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Pingo Doce Zero Waste Shop

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Master in Management

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BUSINESS
SCHOOL

Finances Department

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Dedicated to my family and friends for always being by my side through thick and thin. To my child for giving me a new reason to achieve all my dreams.

Acknowledgement

I want to thank my parents for giving me the opportunity to enroll in this MSc programme and to achieve a dream of mine.

My family for always supporting me in every challenge I set up to conquer.

My girlfriend and her son for enduring all my bad and stressful days and always comforting me in the way only she knows how.

My child for giving me the strength to overcome any hurdles and motivate me to show him that if you set yourself a goal you need to go all the way, even if it does not happen in the expected timing.

To my best friend for always forcing me to achieve this goal of mine, never letting me give up. You know who you are.

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To all the respondents of the survey for helping me gather information for the development of this project. Also, for showing me there is a place for this idea in the real world.

To all, a huge thank you!

Resumo

A ideia apresentada neste plano de negócios pretende suprimir uma lacuna no mercado de distribuição alimentar. Após uma análise de mercado preliminar, descobriu-se que não existe uma opção onde o conceito *Zero Waste* seja oferecido num formato de supermercado, em Portugal.

Zero Waste é um conceito em crescimento, um estilo de vida, que se está a tornar cada vez mais popular. Diversas lojas por todo o mundo têm-se desenvolvido com o principal objetivo de diminuir o desperdício alimentar e de plásticos no processo de compra de bens essenciais. No entanto, em Portugal, não existem grandes marcas que o apliquem como principal foco.

O projeto consiste no desenvolvimento de uma loja-piloto com a marca Pingo Doce, tornando-se, assim, na primeira grande marca com um supermercado a aplicar o conceito. Para cumprir esta tarefa, foi desenvolvido um modelo de negócio, bem como a sua estratégia de implementação. Foi, também, elaborado um plano financeiro onde foram avaliados três cenários com o objetivo de comparar possíveis níveis de sucesso.

No final, o projeto desenvolvido comprovou a sua viabilidade económica, indicando que se trataria de um projeto digno de investimento.

KEYWORDS: Plano de Negócios; *Zero Waste*; Loja *Zero Waste*; Setor de Retalho Alimentar

Abstract

The idea presented in this business plan intends to address a gap in the food and distribution market. After a preliminary market analysis, it was discovered that there is no zero waste option offered in Portugal as a supermarket concept.

Zero Waste is a growing concept, a lifestyle even, that is becoming increasingly popular. Several stores have been opening around the world with the main purpose of decreasing food and plastic waste in the groceries buying process. However, in Portugal, there are no big store brands applying it as its focus point.

The project consists in the development of a pilot store utilising Pingo Doce's brand, becoming the first big store brand offering a complete zero waste supermarket. To complete this task, a business model was developed as well as its implementation strategy. A financial plan was also created, where three scenarios were evaluated with the objective of comparing possible levels of success.

In the end, the project developed proved its economic viability, indicating that it would be a project worthy of investment.

KEYWORDS: Business Plan; Zero Waste; Zero Waste Shop; Food Retail Sector

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CHAPTER 1

Introduction

The consumption of plastic and the waste generated by companies seems to produce tremendous effects on all types of life on planet Earth. Traditionally, businesses and the economy sector only worry about the present and its short-term perspective. When managing a company this way, the most important aspect becomes the creation of economic value by reducing costs and increasing profits.

However, nowadays, people and managers are forced to look into the impacts that their consumption and production have on our planet. Scientific studies show that if we continue consuming this way and if companies only focus on short-term goals, future generations will suffer horrendous effects. The amount of plastic in oceans keeps increasing at an alarming rate and sea life continues to be in danger. The gases produced by big factories will continue to pollute the air we breathe. Having this in mind, companies have been shifting their focus to a more long-term sustainable perspective where the effects on people and the environment are of utmost importance.

Environmental sustainability has become a source of competitive advantage between companies. In a market where consumers increasingly look for more sustainable and eco-friendly options, the development of such ideas provides the opportunity to tackle untapped market positions.

Thus, this innovative business plan proposes to create a new business segment focused on the Zero Waste concept. The concept will be applied on a pilot store aiming to differentiate the mother company - Pingo Doce - from its competitors, while maintaining its culture and its focus on environmental problematics.

Recently the group has shown its commitment to the cause by eliminating the use of all micro plastics from its brand products. This way, the idea developed will directly align with the path that the group is following.

The main objectives for the proposed project are to be profitable and grow nationally (short-term perspective), and to be implemented in the international business areas where the group is inserted in (long-term perspective).

In order to achieve this, the document has been divided into four chapters. Chapter One is this Introduction.

In Chapter Two, four sections, mainly focused on analysis, can be found. Literature Review is where an analysis of several scientific articles will be conducted considering the keywords chosen for the project, with the aim to further explain their importance for the project. Afterwards, a PESTEL Analysis was elaborated with the purpose of evaluating if the state in which Portugal's environment was at would be propitious for the project implementation. Following, a Market Analysis was conducted. In this section, three subsections were developed. Firstly, a survey was elaborated to evaluate the demand for the idea at hand. Secondly, Porter's Five Forces framework was selected to study the market position of the brand where the idea will be implemented. Thirdly, a direct and indirect competitors' analysis was created to show the market in which the idea would enter. Finally, an overall analysis of the aspects evaluated in the former three sections was created to expose threats and opportunities of the market.

Chapter Three is composed of three sections responsible for the elaboration of the project's business plan. These sections are the Development Strategy, Implementation Strategy and Financial Plan. In the Development Strategy, Osterwalder's Business Model Canvas framework was used for the conceptualization of the project's business model. The nine building blocks that compose the used framework provide a better understanding of essential components of every business as well as it creates an appealing visual representation of all its components. Given the project's area of activity, the three main points evaluated in the Implementation Strategy where the location where the pilot store should be implemented, the composition of its human resources team and how could the store be supplied logistically. A set of assumptions was raised in order to develop a Financial Plan as well as different scenarios for comparison purposes. The scenarios created were developed from a pessimistic approach to a more optimistic one. Finally, the project's economic viability was evaluated considering three financial formulas used for that purpose.

Chapter Four consists in the Conclusion of the project. It is here that the final remarks of the work are done as well as where future steps are exposed.

CHAPTER 2

Background

2.1. Literature Review

The business idea developed in this document aims to implement a new concept to supermarkets that is able to meet both consumers' needs and environmental concerns. The goal is to reduce the use of plastic in these establishments as well as the waste created by the consumption of the products sold.

Thus, it is of utmost importance to cover, in this section, the main topics that originated and supported the conceptualization of the given business idea. Three main topics will be covered: waste management, cyclical resource flow and zero waste management.

2.1.1. Waste Management

Waste management is the practice that reinforces the need for companies and individuals to review their consumption patterns and the disposal waste they generate. It serves the purpose of implementing a sustainable consumption. By sustainable consumption one may comprehend the need to consume not less but rather more efficiently to improve the quality of life while also decreasing waste generation and environmental damage (Jackson, 2005; UNEP, 1999 in Zaman, 2014).

Due to a fast growing population, consumerism behaviors and the linear approach to industrial chains, waste has become a major and severe issue. The implementation of waste management strategies has turned into a necessity for countries all over the globe (Stoeva and Alriksson, 2017; D'Amato et al., 2016; Feo et al., 2019 in Minelgaitè and Liobikienè, 2019).

The development of specific waste management strategies plays a crucial role in the greening of the household waste sector by minimising its waste and implementing a circular economy where waste is reduced, reused and recycled (Zorpas, 2019; Minelgaitè and Liobikienè, 2019).

2.1.2. Cyclical Resource Flow

Supply chains tend to use a linear approach to resource use and its waste disposal. Cyclical resource flow rejects the current linear strategy, defending the implementation of a circular economy. It creates a closed-loop system where resources and the waste they generate are used and transformed into new and reusable products (Curran and Williams, 2011).

Traditionally, waste was considered the norm. The approach presented suggests the contrary. Waste must enter an integrated system in which everything has its use. This way, waste will become the exception to the rule (Curran and Williams, 2011).

An industrial change is advocated, where companies minimise the impact they impose on natural resources and thereby preserve what Earth produces. Moving from a linear resource flow into a cyclical resource flow may impose integral changes onto supply chains. However, by incorporating reverse logistics to optimize the flows of inputs and outputs, companies will be able to improve their efficiency and economic performance, while improving the sustainability of the whole network (Curran and Williams, 2011).

The linear flow approach defends the implementation of five steps in the supply chain. The design of the product is the first one, then the gathering of raw materials is made, followed by the manufacturing. After the manufacture process, the product leaves the warehouse to be consumed by the buyer. This step is called the consumption process. Finally, the waste generated by the product, both by the company as well as the consumer, ends at a landfill disposal.

Between the manufacture process and landfill disposal, the cyclical flow suggests the introduction of a new cycle for the waste generated. After the consumption process is made, a source separation takes place. The collection, sorting and processing of the waste separated are the next steps before the final one, marketing. This final step is done for the company (reusing the waste created by the first product) to be able to find a new manufacturer willing to use it as a raw material for a new output. This process closes the loop and gives supply chains a source of competitive advantage by improving the productivity of its raw materials, as well as a long-term environmental perspective. It can also solve the problem of considering waste as an end-of-life product, by giving it a new meaning (Zaman, 2013).

