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# Business Plan – Animal Assisted Therapy in Portugal

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Project submitted as partial requirement for the conferral of

Master in Management

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Março 2018

Dedicated to my dogs, who have therapeutic effects in my life.

## Acknowledgments

First and foremost, I would like to thank my supervisor, Professor Nuno Pedro for all the support, encouragement, knowledge and expertise, provided continuously during the development of the present work. His guidance is immensely valued, and I am greatly grateful.

To my colleagues, Margarida Duarte, Rita Santos and Susana Neves for riding alongside me in this amazing journey.

To Rita Pinto and Beatriz Soares, for always being present and supporting me through the best and the hardest moments of my life and proving me that it is possible to achieve everything we propose to.

To Maria Araujo, for all the help and support towards my academic path and life, without her, I would not be where I am today.

To Carolina Dantas, for all the “mom” support and capacity to transform tough days into great ones.

To my mother, for her unconditional support in every single moment of my life, for believing in all my dreams as if they were hers.

To my father, for his protection and guidance in all the key elements of my life, to give me strength to endure each and every setback.

To my brother, for proving me we can succeed even when life does not seem to go our way.

To them, I owe everything, Thank you!

# Contents

# Abstract

Health is central to human well-being and can be quite crucial to economic progress since healthy populations live longer and are more productive. With a rise in average life expectancy, it is necessary to develop the means required to maintain people healthy for longer and improve life-quality.

Animal Assisted Interventions are proven to be one method to improve health, help in the rehabilitation process and enhance diseases' prevention.

This work aims to discover and sense why AAI companies in Portugal struggle to strive in the business world and how it is possible to overcome those obstacles.

The proposed Business Model for CTAR – Centro de Terapia Assistida e Reabilitação Animal – strives to be innovative and bring new ideas capable of underpinning the existing associations in several fields such as AAI Research, Market Analysis, Operations, Marketing, and Finance.

This thesis presents one proposal for Operations and Marketing components and three alternative financial models to reach economic viability. The first model shows an approach of lower investment and operating costs, the third model shows a methodology with a long run view assuming a higher investment and long term perspectives and the second, a hybrid strategy that combines models 1 and 3, and presents the less sustainable case.

The business model developed proves the sustainability and improvement of the Animal Assisted Intervention Center economic viability and simultaneously the improvements in people's health, happiness, and life-quality for any medical condition.



**Key Words:** Animal Assisted Therapy, Business Plan, Health, Human-Animal Interactions.

## Resumo

A Saúde é a principal chave para o bem-estar das pessoas e pode ser igualmente importante no progresso económico uma vez que uma população saudável vive mais tempo e consegue ser mais produtiva. Com o aumento da esperança média de vida, é necessário desenvolver meios para manter as pessoas saudáveis por mais anos e melhorar a sua qualidade de vida.

Está provado que a Intervenção Assistidas por Animais pode ser uma das formas de alcançar melhorias na saúde, reabilitação e prevenção de doenças.

Este trabalho tem como objetivo descobrir e entender quais os maiores desafios das associações ativas neste setor em Portugal e qual a melhor forma de os ultrapassar.

O Modelo de Negócios proposto para a CTAR – Centro de Terapia Assistida e Reabilitação Animal – procura ser inovador e proporcionar novas ideias capazes de sustentar as associações existentes em vários campos como a investigação, análise de mercado, operações, marketing e finanças.

Esta tese apresenta uma proposta comum a nível de operações e marketing e desenvolve 3 modelos financeiros diferentes habilitados para alcançar a sustentabilidade financeira.

O primeiro modelo apresenta uma abordagem de investimento e custos baixos, o terceiro modelo exibe uma metodologia de longo prazo com maior investimento e grandes expectativas futuras e o segundo demonstra uma estratégia híbrida que tenta combinar o modelo 1 e 3, no entanto revela ser a alternativa menos sustentável.

Através do Modelo de Negócio desenvolvido são demonstradas estratégias capazes de sustentar e melhorar a viabilidade económica do Centro de Intervenções Animais e ao mesmo tempo melhorar a saúde, a felicidade e a qualidade de vida independentemente da situação clinica base.

**Palavras-Chave:** Terapia Assistida por animais, Plano de negócios, Saúde, Interação Humano-Animal.

# List of Tables

# List of Graphs



## List of Figures

## Executive Summary


It is now common knowledge that Animal Assisted Interventions can improve people's lives in several cases. These alternative therapies can be useful to prevent certain diseases but also to support and enhance the rehabilitation process of almost every health condition.

The developed literature review corroborates that fact and states that in line with current trends, it is believed AAI programs will keep persisting and proliferating in the future even with a particular scarcity of efficacy results data in Portugal.

