market is characterized by a vast number of independent customers spread across diverse regions, resulting in low market concentration.

Clients within the auto repair industry consistently seek the latest technology that can improve their business efficiency and profitability. However, switching services can entail significant costs, including the time for staff training and adapting to new software programs. Also, the substantial investment required often acts as a barrier for clients to switch providers.

When it comes to bargaining power, pricing is a key component. In this context, the software solutions offered by different providers tend to have unique features, making it challenging for clients to negotiate prices effectively. Each provider considers their programs to provide distinct value to clients and prices them accordingly. As a result, unlike other industries, the lack of product homogeneity limits the bargaining power of clients.

Overall, considering the mentioned factors, the average score for the bargaining power of clients is **2.5** (vide Figure 4.6 – Annex). The market exhibits a low level of concentration, with a considerable number of potential clients spread across diverse regions and a heterogeneous range of software solutions available. Consequently, the ability of clients to negotiate prices is relatively limited.

4.3.5 Bargaining power of suppliers

The software industry stands out from other industries as it doesn't heavily rely on a single key supplier for success. Instead, there are various types of suppliers that a software company can work with, including Hardware, Data, and Cloud service providers. Within each category, there are numerous options available based on the company's specific needs. However, it's worth noting that certain categories, such as cloud services, have well-established providers like Microsoft's Azure and Amazon's AWS, which can result in some level of market concentration for those specific services.

In our particular business, having access to input and specific data is crucial to ensure the comprehensive functionality of our software solutions. In the context of the automotive industry, this valuable data is limited to a select group of suppliers who possess such inputs. As a result, these suppliers hold significant power due to the scarcity and importance of this information, making them influential players in our ecosystem.

Overall, the "Bargaining Power of Suppliers" force has been assigned a score of **3.2** (vide Figure 4.7 – Annex), indicating a moderate level of influence held by suppliers in our industry.

4.3.6 Overall sector attractiveness analysis

After analyzing Porter's five forces, it can be concluded that the industry exhibits a medium level of attractiveness, with an average score of 2.9 out of 5 (vide Figure 4.8 – Annex). The force with the highest score is the Threat of new entrants, averaging 3.4. This threat arises from the relatively low capital requirements, easy access to necessary technology, and the potential for economies of scale. However, this risk is expected in the industry, given its appeal to individuals with knowledge seeking to create innovative solutions, as is in our case.

Currently, the Threat of substitutes and the Bargaining power of clients have received the lowest scores. However, the Threat of substitutes holds potential for growth due to two factors. First, the potential introduction of AI-powered solutions by competitors can create viable substitutes. Second, the risk of imitation emerges, as the industry offers limited protection against it, particularly in international markets.

The power of suppliers poses a moderate threat, but its potential for growth is relatively lower. Although some market concentration exists across supplier categories, their ability to work with affordable prices is sustained by the high number of customers they serve.

Overall, the sector is attractive and poised for future growth. The presence of low market concentration and low exit barriers allows space for new entrants like our company. The key to gaining a competitive advantage lies in product differentiation, and in that regard, we believe our solution for repair shops and their customers sets us apart.

4.4 Opportunities and Threats

4.4.1 Opportunities

- Improved macro conditions for start-ups in Portugal: Despite not being perfect, overall conditions and incentives to create a successful start-up in Portugal have improved. As shown before, there are already some examples of Portuguese unicorns. This is something that never happened before and that gives us confidence that is possible to be a successful Portuguese company recognized abroad.
- International expansion: Every internet tech company that is created has the goal of being present in more than its country of origin. The internet and globalization present the unique opportunity to expand to international markets without immense investment.
- Increase volume of market transactions: One of the initial thoughts for this idea was to create a way that would help increase the current market transactions in the second-hand car market. The fact that Portugal is a small country but even so, there are innumerous good opportunities lost because of distance. The feature of being able to hire a mechanic to go check up on a car that the client is interested in, even if it is very far away from their location, makes it possible for an increase in market transactions.
- Opportunity to improve the customer experience in repair shops with Mobile App integration: The current approach to dealing with repair shops is outdated and lacks dynamism. However, with the implementation of an integrated system, customers can enjoy an enhanced and more dynamic customer experience. The integration of a mobile app for repair shop's customers is a valuable opportunity. The app can provide features like online appointment scheduling, real-time vehicle status updates, digital payment options, and more.

This integration enhances customer convenience, fosters loyalty, and provides unique value for customers and repair shops.

- The power of improving the product: Unlike many other products or businesses, a software product is in a constant state of evolution. The limitless potential for adding new features and enhancing the overall product (App and platform) makes it a truly special category. While the initial idea and product may be good, the beauty of software lies in its ability to transform from good to great over time.

4.4.2 Threats

- Difficult market penetration: In the current market, there are several potential customers who are already using other services and might be loyal to them. This presents us with one of the most difficult challenges on our journey. The competition for market share and establishment is high, so we will need great strategy and negotiation skills to successfully penetrate the market.
- Technological advancements by competitors: Competitors may use technological advancements, such as AI-powered tools and advanced data analytics, to develop compelling alternatives. These advancements could pose a threat to all current and future competitors like our company. For that reason, investing in R&D is essential to keeping up with the latest tools and being able to offer the best possible platform.
- Price sensitivity: As the number of competitors and offers increases, prices tend to be more competitive. However, in this sector, there doesn't seem to be much pricing competition. As viewed in Porter’s analysis, each company has a perceived value of their service and prices it accordingly. Nonetheless, the true challenge may lie in persuading clients (repair shops) that the value offered by our platform justifies the price we ask. Substantial sales efforts may be required to convince business owners of the platform's value for their operations.
- Threat of imitation: The majority of businesses are always posed with this threat. This is not different for us, in fact, this is true especially for start-ups. Many times over the last decades we have seen many bigger players imitate products created by small players, something very common in the tech industry. The advantage lies with bigger players, as they possess superior resources and the ability to replicate ideas from smaller companies with minimal repercussions.

- Clients' temptation to operate outside the platform: While many features in the App will be free, there are integrated services that will be paid to access. For instance, when a client wants to schedule a check-up for a car they might wish to buy, they will pay a service fee to our company when hiring such mechanic. In this example, they might be tempted to figure out a way of contacting the mechanic outside the platform to pay less for the service. This poses a potential threat that we need to address by implementing strategies to incentivize clients to utilize the app. One approach could involve rewarding clients for consistently using the app or figuring out ways to block contacts until the service is reserved.

5. Internal Analysis

Although we aren't yet a formal and operating company, there are internal aspects that require careful consideration for our market strategy. Conducting an internal analysis becomes necessary to assess our existing or potential strengths and weaknesses. This exercise allows us to identify areas for improvement in the case of weaknesses and provides clarity regarding our strengths. With this analysis, we gain valuable insights to guide our strategic decisions effectively.

5.1 Strengths

- Unique product proposal: This software solution offers an all-in-one ERP system that addresses the specific needs of auto repair shops. Its strength relies on a comprehensive solution that streamlines operations, improves efficiency, and enhances the overall business management. Additionally, the uniqueness is brought by the addition of a consumer Mobile App that allows them to connect with repair shops in a more efficient way, giving the consumer a wide range of features in this tool.
- Expertise in the auto repair industry: Despite not having many years in the industry, the author has some knowledge in the car industry, namely on sales, marketing, distribution, and repair. Leveraging the valuable feedback obtained from repair shop workers in our interviews, our company aims to provide tailored solutions that meet their specific needs. Additionally, existing relationships within the sector contribute to receiving invaluable feedback, thus contributing to each other's work.
- Flexibility for improvement: As mentioned before, one of the beauties of software it's the capability of constantly being improved. The idea for the project is clear, nonetheless, it doesn't mean that it won't evolve. As a software company, one of the strengths is the ability to keep working on the product and always make it more appealing to our customers.
- Strategic partnerships: In any business journey, it's hard to make it alone. In our particular one, we aim to collaborate and form strategic partnerships that could boost the quality of our product and also help our partners improve theirs. Ex: Standvirtual, Olx, and DriiveMe.

- Skilled workforce: In Portugal, we have one of the most skilled workforces in Europe. Over the past few decades, the number of qualified and skilled people has significantly grown. While it is common for many of these young and skilled individuals to emigrate, if we are able to remunerate them fairly, it will give us the opportunity to assemble a strong and knowledgeable team.

5.2 Weaknesses

- Small market penetration: As already mentioned before, in the beginning, it will be difficult to penetrate the market and acquire a substantial customer base. Marketing and sales efforts may be necessary to raise awareness, attract new customers, and gain market share.
- Limited brand awareness: Being a new company, like any other we start with very little brand recognition within the market. Building brand awareness and establishing a strong reputation is a hard but critical step to compete in the market.
- Small starting team: While having a small team is often seen as a positive aspect of a startup due to easier communication, it is important to know that it also presents limitations. For a company aiming to achieve significant market share and expand into other markets, a large and skilled team in every business area is essential. As a startup, we will begin with a small yet highly qualified and motivated team. They will be the pillars for the challenging initial phases.
- The need for market share for the concept to work: To be able to reach its full potential, this concept craves market share. The way it was designed, it will work best only if the company has a very good market share. For example, we will need repair shops that are in smaller towns to be our clients so that customers can have the assistance of mechanics in a wide range of regions. That is the case for one of the primary goals of the App, to be able to request a mechanic that is far away to perform a check-up in a car in that area.
- Need for investment: As a consequence of the limited resources at the beginning of the journey, it will be necessary for OneJack to raise external investment, projected to be at the start of this project. It is always essential for hiring more and better personnel, improving the infrastructure and the conditions, and overall scaling the business.

6. Competitive analysis

6.1 SWOT Analysis

	INTERNAL FACTORS	
	Strenghts	**Weaknesses**
EXTERNAL FACTORS	•Unique product proposal •Expertise in auto repair industry •Flexibility for improvement •Strategic partnerships •Skilled workforce	•Small market penetration •Limited brand awareness •Small starting team •The need of market share for the concept to work •Need for investment
Opportunities	**SO Strategy**	**WO Strategy**
•Improved macro conditions for start-ups in Portugal •International expansion •Increase volume of market transactions •Opportunity to improve the customer experience in repair shops with Mobile App integration •The power of improving the product	•Establish the business model in Portugal and take it to other markets •Leverage the strategic partnerships as a way to accomplish the goal of increasing the market volume •Improve the initial idea with the developers and partners	•Build a strong team to make an appealing product and penetrate the market quicker •Advertisement and promotion of the App so repair shops get interested in having the platform •Pitch the idea to raise investors in order to scale initially
Threats	**ST Strategy**	**WT Strategy**
•Difficult market penetration •Technological advancements by competitors •Price sensitivity •Threat of imitation •Clients' temptation to operate outside the platform	•Make a compelling product so that repair shops can see its value and agree with the price •Keep up with competitor's product improvements •Reward programs for clients and repair shops to avoid using the platform for link	•Raise investment at early stage to scale quickly and gain market share to prove concept •Offer free-trials and price benefits for long-term commitment clients •Promote the platform in low populated areas to prove the vision that the company has for this product

Figure 6.1 - SWOT analysis.

Source: Author

7. Vision, Mission and Objectives

In this section, we will define three key aspects of the firm, which are going to help us whenever we need to look back and focus on what matters in our journey. These key statements will provide us with a direction to follow going forward, and they affect the way that the business plan is thought and designed.

7.1 Vision

The vision for OneJack is to be the main reference when it comes to auto services. We want to be the platform that all auto repair shops across the world want to have in their shops and to be the favorite Mobile App for users in the car realm.

7.2 Mission

The mission is to make repair shops' work easier and more efficient, so that they can serve their customers faster and better, improving the overall experience for the client. The purpose of this idea started by putting the client as the center of the focus and thinking about how to make their lives easier when it comes to auto services, and so that's our commitment to the general customer, to make their experience better and easier.

7.3 Objectives

This business idea surged after understanding that there are fundamental gaps to be filled in the aftermarket car industry. The first goal was to give the consumer the possibility to easily access a network of repair shops and mechanics who could help them with their needs, such as getting help to check-up a car for purchase, emergency or unexpected repairs, or even to schedule the regular revision.

In this business plan, we will assess the financial and operational viability of this idea, structuring a plan that could be pitched to future investors.

The first qualitative objectives of the plan are the following:

1. Search for developers who are interested in making this platform available and be able to pass them the vision created for this company.

2. Make the platform available in the Portuguese market by the beginning of 2025.
3. Go into the field and partner with some repair shops to test the platform and better understand their needs.
4. Analyze foreign markets and study the possibility for expansion, mainly in close markets like Spain, France, Italy, and exceptionally Brazil, for language reasons.

Then, we must establish specific SMART Goals with some quantitative measures for a more demanding commitment on our part. These goals will be organized by timeline, and they will be between short-medium term and long-term.

Short-medium Term Goals (1 to 3 years)

1. Acquire 50-100 leads in the first year before the platform is ready.
2. Launch the App for iOS and Android systems before Q2 of 2025.
3. Secure first investor by Q4 of 2024.
4. Increase annual revenue by at least 50% in the first 3 years.

Long Term Goals (more than 3 years)

1. Reach 25% of market share in Portugal.
2. Have a 4+ stars rating and more than 1,000 reviews on iOS's App Store and Google Play Store.
3. Achieve 2 or 3 key strategic partnerships for product enhancement.
4. Be the #1 reference when it comes to auto services bookings.
5. Expand to first to Spain and then roll out to other European markets.

8. Development Strategy

One of the most crucial parts of a business plan, especially when it comes to start-ups, is to outline a development strategy that guides the first phases of the business journey. As the key part to achieving success in this market is to gain a competitive advantage over rivals, it's important to take a look at Porter's Generic strategies as this can help us to define the correct strategy to gain the desired competitive advantage. As our primary source of income will come from repair shops, we can safely say that we have a niche target market, and the key factor will be the quality and differentiation of our program compared to competitors. Thus, we believe that a Differentiation Focus strategy is the best option to achieve the company's goals.

Our development strategy will consist of 4 phases of action across a 5-year timeline. Each phase is constituted by steps that will make OneJack progress on its way to market consolidation.

1st Phase: Building the Foundations.

Estimated Timeline: January to July 2024.

1st Phase: Building the Foundations
Incorporate the company
Build an initial team with key roles
Establish the organization's structure
Pick the office location
Establish the common vision for the platform
Design the prototype of the platform
Seek Investors

Figure 8.1 – 1st phase of the development strategy.

Source: Author

This first phase of the plan consists of the elementary activities for founding and having the initial steps as a company. It's important to emphasize that seeking investors will be a continued process, but mostly important in 1st and 2nd phases of the development strategy.

2nd Phase: Building the Platform.

Estimated Timeline: August 2024 to December 2024.

2nd Phase: Building the Platform
Software Platform Development
Mobile App Development
Alpha Testing
Release of the Beta Version
Fixing bugs and implement modifications
Seek Investors

Figure 8.2 – 2nd phase of the development strategy.

Source: Author

This is perhaps the most important phase for the company, where the development of the platform occurs. The development of both products has an estimated timeline of 1 year, where near the end of that year, Alpha and Beta tests will take place. These elements are all very important to conduct before launching the product to the market.

3rd Phase: Market Launch.

Estimated Timeline: January 2025 to December 2026.

3rd Phase: Market Launch
Promote the platform to priority targets
Implementation of the Marketing plan
Intense sales efforts
Customer onboarding
Inroduce Referral Program

Figure 8.3 – 3rd phase of the development strategy.

Source: Author

This is the part where OneJack will focus on introducing the product to the market and where the sales efforts begin. The first targets to be prioritized are the big franchises and chains that could make up a major part of our company's client portfolio. The marketing plan is intended to raise awareness and that will be reinforced by sales representatives who will promote our platform to the repair shops via demonstrations, either online or in person. After having a

reasonable portfolio of clients, the next steps are to show and train the repair shop personnel to take full advantage of the platform's capacity. A referral program will be launched as a final step to conquer incremental market share.

4th Phase: Consolidation, improvement, and expansion.

Estimated Timeline: Continuous process from January 2027 on.

4th Phase: Consolidation, improvement and expansion
Seek feedback from customers to enhance product quality
Consolidate and explore new commercial partnerships
R&D Investment
Start foreign recruitment for the expansion plan
Beginning of expansion to the Spanish market

Figure 8.4 – 4th phase of the development strategy.

Source: Author

The last phase of development of the firm brings the intended expansion to the Spanish market and the staff recruitment for such operation. This is the highlight for this last phase, which will only happen after consolidating the business in the Portuguese market. Furthermore, key activities such as R&D and customer feedback will help the company consolidate and improve over time.

9. Implementation Plan

9.1 Segmentation

After the performance of our surveys and our interviews with workshops, we obtained more clarity over our possible segments and targets. In this project we have the particularity of having a product that sub-divides into two, thus we need to have two different types of segments and targets. It's pretty clear that an ERP platform made for mechanical workshops doesn't have the same customer target as the App that is connected to this platform. So, we will make the distinction below:

9.1.1 Segmentation for the ERP program

In terms of the criteria used to segment this market, the first one that comes up is the size of the repair shops, specifically in terms of the number of mechanics that are part of their staff. Obviously, this is a key metric as it indirectly tells us the work volume that exists in said workshop. Also, it's relevant to draw this difference because the size of the organization directly affects the price, the chosen version, and the utility of some of the features of the program. We distinguished 4 types of sizes in terms of mechanic personnel in our survey, namely:

- 1-3 - small workshop
- 4-7 - medium workshop
- 8-11 – medium-large workshop
- >12 - large workshop

As already mentioned, from this criterion we can also deduct the client's frequency and in some way, the sales volume of each shop.

Furthermore, the geographic location is another important segment for our plan. Portugal is characterized for being a centralized country where most economic activity occurs in Lisbon and Porto, the most populated cities. These will be our starting point, where most of our potential clients are located. Nonetheless, as previously stated, it's crucial to guarantee market share in villages to give broader coverage to the App users.

Finally, a relevant segment for us is also the type of service offered in the repair shop, as this can also affect the utility of certain features of our program. There are several types of repair shops identified, such as General Repair shops, Dealership Service Centers, Specialty shops, Tire shops, and Detailing shops.

9.1.2 Segmentation for the Mobile App users

The segmentation for mobile app users will be characterized by geographic location, demographics, tech savviness, and service usage patterns.

In terms of geographic location, the same approach as the abovementioned will be used in this case. The main urban centers as Lisbon and Porto will be the first to have a functional App since it is more likely that the first associated repair shops will come from there. Demographic-wise, our survey showed us that individuals from 18 to 64 are more likely to use this service as they are more tech-savvy. Every year the tendency is that the youth and the elderly turn to be more tech-savvy than in previous generations and at the moment, this will be our range of target in terms of age. Gender or income are not determinant characteristics, because independently of the owner of the vehicle, they will always have to take their car to the workshop for maintenance.

Lastly, several types of customers attend repair shops depending on their need patterns: regular maintenance customers, emergency repairs customers, performance enhancements enthusiasts, and specialized repairs customers.

9.2 Target

9.2.1 Target for the ERP program

Just as it was for the segmentation, OneJack is going to have two separate targets for each product line. Beginning with the ERP platform, our initial focus will be on small and medium-sized workshops. This strategic approach is driven by the potential ease of selling the program to medium-sized firms, considering factors such as pricing. However, our larger objective is to secure significant contracts with larger network firms, including Eco Oficina, Norauto, MForce, FeuVert, and others. As already mentioned, our initial operations will primarily cover the metropolitan areas of Lisbon and Porto. Finally, regarding the specific type of repair shops we aim to target, our focus will primarily be on General Repair shops and Dealership Service Centers.

9.2.2 Target for the Mobile App Users

In the case of the Mobile App, our target audience is quite diverse, consisting of primarily tech-savvy consumers. These consumers are defined to be between the ages of 18 to 64, without any gender-specific distinctions. While it's commonly acknowledged that men are often passionate

about cars, our goal is not to focus exclusively on a particular gender. In fact, the App is specially designed to assist people in connecting with mechanics, particularly those with limited experience in the field. Therefore, we aim to serve customers of all types, focusing on their unique needs rather than any specific demographics.