2.1.3. Zero Waste Management

Zero waste management presents itself as a management concept that recognises waste as both a resource and a symbol of inefficiency of our modern society (Zaman, 2013).

The concept has emerged as an innovative approach that considers the entire life of the product, from the extraction of the raw material until its final disposal. It recognises the waste produced at the intermediated phase of consumption in the linear resource flow as a resource. Thus, the zero waste management introduces the cyclical resource flow as an alternative for the waste disposal practiced in the linear industrial approach (Zaman, 2014).

Policy makers and authorities have been accepting and developing the concept as an alternative to stimulate sustainable production and sustainable consumption and to reach the closest optimum point of recycling and resource recovery (Zaman 2014).

Zaman (2013) said that zero waste challenges the traditional definition of waste by putting forward a new concept, recognising that waste is a transformation of resources which happens at the intermediate phase of the resource consumption process. The waste created due to our consumption activities should, thus, be redirected into the production process through the holistic zero waste management systems.

The Zero Waste International Alliance defined the concept as: "... a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use. Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them" (ZWIA, 2009 in Zaman, 2014).

With the aim to implement a zero waste management strategy in food supply chains, several stores are changing to zero-packaging grocery stores. Waste prevention has been defined as the primary practice to change to a zero waste environment. Thus, food stores all over the globe are renouncing disposable plastics packaging. By using their own containers and controlling portion sizes, consumers have a direct effect on the waste generated in their consumption process and, as a positive consequence, on the environment (Beitzen-Heineke et al., 2016).

2.2. PESTEL Analysis

Performing an external analysis becomes necessary when looking into introducing a new business idea in any market. The PESTEL allows a company to understand the environment in which it operates. It also provides information that enables it to predict situations that might happen in the future (Yüksel, 2012).

The aim is to understand the effect of those conditions in the implementation and development of the idea.

2.2.1. Political Context

January 2021 marked the beginning of Portugal’s chairmanship in the European Union council. The former prime minister of Portugal, António Costa, stated that the country’s presidency will be ruled by a fair, green and digital rehabilitation.

It has been common to see an inclusion of more and more sustainable policies in our leaders’ campaigns. Several of the recent campaigns for the 2022 elections included sustainable programmes for the Portuguese economy.

Furthermore, one of the sustainable development goals that Portugal aims to strengthen is SDG12 - Ensure sustainable consumption and production patterns. The rest of the goals can be found in the National report on the implementation of the 2030 Agenda for Sustainable Development (2017).

Portugal has also agreed on several European Union policies towards the environment, such as the Kyoto Protocol and the Paris Agreement, reinforcing its position on the sustainability of the environment.

Thus, in terms of political factors that might influence the implementation of the idea proposed, it is fair to state that these factors may impose opportunities rather than difficulties.

2.2.2. Economic Context

Portugal’s Gross Domestic Product (GDP) and Portuguese per capita GDP, according to PORDATA, have shown an increasing behaviour for the last two decades. As would be expected, Covid-19 pandemic had a negative effect on the global economy.

According to Banco de Portugal (Table 1), due to the effects of the pandemic, Portuguese GDP suffered a contraction of 8.4% in 2020, followed by a increase of 4.1% and 5.8% for 2021 and 2022, respectively.

Table 1 - GDP Values & Projections (%)

		2020	2021	2022	2023	2024
GDP	Portugal	-8.4%	4.8%	5.8%	3.1%	2,0%
	European Zone	-6.5%	5.1%	4.2%	2.9%	1.6%

Both private consumption and unemployment rates will suffer in the coming years due to the contraction derived by the pandemic. Banco de Portugal evaluated these two indicators at a decrease

of 7,1% for private consumption and an increase of 7% for unemployment rates in 2020. A recovery is expected to happen in future years, as seen in Tables 2 and 3.

Table 2 - Private Consumption Values & Projections (%)

		2020	2021	2022	2023	2024
Private Consumption	Portugal	-7.1%	5,0%	4.8%	2.2%	1.8%
	European Zone	-8.0%	3.3%	5.9%	2.8%	1,0%

Table 3 - Unemployment Rate Values & Projections (%)

		2020	2021	2022	2023	2024
Unemployment Rate	Portugal	7,0%	6.6%	6,0%	5.7%	5.6%
	European Zone	7.9%	7.7.%	7.3%	6.9%	6.6%

Employment rates are projected to increase from a low point of -1.9% in 2020 to an increase of 2.5% and 1.6% in 2022 and 2023, respectively (Table 4).

Table 4 - Employment Rate Values & Projections (%)

		2020	2021	2022	2023	2024
Employment Rate	Portugal	-1.9%	2.5%	1.6%	0.5%	0.3%
	European Zone	-1.5%	1.1%	1.3%	1,0%	0.6%

When evaluating the economic context, the Portuguese economy, as all others forming the European Zone, has been strongly affected by the pandemic. As can be expected, the economic conjuncture that is going to be a reality in future years will be difficult. However, the business idea presented is inserted in an essential sector for families and individuals. The sustainable transition will continue to occur and there is a possibility for the economy to continue to be supportive for such ideas. For these reasons, investing in innovative ideas in this sector is both important to the business that decides to do it as well as to the development of the country's overall economy.

2.2.3. Social Context

Consumers are moving towards a more sustainable approach to shopping. Green markets are likely going to face challenges but share immense opportunities to grow.

As can be seen in a study done by three students from Escola Superior de Tecnologia da Saúde de Lisboa, it is said that the majority of Portuguese people 'already show some awareness and

motivation to contribute to sustainability with alternative “Zero Waste” products’. Now, there is a need for more sustainable products in the marketplace (Correia, 2022).

Although difficulties will appear, the social context we live nowadays is a very positive one for the development of sustainable options, like the idea proposed in this work.

2.2.4. Technological Context

With the digitalisation that occurred due to the rapid changes and adaptations that the pandemic and its multiple lockdowns have made us endure, several adjustments will happen in coming years.

E-Commerce, an already fast-paced phenomenon in the market, has risen to a peak during this time. Industries that, in the past, did not see the point in having a strong presence in the digital world were forced to make a change to stay in business.

According to CTT e-Commerce Report 2020, only 39% of Portuguese companies have an online presence and less than 30% of all companies indulge in business online. This will have to change since the projection for 2025 is an increase of 68% of the number of e-buyers in Portugal from a value of 48% in 2019.

Last year was, without a doubt, the boom in e-Commerce in Portugal with 46% of small and medium-sized enterprises (SME) stating that they had sold more than 25% of their total sales volume online. This will obviously impose difficulties in logistics, but companies will have to adapt to the new reality to capture and maintain their market position.

For 2020, the Grocery and Food Products sector is expected to increase its online sales volume in about 15%, Fresh products by 25% and Beverages 15%. This shows that an industry like the Food Distribution Sector that, in the past, would do most of their business in physical stores, has been adapting itself and will have to further improve to respond to consumer demands.

This new and upcoming way of shopping will have its influence on the business idea proposed. The adaptation of the business model to an online environment will have to happen. Options that guarantee a similar zero waste approach both physically in stores as in online sales need to be developed in order to ensure the business success in the marketplace.

2.2.5. Environmental Context

Environmental concerns have become more important in recent years. Faced with this reality, companies need to investigate the influence that their activities have on the environment.

According to a study done by Bertelsmann Foundation, Portugal has ranked 5th out of the 29 OECD and EU countries surveyed and analysed on its fight against climate change and sustainable energy. It was also stated that the country has been able to impose itself as a world reference on “green growth”, combining both competitiveness and sustainability (Jalali, 2021).

Ideas like the one proposed are, therefore, needed and of utmost importance. The intention is to create greener activities and a more sustainable environment for companies, aiming to reduce negative aspects that can be related to their daily activities. Given that the world is ever more aware and willing to cooperate in such activities, there is no better time to invest in projects like the one developed.

2.2.6. Legal Context

As said previously on the political factors of this analysis, political parties have been implementing more legislations on the creation of sustainable and environmentally friendly businesses.

In 2020, Portugal approved its Strategic Plan for Portugal, which is going to run until 2030, where there is a strong investment in environmental sustainability and mobility while also featuring climate change as one of its key dimensions (Jamali, 2021).

However, there are still legal factors that can have an influence on the implementation of the business idea proposed. The high taxes rate practiced in Portugal, when compared to the rest of the European Union, could impose a negative effect on the economic viability of the project, delaying its time to reach profitability.

2.3. Market Analysis

PESTEL Analysis had a macro perspective on the conditions the idea developed would encounter in the market. Now we enter in the sector and market analysis.

Demand Analysis, Competition Analysis and Strategic Groups aim to analyse with detail the food distribution sector’s conditions and how a select group of its participants would view the

introduction of a new way of shopping. Several frameworks will be used to better evaluate the market conditions and its players' positions.

2.3.1. Demand Analysis

Food distribution is the practice that guaranties the supply of goods to general population. It eliminates the need for an individual to work directly with the producer to obtain products needed to survive. This sector is one of the oldest existing sectors of activity, having suffered several changes along the years.