9.3 Positioning

Onejack will provide Software as a Service (SaaS) for auto repair shops with an integrated Mobile App for its daily customers.

This is perhaps the biggest innovation tool that the company brings to the table, while other competitors focus only on improving the efficiency and the analytics of the repair shops, at our company we see ourselves as a technology partner that empowers repair shop owners to run their businesses more effectively while providing a seamless and convenient experience for their customers. At our company, we propose an effective ERP platform that offers features such as productivity management, automatic scheduling, data analytics reporting, customer service history, inventory management, and customer relationship management (CRM), among many others. While these features improve resource allocation, financial management, and performance tracking, the mobile App drives increased bookings, loyalty, and boosts revenue sources. Ultimately, we aim to be perceived as the company that revolutionized the way that repair shops operate and interact with their customers, making the overall experience much more efficient and enjoyable for all.

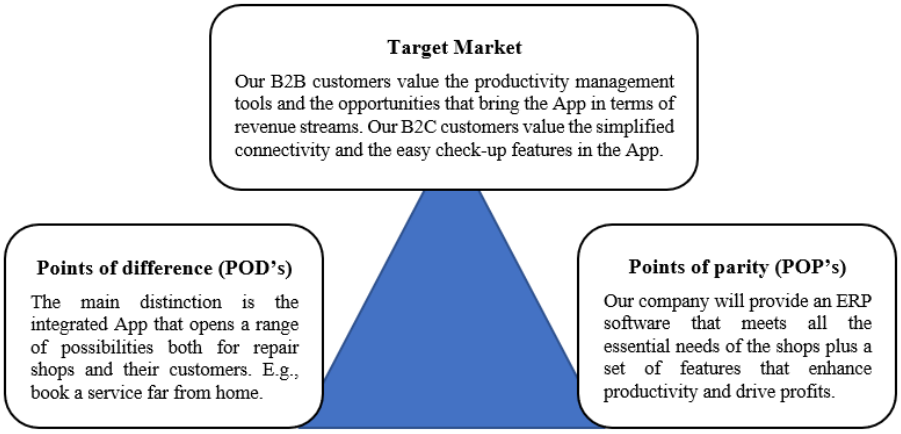

Figure 9.1 – Positioning.

Source: Author

9.4 Marketing Mix

9.4.1 Product

OneJack will create and distribute two products: an ERP software that will be commercialized as a vertical SaaS and a corresponding Mobile App for regular users.

Below, we make a detailed description of the two products and their respective functionalities and capabilities.

9.4.1.1 ERP program

ERP software, also known as Enterprise Resource Planning software, is a management system that compounds a series of processes and functions within a firm. It helps companies by facilitating and automating their operations by centralizing data in the program, making it easier for managers and workers to track performance and make better decisions about their business.

Our company's ERP will be a cloud-based program easily accessible through an internet connection. The accessibility will be provided with a license only available to paid subscribers.

Features of the program

1. Productivity Tools: tracking of staff's productivity on scheduled tasks. When inserted a certain type of job to be performed, the system provides a time estimation of what usually takes to finish that job. This tool will have a default mode that the program updates over time, according to the average time that takes that shop to complete the tasks. In this sense, the services can be scheduled according to their time estimation to increase productivity.
2. Staff Management Dashboard: a dashboard with all current employees. In this dashboard, managers can look at all their technicians and other employee's profiles and what tasks are they performing at that moment. Also, this dashboard allows to manage and view the working days/hours and the day-offs of their employees.
3. Automatized Appointment Scheduling: this feature uses two other functionalities to work. The customers will be able to schedule a service through the App, viewing the live availability of empty spaces in the weekly schedule for their convenience. With the help of the time estimation tool referred to in (1.), the system shows customers the availability to schedule their service. More details are explained in the *App features.*

4. Customer Relationship Management (CRM): after the first appointment, the client automatically gets registered in the database. In this feature, the program shows: the customer's vehicle history, services performed, reminds customers of services to schedule (E.g., an oil change), sends automatic texts and emails with promo campaigns on behalf of the shop, and encourages customers' reviews that are automatically verified to the App and other popular search engines.
5. Inventory Management: the platform manages inventory, which, according to our surveys is mostly car oil and a few other minor supplies. The platform is capable of tracking inventory and car parts availability, also automating their reordering according to necessity.
6. Diagnostic Tools: Maintenance recommendations and solutions based on diagnostic results. The platform will have compatibility with diagnostic tools and machines in order to gather and accumulate data on these issues. Additionally, the system will come with incorporated information about specific brands and models to help technicians with diagnostic solutions.
7. KPI Reports: managers will get automatic daily reports with relevant statistics about KPIs such as sales, number of new customers, profitability, efficiency, etc.
8. Job Estimates: Just like the time management tool, the program will include a price estimation for every job. This will be calculated by the hourly rate, time estimated, and materials costs.
9. Accounting Service: this feature links the sales data gathered in the reports and connects it to a separate page where the customer can manage the payments, invoices, accounts payable, Cogs, etc.
10. Mobile Integration: technicians can have easy access to some of the features through their phones to be able to register information and keep track of their tasks. This is key for the platform's data-gathering process.
11. Work-in-progress view: managers will have access to a window where they can view in real-time the work that is being done by each worker and see if they are keeping up with the scheduled tasks in time.
12. Plate and VIN decoder: by entering the license plate, the tool allows technicians to get info on the vehicle's VIN code which will show information such as vehicle history, manufacturer, year, model, engine type, production location, ownership history, and accident reports.

13. Buyer's Form: mechanics will have available a default form to classify the overall condition of the car that the client wants to purchase and at the end of the inspection they share this form with the client so they can make an informed decision. This feature is considered a follow-up of the 3rd feature explained below (vide 9.4.1.2 – *Features of the Mobile App)* and named as "Purchase Check-ups". This service will be available for free to paid subscribers of the Mobile App.
14. Integrated Estimates with Repair Orders: after the diagnosis is done, the system will show an automatically generated estimate that is based on calculations regarding the cost of the materials needed, the hourly labor rate, and the margins practiced by the shop. Additionally, the program will link the materials or parts needed for the repair and check if they are in the inventory or not, if not it will give easy access to order such parts.
15. Invoice Generation: this feature easily creates professional invoices with itemized details, quantities, and prices. The shop can also customize the invoices with templates to match the brand and personalize it with the shop's logo. It instantly calculates totals, taxes, and discounts, while inputting customer info and specifying payment terms.

    These features mentioned above are the ones that will be included in the Lite subscription version, which will be the most affordable. The Essential and the Pro versions will include these 15 features mentioned plus other premium features. These premium features can be viewed in Table 9.1 (Annex). Furthermore, Table 9.2 (Annex) portrays the features that are included in each of the 3 plans.

9.4.1.2 Mobile Application

The mobile App is intended to primarily connect regular users who need any kind of auto service with the respective auto repair shop. The client can simply open the App on their Smartphone and select the problem that needs to be solved, the App shows the nearest affiliated repair shops and orders them by reviews or availability, depending on what the client prefers. From there, the client can book a service through only a click.

Features of the Mobile App

1. Diagnostic Help: before the booking, the App is going to show the user a range of services for them to choose from. If the client knows exactly what they need or want, the option is going to appear there. Otherwise, when the client is not sure what could be the issue, the

App is going to ask a series of questions to help the user understand what it could be and book a service accordingly.

2. Bookings: the client is able to book a range of services, and with the time estimation tool, the user is shown the free spaces available for them to book in each shop. Furthermore, a value estimate is provided previously attending each shop's prices. Thus, increasing customer satisfaction with convenient timely schedules and price transparency.

3. Purchase Check-ups: this one is perhaps one of the most exciting features of the platform. This is thought to all the individuals who are looking to buy a second-hand car but are afraid to go by themselves and not know what they have to look for. The App will allow users to directly book a check-up in a car the same way they would book other services. The user selects a mechanic from an affiliated workshop and chooses whether the mechanic must drive to the meeting point or if the car is taken to his workplace.

4. Rated and Ranked Mechanics: after a service or repair, the client will have the option to rate both the overall experience with the shop and the quality of the job done by the specific mechanic or mechanics that performed it. This will generate a daily updated list that ranks each shop and mechanics separately by the reviews of the customers, allowing future customers to choose conveniently.

5. Buyer's Form (*free for premium members*): as explained previously (vide 13th – *ERP Features*), the technician will be provided a detailed questionnaire by our company, where they will have to make sure to check all the key points in the car. After the check-up is performed, the technician will send this questionnaire by email to the customer with a respective personal score valuation of the car. Lastly, the technician is going to provide the client with an estimated budget for fixing the possible issues of the inspected car. This will also increase the chances of acquiring and retaining new customers for that repair shop.

6. Time Estimation Tools: the ERP software will register the average time taken by the mechanics to finish each type of job over a period of time. With this period of learning, the software will be able to tell the customers in the App, the average time taken by that shop to do each type of job.

7. Category Specialists: there will be categories for types of vehicles. In these categories, users will have specialists to request check-ups or services in motorhomes, motorcycles, jet skis, buses, trucks, etc.

8. Live Update: with the connected platform, customers will be able to keep up with the reparation of their vehicles. Real-time tracking for constant updates will be available in the App. Once it's done, the customer receives a text message and a notification through the App.
9. Multi-Profiles: the customer can have more than one car in a profile and the app will show them specific content for the car selected in their profile. This will also help when a repair is needed or a maintenance service to identify possible problems with the car.

   A follow-up feature (*Extended Service History*) of this one is for premium members, and it will let them check on each car their historic such as past services, repairs, parts substitutions, maintenance records, and past invoices for convenience and transparency. The customer will also receive notification reminders for routine maintenance services based on their vehicle history.
10. Loyalty Rewards: App users will be rewarded for their fidelity to the App through discounts, promos, and special campaigns that can only be redeemed in the App.
11. Integrated Communication and Payments: Users will be able to chat with repair shops once they book a service to ask questions about the booking, get more information, or be updated about any issue. Additionally, the App will offer secure in-app payment options.
12. Reviews: Clients will have the possibility to review their experience with the repair shop in the App, also allowing these reviews to be distributed to search engines such as Google Maps. This will push repair shops to provide a better service and elevate customer satisfaction.

    Just as for the ERP premium features, the list and description of the features available for premium members of the App are available in Table 9.3 (Annex) and Table 9.4 (Annex) shows the overall list of what each modality of subscription includes.

Features pending on partnerships.

1. *Standvirtual* partnership: the idea is to have an option in the ads that sends the user to our App and automatically pulls up repair shops that are available near the desired car to conduct a check-up. This benefits both companies because it promotes transparency and client confidence, therefore boosting sales.

2. *DriiveMe* partnership: this company offers car transportation services for individuals and companies. Their partnership can be beneficial in cases where a person sends a technician to inspect a car and then needs someone they can trust to bring the car to their address. *DriiveMe* has official drivers that conduct this type of service for anyone. This would make the experience more practical and convenient for users, and ultimately it could also help sellers that are in more remote areas and increase the market sales volume.

9.4.2 Price

Before setting up the prices for our products, it's important to understand the different revenue streams that we are able to generate through our offerings. In regards to the ERP program, there will be 3 subscription models: Lite, Essential, and Pro. Also, there will be an extra monthly fee for every additional user that the shop needs to add.

The mobile app will have a free version with ads and limited capabilities, with the possibility of upgrading this service with a subscription plan. Additionally, the company will collect a percentage fee for every scheduled check-up but only when it comes to the ones that need to bring the mechanic for their car purchase, what we will call "purchase check-ups". Regular on-site service check-ups that don't have purchasing intentions, won't be charged any extra fee. Lastly, it's important to mention that while App Premium members won't be charged any extra fee for the additional "Buyer's Form" (*vide 5. – Buyer's Form – features of the mobile app*), non-paid members will have the option to purchase this extra service at a fixed 5€ fee per form.

Table 9.5 - ERP Pricing

Plan	Lite	Essential	Pro	Additional User
Monthly	50 €	70 €	90 €	10 €
Annually	500 €	700 €	900 €	120 €

Source: Author

Table 9.6 – App Pricing

Plan	Premium Plan
Monthly	5 €
Annually	50 €

Source: Author

9.4.2.1 Pricing Strategy

As exemplified in the previous sub-chapter, each of the 3 subscriptions for the ERP platform have progressive additional features that entice the shop's managers to upgrade to a better version for full enjoyment of the program's capabilities. The versions will be available on a monthly-billed and annually-billed basis, where subscribers are free to cancel anytime. As seen in tables 9.5 and 9.6, subscribers are rewarded 2 "free" subscription months when they opt for the annually-billed subscriptions or the equivalent of a 16.67% discount on their annual bill.

The same strategy is applied to the mobile app subscribers, where they can enjoy several additional perks and features for their premium plan. Similarly to the ERP subscribers, the app users are also rewarded with 2 "free" subscription months when they are billed annually.

Furthermore, the percentage fee charged for "purchase check-ups" was established at 10% of the total price that the shop asks for that service. As the results of the survey indicate, most consumers are willing to pay between 41-50€ for that service. So as an example, let's suppose that the shop charges 45€, then our company will add 10% of that value, which means that the customer would pay 45€ + (45*0.10) = 49.5€. So, our company would get a 4.50€ fee on this service, plus an extra 5€ if they are non-paid members and they desire to acquire the "Buyer's Form".

9.4.3 Distribution Channels

The ERP software will be available for purchase on OneJack´s website, where it displays its features, benefits, and customer feedback. It will include options for online demos as well as a request form to book a presential demonstration with a sales representative. The website will also serve as a central hub for information and as a lead-generation platform.

As for the App, the company will make it available at the App Store and the Play Store. Currently, there is an annual cost of $99 for publishing in the Apple App Store and a $25 one-time payment fee for publishing the App at the Google Play Store.

9.4.4 Promotion

Just as for the other items of this marketing plan, there will also be two separate promotion strategies for the program and for the App. Let us begin with the promotion of the program for auto repair shops.

9.4.4.1 Promotion Strategy for the ERP program

For the promotion of the program, we have outlined a strategy that evolves through three different chronological periods. The table below illustrates them.

Table 9.7 – Promotion Strategy for ERP

	Beta phase	Market phase	Maturity phase
Social media	✓	✓	✓
Sales Rep Demos	✓	✓	
Online Demos	✓	✓	✓
Cold Calls	✓	✓	
Blog posts	✓	✓	✓
Google SEO	✓	✓	✓
Google Ads		✓	
Webinars		✓	✓
Conferences	✓	✓	
Referral program		✓	✓
Email Marketing		✓	✓
Direct Mail		✓	

Source: Author

In the initial stages of the project, in the Beta stage of the software, the first step is to promote both products as a single platform and showcase its innovative features on our social media accounts such as Instagram, Facebook, Twitter, and LinkedIn. This is always an effective promotional strategy as each of these platforms gathers a heterogeneous crowd with very distinct demographic characteristics. As mentioned above, OneJack will have a website where all the features of the products are displayed. It will include a video demonstration of the ERP program and another one for the App. One of the steps in this process will be to optimize the Search Engines (SEO) to make us easily accessible to clients. However, we believe that the most effective way to generate sales for the ERP platform is to hire sales representatives to perform in-person demonstrations to potential customers. At the initial stage, we will resort to one in Year 1 and two sales representatives in Year 2, paying them a base monthly salary of 1,300€ for 40h/week of work. As salespeople, they will earn a commission for every customer they can obtain, depending on the size of the customer. Even nowadays, owners of workshops feel more confident to invest in a new tool for their business when they get to know who is selling it. For matters of efficiency and time savings, sales reps will also be responsible for some “cold calling”, that is, to call potential leads in order to book demonstrations or make direct sales.

Lastly, as seen in the table above, the plan is to invest fully in all these channel options that we considered when the product is in the first stages after being launched in the market. When the products hit the levels of awareness that are desired, we will consider that they entered the Maturity stage. By this moment, OneJack will start to divest in some forms of promotion to be able to cut marketing expenses. The plan will be to cut the more expensive channels such as the sales representatives and Google Ads. However, all of these forms will be considered if they maintain their cost-effectiveness.

9.4.4.2 Promotion Strategy for the Mobile App

The same approach was taken to consider the promotional channels and stages for the Mobile App. As we can see in the table below.

Table 9.8 – Promotion Strategy for Mobile App

	Pre-release	Market phase	Maturity phase
Social media	✓	✓	✓
Industry influencers		✓	
Google Ads for Youtube		✓	✓
OOH Advertising		✓	
Collaboration with shops		✓	✓
Conferences	✓	✓	
Referral program		✓	✓

Source: Author

The same structural strategy was applied to the promotion of the Mobile App. Before the release of the App, the idea is to create curiosity around the product, and this will be done in the official accounts of OneJack through the platforms mentioned before. At the second stage of the process, when the App is available to download, we will launch a marketing campaign that will involve collaboration with automotive industry influencers, short video ads for YouTube, and Out-of-Home advertising (OOH) which includes roadside banners and billboards. Additionally, the company will launch a referral program both for the ERP program and the App. In the case of the App, the referral program will consist of customers signing up with an active user's link and they both can earn "loyalty points." Later, loyalty points can be exchanged for discounts on maintenance services or even earn a free service with enough points.

For exemplification purposes, we have created the Brand Logo, Slogan, and examples of some UI mockups for our Mobile App. They can be found in Annex C.

9.5 Technology

As a company that provides technological solutions, it seems necessary to explain the tools that we plan to use in order to assemble these products. We will describe each of the areas of development for each of the two products. It is important to consider that some of the tools and means listed below are subject to change if the development team considers doing so.

9.5.1 ERP Software Development:

Backend Development:

For the backend development of the ERP software, we've chosen Java as the programming language in combination with the Spring Framework, which is an open-source platform that supports Java's application developments. Java will provide a solid foundation, while Spring will simplify development with its extensive libraries.

Database Management: The PostgreSQL relational database management system is our choice for data storage and management. PostgreSQL's reliability and compatibility make it suitable for handling complex data structures.

Integrated Development Environments (IDEs): Our development team will use JetBrains' IntelliJ IDEA as our primary IDE for backend development. This IDE is still one of the best tools available in the market for Java development.

Cloud Infrastructure: As a start-up company, we need to ensure scalability and reliability at an affordable price. For that reason, we'll utilize Amazon Web Services (AWS) for our cloud infrastructure. AWS offers a wide range of services that enable us to handle growing demand and maintain high availability, not harming the user experience.

Frontend Development:

Our ERP software's front-end development will focus on creating a user-friendly and up-to-date interface using HTML5, JavaScript, and CSS3.

User Interface and Experience (UI/UX) Design: We'll use design tools like Sketch and Adobe XD to create visually appealing user interfaces for the ERP program.

Frontend Coding: We will be using Angular as the frontend framework for our ERP software due to its modularity, comprehensive suite of tools, and strong typing capabilities. Angular empowers us to build a scalable and feature-rich application that meets the complex requirements of an ERP software.

9.5.2 Mobile App Development:

Backend Development:

For the backend of our mobile app, we have multiple options:

Node.js with Express.js: We can use Node.js along with the Express.js framework for building lightweight and efficient APIs. This combination offers real-time capabilities and supports asynchronous operations. However, depending on the project requirements, we can also utilize Django (Python) to handle specific backend functionalities such as authentication and user management.

Database Management: Similarly to the ERP software, we'll also use PostgreSQL for data storage and retrieval.

Integrated Development Environments (IDEs): For backend development, we will use an IDE like Visual Studio Code for Node.js and Django.

Cloud Infrastructure: We'll make use of Amazon Web Services (AWS) to ensure seamless integration with our mobile app. Betting on AWS as our exclusive cloud provider.

Frontend Development:

Our mobile app's front-end development will involve creating visually appealing and user-friendly interfaces using the native approach.

iOS Development: For iOS, we'll use Xcode as our IDE and Swift as the preferred language to develop a native mobile app that provides an optimized user experience and efficient integration with Apple's ecosystem.

Android Development: On the Android side, we'll utilize Kotlin for Android Studio to build a native mobile app that serves Android users and devices.

The alternative to the native approach would be to use Flutter as the framework to build the App in one place. Flutter works both for iOS and Android, making it an efficient and time-saving option to build the App in a single codebase. However, it possesses certain limitations that the development team would have to balance out in order to decide which would be the most suitable option.

User Interface and Experience (UI/UX) Design: In this case, we will also use the same design tools as the ERP platform, namely Adobe XD and Sketch.

Quality Control and Testing:

ERP Software Testing: We'll use JUnit for backend unit testing, ensuring individual components work as expected. Furthermore, tools like Apache JMeter can be used for performance testing, such as simulating user traffic.

Mobile App Testing: For the mobile app, XCTest (iOS) and Espresso (Android) will be used for unit and UI testing. Firebase Test Lab (Android) and TestFlight (iOS) will facilitate cloud-based testing on real devices.

Continuous Integration/Continuous Delivery (CI/CD): We will also use CI/CD tools like Jenkins or Bitrise to automate testing, deployment processes, and ensure high-quality software.

Lastly, we need to have a way of managing versions and having the team efficiently collaborate on the project. For that, it will be implemented a Version Control System.

Version Control System: Throughout the development of both the ERP software and the mobile app, we will employ Git, a distributed version control system. Git will allow us to track changes to our codebase, collaborate smoothly with team members, and maintain a history of all modifications. To make that possible, we'll make use of the Git hosting platform JetBrains' Space to store our repositories and manage collaborative workflows.

9.6 Project Chronogram & Organizational Structure

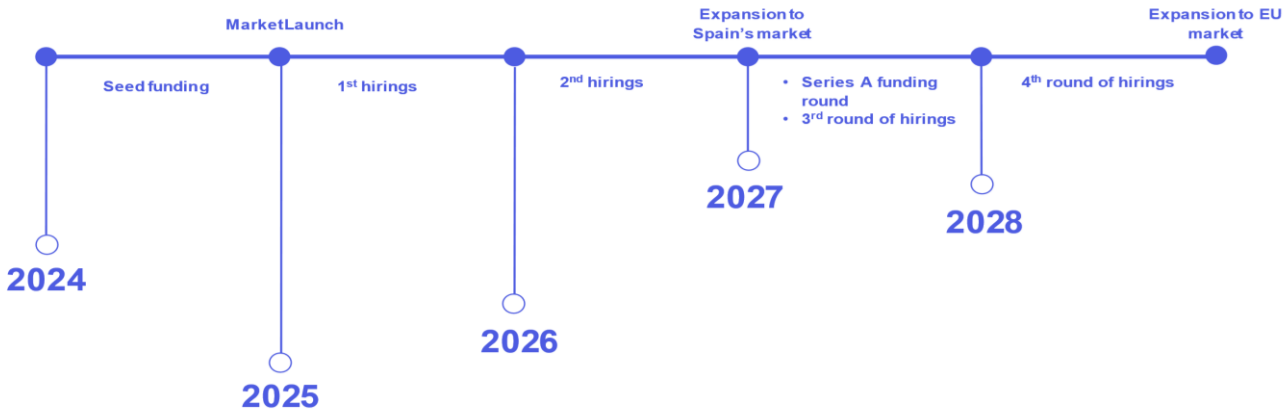

Figure 9.7 – Project Chronogram

Source: Author

We decided to combine the project's timeline with our plans regarding human resources because time and action are interconnected, so it makes sense to explain both. Since the author has a background in management and lacks experience building computer programs, it was decided that this project will be cofounded by his cousin. He is a mechanical engineering graduate who currently works in IT and has experience building and managing software. He will be taking the CTO position at OneJack. As we can observe in Figure 9.7, at Year 0 the goal is to develop both products as quickly as possible, for that reason we will be inviting a motivated software engineer who could have recently graduated or who is finishing the course and has experience in the area. Since human capital is one of our biggest initial and fixed costs, the author and CEO will abdicate his wage in Year 0 to help the company's much-needed financial health in the primary times.

As mentioned, the CTO will be the Co-founder of this project and he will receive a 35% equity share of OneJack. Additionally, we will also give another share of the company to the first investor at the "Seed round" (vide *figure 9.8* – Annex). Precisely, the second goal of Year 0 will be to attract this first investment, preferably from an Angel investor who would not only help us with the first funding to cover business operations but could also help us with knowledge and guidance. This investor will be rewarded with a relatively low valuation for his stake at OneJack, given the obvious risks of a start-up company. At the end of this first year, the goal is to launch the products into the market. In Year 1, from 2025 to 2026, we will conduct our first

official recruitments where we will have another software engineer and a Sales Director join our team. The software engineer will help the CTO and the initial software engineer to continue developing and improving the product features. In our view, the sales representative is essential starting the first year in business because we need someone who can contact and develop relationships with repair shop owners to attract the first client base. These first two years of business are meant to grow exponentially in the domestic market and start to generate some demand abroad. In that second year of business, from 2026 to 2027, we will need to hire two more software engineers to keep up with user growth and maintain a well-run program and app. Additionally, we will hire a CMO, a CFO, and one sales representative to work with the Sales Director. The first two are meant to start our marketing efforts and to control our expenses, respectively.

At the beginning of Year 3, in 2027, the goal is to have our first expansion, namely to Spain which makes sense for geographical reasons and also makes the perfect first test at a relatively big market abroad. At this point, OneJack will certainly need more funding to maintain and grow the business abroad, that's why we plan to have the "Series A" investment round in this 3rd year of business. This way, we can be more prepared for team expansion and market demand. In this 3rd year, the team will incorporate a COO who will be in charge of designing operational strategies, optimizing processes, monitoring performance, strategic decisions and planning, and especially taking care of customer satisfaction. Also, we will be adding another 4 positions at this point: a 5th software engineer, 2 more sales representatives for the Spanish market, and a marketeer who will collaborate with the CMO for the marketing campaigns of the company. After those first two years working in the Spanish market, we will have to evaluate the results and decide whether it is a good moment to jump to the EU market or not. Our plan is to expand at the end of the fourth year or the beginning of the fifth, for that reason we will need to conduct a few more incorporations into the team at this 4th year. A total of 4 positions will be looked for: a 6th software engineer, a 4th sales rep, a financial controller to work with the CFO, and an operator to work with the COO. Lastly, the 5th year will incorporate 3 more jobs: a 5th sales rep, a 2nd marketeer, and a 2nd operator. This is our expectations for the needs at Onejack regarding human resources until the end of the 5th year (vide *figure 9.9* – Annex). Any variations to this initial plan will be driven by the ongoing demand for our products.

The remuneration of each job position and total personnel costs can be observed in Table 9.9.

Table 9.9 – Personnel Costs

PERSONNEL COSTS							
	Ref	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
CEO	1 400,0 €		19 600,0 €	19 600,0 €	19 600,0 €	19 600,0 €	19 600,0 €
IT Department (7)	1 600,0 €	38 400,0 €	67 200,0 €	112 000,0 €	134 400,0 €	156 800,0 €	156 800,0 €
Sales Department (5)	1 300,0 €		18 200,0 €	36 400,0 €	72 800,0 €	91 000,0 €	109 200,0 €
Marketing Department (2)	1 200,0 €			16 800,0 €	33 600,0 €	33 600,0 €	50 400,0 €
Financial Department (2)	1 400,0 €			19 600,0 €	19 600,0 €	39 200,0 €	39 200,0 €
Operations Department (2)	1 200,0 €				16 800,0 €	33 600,0 €	50 400,0 €
Total Taxable Wage		**38 400,0 €**	**105 000,0 €**	**204 400,0 €**	**296 800,0 €**	**373 800,0 €**	**425 600,0 €**
Social Tax	23,75%	9 120,0 €	24 937,5 €	48 545,0 €	70 490,0 €	88 777,5 €	101 080,0 €
Food Allowance	5 €	3 630,0 €	6 050,0 €	12 100,0 €	18 150,0 €	22 990,0 €	22 990,0 €
Insurance	1%	384,0 €	1 050,0 €	2 044,0 €	2 968,0 €	3 738,0 €	4 256,0 €
Total		**51 534,0 €**	**137 037,5 €**	**267 089,0 €**	**388 408,0 €**	**489 305,5 €**	**553 926,0 €**

Source: Author

It's important to clarify some of the data in the table above, for that here are the assumptions that were taken for the calculation of this data.

Assumptions:

Since the first year (Year 0) will be hard in financial matters and the idea is to cut expenses as much as possible, there will be no Holidays Allowance at this phase. Furthermore, it was considered that there are 22 working days per month and 11 months of work, since the worker has the right to 1 month of holidays (or 22 working days), which makes 242 working days a year. In terms of food allowance, we established a 5€/day for 11 months of work (not paid in holidays). Currently in Portugal, the Single social tax is at 23,75% for the company on top of gross salary. The Insurance estimate was considered to be at 1% of gross salary. Lastly, and for matters of simplification, we will assume that at each department regardless of their position, workers will be remunerated the same amount.

9.7 Supplies and External Services

Table 9.10 - Supplies and External Services

SUPPLIES AND EXTERNAL SERVICES						
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
1st Office Rent (26m2)	620,00 €	620,00 €				
2nd Office Rent (125m2)			2 875,00 €	2 875,00 €	2 875,00 €	2 875,00 €
Electricity			1 550,40 €	1 627,92 €	1 709,32 €	1 794,78 €
Water			547,92 €	547,92 €	547,92 €	547,92 €
Internet & Phone Connections			624,36 €	639,97 €	655,97 €	672,37 €
JetBrains Space Organization	480,00 €	720,00 €	960,00 €	1 200,00 €	1 440,00 €	1 440,00 €
Car Leasing Services		3 108,00 €	6 216,00 €	12 432,00 €	15 540,00 €	18 648,00 €
Accounting Services		1 800,00 €	2 700,00 €	2 700,00 €	3 591,00 €	4 776,03 €
Total (No VAT)	**1 100,00 €**	**6 248,00 €**	**15 473,68 €**	**22 022,81 €**	**26 359,20 €**	**30 754,10 €**

Source: Author

As for the supplies and external services, we are going to start off by renting a small office for the first two years in Campo Pequeno that has a capacity of 6 people. This first office already offers desks, chairs, electricity, water, and telecommunication services included, which is great for the asking price. From Year 2 on, OneJack is moving to a bigger space due to the increase in personnel. This office will be located at Marquês do Pombal and has the perfect capacity for our needed expansion. However, it does not include the primary services or the essential office supplies, so we will need to carry them in our expenses. Moreover, we are going to need JetBrains Space services and we will opt for the "Cloud Organization" plan that costs 20€ per month per user (for every 4 users, 1 is free). This subscription will provide us with a set of tools and features, that includes code hosting, issue tracking, continuous integration, and also team communication. It is a tool that basically gives us a central hub for all project-related activities and makes code sharing, and project planning easier for us in order to build and maintain our software products. Additionally, we will provide our Sales team with an individual leased car to make their jobs easier and more efficient when it comes to handling clients and performing demonstrations on their premises. The most known leasing company, LeasePlan, has a wide variety of offers in this area, so we decided to choose one of the most affordable plans which included a recent and practical car that costs around 259€ per month for each car, without VAT. Lastly, as you may observe in Table 9.10, we decided to outsource the accounting services for the firm and its calculations were based on average prices practiced in Portugal.

All references used are illustrated and can be found in Annex F.

10. Implementation Issues

10.1 Required Initial Costs

Table 10.1 – Required initial costs.

REQUIRED INITIAL COSTS		
	No VAT	With VAT
Apple Developer Program (per year)	91,85 €	112,98 €
Google Play Developer Account (one-time fee)	23,20 €	28,54 €
Company Registration fee (Empresa na Hora)	292,68 €	360,00 €
Computers (3)	5 995,76 €	7 374,78 €
Printer (1)	324,39 €	399,00 €
Mobile Phones (3)	536,56 €	659,97 €
Total	**7 264,44 €**	**8 935,26 €**

Source: Author

**For the AppStore Fee and Google Play Fee ($99 and $25, respectively), it was considered the EUR/USD exchange rate of 1.07792 on September 1st of 2023.*

The first steps begin by acquiring the items listed in Table 10.1, the two groups of App fees for each operating system are mandatory in order to make the Mobile App available to the general public. This will only happen once the first version of the App is ready. Moreover, any new company in Portugal has to be registered to begin operations, which is a relatively simple process and has a cost of 360€. Lastly, we will need 3 high-performance computers to develop both products, so after some research, we estimated that the cost of each of these devices will be around 2458€ (VAT included). Also, an office printer and 3 affordable work cellphones will be purchased to complete the office materials we will require for the first year.

10.2 Shareholders Structure

As previously mentioned, OneJack will be founded by the author and his cousin who, along with another engineer, will be in charge of developing the two products of this project. As can be observed in Table 10.2 (Annex), the author and CEO will be investing 30.000€ and will retain a 40% stake in the company. The co-founder and CTO will also invest 30.000€ and will retain 35% of the shares. This capital will be used for the first months of operations while we seek for the first investor. Precisely, this first investor who could preferably be an Angel investor or a Venture Capital firm, will receive 25% of the shares in exchange for 140.000€. This would grant OneJack a valuation of 560.000€ at an initial stage.

11. Financial Analysis

11.1 Sales Forecast

ERP Sales Estimation

To be able to forecast OneJack's Sales, we will align two essential factors: the total number of potential clients and the company's market share goals. Considering that the project's analysis will have a time horizon of 6 years (including Year 0), the strategy to apply will be to determine a market share goal for the 5th year and together with the available data on potential clients, establish a forecast for OneJack's sales in those 5 operating years.

As already mentioned in Chapter 4. (Market Analysis), the available data shows us that there are around 13,276 registered repair shops in the Portuguese market, and although further research indicates that this number could be higher, we are going to assume the first number as the object of this study. Being so, Onejack proposes itself to reach a 25% market share in the Portuguese market (around 3300 repair shops) by the end of Year 5 (2029). Additionally, as we expect to expand to the Spanish market at the beginning of the 3rd year of operations, that means that we will account for 3 operating years in that market. According to Infocap.es, a specialized agency in the Spanish automobile industry, by the end of 2022, there were around 41,829 repair shops in this market. Naturally being a more competitive landscape, we have set a more conservative target for the 3 years in this market. We intend to reach approximately 10% of the Spanish market share (around 4130 repair shops) by the end of 2029. Lastly, and although we projected an EU expansion at the beginning of Year 5 (2029), that will majorly be dependent on business volume, investment capacity and demand, which could be highly unpredictable. Thus, for simplifying reasons, we are not going to simulate that scenario in our sales forecast.

For the distribution between each subscription plan, we took into consideration the results of our interviews. Although we had 40% for the Lite plan and 40% for the Essential plan, we consider that at a larger scale, the distribution will be more approximate to: 55% of customers for the Lite version, 30% for the Essential, and 15% for the Pro version. Within each subscription plan, we estimate that in the cheaper plans, most customers will pay month-to-month as theoretically, they will not have as much financial availability to pay for the annual plan. That being said, the Lite version will have 70% of customers in the monthly plan and 30% in the annual plan. The Essential version will have 60% subscribed to the monthly plan and 40%

paying the annual bill. While the Pro version subscribers will divide 50% for the monthly bill and 50% for the annual plan. It's also important to highlight that the same subscriber structure will be applied to the Spanish market.

Finally, we needed to establish a percentage rate of the goal per year to achieve our target at the end of 2029. For the Portuguese market, we expect to have: 10% at Year 1, 25% at Year 2, 50% by Year 3, 75% at Year 4, and 100% of the target achieved by the end of Year 5 (2029). On the other hand, to achieve 10% of the Spanish market in 3 years, we set that we would have: 25% at Year 3, 60% at Year 4, and 100% of that goal by Year 5.

To conclude our sales forecast regarding the ERP platform, we needed to estimate the number of repair shops that would require or ask for additional users. Given that most of the mid-to-bigger shops operate with more than one manager, as our interviews confirmed, and would then require more than one logged user, we estimated that around 20% of our customers will require at least one additional user. Out of those 20%, 80% will be only one additional user and the remainder 20% will require two additional users.

Mobile App Sales Estimation

Estimating the Mobile App sales was a bit trickier. First, we needed to know the most recent data about the resident population both in Portugal and Spain, which we found at national statistics institutes of both countries (vide figure 11.1 and figure 11.3 – Annex). Then we organized them into 3 groups of generations: Generation Z, Y, and X, which encompass the target audience of our app from 18 to 64 years old. We could also get to know the percentage of each of these groups that regularly access the internet in Portugal through a recent study taken by Marktest – *Bareme Internet* in 2022. Then, to get a more precise addressable market, we needed to gather data on the percentage of each of these groups that holds a Driver's License, which we found through the latest report by the IMT in 2021 (vide figure 11.2 and table 11.1 – Annex). Also, for simplification matters and given the similarities, we assumed the same percentages of Internet Access and Driver's License Holders for Spain. The conjunction of this data gave us an estimation of the Total Addressable Market (TAM) for our App. All the methods used for these calculations can be found in Tables 11.2 and 11.3 - Annex G.

Next, we used the same estimation approach as for the ERP program. We established a goal of the percentage of the TAM that would download the App until the end of the period in study. In the case of Portugal, it was established a 10% goal until Year 5 (2029), and for Spain, we

established a 3% goal for the three years of operations there. Similarly to the last approach, we established a percentage of the goal that we needed to achieve for both countries until Year 5. For Portugal, we estimated 10% at Year 1, 30% at Year 2, 50% by Year 3, 75% at Year 4, and 100% of the target by Year 5 (2029). For the case of Spain, we estimated 20% at Year 3, 55% at Year 4, and 100% by Year 5. After that, it was necessary to estimate one of the most important metrics which was the App's Monthly-Active-Users (MAUs). While downloads are the main reference, the retention rate that traduces into the number of MAUs is the key data that we need because it indicates the actual number of active users, which gives us a chance to properly estimate yearly sales on the App. For that, we recurred to industry benchmarks and concluded that a 20% retention rate was a realistic number. We now knew the number of MAUs for both countries in the 5-year course, so we had to estimate the percentage of this customer base that would be premium members and the ones who wouldn't. According to industry benchmarks, most Freemium Apps have around 90% non-paid customers and about 10% who do pay for a subscription. Furthermore, given the 5€ low price of the monthly subscription, we thought that at least at first, most clients would opt for this bill plan. So, we set that 80% of premium clients would probably prefer a monthly bill, while 20% would choose to pay 50€ for the whole year and save around 16,67%. On the other hand, it was also important to estimate the Ad revenue that the non-paid clients (90%) would generate. To do this, we estimated a standard average of 5 ad impressions per user per day, which resulted in 5 * 30 days = 150 ad impressions per user per month. Following the Ad Revenue formula:

Ad Revenue = (Total Ad impressions per month/1000) * eCPM rate, it was necessary to establish an eCPM rate, which is simply the price paid by advertisers per 1000 ad impressions. After some research, it was concluded that this number varies quite a bit from country to country, so we established an adequate and conservative number of 0.50€ per eCPM. Finally, we only had to calculate this for the 12-month period, and we had our estimated Ad Revenue for each year (vide table 11.4 – Annex).

Lastly, we still had two income streams to estimate for our Mobile App Revenue. These are the Purchase Check-ups and the Buyer's Form fees. According to our client's survey, 63,3% of respondents believe that having a mechanic with them at the time of buying a second-hand car gives them much more confidence in the purchase. However, we believe that not all of them would actually request this service. As such, we determined that around 5% of MAUs would truly be interested in getting this assistance, which represents a more realistic scenario. Also, given that most of respondents (around 37,4%) would be willing to pay between 41-50€ for it,

we estimated that Purchase Check-up fees will be priced at 4.50€ (45€*10%) per service (vide table 11.5 – Annex). In regards to the Buyer's Form revenues, we had to take in mind that only free users are the ones who pay extra for this service and also use the same 5% filter of the Purchase Check-ups, as it is an extra fee of this service. So, according to the survey, more than 65,5% considered "very important" to have a form of this kind. As such, we took the 5€ fixed price for this fee and performed the calculations (vide table 11.6 – Annex).