Introducing a new idea into an established sector can present itself as a challenge. To better understand if consumers would accept the implementation of a different way of shopping in supermarkets, a survey was performed¹.

The survey aims to evaluate if there is a demand for the idea developed and how the respondents would feel if it was implemented. When the survey was launched, we were still living the recent effects of Covid-19 pandemic. Because of that, it was important to know if the situation altered the consumers' buying behaviours.

A total of 273 people responded to the survey. From them, 56% were women and 78% live in Área Metropolitana de Lisboa (AML). Unfortunately, the people that responded were influenced by the survey's author connections, and so, cannot be representative of the Portuguese market as a whole. The data recovered will be important in the decision-making process, for example, of the location for the pilot supermarket, but will also have to be supported by other sources.

Age groups and number of people composing each household were asked in the survey. The intent was to understand if the household composition would influence its expenditure rate every time they would go to a supermarket. Unfortunately, the results varied immensely, and a concrete answer was not gathered.

As expected, Covid-19 pandemic impacted the amount of times each person would go to a supermarket. Before the pandemic, the respondents stated that they would go more than three times a month (66.3%). After the pandemic, 46.5% stated that they started going less frequently, buying more items each time.

¹ See Appendix 1

Close to the end of the survey, the respondents were asked to choose, from a set of random brands, the ones they would most often buy their products from. Results can be seen in Figure 1 below.

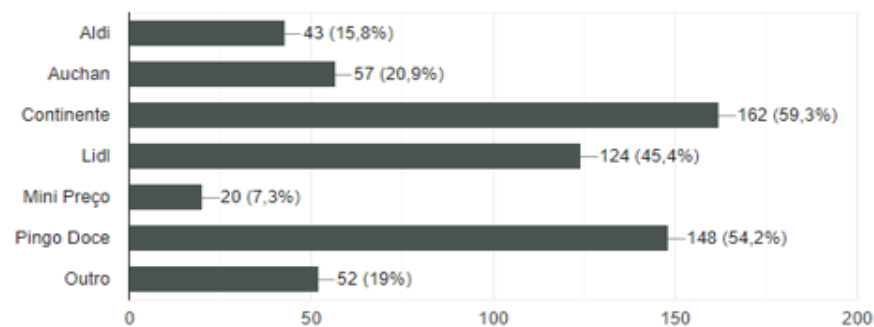


Figure 1 - Stores where respondents buy their groceries more frequently

From all the options given, Continente and Pingo Doce were the ones that stood out. Given how close they were in percentage, the question that followed in the survey had a significant role in deciding if the idea developed would enable a brand to set itself apart from the competition.

79.5% responded that they would change their store preferences if a zero-waste concept were to be applied in the big brands of supermarkets available in Portugal. It was also stated that the main factor in choosing a store concept like the one developed would not be the lowering of prices but instead the quality of its products. 29.7% even mentioned that if prices were slightly higher, they would also choose this new concept over the traditional one.

The survey analysis indicates that this project could be a viable option for development. The positive responses showed that there is a desire from the respondents to change their buying habits to a more sustainable and conscious option. It is important to note that the brand that chooses to apply such concept will gain new customers that might perceive it as an environmentally aware and conscious brand.

2.3.2. Competition Analysis

Porter's Five Forces is a widely used tool for the study of competitive strategy for business and countries: "Awareness of the five forces can help a company understand the structure of its industry and stake out a position that is more profitable and less vulnerable to attack" (Porter, 2008).

As mentioned, the main objective of this project is to develop and implement a Zero Waste store using Jerónimo Martins' portuguese food brand. In doing so, it was decided to use the given framework considering the position the group has in its industry. The purpose of it is to understand if

the group benefits from a promising position within industry competitors and if the industry profitability enables the introduction of new business ideas.

2.3.2.1. **Threat of New Entrants** – “Entry barriers are advantages that incumbents have relative to new entrants” (Porter, 2008, p.3).

- Supply-side economies of scale: Pingo Doce is one of the biggest companies in the Portuguese food sector. Its mother company, Jerónimo Martins, occupies the 50th place in the world rankings of global retailers. According to the Global Powers of Retailing 2021, a study done by Deloitte, the portuguese company maintained its position and Sonae reached the 158th place. Being inserted in three continents, Jerónimo Martins and, consequently, Pingo Doce, enjoy a better negotiation power with suppliers as well as bigger economies of scale.
- Demand-side benefits of scale: according to the second edition of the Portugal Grocery Retailer Preference Index done by Dunnhumby, Pingo Doce ranked 3rd in a poll of 8 food retailers on consumer buying preferences. This data shows the group’s attractiveness and the size of consumers that prefer to buy in its stores in contrast with competitors.
- Customer switching costs: due to the fierce competition that exists in the food industry, consumers have close to nonadditional costs when altering the place where they decide to buy their groceries. According to a study done by Quellmalz, at Topic Insights, the food retail sector is known for its razor thin margins. Due to this, consumers are presented with very low switching costs. Given so, introducing a new environmental idea could create an edge within competitors and not only attract new buyers as well as building customer loyalty and a better customer experience.
- Unequal access to distribution channels: Jerónimo Martins shares a widely range of distribution channels supported by its enormous range in logistics not only in Portugal but also in other countries. According to Jerónimo Martins’ website, the company has 540 stores scattered around Portugal, which makes it difficult for a new entrant to develop, with such scale, a business idea like the one proposed.
- Restrictive government policy: environmental ideas have been increasingly supported by governments due to the sustainability problems the planet faces. As mentioned before in the PESTEL Analysis, Portugal aims to protect the planet through sustainable consumption and production.

Global power of the Force: low threat – Pingo Doce has a privileged position in the Portuguese food distribution sector, making it difficult for new entrants to implement their ideas.

2.3.2.2. **Bargaining Power of Suppliers** – “A supplier group is powerful if” (Porter, 2008, p.6)

- The supplier group does not depend heavily on the industry for its revenues: big companies in the food distribution sector hold a big weight on their suppliers’ revenues. Without them revenues would not be the same due to the lack of exposure the products could possibly have. An example of this is the partnership made in 1949 between Unilever and Jerónimo Martins with the goal to achieve a commercial cooperation.
- Industry participants face switching costs in changing suppliers: it should not be a costly exchange if Pingo Doce decided to switch its suppliers, however, logistics and quality control costs, to name a few, would have to be considered. The change would only happen if it was economically advantageous.
- Suppliers offer products that are differentiated: more often than not, products sold come from the same suppliers, only changing the branding usage and packaging design. Several of the products sold in one store can also be found in the competition. An example of that is beer brands, soda or liquor brands, where the product is exactly the same being sold.

Global power of the Force: low bargaining power – Jerónimo Martins enjoys a favorable position when it comes to how they manage and choose their suppliers. All brands of the group have a market exposure that reinforces the need for suppliers to do business with them.

2.3.2.3. **Bargaining Power of Buyers** – “A customer group has negotiating leverage if” (Porter, 2008, p.7)

- The industry’s products are standardised: The food distribution sector is an industry that has been explored by many and it can be seen as standardised. There are few products in the industry that are considered as non-standardised. Continente, for example, has more than four thousand product references being sold on its stores (SONAE, 2021).
- Buyers face few switching costs in changing vendors: with fierce competition, there is close to none switching costs for consumers who decide to buy from other existing companies in the industry. With thin margins, companies focus on services provided in order to acquire and

retain customers. That is the reason partnerships with, for example, gas stations are common within industry players.

- Buyers are price sensitive: consumers can be considered as price sensitive due to the weight food expenses has on their budgets. Food consumption is a primary necessity. According to the latest data retrieved from PORDATA, in 2019, 19.5% of all consumption done by families was on food products. This is the biggest parcel of families' expenses (2021).

Global power of the Force: high bargaining power – in an industry where consumers represent the maximum preoccupation, every move is catered to their wants and needs. New ideas are implemented with the intention of further gaining market position and offer an improved service to customers.

2.3.2.4. **Threat of Substitute Products or Services** – “The threat of a substitute is high if” (Porter, 2008, p.8)

- It offers an attractive price-performance trade-off to the industry's product: at this moment, the industry where Pingo Doce acts has not suffered many changes. The introduction of a new service could possibly affect the business tremendously. As seen in the results of the survey, 79.5% of the respondents said that they would change their store preferences if a new sustainable approach was implemented.
- The buyer's cost of switching to the substitute is low: as said before, the costs of changing service providers is very low.

Global power of the Force: high threat – there is an opportunity in the market for new ideas to come to fruition and the first player will enjoy the benefits of it.

2.3.2.5. **Rivalry Among Existing Competitors** – “The intensity of rivalry is greatest if” (Porter, 2008, p.9)

- Competitors are numerous or roughly equal in size and power: the segment where Pingo Doce is inserted in is mainly dominated by companies with similar sizes and characteristics. Looking into the websites of some of the biggest food sector companies in Portugal, the number of total stores is very similar. Also, according to Global Powers of Retailing 2021, the revenue

reached by each company, in comparison with the stores and countries they have activity in, is very close.