11.2 Total Sales Estimation

Table 11.7 – Total Sales Forecast

ERP SALES FORECAST					
Subscription Plans	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Nº of customers	330	825	2683	4953	7430
Lite	**103 455,00 €**	**258 637,50 €**	**840 963,75 €**	**1 552 765,50 €**	**2 329 305,00 €**
Monthly	76 230,00 €	190 575,00 €	619 657,50 €	1 144 143,00 €	1 716 330,00 €
Annually	27 225,00 €	68 062,50 €	221 306,25 €	408 622,50 €	612 975,00 €
Essential	**77 616,00 €**	**194 040,00 €**	**630 924,00 €**	**1 164 945,60 €**	**1 747 536,00 €**
Monthly	49 896,00 €	124 740,00 €	405 594,00 €	748 893,60 €	1 123 416,00 €
Annually	27 720,00 €	69 300,00 €	225 330,00 €	416 052,00 €	624 120,00 €
Pro	**49 005,00 €**	**122 512,50 €**	**398 351,25 €**	**735 520,50 €**	**1 103 355,00 €**
Monthly	26 730,00 €	66 825,00 €	217 282,50 €	401 193,00 €	601 830,00 €
Annually	22 275,00 €	55 687,50 €	181 068,75 €	334 327,50 €	501 525,00 €
Additional User Fee	**9 504,00 €**	**23 760,00 €**	**77 256,00 €**	**142 646,40 €**	**213 984,00 €**
One User	6 336,00 €	15 840,00 €	51 504,00 €	95 097,60 €	142 656,00 €
Two Users	3 168,00 €	7 920,00 €	25 752,00 €	47 548,80 €	71 328,00 €
Total ERP	**239 580,00 €**	**598 950,00 €**	**1 947 495,00 €**	**3 595 878,00 €**	**5 394 180,00 €**
(No VAT)	**194 780,49 €**	**486 951,22 €**	**1 583 329,27 €**	**2 923 478,05 €**	**4 385 512,20 €**
APP SALES FORECAST					
APP Sales	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Nº of MAUs	9926	29779	78142	152850	241813
Ad Revenue	**8 040,43 €**	**24 121,30 €**	**63 294,94 €**	**123 808,36 €**	**195 868,16 €**
Premium Subscription	**57 573,48 €**	**172 720,45 €**	**453 223,00 €**	**886 528,98 €**	**1 402 512,75 €**
Monthly	47 647,02 €	142 941,06 €	375 081,10 €	733 679,15 €	1 160 700,21 €
Annually	9 926,46 €	29 779,39 €	78 141,90 €	152 849,82 €	241 812,54 €
Purchase Check-ups	**26 801,45 €**	**80 404,35 €**	**210 983,12 €**	**412 694,52 €**	**652 893,87 €**
Buyer's Form	**17 420,94 €**	**52 262,83 €**	**137 139,03 €**	**268 251,44 €**	**424 381,01 €**
Total App	**109 836,31 €**	**329 508,93 €**	**864 640,08 €**	**1 691 283,30 €**	**2 675 655,79 €**
(No VAT)	**89 297,81 €**	**267 893,44 €**	**702 959,42 €**	**1 375 027,07 €**	**2 175 329,91 €**
TOTAL ERP + APP	**349 416,31 €**	**928 458,93 €**	**2 812 135,08 €**	**5 287 161,30 €**	**8 069 835,79 €**
TOTAL (No VAT)	**284 078,30 €**	**754 844,66 €**	**2 286 288,69 €**	**4 298 505,12 €**	**6 560 842,10 €**

Source: Author

As we can observe in Table 11.7, there are two periods of clear shifts in terms of revenues, namely in the 2nd and 3rd Years. This occurs mainly because of our growth expectations from the first to the second year, and the expansion to the Spanish market in the third year of operations. We can also highlight and confirm from this data what we expected from the

beginning, and that is that the ERP platform sales are expected to bring in more than double or triple the revenue compared to the Mobile App.

11.3 Variable Costs

In regards to variable costs, there are the costs of marketing, of AWS, and the 15% commission that Google and Apple charge for every transaction made through the Apps that operate in their respective operating systems.

Firstly, we have determined that marketing costs should depend directly on revenues. Being an enterprise that offers mostly niche products, the idea of establishing big budgets for large marketing campaigns does not seem like the best strategy. Instead, the marketing expenditure of each year will be estimated at around 5% of the sales of each year. Also, the main reasoning is that for the ERP platform, the best marketing strategy will be through sales demonstrations and promotions directly made to clients. On the other hand, the Mobile App will be promoted through the channels mentioned previously in Chapter 9.

As for the AWS costs, we are going to need three different products, AWS Cognito, Amazon RDS, and Amazon S3. As the price of these services depends greatly on user growth and especially on user usage of certain resources, it becomes particularly complicated to predict an exact expenditure on these services. However, after some research and calculations on *AWS Pricing Calculator*, we have estimated that the annual cost of AWS will range from 12 % to 20% of total revenues. To be more precise, we estimated an increase in its costs by 2 percentage points year by year. Thus, resulting in a variation of cost per user between 1.33€ to 2.21€, as can be observed in Table 11.8.

Table 11.8 – Cost of AWS services

Cost of AWS	Year 1	Year 2	Year 3	Year 4	Year 5
AWS products subscriptions	13 180,36 €	46 131,25 €	138 342,41 €	304 430,99 €	535 131,16 €
Cost per User	1,33 €	1,55 €	1,77 €	1,99 €	2,21 €

Source: Author (using *AWS Price Calculator*)

Lastly, when we compute the commissions payable to Apple and Google, we have to keep in mind their respective market shares in terms of how many people use their operating systems in the current market. For that, we recurred to the *Statcounter of GlobalStats*, and as of August 2023 in Portugal, there were 68,81% of Android users and 30,7% of Apple users. An important

note is that these market percentages were also applied to the Spanish market, even though Spain has a slightly more presence of Android users. Still, when computed totally, the difference in results would be minimal.

Table 11.9 – Cost of Commissions to OS

Commissions to OS	Year 1	Year 2	Year 3	Year 4	Year 5
Commission to Google	11 336,75 €	34 010,26 €	89 243,83 €	174 565,81 €	276 167,81 €
Commission to Apple	5 057,96 €	15 173,89 €	39 816,68 €	77 883,60 €	123 213,95 €
Total (no VAT)	13 329,04 €	39 987,11 €	104 927,24 €	205 243,42 €	324 700,62 €

Source: Author

11.4 Fixed Costs

As for our fixed costs, we have our personnel costs and our supplies and external services costs, because they are not directly correlated with sales volumes. The calculations for these costs were previously presented in subchapters 9.6 and 9.7, respectively.

11.5 Depreciations

As a software technology company, we do not have inventory, industrial machinery, or properties. Instead, our capital expenditures are based on office equipment such as Computers, Printers, and Mobile Phones. The company will provide each new employee with one computer and one mobile phone, while two office printers will be purchased throughout the five-year period. The computers will have a useful life of 5 years and a corresponding depreciation rate of 20% per year, while the mobile phones will depreciate fully in 4 years with a depreciation rate of 25%, and the printers will have a useful life of 6 years and will depreciate at 16,67% per year.

Table 11.10 – Depreciations (Source: Author)

DEPRECIATIONS											
	Quantity	Cost	Useful Life (Years)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Acc. Depreciation	Book Value
Computers (Year 0)	3	5 995,77 €	5	1 199,15 €	1 199,15 €	1 199,15 €	1 199,15 €	1 199,15 €		5 995,77 €	- €
Printer (Year 0)	1	324,40 €	6	54,07 €	54,07 €	54,07 €	54,07 €	54,07 €	54,07 €	324,40 €	- €
Mobile Phones (Year 0)	3	536,55 €	4	134,14 €	134,14 €	134,14 €	134,14 €			536,55 €	- €
Computers (Year 1)	2	3 997,18 €	5		799,44 €	799,44 €	799,44 €	799,44 €	799,44 €	3 997,18 €	- €
Mobile Phones (Year 1)	2	357,70 €	4		89,43 €	89,43 €	89,43 €	89,43 €		357,70 €	- €
Computers (Year 2)	5	9 992,95 €	5			1 998,59 €	1 998,59 €	1 998,59 €	1 998,59 €	7 994,36 €	1 998,59 €
Mobile Phones (Year 2)	5	894,25 €	4			223,56 €	223,56 €	223,56 €	223,56 €	894,25 €	- €
Printer (Year 2)	1	324,40 €	6			54,07 €	54,07 €	54,07 €	54,07 €	216,27 €	108,13 €
Computers (Year 3)	5	9 992,95 €	5				1 998,59 €	1 998,59 €	1 998,59 €	5 995,77 €	3 997,18 €
Mobile Phones (Year 3)	5	894,25 €	4				223,56 €	223,56 €	223,56 €	670,69 €	223,56 €
Computers (Year 4)	4	7 994,36 €	5					1 598,87 €	1 598,87 €	3 197,74 €	4 796,62 €
Mobile Phones (Year 4)	7	1 251,95 €	4					312,99 €	312,99 €	625,98 €	625,98 €
Computers (Year 5)	6	11 991,54 €	5						2 398,31 €	2 398,31 €	9 593,23 €
Mobile Phones (Year 5)	5	894,25 €	4						223,56 €	223,56 €	670,69 €
Total Depreciation				**1 387,36 €**	**2 276,22 €**	**4 552,44 €**	**6 774,59 €**	**8 552,31 €**	**9 885,60 €**	**33 428,52 €**	**22 013,98 €**

11.6 Income Statement

Table 11.11 – Income Statement

INCOME STATEMENT						
Income Statement	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
ERP Revenue	- €	194 780,49 €	486 951,22 €	1 583 329,27 €	2 923 478,05 €	4 385 512,20 €
APP Revenue	- €	89 297,81 €	267 893,44 €	702 959,42 €	1 375 027,07 €	2 175 329,91 €
Total Revenue	- €	**284 078,30 €**	**754 844,66 €**	**2 286 288,69 €**	**4 298 505,12 €**	**6 560 842,10 €**
Marketing Costs	- €	14 203,91 €	37 742,23 €	114 314,43 €	214 925,26 €	328 042,11 €
AWS Costs	- €	13 180,36 €	46 131,25 €	138 342,41 €	304 430,99 €	535 131,16 €
Commissions to OS	- €	13 329,04 €	39 987,11 €	104 927,24 €	205 243,42 €	324 700,62 €
Variable Costs	- €	40 713,31 €	123 860,60 €	357 584,09 €	724 599,67 €	1 187 873,88 €
Gross Profit	- €	**243 364,99 €**	**630 984,06 €**	**1 928 704,60 €**	**3 573 905,46 €**	**5 372 968,22 €**
Supplies and External Services	1 100,00 €	6 248,00 €	15 473,68 €	22 022,81 €	26 359,20 €	30 754,10 €
Personnel Costs	51 534,00 €	137 037,50 €	267 089,00 €	388 408,00 €	489 305,50 €	553 926,00 €
OPEX	52 634,00 €	143 285,50 €	282 562,68 €	410 430,81 €	515 664,70 €	584 680,10 €
EBITDA	-52 634,00 €	100 079,49 €	348 421,38 €	1 518 273,79 €	3 058 240,75 €	4 788 288,12 €
Depreciations	1 387,36 €	2 276,22 €	4 552,44 €	6 774,59 €	8 552,31 €	9 885,60 €
EBIT	-54 021,36 €	97 803,27 €	343 868,94 €	1 511 499,20 €	3 049 688,44 €	4 778 402,52 €
Corporate Tax (21%)	- €	20 538,69 €	72 212,48 €	317 414,83 €	640 434,57 €	1 003 464,53 €
Municipal Surcharge (1,5%)	- €	- €	5 158,03 €	22 672,49 €	45 745,33 €	71 676,04 €
State Surcharge (3-5%)	- €	- €	- €	45 344,98 €	91 490,65 €	143 352,08 €
Total Taxes	- €	20 538,69 €	77 370,51 €	385 432,30 €	777 670,55 €	1 218 492,64 €
Net Income	**-54 021,36 €**	**77 264,58 €**	**266 498,43 €**	**1 126 066,91 €**	**2 272 017,89 €**	**3 559 909,88 €**
Operating Cash Flow	-52 634,00 €	79 540,80 €	271 050,87 €	1 132 841,50 €	2 280 570,20 €	3 569 795,48 €
Cum OCF	-52 634,00 €	26 906,80 €	297 957,67 €	1 430 799,17 €	3 711 369,37 €	7 281 164,85 €

Source: Author

The income statement gives us a general perspective on the potential success of this project. As observed in Table 11.11, sales and operations are projected to begin at Year 1, where the weight of investment in OPEX shrinks the margins of that year. In fact, it is not until the 4th year of operations that the Variable Costs surpass the OPEX costs, which indicates a shift in revenues from that year, making direct costs superior to the indirect costs. Furthermore, during the 5-year period of operations, we obtained profit margins ranging from 27% to 54% at the latest year.

In terms of Tax charges, apart from the 21% standard rate for all positive years, it was applied a municipal surcharge of 1,5% for the Lisbon municipality. Additionally, the forecasted taxable income of Years 3, 4, and 5 surpassed the 1,500.000€ mark, so it was also applied the respective State Surcharge of 3% in those three periods.

11.7 Cash Flows

Table 11.12 – Working Capital (Source: Author)

WORKING CAPITAL						
Working Capital	**Avg days to Payment**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Receivables						
Google Payouts	15	2 176,21 €	6 528,62 €	17 131,27 €	33 509,70 €	53 013,24 €
Apple Payouts	30	1 941,86 €	5 825,57 €	15 286,44 €	29 901,11 €	47 304,36 €
Total		**4 118,06 €**	**12 354,18 €**	**32 417,71 €**	**63 410,81 €**	**100 317,60 €**
Payables						
Marketing Suppliers	30	1 183,66 €	3 145,19 €	9 526,20 €	17 910,44 €	27 336,84 €
AWS Service	10	366,12 €	1 281,42 €	3 842,84 €	8 456,42 €	14 864,75 €
Supplies and External Services	30	520,67 €	1 289,47 €	1 835,23 €	2 196,60 €	2 562,84 €
Total		**2 070,45 €**	**5 716,08 €**	**15 204,28 €**	**28 563,45 €**	**44 764,44 €**
Working Capital		2 047,61 €	6 638,10 €	17 213,42 €	34 847,35 €	55 553,17 €
Investment in Working Capital		**2 047,61 €**	**4 590,49 €**	**10 575,32 €**	**17 633,93 €**	**20 705,82 €**

The working capital estimations are shown in the table above, where some important takeaways can be taken. In terms of receivables, we know that Google and Apple take 15 and 30 days, respectively, to pay the companies that earn revenue in their App stores. These payouts already include the 15% cut that these operating systems require. In terms of payables, we also know that Amazon requires their payments to be made every 10 days. In summary, all of these calculations and assumptions are available from Table 11.13 to Table 11.15 – (Annex).

Furthermore, as ERP sales are considered on-demand, where subscribers pay before they get access to the service, and there are no intermediaries, they were not considered in these calculations. Consequently, the working capital of the 5-year period shows positive signs, where current assets grow and maintain above current liabilities.

Table 11.16 – Cash Flow Statement (Source: Author)

CASH FLOW STATEMENT						
Cash Flow Statement	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Cash Flow from Operating & Investing Activities						
Inflows						
Operating Cash Flow		79 540,80 €	271 050,87 €	1 132 841,50 €	2 280 570,20 €	3 569 795,48 €
Investment in Working Capital	- €	- €	- €	- €	- €	- €
Total (1)	**- €**	**79 540,80 €**	**271 050,87 €**	**1 132 841,50 €**	**2 280 570,20 €**	**3 569 795,48 €**
Outflows						
Operating Cash Flow	52 634,00 €					
Investment in Working Capital		2 047,61 €	4 590,49 €	10 575,32 €	17 633,93 €	20 705,82 €
Investment in CAPEX	6 856,72 €	4 354,88 €	11 211,60 €	10 887,20 €	9 246,31 €	12 885,79 €
Total (2)	**59 490,72 €**	**6 402,49 €**	**15 802,09 €**	**21 462,52 €**	**26 880,24 €**	**33 591,61 €**
Cash Flow From Financing Activities						
Inflows						
Own Capital	60 000,00 €					
Investor Capital	140 000,00 €					
Total (3)	**200 000,00 €**					
Net Cash Flow	**140 509,28 €**	**73 138,31 €**	**255 248,78 €**	**1 111 378,97 €**	**2 253 689,96 €**	**3 536 203,88 €**
Cash at the Beginning of the Year	60 000,00 €	140 509,28 €	213 647,59 €	468 896,37 €	1 580 275,34 €	3 833 965,31 €
Cash at the End of the Year	140 509,28 €	213 647,59 €	468 896,37 €	1 580 275,34 €	3 833 965,31 €	7 370 169,18 €

As we can observe in table 11.16, the equity capital disposed to the company in Year 0, is more than enough to cover its first expenses. The operating cash flows shows us the cash operations where depreciations are not accounted for, and taxes are subtracted. In this sense, only at Year 0, there are operating cash outflows as there are no sales in that year. Nonetheless, given the initial investment, we are able to finish all the periods with a positive and growing net cash flow. The calculations for Investment in Capex can be found in Table 11.17 – (Annex).

11.8 Balance Sheet

Table 11.18 – Balance Sheet

BALANCE SHEET						
Balance Sheet	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
ASSETS						
Current Assets						
Receivables		4 118,06 €	12 354,18 €	32 417,71 €	63 410,81 €	100 317,60 €
Cash	140 509,28 €	213 647,59 €	468 896,37 €	1 580 275,34 €	3 833 965,31 €	7 370 169,18 €
Fixed Assets						
Equipment	5 469,36 €	7 548,02 €	14 207,18 €	18 319,79 €	19 013,79 €	22 013,98 €
Total Assets	**145 978,64 €**	**225 313,67 €**	**495 457,74 €**	**1 631 012,84 €**	**3 916 389,90 €**	**7 492 500,76 €**
EQUITY						
Net Income	- 54 021,36 €	77 264,58 €	266 498,43 €	1 126 066,91 €	2 272 017,89 €	3 559 909,88 €
Retained Earnings		- 54 021,36 €	23 243,23 €	289 741,66 €	1 415 808,56 €	3 687 826,45 €
Equity	200 000,00 €	200 000,00 €	200 000,00 €	200 000,00 €	200 000,00 €	200 000,00 €
Total Equity	145 978,64 €	223 243,23 €	489 741,66 €	1 615 808,56 €	3 887 826,45 €	7 447 736,32 €
LIABILITIES						
Payables		2 070,45 €	5 716,08 €	15 204,28 €	28 563,45 €	44 764,44 €
Total Liabilities		2 070,45 €	5 716,08 €	15 204,28 €	28 563,45 €	44 764,44 €
Equity + Liabilities	**145 978,64 €**	**225 313,67 €**	**495 457,74 €**	**1 631 012,84 €**	**3 916 389,90 €**	**7 492 500,76 €**

Source: Author

The balance sheet is a financial statement that provides an overview of a company's financial health by demonstrating its assets, equity, and liabilities. Thus, it enables investors and stakeholders to assess the future financial health and viability of a company.

As we can observe in the table above, cash is the main asset of the company, mainly due to the weight of the ERP sales, which are accounted as cash and are almost double of the sales of the App in most years. This could either be considered a good sign, but it could also raise worries for the future as the team should find ways to reinvest this cash into the business or invest it into other types of projects or use it for expansion purposes.