- Industry growth: as seen in previous analyses, the food distribution sector had a major impact on the lives of people during the pandemic time. The industry has shown positive aspects and has adapted itself to the new reality. Growth is expected to happen with the increase usage of online shopping options and concerns with environmental problems, solidifying the industry's potential to grow.
- Exit barriers are high: physical shops and warehouses, logistic centers, human resources, transportation fleets and so on, impose a very high barrier to the decision for a company to leave the market.

Global power of the force: high rivalry – there are several existing competitors in the industry. Market share and brand recognition are difficult to attain and the introduction of new ideas that are well accepted by consumers could help distance one competitor from another.

Attractiveness Overview

After analysing all five forces of competition, one can state that the market has a low/medium attractiveness for someone who intends to enter it. However, if one already enjoys a favorable market position, the attractiveness switches to a medium/high level. The adaptation phase the industry had to go through due to the pandemic opened it to new service possibilities and the player who capitalises on them will move away from its competition. The idea presented intends on doing exactly that.

2.3.3. Strategic Groups

Going hand in hand with the latter analysis, strategic groups impose a necessary view of the competition one can expect. From direct competitors to indirect competitors, there is a need to understand how the business model can continuously learn and adapt itself to overcome all obstacles.

For the given project, several potential competitors were encountered. As for direct competitors, it was decided to choose existing shops that already had the Zero Waste concept implemented. For indirect competitors, the ones that share the same business activity as the company that the author has the intent to present this idea to and that, at any moment, could start implementing the same store concept.

2.3.3.1. Direct Competitors

Maria Granel

Maria Granel was the first zero waste shop in Portugal. It was founded by Eunice Maia with the purpose to help reduce waste and eliminate disposable plastics.

The store is committed to implement responsible consumption, sustainable consumption and waste reduction. By introducing the zero waste concept in groceries stores in Portugal, Maria Granel was also one of the first stores in Europe and the world to fully eliminate the use of packages and sell exclusively in bulk.

The store offers several services and biologic products to consumers. All of them share the vision the founder wants to implement. From food products to toys, home and kitchen utensils, to books and workshops, the extent to which this store is willing to go is impressive.

#Granel

#Granel is an organic grocery store that shares the same concept as the previous competitor. Although in a smaller level, #Granel also has a variety of products for its customers.

It presents itself as a low-waste store with the intent of tackling waste and the usage of disposable plastics. The objective is not to “simulate an old store” but to create a modern space that leverages the ability to share ideas and enrich accountability in people.

Go Natural

Go Natural is a brand that encompasses numerous services, ranging from supermarkets, restaurants, corporate options and more. Although they are not fully utilising the zero waste concept as the two previous competitors, they do offer the possibility to buy some products in bulk.

The main objective of the brand is to democratise healthy food and a healthy lifestyle. For that reason, they mainly offer organic foods to consumers and ready to eat meals.

Go Natural is run by SONAE, one of the biggest companies in Portugal. SONAE is also owner of Continente, a direct competitor of Pingo Doce.

2.3.3.2. Indirect Competitors

As for indirect competitors, instead of presenting each possible one, it was decided to join them all in a category – all companies that are in the food distribution sector that could start utilising the zero waste concept.

Examples such as Aldi Group, Lidl, Intermarché and Auchan, to name a few, are all potential indirect competitors due to them being companies inserted in the same sector of activity. Although none of them have implemented the concept, there is a possibility of that happening.

2.4. Threats and Opportunities

The following section of the document has the purpose of gathering the information taken by the analysis made above and expose the threats and opportunities one can expect when going forward with the given business idea.

Threats

- With private consumption and employment rates decreasing, companies need to be careful where they invest their money. Return on investments made in difficult economic situations tends to be seen by a short-term lens. Such idea will have a medium to long term perspective.
- Consumer behaviours and demands will oblige the food distribution sector to reinvent itself. With the increase in online sales and at home deliveries, companies will have to invest heavily on new services to maintain their customers and respond to their needs.
- In a market where big corporations fight for every percentage of market share, falling behind in modernising their services can have a tremendous impact. Every move needs to be calculated to the smallest detail which, in turn, can delay decisions and the company's success.

Opportunities

- Zero Waste concept is still an unexplored concept in Portugal, especially by big players in the food distribution sector.
- Environmental concerns are of utmost relevance nowadays and companies need to invest in more sustainable options for their businesses.
- Both on a European and a National level governments have been invested in the development of several sustainable projects. Thus, developing ideas within an environment that supports it becomes an opportunity for the company behind it.
- Jerónimo Martins' market position and global presence can shorten development stages due to its market knowledge. It can also propel the idea into new geographies, making it a well-known player in the zero waste space.

Pingo Doce Zero Waste Shop

3.1. Development Strategy

Developing strategies has turned into a must-have for any company that wishes to succeed in the marketplace. Having a clear path to follow and a clear end goal keeps all people involved on the same track, working for the same goal.

Three main points will be covered in order to develop a clear strategy for the implementation of the business idea at hand.

The first one will be the explanation and design of the Business Model, utilising the business model Canvas framework. Followed by the conception of a Mission, Vision and Values framework so everyone understands what the company stands by and what are its core values. Finally, the third point is an elaboration of Strategic Objectives with clear deadlines to guide the frame of action.

3.1.1. Business Model

The idea discussed in this work has the aim to be inserted in a well-established company in the food distribution sector. What will, in fact, diverge from the core company are some aspects of the business model in which the idea will be executed.

To show those differences, a Business Model Canvas (BMC) for the idea proposed was created².

The author of the BMC supports that business models have the purpose of describing and presenting how companies create, deliver and acquire value. The framework presented by the author has been “broken down into a set of nine interrelated building blocks that allow to conceive a business model” (Osterwalder, 2004).

The following subsection explore the nine building blocks.

3.1.1.1. **Value Proposition** – “A value proposition represents value for one or several target customer(s) and is based on one or several capability(ies)” (Osterwalder, 2004).

The value proposition behind the idea developed throughout this work can be divided into four capabilities: Innovative Imitation, Value Creation, Sustainability and Cost Reduction.

² See Appendix 2

Innovative Imitation happens when a company “imitates an existing VALUE PROPOSITION or elementary OFFERING but improves value by adding innovative elements” (Osterwalder, 2004). As seen in the direct competitors’ analysis, the concept has already been applied in several stores. However, the author intends to add new elements to its concept. The addition of hygiene products, kitchen utensils and food products, other than biological ones, will add an innovative aspect to the ideas already implemented by the competitors.

Value Creation will occur simultaneously on the business side as well as at the consumer level, by empowering the latter on their decision making. Creating an environment where consumers can feel free to choose the portions of food/product they wish to take home and developing their sense of responsibility towards the planet will increase the brand’s perceived value.

Sustainability has a variety of possible outcomes. Eliminating the use of plastic bags, minimising plastic packages and the use of plastic containers or, at least, reinsure its reusability, will transform a store’s ecological footprint. Thus, a more sustainable consumption environment will be developed.

Similarly with what happens at the value creation capability, Cost Reduction can be seen at both consumer and company levels. Buying products in bulk will decrease singular unit costs for the brand. Selling those same products by weight or unit will also decrease consumers’ costs by giving them the possibility to buy only what they need and want.

3.1.1.2. Customer Segments – “A target segment defines the type of customers a company wants to address” (Osterwalder, 2004).

Customers are the life of any business. To better cater to their needs, one should look to find which group of customers it can serve in the best possible way. For that, companies segment the market to find the best fit.

Pingo Doce is a brand that serves a mass market of customers. Although that will be the long-term aim for the idea developed, in the short term, the customer segment addressed will be a niche market.

Zero Waste Pingo Doce Shop will attract customers that want to experience a new way of buying their goods as well as people who worry about the waste produced by the food industry. With the development of more sustainable and ecofriendly activities provided by companies of several economic sectors, customers will be more available to enroll in such ideas. By then, a mass market could be achieved with the increased offer of stores with a Zero Waste concept implemented.

3.1.1.3. **Channels** – “A distribution channel describes how a company delivers a value proposition to a target customer segment” (Osterwalder, 2004).

To reach the customer segment discussed before and give it the value proposition developed, several channels will be utilised. A combination of online and in-store sales will be used, as well as an after sales follow-up.

Online channels such as Pingo Doce mobile application and online advertising will be used to reach as many customers as possible. Utilising social media, such as influencers focused on Zero Waste content, could help spread the idea further than just by using Pingo Doce’s online channels.

Taking advantage of existing stores near the location of the new Zero Waste shop will give the possibility to advertise it to existing customers. Flyers with promotions for people that have Pingo Doce’s Poupa Mais card will entice existing customers to experience and explore the new business endeavour.

Finally, collecting and analysing the data retrieved from online and in-store purchases will benefit the company by allowing it to know what the customers prefer and, that way, improve the relationship with them.

3.1.1.4. **Customer Relationships** – “The relationship element describes the relationship a company establishes with a target customer segment” (Osterwalder, 2004).

In any service-based business, the aim is to connect with the customer by providing them what they need and want whilst creating a feeling of a familiar environment.

A three-step process will be followed to target customers: Awareness, Evaluation and After Sales.

Awareness will be done through advertising and promotions via email, website, social media applications, in-store promotions and traditional channels such as TV.

Evaluation is the process of analysing data retrieved by the adverts and promotions used in the first step to narrow the focus group. Following, new advertising campaigns will be created considering the information gathered.