Furthermore, we can see that in terms of equity, the retained earnings have a first negative impact of expenses of Year 0 on Year 1. Nevertheless, it is offset by the initial investment and the net income of Year 1. Finally, we can see that assets are projected to reach 7,492,500.76€ at Year 5, giving strong a financial health indicator for the future of this project.

12. Financial Indicators

12.1 Valuation

Table 12.1 – CAPM Model (Source: Bloomberg; Damodaran)

CAPM	Rf	Unlevered Beta	Equity Risk Premium	WACC
Values	3,54%	1,12	5,46%	9,64%

In order to estimate a valuation for OneJack, we first needed to calculate our cost of equity to get our discount rate. As this is a company that is fully financed by equity, we don't have to weigh any cost of debt, thus, our WACC becomes our cost of equity, and we used the CAPM model to estimate this rate. For that, we followed the formula below.

$$Re = rf + \beta * (Erp)$$

First, to get our risk-free rate, we did an average of the current 10-year government bonds of both Portugal and Spain (as of 13th September 2023, source: *Bloomberg.com)*, as they are the countries that we projected to operate in. Secondly, we recurred to the most recent data available on the website of Professor Aswath Damodaran to get our Equity Risk Premium and our unlevered beta. The first one was extracted from a file of July 2023, and it was also computed an average of the Erp's of Portugal and Spain. As for the unlevered beta, we picked the industry benchmark values of *Software (System & Application)*, made for the Europe region which encompasses 352 companies of this sector. Finally, we obtained a WACC of 9,64%.

Table 12.2 – Valuation (Source: Author)

VALUATION			
Valuation	Results	Accept if	Decision
NPV	4 409 029,38 €	NPV > 0	Accept
IRR	128%	IRR > WACC	Accept
Profitability Index	23,0	PI > 1	Accept
Payback Period	1,73	PB < 5	Accept
Discounted Payback	2,01	DPB < 5	Accept

After estimating the discount rate, it was time to compute our NPV value. The NPV is the sum of the present value of future cash flows minus the initial investment, as such, it considers the time value of money when discounting these future cash flows at a given discount rate. This

way, we obtained an NPV value of 4,409,029.38€. As such, given that the rule for the NPV is that it must be greater than zero, the project should be accepted. After that, we needed to know what the maximum discount rate was before the NPV was equal to zero. In other words, the maximum discount rate that investors can ask before the project is no longer viable. This rate is represented by the Internal Rate of Return (IRR), in which we obtained a value of 128% where the criteria is that it must be greater than the discount rate (WACC) of 9,64%, so the IRR measure also showed a very positive sign. Furthermore, we calculated the profitability index, and this could show us how much profit the project generates for each euro invested in it. Our result was of 23€ of return for every 1€ invested in the project, which is considered a very attractive number for this measure (vide table 12.3 – Annex). Lastly, we wanted to measure how much time it would take the estimated cash flows to cover the initial 200,000€ investment. First, we obtained a payback period of 1,73 years or approximately 631 days. The problem is that the payback period does not account for the time value of money, so while it serves as a good proxy, it is not as accurate as the discounted payback period measure. Thus, after discounting the cash flows, we obtained a discounted payback of 2,01, which is approximately 732 days (vide table 12.4 – Annex). Even though there is not an exact criterion for this measure, we considered that it had to be at least before the end of the 5 years in study, so in this case, it also returned us a very attractive payback period for investors.

12.2 Sensitivity Analysis

Table 12.5 – Sensitivity to variation in prices

Price	NPV	IRR	Profitability Index	Discounted Payback
0,6	2 516 321,65 €	99%	13,6	2,43
0,8	3 462 675,52 €	115%	18,3	2,16
1	4 409 029,38 €	128%	23,0	2,01
1,2	5 355 383,25 €	139%	27,8	1,67
1,4	6 301 737,12 €	150%	32,5	1,45

Table 12.6 – Sensitivity to variation in customers

Customers	NPV	IRR	Profitability Index	Discounted Payback
0,6	2 220 330,39 €	94%	12,1	2,57
0,8	3 314 679,89 €	113%	17,6	2,19
1	4 409 029,38 €	128%	23,0	2,01
1,2	5 503 378,88 €	141%	28,5	1,63
1,4	6 597 728,38 €	153%	34,0	1,40

Table 12.7 – Sensitivity to variation in expansion plans and prices.

Expansion	NPV	IRR	Profitability Index	Discounted Payback
No	1 908 965,18 €	102%	10,5	2,01
Yes	4 409 029,38 €	128%	23,0	2,01
Mix Scenarios	NPV	IRR	Profitability Index	Discounted Payback
0,6 Price & N/Exp	880 820,97 €	69%	5,4	3,00
1 Price & N/Exp	1 908 965,18 €	102%	10,5	2,01
1,4 Price & N/Exp	2 937 109,40 €	125%	15,7	1,45

Table 12.8 – Sensitivity to variation in the discount rate (WACC)

WACC	NPV	IRR	Profitability Index	Discounted Payback
20%	2 741 535,89 €	128%	14,7	2,11
15%	3 430 030,54 €	128%	18,2	2,06
9,64%	4 409 029,38 €	128%	23,0	2,01
7,5%	4 892 812,87 €	128%	25,5	1,95
5%	5 539 579,52 €	128%	28,7	1,88

Source: Author

This sensitivity analysis aims to understand how much we can modify some of the key variables of our business and how that would affect our valuation indicators. In this case, we modified key variables such as: price, number of customers, expansion scenarios, and the discount rate (WACC). Then we computed the results and analyzed how it affected the NPV, the IRR, the Profitability index, and the Discounted Payback period, in comparison with the current values.

In Table 12.5 and Table 12.6, we modified our prices and number of customers by a 40% decrease and a 40% increase in each of them. As we can see, in terms of prices, a 40% cut in the ERP and the App subscriptions, would naturally result in a decrease of the NPV and the IRR, but the project would still be very much viable as NPV would be greater than zero and the IRR>WACC. In comparison, the variation in the number of clients would have a slightly bigger impact on the indicators, lowering the NPV value, the IRR and increasing slightly the discounted payback period. This happens because, in the case of the variation in prices, we considered that the fees coming from the Purchase check-ups and the Buyer's form are totally fixed, as we already consider them as low and affordable. Contrarily, when we analyze the impact of customers, it considers a variation in all the income streams, thus, having a bigger impact.

A key starting point of this project was that we would eventually consider an expansion and Spain always seemed like the obvious option. For that reason, we wanted to consider a scenario

where the forecasted demand in Portugal would remain the same, but we would not opt for the expansion to the Spanish market. In Table 12.7, we can see that in the first line, we have that exact scenario, and while it would have a big impact, especially in the NPV, it would still be a perfectly viable project to invest in. Then, we wanted to push the variations even further and simulate a kind of "worst-case scenario". In this sense, we simulated a non-expansion case with an addition of cutting the prices by 40%, the result consisted in a considerable decrease in the NPV and especially in the profitability index. Still, it would fulfill all the financial measures and it would be considered an acceptable project.

Lastly, in Table 12.8, an alteration to the discount rate was computed. In the worst scenario, the WACC would be around 20%, affecting mostly the NPV. Nonetheless, as our IRR sits at 128%, there is a great margin for the WACC to be increased without affecting the viability of the company.

12.3 Total Project Value

Table 12.9 – Total Project Value (Source: Author)

Project Value	Results
Discount rate (r)	9,64%
Growth rate (g)	3%
Growing Perpetuity Value	54 815 790,14 €
PV of Growing Perpetuity	31 556 695,37 €
Total Project Value	35 965 724,75 €

For the ending part of this analysis, we thought it was appropriate to estimate the total value of the project. Since this analysis consists of only 5 years of operations, it makes sense to estimate the value of the future cash flows beyond the NPV. Even though the first 5 cash flows estimated grew at a ramping pace, we decided to opt for a much more conservative growth rate of 3%, as generally, companies show rapid growth in their first years of operations and then they tend to grow more steadily after that growth stabilizes. For that reason, first, we calculated the future cash flows beyond the 5-year period, given the mentioned growth rate and the previous discount rate (WACC), which resulted in a perpetuity value of 54,815,790.14€. Then, in order to account for the time value of money, we had to bring those future cash flows to their present value, and since the perpetuity starts at Year 6, it returned us a present value of the perpetuity of 31,556,695.37€. Lastly, we estimated the total project value by combining the NPV of the cash flows from Year 1 to Year 5 with the present value of the perpetuity. This represents the estimated total value of the project in the amount of 35,965,724.75€.

13. Conclusions

This project first started with a small and disproportionate idea. The frustration that came from working a couple of years in the field and not seeing any solutions to some of the problems that my clients and I had, was determinant for me to come up with ideas to solve these inconveniences. The first ideas were, in my opinion, too small to create a business around them. So, as I dug deeper into some of the problems, I started to find more answers and connections between the solutions. That is how, slowly, this project gained shape and solidity to become the business plan presented in this thesis.

It was certainly a very challenging project, especially because of the complexity that comes from planning two different products that are connected to each other. Initially, the idea was tested regarding market acceptance for each of the two products. Interviews were carried out with auto shop owners and workers, which showed positive signs of acceptance and revealed current problems and inefficiencies. Thus, validating previous assumptions that we thought OneJack could solve. Further on, surveys were distributed to the public to identify problems and needs in their experiences with auto shops and car purchases, also validating some of our previous assumptions to pursue this project.

When looking at OneJack's comprehensive and complete solution, we concluded that if it is well executed, it could compete fairly well with our main competitors, both in national and international markets, given their current offerings.

Regarding the financial analysis, we can conclude that the project is financially viable, even if some of the key variables suffer variations as shown in the sensibility analysis. The assumptions taken in this project were aimed to be, in our view, the most realistic as possible. Nonetheless, the forecasts that we obtained are never going to be 100% certain due to many different factors. That being said, OneJack is projected to generate an NPV of 4,409,029.38€, an internal rate of return (IRR) of 128%, a profitability index of 23, and a discounted payback period of approximately 2 years and 2 days. Furthermore, in the long-term, and if the variables remain unchanged, the total value of the company is projected to be at 35,965,724.75€.

The little experiment made assuming an expansion to the Spanish market in the 3rd year proved to us the potential that foreign markets have and the level of scalability that the company could reach when projected outside the internal market. It is also worth noting that we attribute the

success of the forecasted financial numbers mainly to the several diversified sources of revenue streams that this company has the potential to possess.

Currently, in terms of implementation, our main concerns are the challenges to convince auto shops to switch their current software providers for ours and to develop a mobile app appealing enough to make the public realize the several problems that it could solve.

Finally, I expect to proceed with the implementation of OneJack, as it is currently being studied by the co-founder and CTO, who is gathering all the information and requisites to make it possible. With all the research and projections made in this business plan, I personally hope that, as we use to say in Portuguese, this project "has legs to run" and that it can be a successful one.

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15. Annexes

Annex A – ERP Interviews and App Survey

ERP semi-structured interviews

Qual é a percentagem (%) de carga de trabalho sobre as horas disponíveis, nos últimos 6 meses?

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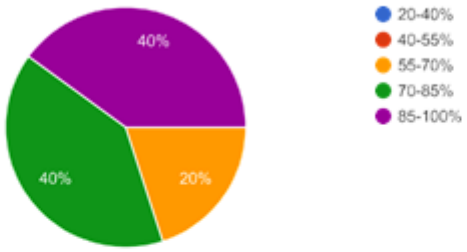
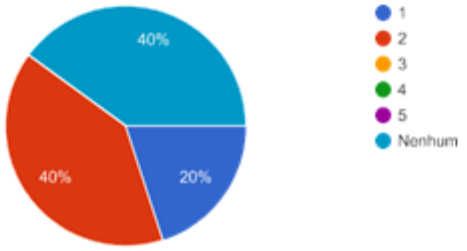
5 respostas



De 5 clientes que apareçam num dado dia, sem marcação, que precisem de um serviço (seja qual for), quantos em média, acha que conseguiam atender?

Copiar

5 respostas



Como é calculado o tempo para cada serviço/trabalho? Se não é calculado, por favor responder: "Não".

5 respostas

Existem programas que ajudam a dizer quanto tempo pode demorar um arranjo, embora não seja 100% fiável porque na maioria das vezes demora mais do que o estipulado.

Temos um programa que nos ajuda com isso, o problema é que são tempos estipulados e não atualiza segundo o que nós na oficina costumamos demorar vs o tempo que está predefinido no programa.

Por norma, temos mais ou menos ideia daquilo que demora o serviço/arranjo depois de analisar o problema, mas muitas vezes demora mais do que pensa

Embora temos um programa que nos dá informações deste género, muitas vezes não nos guiamos por ele pois já sabemos mais ou menos quanto tempo pode demorar. Embora existam certos casos que quando não tenhamos muita experiência, pode-nos dar jeito.

O programa que temos não tem propriamente esta funcionalidade e o que fazemos é tentar dar ao cliente, sempre que pedido, uma estimativa daquilo que pode demorar consoante a nossa experiência.

Como controlam o tempo demorado para fazer um serviço/trabalho? Se não é controlado, por favor responder: "Não"

5 respostas

Está estipulado o tempo que devíamos demorar para fazer um determinado serviço mas, por diversos fatores, nem sempre conseguimos fazer a tempo.

Nessa parte não existe um controlo especifico, mas existe um horário com tarefas estipulado para cada trabalhador e tentamos cumprir quando conseguimos.

Não, tentamos despachar os trabalhos que nos vão surgindo o mais breve possível mas não temos propriamente uma ferramenta para controlar esses tempos.

Cada funcionário tem o seu horário diário pre-programado, tentamos que cada um consiga cumprir com o predefinido, mas não controlamos o tempo exato que demoramos em cada serviço.

Cada mecânico tem um tempo exigido para finalizar o trabalho mas muitas vezes pode não conseguir cumprir com o tempo.

Quais são os fatores que dificultam mais a gestão do tempo na sua oficina?

5 respostas

Existem muitas variáveis mas geralmente é quando esperamos que um serviço demore um certo tempo e depois acabe por demorar mais. Por exemplo, se o carro é importado pode precisar de outro tipo de peças e esse tipo de fatores dificultam a produtividade.

A maioria das vezes pode acontecer um ou outro funcionário estar a trabalhar num certo arranjo mas porventura chega um cliente com alguma questão rápida de resolver e isso dificulta na produtividade prevista que ja estiver programada.

Varias coisas, mas acontece muita vez estarmos a resolver uma avaria e surgir outros problemas na viatura que não estavamos a espera e o tempo que demora pode ser mais do que o previsto.

Pode haver vários, por exemplo podemos esperar acabar um serviço em x tempo mas se calhar temos que pedir certas peças ao fornecedor e dependendo do que demore também pode-nos atrasar.

Depende de várias situações, se aparece um cliente regular então tentamos dar prioridade, se o carro é de um modelo não habitual pode haver certas peças especiais, como qualquer outro negócio pode haver baixas inesperadas nos funcionários, etc.

Utilizam alguma estratégia ou ferramenta para a gestão do tempo? Ou já tentaram utilizar antes? Se sim, Qual?

5 respostas

Sim, temos estes programas para calcular o tempo dum serviço mas depois no decorrer da semana não temos propriamente um medidor da nossa produtividade ou algo que controle propriamente tempo que fazemos.

Não utilizamos nenhuma ferramenta para medir a gestão de tempo de cada um. Tentamos é cumprir com as tarefas estipuladas do dia a dia.

Já utilizamos antes algumas ferramentas mas a maioria das vezes não refletia o tempo real que demoravamos a despachar os serviços. Umas vezes podia ser menos tempo e outras mais.

Temos um programa para isso mas não conseguimos calcular especificamente quanto vamos demorar por serviço e também não controlamos a nossa produtividade propriamente.

Sim temos um programa para isso, que as vezes é muito eficaz e outras vezes não tanto mas no geral ajuda.

Como é que se divide a carga de trabalho entre os mecânicos/colaboradores?

5 respostas

Neste momento, os mecânicos são quase todos de mecatronica por isso em geral todos sabem fazer um pouco de tudo. Sendo assim, o trabalho é dividido por igual, a não ser certas exceções onde um ou outro seja mais especialista ou mais eficaz a fazer determinado serviço e então aí é direcionado para essa pessoa.

Depende da especialidade de cada um, mas regra geral a maioria consegue fazer quase tudo.

Costuma ser tudo por igual. A não ser que um dos funcionários tenha amizade com certos clientes e estes peçam diretamente para ser este a tratar do problema, mas geralmente é por igual.

Temos um ou outro funcionário mais especialista em certos arranjos e temos outros que sabem fazer de tudo. Normalmente para algo assim mais complicado atribuimos aos especialistas e o resto fica mais ou menos por igual.

Depende do problema/avaria, muitos dos funcionários são competentes em tudo mas existem alguns com mais anos de experiencia que ajudam os outros quando é preciso fazer algo que não estão familiarizados.

Como se gerem as visitas sem marcação ou casos de certa urgência, que causam interrupção nos outros trabalhos?

5 respostas

Normalmente depende do tipo de serviço que é, se for algo muito rápido normalmente aceita-se mas se for uma avaria ou algo que exija tempo, neste momento teria de ser por marcação.

Costumamos aceitar visitas sem marcação mas geralmente só quando é algo rápido e que não faça atrasar mais os trabalhos pendentes que estão programados.

Depende da quantidade de trabalho, se for um cliente conhecido normalmente aceitamos mais depressa.

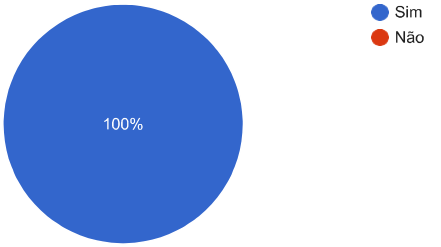
Depende da carga de trabalho, mas se for um cliente habitual ou se for algo rápido, costumamos aceitar.

Geralmente temos um ou outro mecanico que pode estar com menos carga de trabalho, e estes assistem estes clientes que apareçam sem marcação ou que precisem de algo mais urgente.

Se um cliente precisar que um dos seus mecânicos faça uma avaliação geral num carro que potencialmente quer adquirir, seria possível?

Copiar

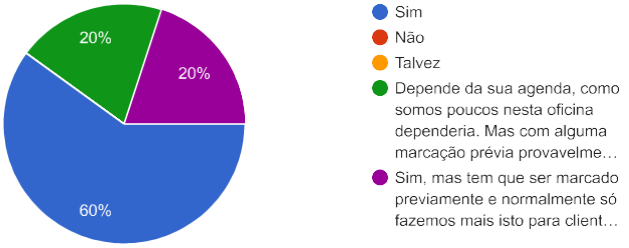
5 respostas



Poderia este mecânico ser libertado durante 1hr para ir com o cliente avaliar o carro?

Copiar

5 respostas



Quanto considera que deveria ser cobrado um tipo de serviço como este?

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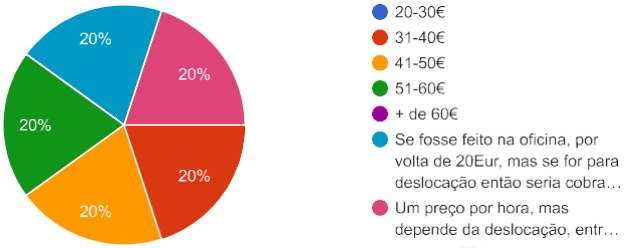
5 respostas



Fazem uma prévia programação dos trabalhos da semana? Se sim, quem é o responsável?

5 respostas

Sim já está programado sempre antes do início da semana. Quem trata neste caso é a funcionária da receção.

Sim, normalmente o gestor é quem apresenta os horarios e tarefas no inicio da semana.

Dos serviços que temos a fazer que ficaram da semana anterior mais algumas marcações antes do inicio da semana sim. Costuma ser o responsável pela oficina, neste caso o dono.