Finally, After Sales is the step where a follow-up will be done to each customer. This can be done through offering the possibility of maintenance and return of products and by giving clients the right channels for them to share their opinions about what they like and dislike about the concept applied.

3.1.1.5. **Key Activities** – “An activity is an action a company performs to do business and achieve its goals” (Osterwalder, 2004).

There are two activities that are indispensable for this business model: Logistics and Service.

Logistics acts as the heart of the business. Without it, the final products would not be able to get into the shelves of the stores and people would not buy them. No sales equals no revenue and the business would eventually die. Fortunately, Jerónimo Martins has a well-developed and established logistics department, with three warehouses spread across Portugal (north, center and south). Depending on where the stores will be implemented, one or several of those warehouses will be able to respond to the needs of each store.

Four key factors are needed to guarantee the completion of the logistic cycle and that the products reach their final destination. Procurement of suppliers and consequent purchase of materials is the first step. Next, the reception in one of the companies’ warehouses and validation of the quality of the products bought from suppliers. The two final steps are the material execution and correct division for each store and, finally, the expedition of the products to fulfill each store’s demand.

By Service one can comprehend the activities performed by the workers in each store where the concept will be implemented. Training the staff for the new concept will be critical for them to provide the best experience to customers. Creating a good environment and an appealing store will also be essential to guarantee the final step of the business cycle.

3.1.1.6. **Key Resources** – “Resources are inputs into the value-creation process. They are the source of the capabilities a firm needs in order to provide its value propositions” (Osterwalder, 2004).

For a company to prosper, a set of key resources is needed. Due to it being inserted in a group that has several years of experience in the field of food distribution, the key resources for the intended idea will be coming from Jerónimo Martins.

Human resources are an essential part of any business. In addition, in a predominantly service-based activity, these resources become even more fundamental.

To maintain a good set of human resources, as well as other types of resources, a company needs to have a healthy sum of financial resources. Funds are of utmost importance to run the operations. From the prospecting phase, where suppliers are chosen, to the acquisition of raw materials and transportation of such to warehouses and stores, financial resources are key.

Tangible resources (raw materials, logistics infrastructures, network of stores, ...) and intangible resources (patents, supplier partnerships, clients database, ...) are a necessity for the business prosperity.

3.1.1.7. **Key Partnerships** – “A partnership is a voluntarily initiated cooperative agreement formed between two or more independent companies in order to carry out a project or specific activity jointly by coordinating the necessary capabilities, resources and activities” (Osterwalder, 2004).

Supplier partnerships are one of, if not, the most important resource to have. These same partnerships allow a company to enjoy economies of scale, reduce their acquisition risk as well as their cost. The possibility to learn from experts in other fields becomes essential to the development of a new business idea.

Partnerships such as the one developed with Unilever in the beginning stages of Jerónimo Martins' history as a company are one important reason for its success. Local, national and international producers with solo entities or family businesses are key partners for the development of a variety of products in each store. They are also responsible for the development of a large part of the economy.

3.1.1.8. **Cost Structure** – “The cost element measures all monetary costs incurred by the company” (Osterwalder, 2004).

Costs are part of any business. To gain revenue, a business needs to spend cash. Depending on the area of activity, the cost structure for a company may differ. For the idea developed, there will be four main areas where money will be spent to increase profitability.

As said in building block number six, human resources are essential. To maintain them there will be a labor cost associated. This cost can be divided in areas such as business training, payroll and productivity compensation.

Infrastructure costs are also a fundamental expenditure of the business. Whether we are talking about stores or warehouses, these infrastructures are essential for the selling and storage of goods, respectively. All costs associated with the maintenance and running of these places, such as electricity, water, and gas, are all included in this class of costs.

To sell products on shelves, one needs to acquire them. This will have costs associated to it. Supplier partnerships are key to decrease such expenditure. However, as low as it may get, there will always exist a raw materials' cost.

Finally, in such a competitive environment, business need to differentiate from one another. That is where marketing cost is applied to create memorable and outstanding campaigns that captivate customers. Whether it be used in adverts, product promotions or competition prizes, it is an essential cost to run a competitive company.

3.1.1.9. Revenue Streams – “The revenue stream and pricing element describes an incoming money stream from the value offered by the company” (Osterwalder, 2004).

Selling of goods will be the mainly revenue stream. Others might surface when campaigns or promotions happen, but they will all be tied with the sale of products available in store or online. An example of this is the collection of stickers in each purchase to be able to collect a bigger prize at the end for a discount. Selling of containers will also be a new revenue stream, tied with the concept applied. The objective is for people to reutilise their own containers but, at some point, those same containers will become obsolete. For that reason, there will be the possibility to buy reusable containers inside the store.

3.1.2. Mission, Vision and Values

This section is directly tied to the mother company itself. The development of such an idea is a direct correspondence of Jerónimo Martins' mission and vision, following its values of sustainability and environmental awareness.

The mother company has the objective to “democratize access to quality products and food solutions through a strategy oriented towards value creation, defined by a philosophy of sustainable development” (Martins, 2022).

Through a sustainable development and the adaptation of its business model to the markets it is inserted in, Jerónimo Martins wants to create value following strategical objectives and strategies oriented to the continuous growth of the company while ensuring a balance between sales, profitability and environmental preservation.

3.1.3. Strategic Objectives

- Develop the idea to be ready to launch by January 2023
- Open first store in Lisbon by June 2023

- Prove the concept applied
- Expand coverage to Porto by January 2024
- Keep developing new stores in strategic points to complete full national coverage by 2028
- Expand the business concept internationally to Poland and Colombia by 2030

3.2. Implementation Strategy

This section has the intent to address three major components for the implementation of the given business idea.

Any retail store - in this case, a food supermarket - needs to carefully choose its location, the human resources used to run its operations as well as the logistics' network behind the fulfillment of its products. For the project at hand, several criteria will be applied to analyse each of these three crucial elements of an implementation strategy.

3.2.1. Location

Portugal is known for its two major population polos. One of them is its capital, Lisbon, and the other one Porto, in the north of Portugal. During summer season, one other location, Algarve, shows a rise in its population, due to it being a well-known vacation destination.

Lisbon, Porto and Algarve will, therefore, be the three potential locations analysed. The goal is to choose one of them for the first pilot supermarket and then narrow it down to one specific area at the chosen location. While in the first analysis it will only be considered these three locations, national coverage will be a future goal for the idea developed, as said in the strategic objectives.

When developing a new idea, it becomes difficult to understand if the public will adhere to it. As such, the survey developed and analysed had a crucial role in understanding if there is a market for the idea at hand. Although the survey cannot be seen as a full representation of the total market, it is an indicator that there are people willing to shop at such supermarket.

Pingo Doce has a range of stores scattered all around Portugal. Figure 2 is a representation of the number of stores in each location. Looking into the three locations under analysis, it is obvious that Lisbon has considerably more stores than Porto or Algarve. Companies develop infrastructures or selling points (stores) where there is a demand for it or where its main competitors are located. Lisbon, due to having more stores, can be considered the place where a bigger demand exists. It is also in this area where it can be assumed that a bigger competition can be found, due to the number of customers available.

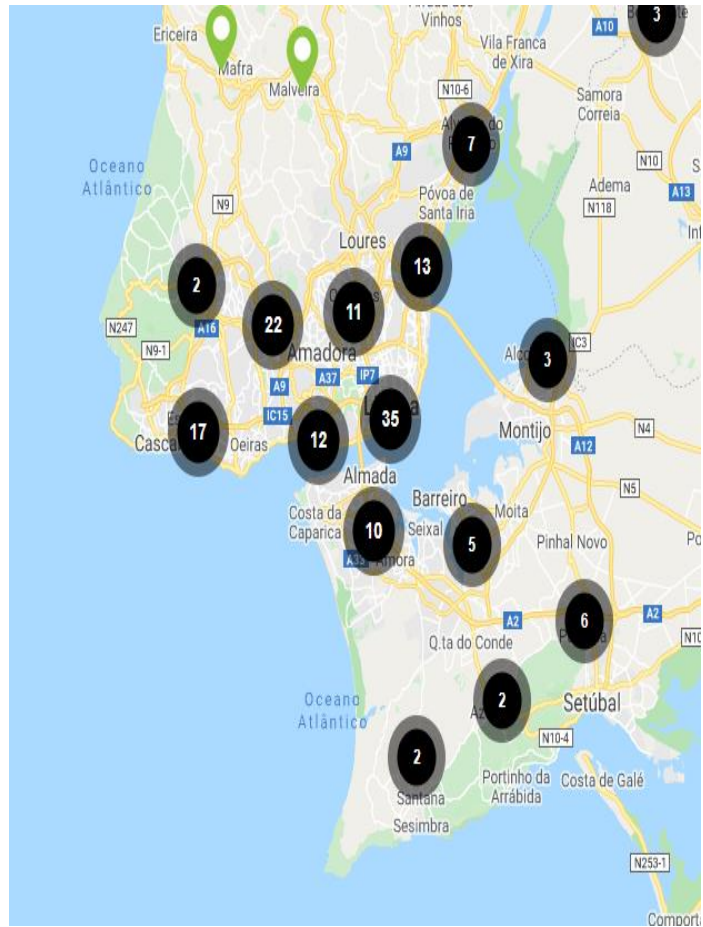
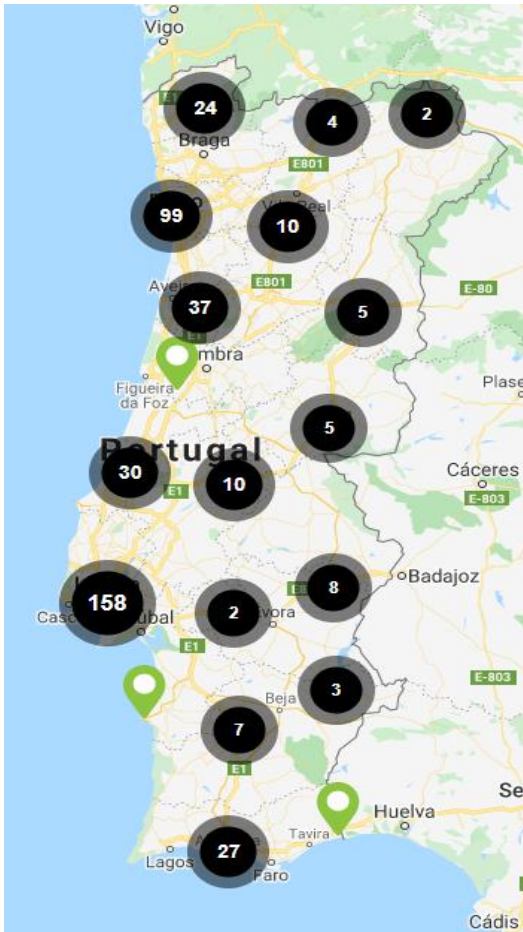