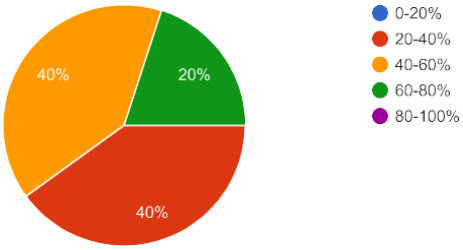
A pessoa responsável por aceitar os serviços na agenda, neste caso da receção, costuma organizar os trabalhos para cada semana.

Sim, precisamos sempre de ter mais ou menos a semana organizada previamente. Quem trata disto são os funcionários que lidam com o contacto ao cliente diretamente e marcam os serviços.

Está satisfeito com o seu atual fornecedor de software de gestão para a sua oficina? Por favor, indique-nos de 0-100% qual o seu grão de satisfação com o seu atual serviço.

Copiar

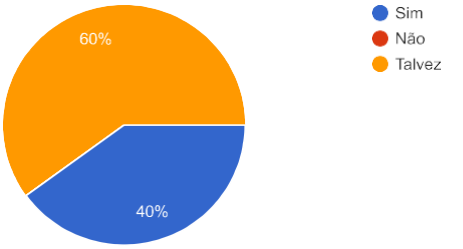
5 respostas



Estaria interessado numa solução de software abrangente que resolva vários dos inconvenientes descritos acima e que ainda adicione múltiplas funcionalidades e ferramentas para o seu dia-a-dia na oficina?

Copiar

5 respostas



Dado os planos de subscrição e os preços associados, qual seria mais do seu interesse?

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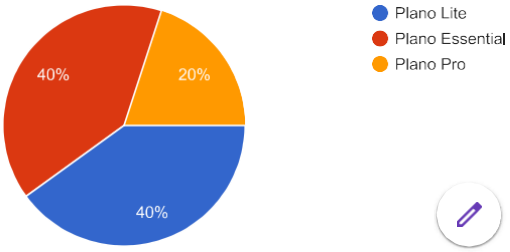
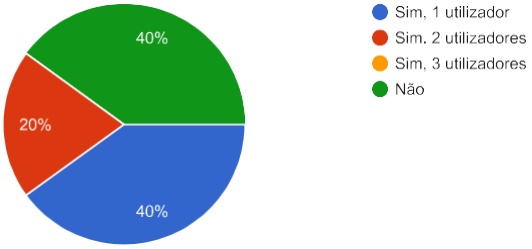
5 respostas



Cada utilizador (administrador) adicional teria um custo de 10€ por mês, teria necessidade de adicionar algum utilizador adicional?

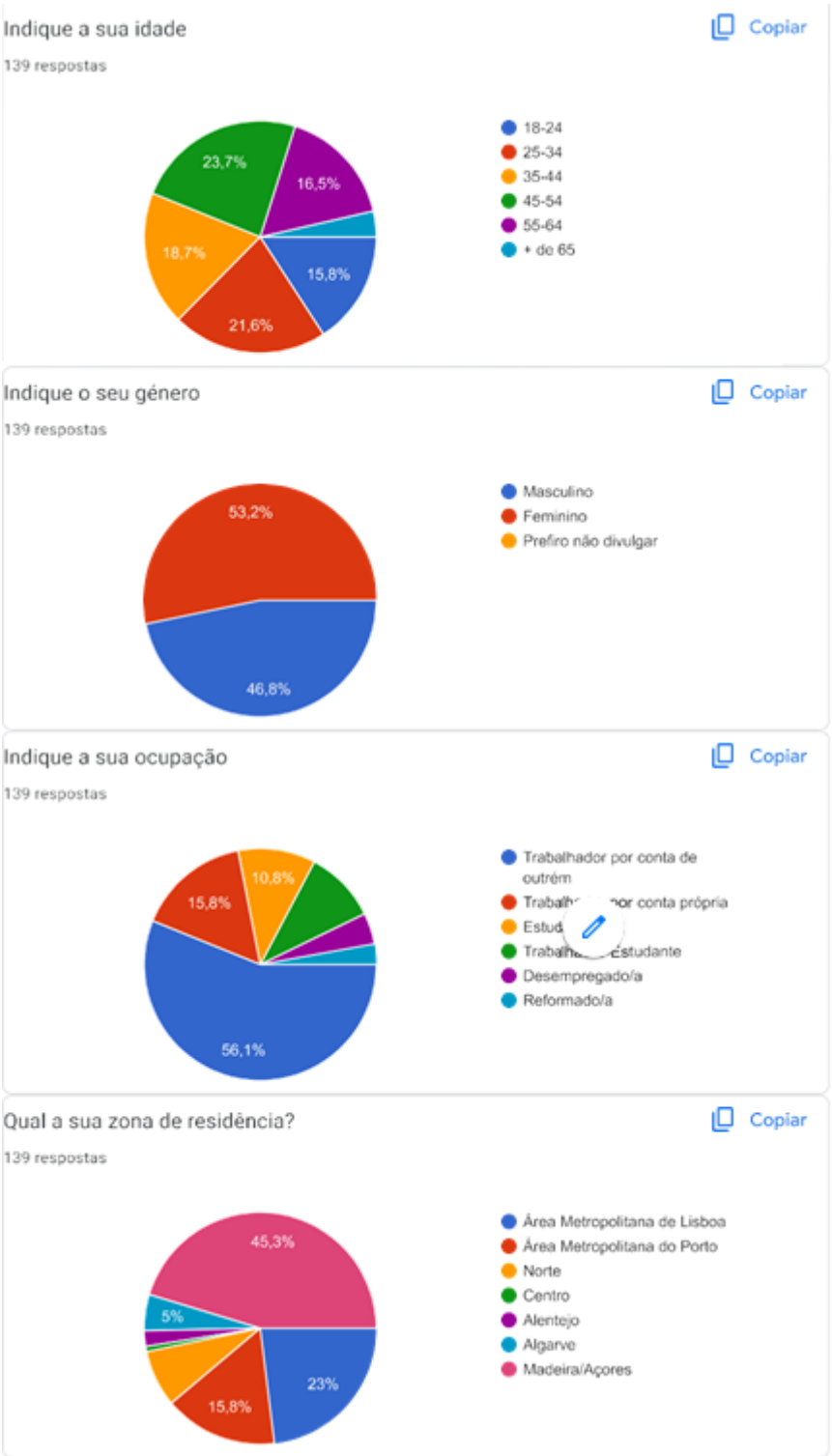
Copiar

5 respostas



Source: Author (using Google Forms)

Mobile App Survey



Tem carro próprio?

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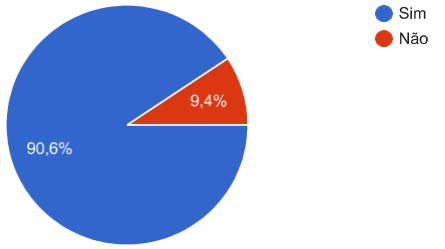
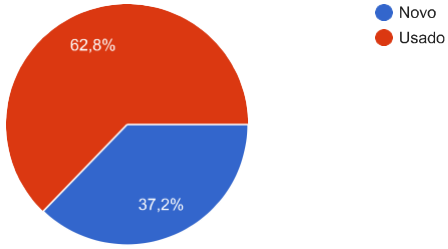
139 respostas



Quando comprou o seu carro, este era novo ou usado? (Responda apenas se possui carro próprio)

Copiar

129 respostas



Onde adquiriu o seu carro?

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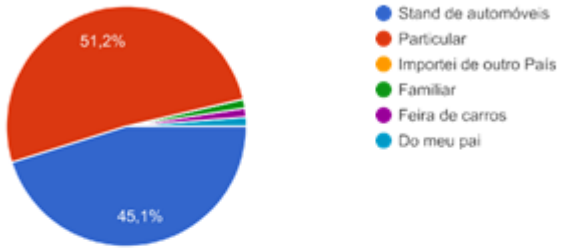
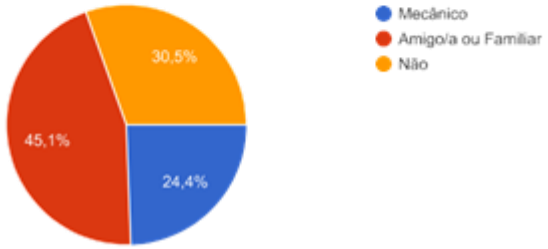
82 respostas



Teve a assistência de um mecânico ou outra pessoa no ato mpra?

Copiar

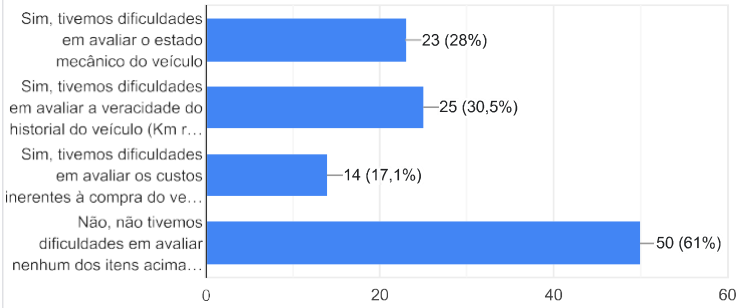
82 respostas



Você ou a pessoa que o acompanhou tiveram dificuldades em avaliar o estado geral do veículo, incluindo a sua mecânica, historial e custos relacionados à compra? Selecione mais do que uma opção, se for o caso.

Copiar

82 respostas



Você teve algum problema e/ou despesa imprevisto nos primeiros meses após a compra do veículo?

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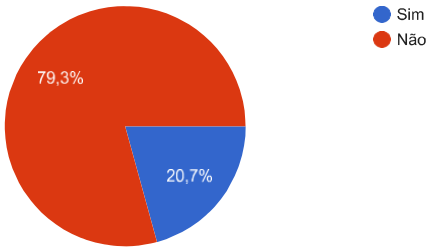
82 respostas



Autonomia

Nn

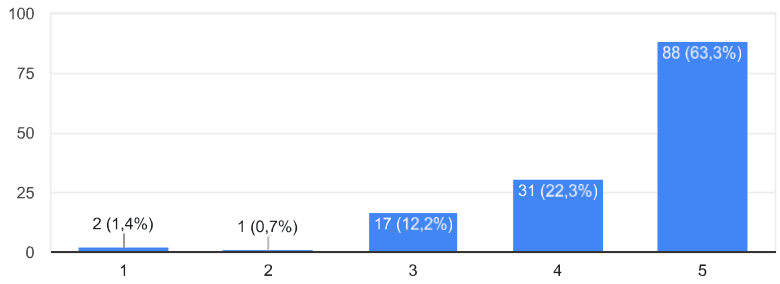
Que não consuma muita gasolina

Mais 25 respostas ocultas

Numa escala de 1 a 5, quanto concordaria que levar um mecânico consigo na compra de um carro usado pode ajudá-lo a ter mais **confiança** na compra?
Por favor, selecione de 1 a 5, sendo que 1 representa "nenhuma confiança" e 5 representa "mais confiança".

Copiar

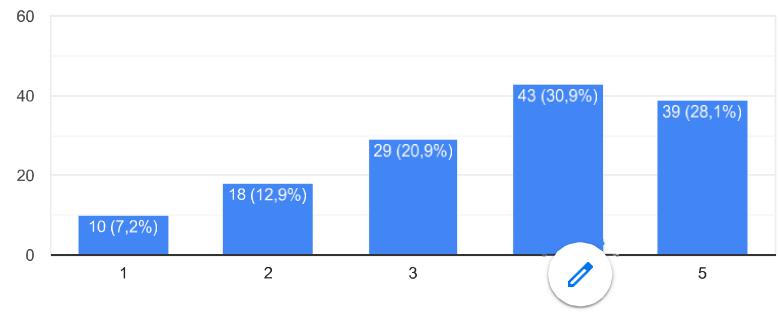
139 respostas



Numa escala de 1 a 5, quanta **confiança** teria em mandar um mecânico avaliar um carro sem você estar presente? Por favor, selecione de 1 a 5, sendo que 1 representa "nenhuma confiança" e 5 representa "mais confiança".

Copiar

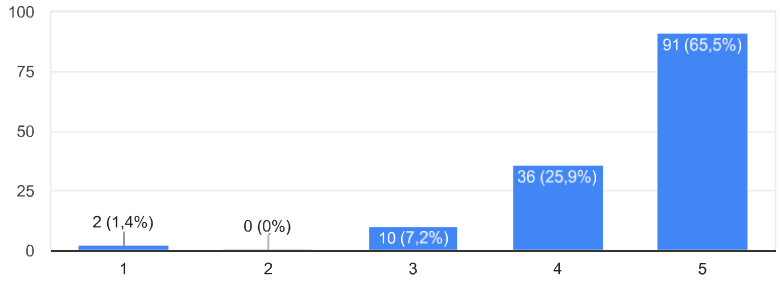
139 respostas



Quão importante é para si receber um orçamento das reparações necessárias antes de comprar um carro usado? Por favor, escolha um número de 1 a 5, onde 1 representa "pouco importante" e 5 representa "muito importante"

Copiar

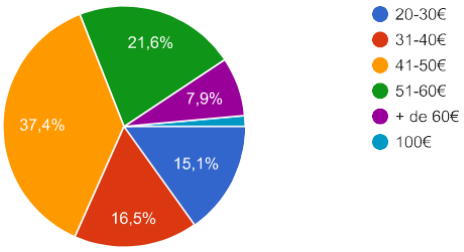
139 respostas



Quanto estaria disposto a pagar por um serviço de inspeção preventiva realizado por um mecânico em um carro que está a considerar comprar?

Copiar

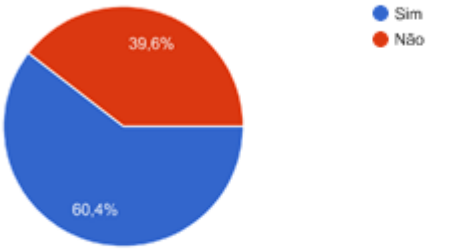
139 respostas



Você tem um mecânico de confiança?

Copiar

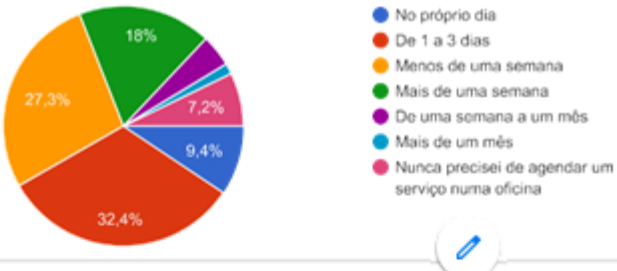
139 respostas



Quanto tempo costuma esperar para ter um agendamento na oficina quando a sua viatura precisa de fazer algum serviço?

Copiar

139 respostas



Costuma conseguir uma vaga para o dia e hora que lhe são mais convenientes?

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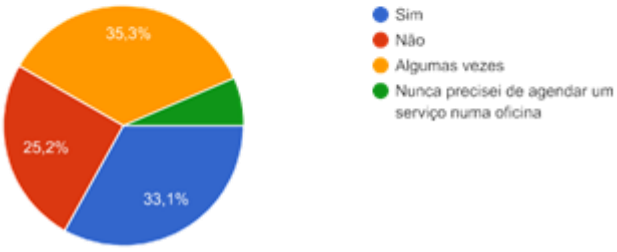
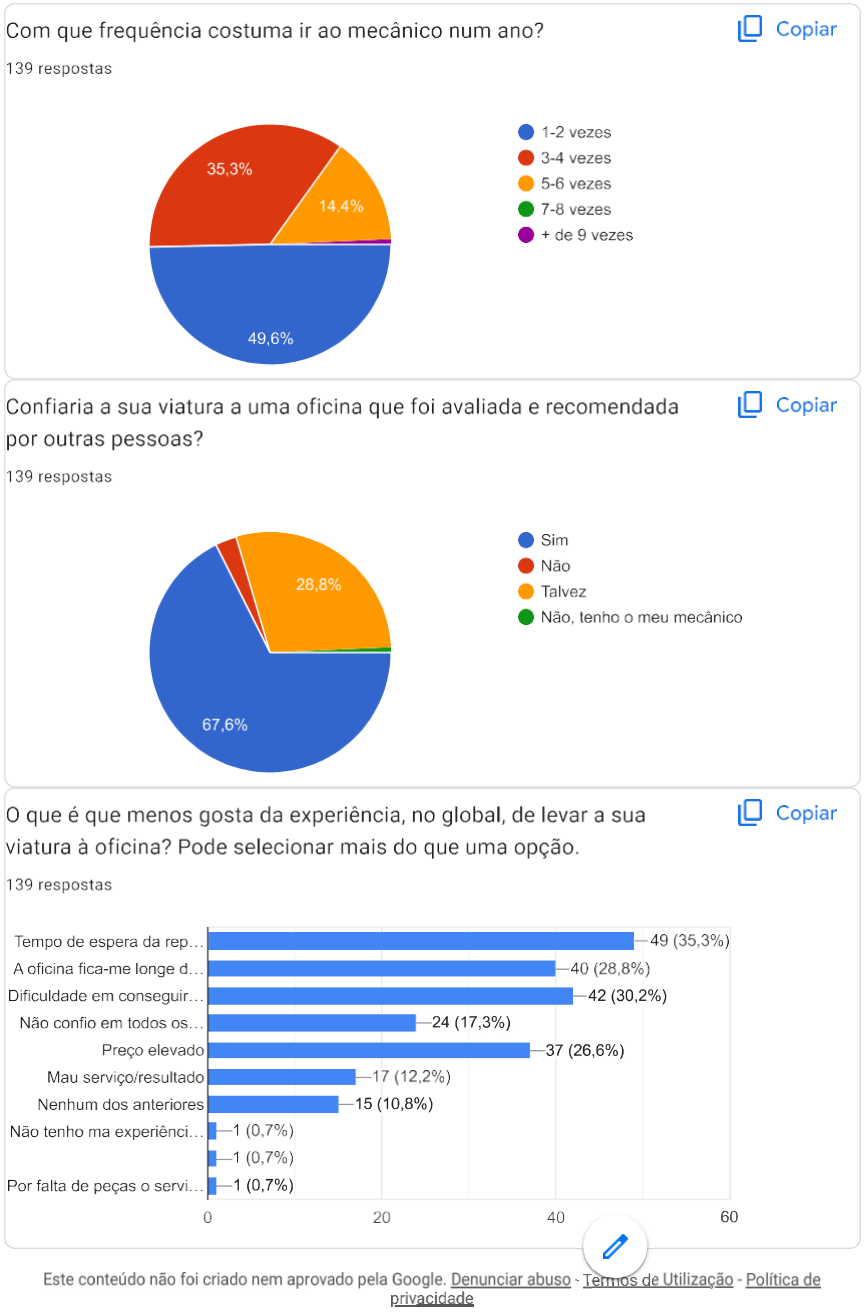
139 respostas

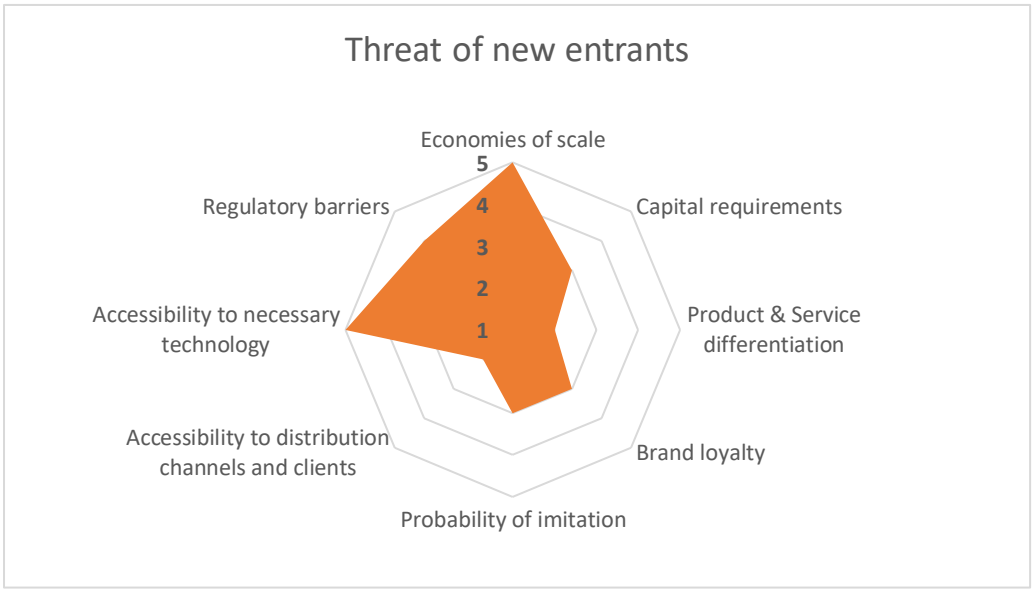




Source: Author (using Google Forms)