Figure 2 - Pingo Doce Stores around Portugal and Lisbon

It is also important to consider that Lisbon was selected, in the past, for the development of innovative stores such as Pingo Doce Lab Store, more precisely in NOVA SBE’s Carcavelos Campus.

Furthermore, it becomes necessary to decide on a specific area where the implementation of the pilot supermarket would be more beneficial.

Food stores are catered to an array of people. They can be single people, families, young teenagers or people in an older age group. Deciding on a place where all these groups coexist is an advantage for the development of the idea. Examples of areas where such people coexist are Cascais, Amadora, Benfica, Oeiras, among others. Given that a pilot store already exists near Cascais and Oeiras, the decision will be made between Benfica and Amadora.

Both Amadora and Benfica are known for their public transportation network (bus, underground and train). They also have a network of schools, from kindergarten to 12th grade. Although universities are more common in the center of Lisbon, people that apply to them often live in more secluded areas outside the center.

Deciding between these two areas comes down to the fact of safety. Benfica is regarded as a safer environment to raise families when compared to the areas that compose Amadora.

Purchasing power is another aspect that has an impact in the decision of Benfica over Amadora. Benfica has an older age group with more perceived purchasing power. By being the place where one of Portugal's biggest shopping centers is located, several outside people go to work or shop daily in Benfica.

Exposing a new idea in such a busy area is beneficial for its awareness and adoption from the public. By being exposed daily to many people, it increases the possibility of gaining new customers and, therefore, a sale.

The square meters of the store and its building location will depend on future studies and calculations that are outside of the scope of this project. A variety of variables come into play when opening a new store with a well-known and regarded brand. The decision on how to organise products in a store layout are subject to strict measures that each store of the group must follow.

The next section of the work will include a financial plan where some premises will be included and one of them will be that the chosen store will have around 100 square meters. This value comes from the example of Pingo Doce Lab Store, another case of innovation within the group, a store with 250 square meters. Given that the idea at hand will not sell as much products as the latter store and will not have fresh sections like fish or meat, the size of the store will be smaller.

To conclude, Benfica will be the chosen area for the implementation of the pilot supermarket and its location will depend on where it will be possible to acquire a store front with the given square footage.

3.2.2. Human Resources

A conclusive organisational chart where the human resources team is divided is essential for the organisation of a store. Every position will have a connected activity or group of activities that need to be secured for the daily success of the business.

Similarly to what is seen in other Pingo Doce stores, the organisational human resources chart for the Zero Waste Pingo Doce store will be as follows:

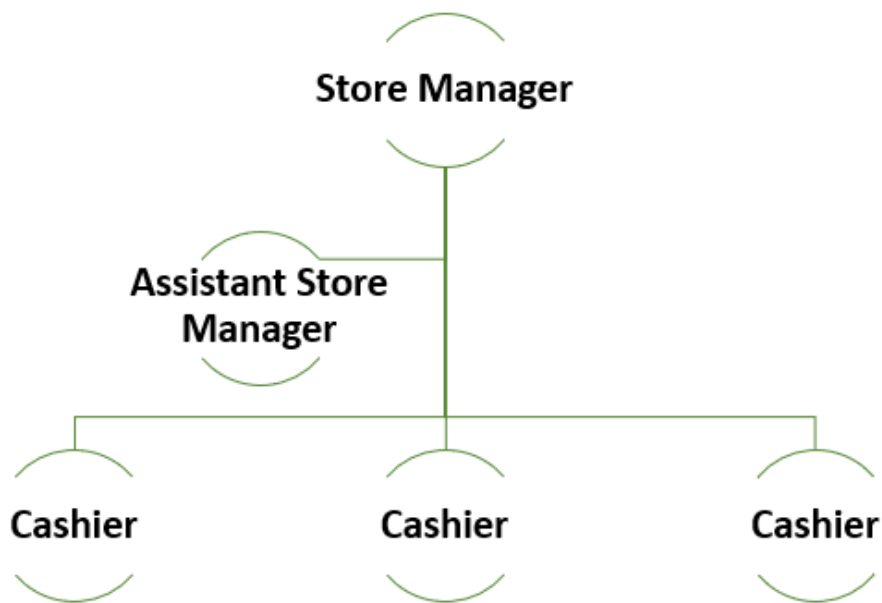


Figure 3 - Organizational Human Resources Chart

The process to acquire talents for each role will be done, firstly, internally. By utilising Pingo Doce’s human resources, it can be guaranteed a level of quality and commitment that otherwise would be more challenging by looking for outside applicants.

The Assistant Store Manager will be responsible for managing the operations of the store, that being the stock inventory, layout of products around the store, management of human resources and any client-related problems.

To train the staff, an experienced Store Manager will be appointed. Its main responsibilities will be to ensure the communication between the store and the supply team as well as solving any major problems that its team could not find a solution for.

Further modifications to the human resources team will have to be done depending on the adherence of the public to the new concept and its work volume. It will be assumed that the store will work following the same schedules as other Pingo Doce stores. For that reason, the team will be composed by six cashiers, one store manager and one assistant manager.

3.2.3. Logistics

Logistics is the process of handling and delivering the final products from a warehouse to a destination, in this case, a store. As previously stated, Jerónimo Martins has a logistics network scattered around Portugal. Due to the decision of implementing the pilot store around the area of Benfica, the warehouse nearest to this location will be used.

Three Pingo Doce stores can be found in Benfica. This makes it easier for the logistical process to be implemented. By utilising the routes already available for the supply of products to the three existing stores, the new store could easily be added to that same route.

The execution process inside the warehouse would differ from traditional stores. The products would arrive from its suppliers in paper bags instead of plastic bags and the packaging would be made from cardboard or sustainable packages. In its initial phases, by only having one store, the products could come directly from the suppliers to the store. However, with the goal of increasing the number of stores, the handling of products would have to be made in warehouses.

Similarly to what already happens with the distinction between Recheio and Pingo Doce products, the same would have to happen by adding Zero Waste products.

The goal is to reach a net zero carbon logistical route to supply these stores. For that, further studies will have to be made to understand the economic benefit behind it. Options like Bolt Logistics, that recently secured an investment by IKEA, could be a solution for the attainment of a more zero emission fleet of trucks.

3.3. Financial Plan

3.3.1. Assumptions

Given the time horizon for the development of the idea, 2023 will be considered as Year 1 for the financial evaluation. Year 0 will be 2022, as it is the year for the preparation phase of the project.

The current analysis will present projections for the next five years, starting in 2023 (until 2028). As said by Maria Coimbra, former district manager for Pingo Doce stores in Lisbon, the company makes an overall evaluation at year five for all their new stores. Although profitability is not expected for all stores at this stage, it is important to understand if the concept is being well received by its customers. Long term is the objective of this project but, for a financial analysis, the stated timeline will be used to validate the project viability.

Regarding investment, this will be achieved through the mother company, Jerónimo Martins, with an expected required return rate of 15%, within the scope of the five years tested.

Table 5 shows the monetary value needed in Year 0 to develop the pilot supermarket. Due to being in Benfica, where the square meter has a value of around 3 500,00€, the project supermarket will cost 525 000,00€. The total value presented is for the 100 square meters plus an expected value for the decoration and remodeling of the store. For this number there is no specific evidence to support it other than the experience Maria Coimbra has had in its stores. Maria said that, in her thirteen years managing stores, the value for renovations varied between 50 000,00€ and 100 000,00€, depending on size and location of the store.