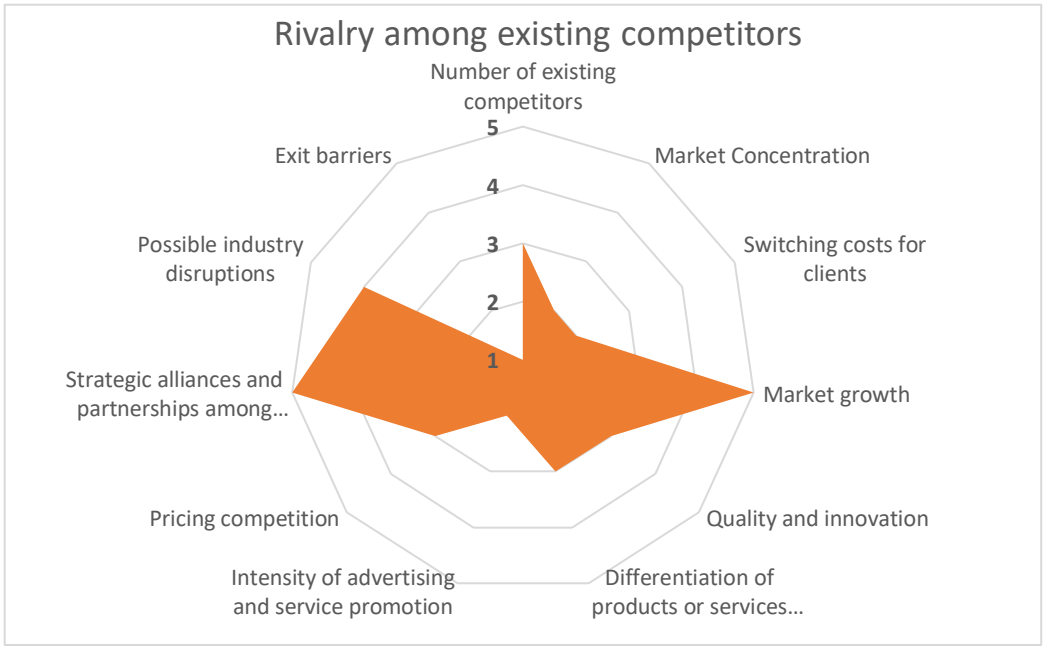
Annex B – Porter's Five Forces

Figure 4.3 - Porter's 5 forces – Threat of new entrants.



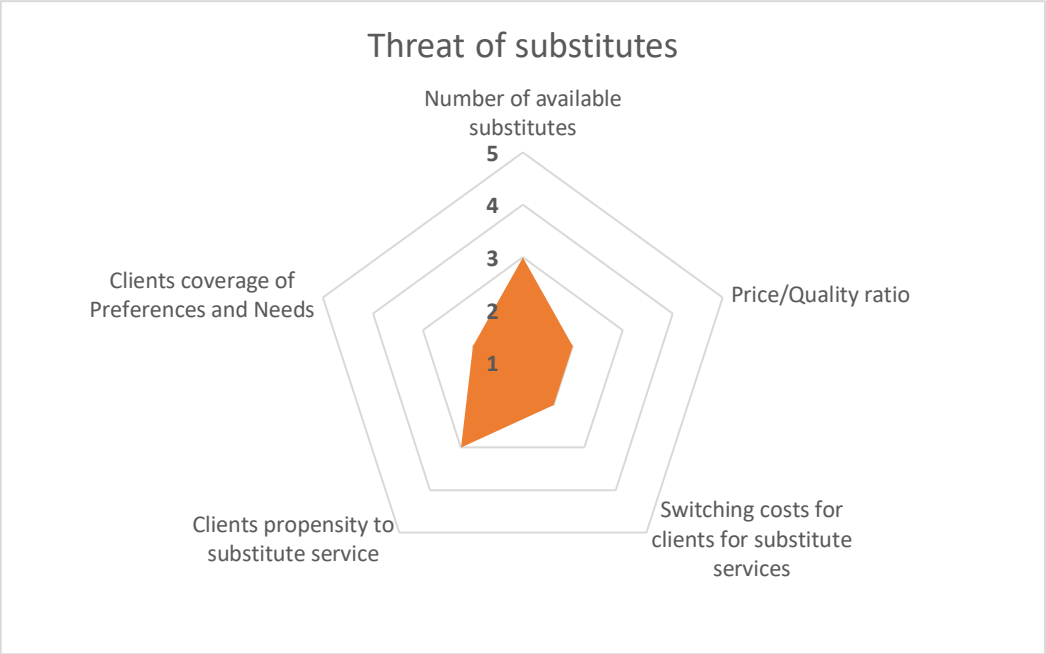
Source: Author

Figure 4.4 - Porter's 5 forces – Rivalry among existing competitors.



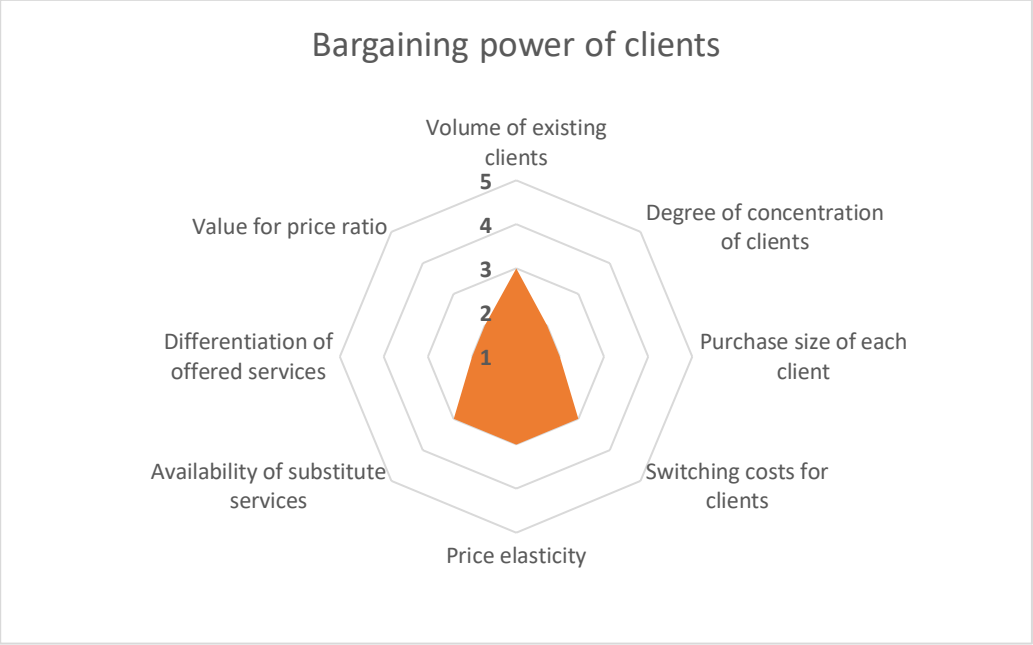
Source: Author

Figure 4.5 - Porter's 5 forces – Threat of substitutes.



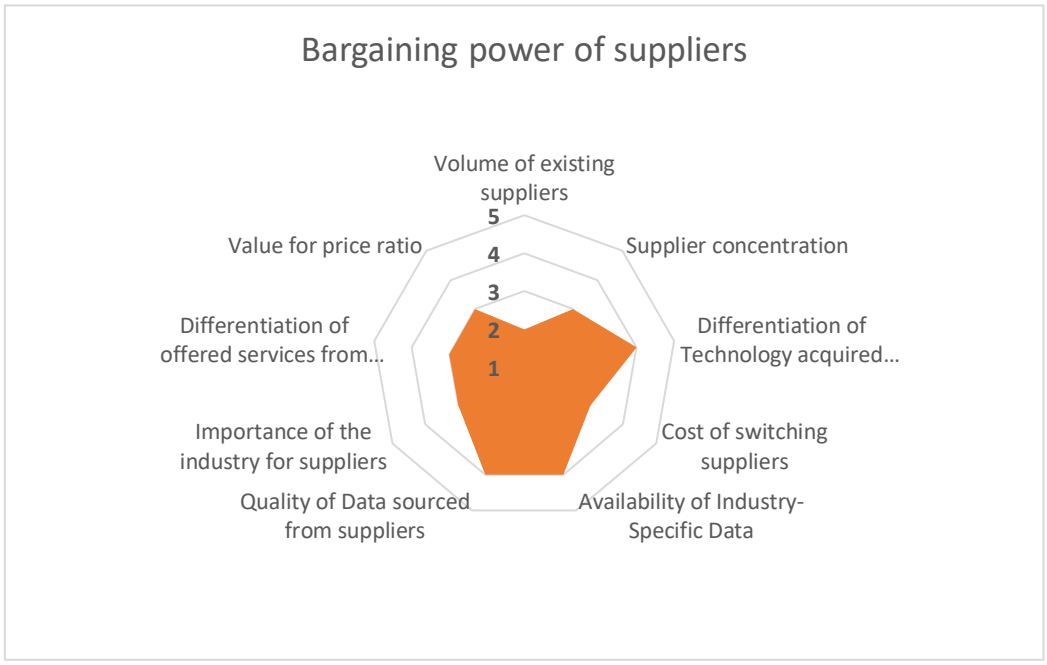
Source: Author

Figure 4.6 - Porter's 5 forces – Bargaining power of clients.



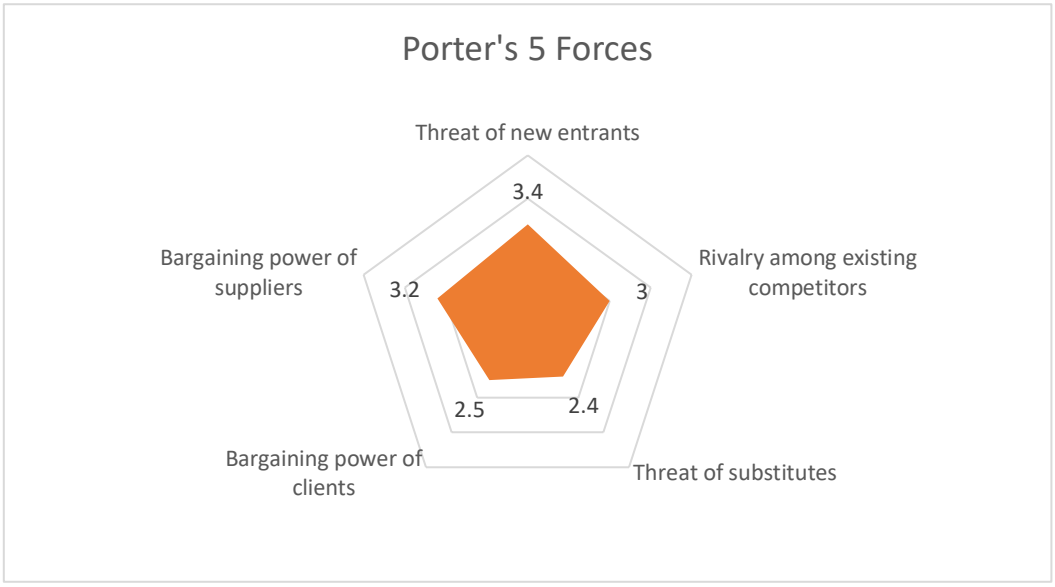
Source: Author

Figure 4.7 - Porter's 5 forces – Bargaining power of suppliers.



Source: Author

Figure 4.8 - Porter's 5 forces – Overall scores.



Source: Author

Annex C – Logo, Slogan and UI mockups

Figure 9.2 – Multi-Profiles Menu

Source: Author

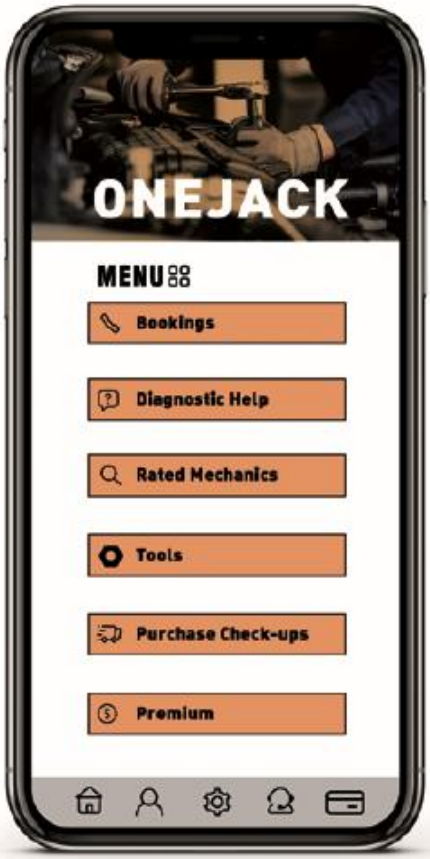


Figure 9.3 – Main Menu

Source: Author

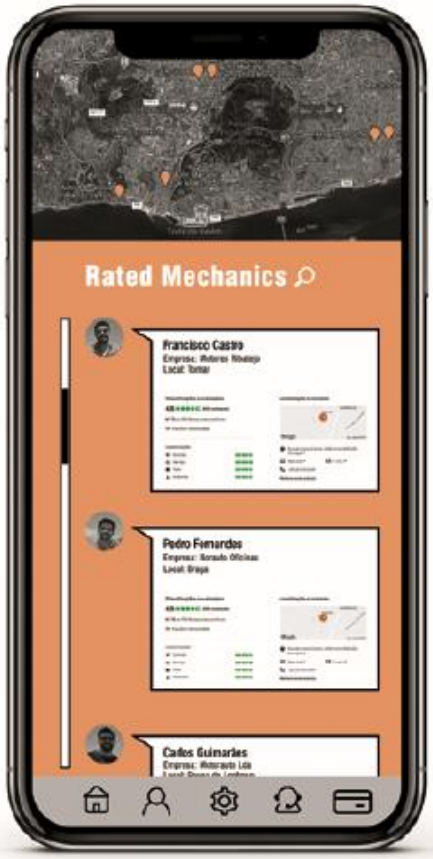


Figure 9.4 – Rated and Ranked Mechanics

Source: Author

Figure 9.5 – Repair Live Update

Source: Author

"Lifting auto service to new heights".

Figure 9.6 – Brand Logo and Slogan

Source: Author

Annex D – Products' features and subscription division

Table 9.1 – ERP Premium Features.

Premium Features	
Parts catalogs	The parts catalogs feature will include tires, OEM parts, and other special parts. It will allow managers to quickly access parts and easily purchase them after client's approval.
OEM repair access and demonstration	Access to OEM parts and repair demonstration by industry experts.
Advanced Customer Communication via SMS and Ema	Easily comunnication with customers via sms and email through the platform's database.
Integrated payment processing	Enables repair shops to accept payments directly through the software, streamlining the billing and payment process for customers.
Wireless Mobile Check-ups	In the Pro edition, mechanics will have a mobile version that integrates a feature to simply run an inspection to the vehicle in a matter of minutes. It gives them access to tools that exist on
	the platform that help them do the process more efficiently. Additionally, they can attach notes, pictures and the "buyer's form" to the file of such vehicle.
Training Program	The Pro edition will include a customized training program to teach managers and stuff how to take full advantage of the platform.
Priority Customer Support	Only the Pro subscribers will benefit from the priority customer support which will include an account manager.
Shop's Productivity Data	This is a key feature that will show overall productivity in the shop such as time spent in each service, which mechanic is being more productive and how many completed services they have,
	appointment delays analysis, parts usage rate for inventory analysis, customer's wait times, performance historical data for comparison analysis,
	and a link to the data shown on KPI's Reports to assess whether the goals are being achieved.
Customer Loyalty Program	This program offered to Pro members aiming customer retention will enable managers tools such as priority service, customer point-based system, automatic discounts to most loyal customers,
	priority customer support channel, and more.
Security Tools	A feature that implements two-factor authentication for added security and Role-based access control to restrict access to sensitive data.
Multi-Shop Management	Ability to manage multiple repair shop locations from a central dashboard, especially for mid to big franchises.
Resource Allocation Tools	A tool that implements algorithms that suggest optimal resource allocation, such as technician assignments and service bay usage, for increased efficiency.
Advanced CRM	This Pro member feature allows managers to get more in depth interaction and knowledge of their customers, showing them client's last visit date, lifetime dollars spent, number of invoices,
	credit status. Also alerts them of repair recommendations to send to clients to avoid a missed sales opportunity.
Accounting Service	Pro members will have access to the accounting tool to easily prepare their books and save time making this reports.

Source: Author

Table 9.2 – ERP Features included per plan.

ERP PRODUCT SUBSCRIPTION FEATURES			
Features	Lite	Essential	Pro
Productivity Tools	✓	✓	✓
Staff Management Dashboard	✓	✓	✓
Automatized Appointment Scheduling	✓	✓	✓
Customer Relationship Management (CRM)	✓	✓	✓
Diagnostic Tools	✓	✓	✓
KPI Reports	✓	✓	✓
Job Estimates	✓	✓	✓
Work-in-progress view	✓	✓	✓
Plate and VIN decoder	✓	✓	✓
Buyer's Form	✓	✓	✓
Integrated estimates with repair orders	✓	✓	✓
Invoice Generation	✓	✓	✓
Standard Customer Support	✓	✓	
Inventory Management		✓	✓
Mobile Integration		✓	✓
Parts catalogs		✓	✓
OEM repair access and demonstration		✓	✓
Advanced Customer Communication via SMS and Email		✓	✓
Integrated payment processing		✓	✓
Shop's Productivity Data		✓	✓
Security Tools		✓	✓
Resource Allocation Tools		✓	✓
Wireless Mobile Check-ups			✓
Training Program			✓
Priority Customer Support			✓
Customer Loyalty Program			✓
Multi-Shop Management			✓
Advanced CRM			✓
Accounting Service			✓

Source: Author

Table 9.3 – Mobile App Premium Features.

Premium Features	
Ad-Free	An ad-free experience that let's the user navigate through the app without interruptions.
Priority Bookings	Premium members will get access to faster availability when booking a service in comparison with non-paid users.
Buyer's Form	Only paid members will get free access to the Buyer's Form that will facilitate them making a decision when buying an used car.
Membership Discounts	Members will be eligible for exclusive discounts on repair services, parts, and accessories offered by partnered repair shops.
Extended Service History	Access more extensive history such as past services, repairs, parts substitutions, maintenance records, and also past invoices for convenience and transparency.
Free Cancellations	While non-paid members will have to cancel an appointment in advance or pay a small cancellation fee, premium members will be able to cancel at any time with no additional cost.
Flexible Rescheduling	Just as for free cancellations, members have more flexibility to reschedule any service that they have booked.
Vehicle Maintenance Guide and Expert Advice	This feature allows members to access virtual guides to vehicle maintenance, including personalized recommendations for the selected car, and industry experts advice.
Emergency Assistance	Whenever a member has a roadside emergency, they can access the app and ask for quick emergency roadside assistance services, such as towing or simple roadside repairs.
Virtual Consultations	This innovative feature enables members to schedule virtual consultations with mechanics for quick advice or diagnosis help.
Priority Support	Premium members have priority customer support whenever they have any questions or problems with the app.
Detailed Analytics	Members will be provided with detailed analytics on their vehicle's performance, fuel efficiency, maintenance history, industry comparative benchmarking, predictive maintenance alerts, and customizable reports.
Customizable Alerts	This feature allows clients to set up customized alerts and notifications based on their vehicle's maintenance needs and appointments.