Due to being a new store with new technology and the introduction of new materials such as industrial containers, industrial food scales, shelves and structural modifications, it was decided to give a considerable margin in the budget for this point.

Investing and installing a security system will have an initial cost of 15.000,00€ and will cost, per maintenance, 1.000,00€. Although Jerónimo Martins has its own contracts with companies that offer security services, two companies were contacted by the author in order to understand market prices. Both companies, Strong Charon and Securitas Direct said that it would be hard to give an exact number for the service but gave a range between 10 000,00€ and 20 000,00€ for a retail store with 100 square meters.

A software package will be needed. Warehouse Production Management System (WPMS) to control product movements in and out of the warehouse and Point of Sale (POS) software for the cashiers. Acquisition cost for both will be 50 000,00€, including installation. For each new development requested by the store, an additional fee of 1 000,00€ will be charged. For year, it will be assumed that five IT requests are made.

Year 0 will also be the year where marketing campaigns will be studied and applied in preparations for the big opening. A marketing budget will be set. Primarily, social media and influencers will be the main conductors for the campaigns. The budget will be spent in different campaigns scattered along several months.

Table 5 - Development Stage Expenses

	Year 0
Store	€ 350 000,00
Marketing Budget	€ 250 000,00
Remodeling	€ 175 000,00
Software Package	€ 50 000,00
Security System	€ 15 000,00
IT Requests	€ 5 000,00
TOTAL	€ 845 000,00

Regarding human resources, a base salary was chosen for each position. It was assumed that every month the objectives would have been met and a productivity bonus attributed. The value for each base salary as well as the bonuses is described in Table 6. In order to achieve the monthly productivity bonus, the employer needs to have at least eleven productive working days each month (it will be assumed so). For the store manager it has been decided to award a year-end bonus of two base salaries if the store can accomplish all set objectives (it will be assumed so).

Table 6 - Human Resources and Compensation Expenses

	Base Salary	Annual Social Security Tax (23,75%)	Monthly Productivity Bonus	Annual Productivity Bonus	Annual Meal Allowance (5,80€/work day)	Annual Work Insurance (1%)
Cashier (x6)	€ 4 500,00	€ 14 962,50	€ 600,00	€ 6 600,00	€ 8 038,80	€ 630,00
Assistant Store Manager	€ 1 500,00	€ 4 987,50	€ 150,00	€ 1 650,00	€ 1 339,80	€ 210,00
Store Manager	€ 2 500,00	€ 8 312,50	€ -	€ 5 000,00	€ 1 339,80	€ 350,00
TOTAL	€ 8 500,00	€ 28 262,50	€ 750,00	€ 13 250,00	€ 10 718,40	€ 1 190,00

According to Maria Coimbra, a low performing store in terms of monthly revenue would bring around 300 000,00€. A high performing store could fetch upwards of 1 500 000,00€. The reason for choosing a low revenue store was to test the viability of the project in its worst-case scenario.

Diogo Costa, Operational Manager at Recheio, states that product margins differ immensely from product to product. Fresh products such as fish and meats have a margin of around 5% and cleaning products can reach a margin of 20%. A monthly margin of 10% is considered a low month and 15% a normal one. For the financial analysis made, the first value will be assumed.

Table 7 - Revenue and Margin Definition

Monthly Revenue	€ 300 000,00
Margin	10%

3.3.2. Comparative Analysis

In the world of business, things do not always go to plan. Therefore, it becomes essential to analyse several scenarios of possible outcomes. Table 8 illustrates the three scenarios and their specific components of growth.

Table 8 - Scenario Definition

	Scenario 0	Scenario 1	Scenario 2
Monthly Revenue	€ 300 000,00	€ 350 000,00	€ 400 000,00
Monthly Revenue Expected Growth per Year	€ 15 000,00	€ 15 000,00	€ 15 000,00

As can be seen above, the scenario definition was made to go from a more pessimistic estimate to a more optimistic one. Each year, monthly revenue is expected to increase by 15 000,00€, meaning that in scenario 0, Year 1 monthly revenue will be 300 000,00€ and in Year 2 it will increase to 315 000,00€, and so on.

The results calculated can be seen in Table 9. Internal Rate of Return (IRR), Net Present Value (NPV) and Payback Period were calculated for each scenario.

Table 9 - Scenario Results

	Scenario 0	Scenario 1	Scenario 2
IRR	9%	20%	27%
NPV	-€ 29 369,14	€ 232 658,42	€ 425 525,28
Payback Period	5,0	4,1	3,7

As expected, the results differ greatly from each scenario. The main reason for this is the increase in monthly revenue, given that all costs remain the same in the case studied³.

3.3.3. Economic Viability

Given the comparative analysis conducted above, Scenario 1 seems to be the most reasonable option to follow. The following economic viability analysis will be based on the values gathered from Scenario 1⁴.

The IRR of this project, which is the rate of growth the project is expected to generate, is 20%, higher than the required rate imposed by the mother company (investor). Given the result, it can be assumed that the project will be profitable and that it can be developed following the business plan's indications.

NPV is set at 232 658,42€. As this is a high positive value, it means that it is economically viable to develop the project and that its stakeholders could expect benefits from it, given that estimations of its current value will exceed its costs.

Finally, 4.1 years is the expected payback period of the project. A positive value considering the scope of the project.

Having considered the three main economic indicators, the decision is that the development of a Pingo Doce Zero Waste Shop is a viable and worthwhile investment.

³ See Appendix 3 to 5

⁴ See Appendix 6

CHAPTER 4

Conclusion

As a response to the gap identified in the market, a plan was developed to create a pilot supermarket that connected customers' environmental concerns and their needs. Pingo Doce Zero Waste shop is the direct response to tackle this problem.

When looking into the location for this project, Benfica was the most favorable place due to its demographic and business atmosphere, as well as the array of transportation options available. From a logistic perspective, developing a new store close to already existing ones solves several economic constraints.

Considering different scenarios for the financial analysis, it was important to understand if, when changing aspects from scenario to scenario, the project would still be viable economically. The differentiating aspect from each scenario was the number of gross monthly sales. Three scenarios were created, starting with a more conservative approach.

The conclusion was that, even when considering an unfavorable scenario, meaning being in the same bracket as some of lowest profitable Pingo Doce stores, the project would still be worthwhile in the long run. In two of the three scenarios the NPV would be much greater than one, the IRR value would far exceed the intended value from the investor company and the Payback Period would be lower than five years.

As future steps, for the project to be implemented in the real world, several aspects need to be further analysed.

Firstly, it is important to enquire suppliers if transforming their packages into more sustainable options is viable.

Secondly, an extensive analysis needs to be conducted to understand which products should be sold in the new project store. Safety measures as well as quality concerns do need to be considered when selling products from containers.

Finally, a new survey should be created to collect a broader understanding of the real demand for this type of supermarkets. With the network of customers available, a more realistic response could be analysed to help decide for the development, or not, of a Pingo Doce Zero Waste shop.

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Appendices

Appendix 1 – Survey



Secção 1 de 6

Aplicação do Conceito Zero Waste

Chamo-me Diogo Lourenço Costa, aluno do Mestrado em Gestão da ISCTE Business School. A sua resposta a este questionário é anónima e da maior importância para concluir o meu projeto académico, que pretende avaliar o impacto da atual pandemia na aquisição de produtos alimentares no supermercado e hipermercado e a introdução de um novo conceito, com preocupações de sustentabilidade. O preenchimento do questionário levará menos de 5 minutos.

Se assim o entender, terei todo o gosto em partilhar os principais resultados do inquérito. Para tal, basta que no final indique um endereço de e-mail.

Após a secção 1 Continuar para a secção seguinte

Secção 2 de 6

Perfil

Descrição (opcional)