Source: Author

Table 9.4 – Mobile App Features included per plan.

MOBILE APP SUBSCRIPTION FEATURES		
Features	Free	Premium
Diagnostic Help	✓	✓
Bookings	✓	✓
Purchase Check-ups	✓	✓
Rated and Ranked mechanics	✓	✓
Time Estimation Tools	✓	✓
Category Specialists	✓	✓
Live Update	✓	✓
Multi-Profiles	✓	✓
Loyalty Rewards	✓	✓
Integrated Communication and Payments	✓	✓
Reviews	✓	✓
Ad-Free		✓
Priority Bookings		✓
Buyer's Form		✓
Membership Discounts		✓
Extended Service History		✓
Free Cancellations		✓
Flexible Rescheduling		✓
Vehicle Maintenance Guide and Expert Advice		✓
Emergency Assistance		✓
Virtual Consultations		✓
Priority Support		✓
Detailed Analytics		✓
Customizable Alerts		✓

Source: Author

Annex E – Capital and organizational structures

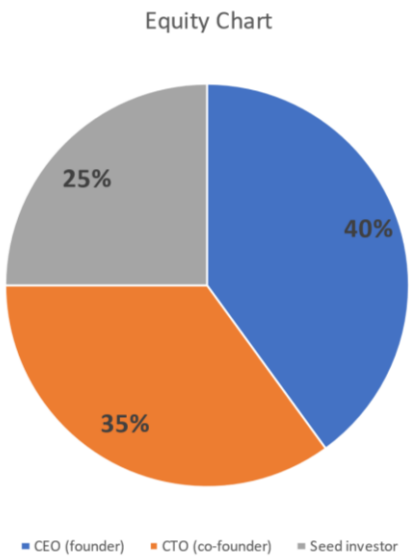


Figure 9.8 – Capital Structure

Source: Author

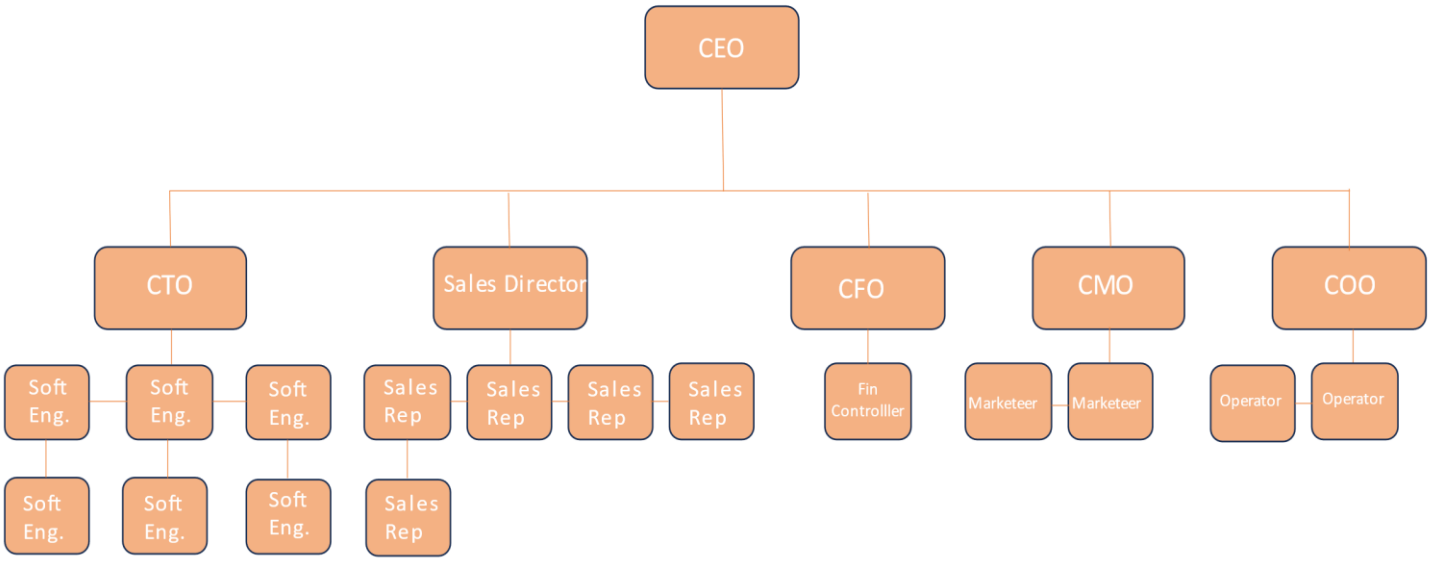


Figure 9.9 – Organizational Structure 5th Year

Source: Author

Table 10.2 – Capital Structure

CAPITAL STRUCTURE		
Shareholder's Equity	**Stake (%)**	**Value (€)**
CEO (Founder)	40%	30 000,0 €
CTO (Co-Founder)	35%	30 000,0 €
1st Investor	25%	140 000,0 €
Total	**100%**	**200 000,0 €**

Source: Author

Annex F - Supplies and External Services

Figure 9.10 – 1st Office Proposal (Campo Pequeno, Lisbon).
Source: https://www.idealista.pt/imovel/32860482/

Figure 9.11 – 2nd Office Proposal (Marquês do Pombal, Lisbon).
Source: https://www.idealista.pt/imovel/32006899/

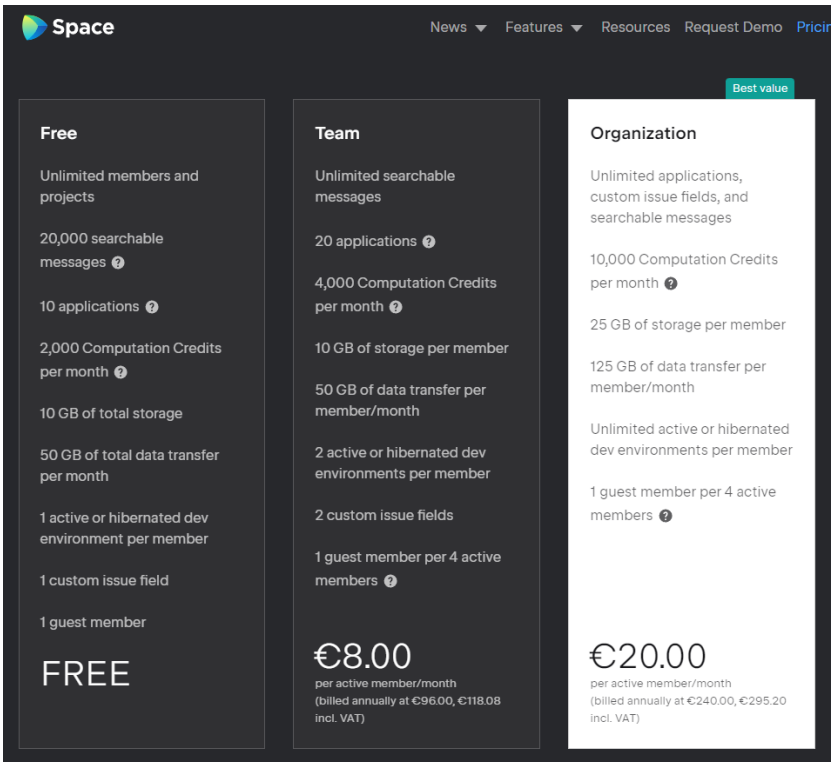


Figure 9.12 – JetBrains's Space subscription options.
Source: https://www.jetbrains.com/space/buy/?billing=yearly#cloud

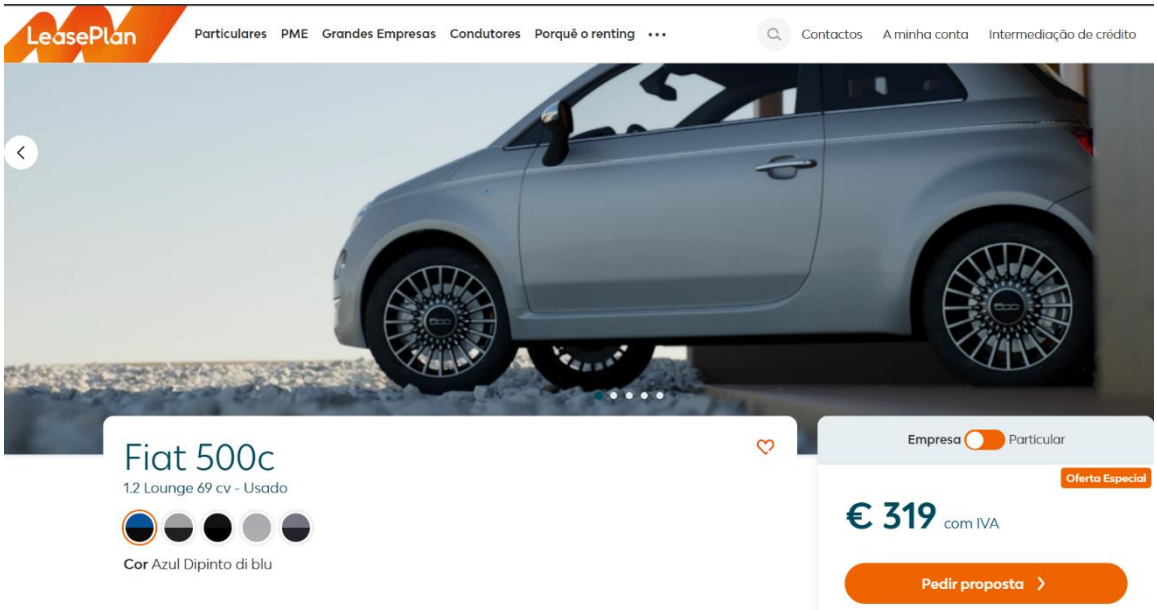


Figure 9.13 – LeasePlan Car Leasing Services.
Source: https://www.leaseplan.com/pt-pt/renting-empresas/nossos-carros/3012/fiat-500c/

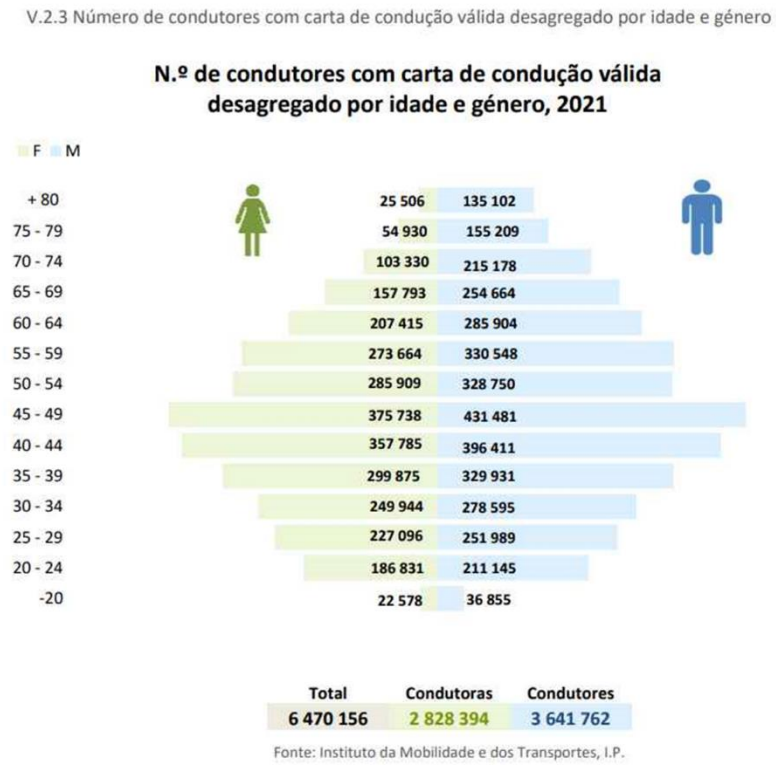
Annex G – Secondary Data

Figure 11.1 – Annual residents in Portugal as of 2022.

Idade	Sexo	População média anual Período de referência dos 2022 Local de residência Portugal PT N.º
18 anos	HM	106181
19 anos	HM	108279
20 anos	HM	108548,5
21 anos	HM	112745
22 anos	HM	115945,5
23 anos	HM	112869
24 anos	HM	110708,5
25 anos	HM	109765
26 anos	HM	108511,5
27 anos	HM	107538
28 anos	HM	109254,5
29 anos	HM	111771
30 anos	HM	113019,5
31 anos	HM	113722
32 anos	HM	113067,5
33 anos	HM	113476,5
34 anos	HM	114848
35 anos	HM	116201,5
36 anos	HM	119153,5
37 anos	HM	125343,5
38 anos	HM	131020,5
39 anos	HM	135549
40 anos	HM	139604,5
41 anos	HM	143569
42 anos	HM	146655,5
43 anos	HM	148616,5
44 anos	HM	156647,5
45 anos	HM	164215,5
46 anos	HM	165577,5
47 anos	HM	163947
48 anos	HM	160020,5
49 anos	HM	157995
50 anos	HM	157594,5
51 anos	HM	154581
52 anos	HM	150697,5
53 anos	HM	148742
54 anos	HM	148483,5
55 anos	HM	149362
56 anos	HM	150410
57 anos	HM	151294
58 anos	HM	149679
59 anos	HM	147326
60 anos	HM	147239
61 anos	HM	147412,5
62 anos	HM	144276,5
63 anos	HM	141369,5
64 anos	HM	140941,5
65 anos	HM	137870

Source: INE, 2023.

Figure 11.2 – Driver's license holders by age group in Portugal as of 2021.



Source: IMT

Table 11.1 – Driver's license holders percentage calculation by number of residents

Driver's License by Age Group	Nº of Licenses	Population by Age Group	% By Group
Z (18-24)	457 409,00	775 276,50	59%
Y (25-44)	2 391 626,00	2 477 334,50	96,5%
X (45-64)	2 519 409,00	3 041 164,00	82,8%
Total	5 368 444,00	6 293 775,00	

Source: Author

Table 11.2 – Total App addressable market calculation for Portugal

Generations	Resident Population	Internet Access	Active Driver's License Holders by Group	Total Target
Z (18-24)	775 276,50	100%	59%	457 413
Y (25-44)	2 477 334,50	100%	96,5%	2 390 628
X (45-64)	3 041 164,00	84%	82,8%	2 115 190
Total	6 293 775,00			**4 963 231**

Source: Author

Table 11.3 – Total App addressable market calculation for Spain

Generations	Resident Population (ES)	Internet Access	Active Driver's License Holders by Group	Total Target
Z (18-24)	3 391 281,00	100%	59%	2 000 856
Y (25-44)	12 226 297,00	100%	96,5%	11 798 377
X (45-64)	14 318 429,00	84%	82,8%	9 958 754
Total	29 936 007,00			**23 757 986**

Source: Author

Figure 11.3 - Annual residents in Spain as of 2022. (Source: ine.es)

	Ambos sexos
	2022
18 años	
TOTAL	493 009
19 años	
TOTAL	482 239
20 años	
TOTAL	483 885
21 años	
TOTAL	490 508
22 años	
TOTAL	483 021
23 años	
TOTAL	473 666
24 años	
TOTAL	484 953
25 años	
TOTAL	483 979
26 años	
TOTAL	490 393
27 años	
TOTAL	499 914
28 años	
TOTAL	517 853
29 años	
TOTAL	533 500
30 años	
TOTAL	532 544
31 años	
TOTAL	540 928
32 años	
TOTAL	550 132
33 años	
TOTAL	560 584
34 años	
TOTAL	567 747
35 años	
TOTAL	581 924
36 años	
TOTAL	600 997
37 años	
TOTAL	624 032
38 años	
TOTAL	644 647
39 años	
TOTAL	680 728
40 años	
TOTAL	709 300
41 años	
TOTAL	743 236
42 años	
TOTAL	763 132
43 años	
TOTAL	795 562
44 años	
TOTAL	805 165
45 años	
TOTAL	818 364
46 años	
TOTAL	811 348
47 años	
TOTAL	804 803
48 años	
TOTAL	783 547
49 años	
TOTAL	779 120
50 años	
TOTAL	765 401
51 años	
TOTAL	754 102
52 años	
TOTAL	744 082
53 años	
TOTAL	736 647
54 años	
TOTAL	739 447
55 años	
TOTAL	719 882
56 años	
TOTAL	712 631
57 años	
TOTAL	720 045
58 años	
TOTAL	682 761
59 años	
TOTAL	657 716
60 años	
TOTAL	640 429
61 años	
TOTAL	639 928
62 años	
TOTAL	619 817
63 años	
TOTAL	602 800
64 años	
TOTAL	585 559

Annex H - Auxiliary calculations

Table 11.4 – Ad revenue calculations

Source: Author

Ad Revenue	PT & ES
Ad Imp per user per month	150
CPM	1000
eCPM rate	0,50 €
Yearly (12 months)	12

Table 11.5 – Purchase Check-ups calculations

Source: Author

Purchase Check-ups	PT & ES
Estimated Demand (of MAUs))	5%
Estimated Avg per Fee	4,50 €
Yearly (12 months)	12

Table 11.6 – Buyer's form calculations

Source: Author

Buyer's Form	PT & ES
Percentage of Free Members	90%
Estimated Demand for PC (of MAUs)	5%
Estimated Demand for BF (of MAUs free members)	65%
Fee Price	5,00 €
Yearly (12 months)	12

Table 11.13 – Working capital assumptions.

Source: Author; Google; Apple; Amazon AWS.

Working Capital	Payment Period (days)
Average nº of days per year	360
Receivables	
Google Payouts	15
Apple Payouts	30
Payables	
Marketing Suppliers	30
AWS Service	10
Supplies and External Services	30

Table 11.14 – Receivables from Operating Systems

Source: Author

Receivables from OS	Year 1	Year 2	Year 3	Year 4	Year 5
Receivables from Google	52 228,95 €	156 686,85 €	411 150,42 €	804 232,71 €	1 272 317,83 €
Receivables from Apple	23 302,26 €	69 906,79 €	183 437,26 €	358 813,32 €	567 652,34 €
Total (no VAT)	75 531,21 €	226 593,64 €	594 587,68 €	1 163 046,03 €	1 839 970,17 €

Table 11.15 – Payables to suppliers

Source: Author

Payables	Year 1	Year 2	Year 3	Year 4	Year 5
Marketing Suppliers	14 203,91 €	37 742,23 €	114 314,43 €	214 925,26 €	328 042,11 €
AWS Service	13 180,36 €	46 131,25 €	138 342,41 €	304 430,99 €	535 131,16 €
Supplies and External Services	6 248,00 €	15 473,68 €	22 022,81 €	26 359,20 €	30 754,10 €

Table 11.17 – Investment in Capex

Source: Author

Investment in Capex	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Total	6 856,72 €	4 354,88 €	11 211,60 €	10 887,20 €	9 246,31 €	12 885,79 €

Annex I – Valuation Calculations

Table 12.3 – Profitability index

Source: Author

Profitability Index	
Initial Investment	200 000,00 €
NPV	4 409 029,38 €
Profitability Index	23,0

Table 12.4 – Discounted payback period

Source: Author

Discounted Payback	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Discounted CF	- 259 490,72 €	60 842,47 €	193 667,43 €	769 105,77 €	1 422 489,39 €	2 035 743,86 €
Cum DCF	- 259 490,72 €	- 198 648,25 €	- 4 980,81 €	764 124,95 €	2 186 614,35 €	4 222 358,21 €
Payback Period	2,01					
Payback Period days	732					
Total	2 years and 2 days					