Qual o seu sexo? *

Feminino

Masculino

Prefiro não responder

Qual a sua idade? *

18 - 25

26 - 35

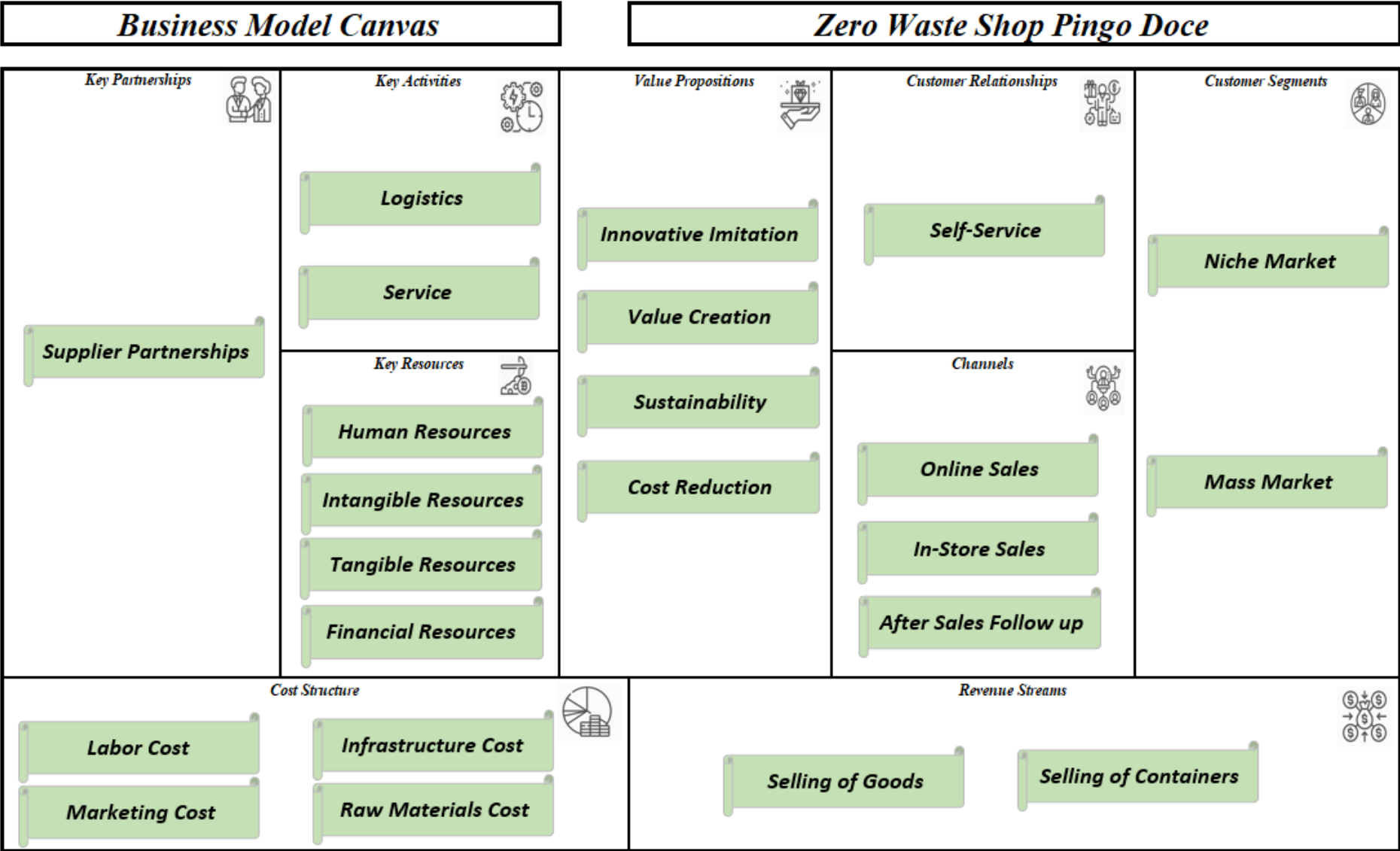
36 - 45

46 - 55

56 - 65

65+

Appendix 2 – Business Model Canvas



Appendix 3 – Income Statement Scenario 0

Income Statment	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	€ -	€ 3 600 000,00	€ 3 780 000,00	€ 3 960 000,00	€ 4 140 000,00	€ 4 320 000,00
Gross Margin (10%)	€ -	€ 360 000,00	€ 378 000,00	€ 396 000,00	€ 414 000,00	€ 432 000,00
Expenses						
Store	-€ 350 000,00	€ -	€ -	€ -	€ -	€ -
Marketing Budget	-€ 250 000,00	€ -	€ -	€ -	€ -	€ -
Remodeling	-€ 175 000,00	€ -	€ -	€ -	€ -	€ -
Software Package	-€ 50 000,00	€ -	€ -	€ -	€ -	€ -
Security System	-€ 15 000,00	€ -	€ -	€ -	€ -	€ -
IT Requests	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00
Payroll						
Base Salary	€ -	-€ 119 000,00	-€ 119 000,00	-€ 119 000,00	-€ 119 000,00	-€ 119 000,00
Annual Bonus	€ -	-€ 13 250,00	-€ 13 250,00	-€ 13 250,00	-€ 13 250,00	-€ 13 250,00
Annual Social Security Tax	€ -	-€ 28 262,50	-€ 28 262,50	-€ 28 262,50	-€ 28 262,50	-€ 28 262,50
Annual Meal Allowance	€ -	-€ 10 718,40	-€ 10 718,40	-€ 10 718,40	-€ 10 718,40	-€ 10 718,40
Annual Work Insurance	€ -	-€ 1 190,00	-€ 1 190,00	-€ 1 190,00	-€ 1 190,00	-€ 1 190,00
Net Income	-€ 845 000,00	€ 182 579,10	€ 200 579,10	€ 218 579,10	€ 236 579,10	€ 254 579,10

Appendix 4 – Income Statement Scenario 1

Income Statment	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue						
	€ -	€ 4 200 000,00	€ 4 500 000,00	€ 4 680 000,00	€ 4 860 000,00	€ 5 040 000,00
Gross Margin (10%)						
	€ -	€ 420 000,00	€ 450 000,00	€ 468 000,00	€ 486 000,00	€ 504 000,00
Expenses						
Store	-€ 350 000,00	€ -	€ -	€ -	€ -	€ -
Marketing Budget	-€ 250 000,00	€ -	€ -	€ -	€ -	€ -
Remodeling	-€ 175 000,00	€ -	€ -	€ -	€ -	€ -
Software Package	-€ 50 000,00	€ -	€ -	€ -	€ -	€ -
Security System	-€ 15 000,00	€ -	€ -	€ -	€ -	€ -
IT Requests	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00
Payroll						
Base Salary	€ -	-€ 119 000,00	-€ 119 000,00	-€ 119 000,00	-€ 119 000,00	-€ 119 000,00
Annual Bonus	€ -	-€ 13 250,00	-€ 13 250,00	-€ 13 250,00	-€ 13 250,00	-€ 13 250,00
Annual Social Security Tax	€ -	-€ 28 262,50	-€ 28 262,50	-€ 28 262,50	-€ 28 262,50	-€ 28 262,50
Annual Meal Allowance	€ -	-€ 10 718,40	-€ 10 718,40	-€ 10 718,40	-€ 10 718,40	-€ 10 718,40
Annual Work Insurance	€ -	-€ 1 190,00	-€ 1 190,00	-€ 1 190,00	-€ 1 190,00	-€ 1 190,00
Net Income						
	-€ 845 000,00	€ 242 579,10	€ 272 579,10	€ 290 579,10	€ 308 579,10	€ 326 579,10

Appendix 5 – Income Statement Scenario 2

Income Statment	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue						
	€ -	€ 4 800 000,00	€ 4 980 000,00	€ 5 160 000,00	€ 5 340 000,00	€ 5 520 000,00
Gross Margin (10%)						
	€ -	€ 480 000,00	€ 498 000,00	€ 516 000,00	€ 534 000,00	€ 552 000,00
Expenses						
Store	-€ 350 000,00	€ -	€ -	€ -	€ -	€ -
Marketing Budget	-€ 250 000,00	€ -	€ -	€ -	€ -	€ -
Remodeling	-€ 175 000,00	€ -	€ -	€ -	€ -	€ -
Software Package	-€ 50 000,00	€ -	€ -	€ -	€ -	€ -
Security System	-€ 15 000,00	€ -	€ -	€ -	€ -	€ -
IT Requests	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00	-€ 5 000,00
Payroll						
Base Salary	€ -	-€ 119 000,00	-€ 119 000,00	-€ 119 000,00	-€ 119 000,00	-€ 119 000,00
Annual Bonus	€ -	-€ 13 250,00	-€ 13 250,00	-€ 13 250,00	-€ 13 250,00	-€ 13 250,00
Annual Social Security	€ -	-€ 28 262,50	-€ 28 262,50	-€ 28 262,50	-€ 28 262,50	-€ 28 262,50
Annual Meal Allowance	€ -	-€ 10 718,40	-€ 10 718,40	-€ 10 718,40	-€ 10 718,40	-€ 10 718,40
Annual Work Insurance	€ -	-€ 1 190,00	-€ 1 190,00	-€ 1 190,00	-€ 1 190,00	-€ 1 190,00
Net Income						
	-€ 845 000,00	€ 302 579,10	€ 320 579,10	€ 338 579,10	€ 356 579,10	€ 374 579,10

Appendix 6 – Economic Viability Scenario 0, 1 and 2

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Cashflow	-€ 845 000,00	€ 182 579,10	€ 200 579,10	€ 218 579,10	€ 236 579,10	€ 254 579,10
Accumulated Cashflow	-€ 845 000,00	-€ 662 420,90	-€ 461 841,80	-€ 243 262,70	-€ 6 683,60	€ 247 895,50

IRR	9%
NPV	-€ 29 369,14
Payback Period	5,0 Years

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Cashflow	-€ 845 000,00	€ 242 579,10	€ 272 579,10	€ 290 579,10	€ 308 579,10	€ 326 579,10
Accumulated Cashflow	-€ 845 000,00	-€ 602 420,90	-€ 329 841,80	-€ 39 262,70	€ 269 316,40	€ 595 895,50

IRR	20%
NPV	€ 232 658,42
Payback Period	4,1 Years

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Cashflow	-€ 845 000,00	€ 302 579,10	€ 320 579,10	€ 338 579,10	€ 356 579,10	€ 374 579,10
Accumulated Cashflow	-€ 845 000,00	-€ 542 420,90	-€ 221 841,80	€ 116 737,30	€ 473 316,40	€ 847 895,50

IRR	27%
NPV	€ 425 525,28
Payback Period	3,7 Years