According to the market analysis elaborated the most apparent benefits expressed by patients are "positive mood alteration" (96%), "increased socialization" (86,5%), "increased verbalizations" (86%) and "increase alertness" (80%). Moreover, displays that in 7 years the Portuguese population will be lower and more than 50% of the population will be over 50 years old, and around 636.059 individuals of the resident people (16%) suffer from a physical or mental disability.

The potential market found for the central Portuguese area is 391 134 citizens who represent 4% of the total population.

Driven by the qualitative research, it was possible to have a look on the other side of the business, the associations. It was observed the most common challenges found for these organizations are seeing the support of national and credible institutions and obtain the necessary financial resources to work full-time in AAI. Although some organizations are able to create some cash flows, the most part is not even capable of paying salaries to their therapists.

On the other hand, it was possible to understand bias is being eliminated over time, people are more open to AAI and present some enthusiasm regarding the subject.

It was also possible to identify some strategies that could be implemented in the business model such as specialization in seniors and specific disabilities, AAT integration in the National Health System and in the most relevant Private Health Groups - which already demonstrate some interest and some first steps in AAI -, alternative funding sources research, effective partnerships creation, and certification.

The developed business concept is different from the current ones because it will be based on selling several services, which are divided into two fields: the AAI and Farm Activities. Farm activities as a health strand is a new type of therapy that was not yet discovered in Portugal. It

will be sold directly to patients and indirectly to patients through health care institutions, and it aims to establish some partnerships or integration in the health system with specialization in senior citizens. The vision also encompasses investigation as an important goal for the organization.

The primary objectives aim on achieving 10% of the potential market in 10 years, expand to new markets such as nursing homes and care, scientific investigation, farm therapies development and increase net profit by 5% each year maintaining the sustainability of the organization.

The long-term development strategy envisions remarkable growth through farm accommodation, nursing care, rural packages, summer camps, daycare, animal care and new locations.

The case study company named CTAR – Centro de Terapia Animal e Reabilitação – develops three main activities – Animal Assisted Therapies, Animal Assisted Activities and Animal Assisted Education – and proposes to increase social action, empathy, motivation, physical and mental well-being. CTAR will be a certified company with a single set that will keep developing and improving therapies to deliver quality services that can improve health and life quality.

The price of the activities will round the 40 euros that was defined according to benchmarking, and although there will not be a physical space in the first year, the objective is to find a financial source to construct a rehabilitation farm with the capacity and resources to serve a broader market.

This work develops three different scenarios and financial models for the proposed company:

- Scenario 0: the organization dislocates to other associations to render its services. There are no investments in buildings, external supply or development, the only investment necessary is with formation and certification of the teams. The organizations' growth is based on the number of clients that is possible to reach and engage. This is the scenario that presents the higher IRR and would be a good investment for a self-finance investment option.

- Scenario 1: Assumes some investment and operating costs with facilities, materials, and maintenance without the direct involvement of multiple funding sources. The space where the specific therapies will be performed is rented and consequently presents some limitations. This hybrid strategy presents the lower IRR and NPV; although it gives positive results, it would be indicated for a transition phase from scenario 0 to scenario 2.

- Scenario 2 represents organizations that construct and develop, over time, their facilities. In Portugal, this scene is usually related with equine therapy. No association in Portugal combines pets therapy, horses therapy, and farm animals therapy yet. This is the scenario that presents the higher NPV and would be an adequate investment for private equity since it appears to be the most promising scenario for the organization and its investors.

It was possible to understand that Portugal has a potential market for AAI growth, mainly due to the aging population and main diseases active in the country.

# 1. Introduction

## 1.1. Motivation

Health is a primary global concern addressed by several organizations worldwide. Advances in this area represent better life quality and optimal rehabilitation processes for people.

Animal Assisted Therapy has been emerging and has been proven to be an alternative therapy with excellent results in almost every health area: Behavioral health which includes substance use, mental health, education and rehabilitation and Physical Health which provides for acute, and chronic diseases as well as prevention.

These therapies have been used for many years now in countries such as United States, Israel, Canada, Germany and many others.

AAI has been the object of study for many international authors. In Portugal, it is still a new sector that is now emerging. However, there are not many studies realized in the country and there are some reluctance from some traditional institutions.

Portugal is witnessing a growing aging population, and from this point, health issues and disability rates are expected to raise as well as health expenses and elderly social services.

Animal Assisted Interventions can be one simple, affordable and sustainable option for people with almost any class of health problem. Moreover, the growing abandoned animal rate can also be an issue in the coming years, therefore, creating a solution for both people and animals which is acceptable and sustainable in the financial world is the primary motivation for the development of this master thesis.

## 1.2. Proposal for innovation

The work presented in this thesis was conducted to understand how the current state of the AAI in Portugal is and what can be done to improve, innovate and spread AAI in the country.

The work aims to introduce a new business model for an Animal Assisted Intervention center that will combine pet therapies with farm therapies. The creation of a financial structure for the sustainability of this association intends to be an innovative plan for an emerging market.

From the traditional businesses in Portugal, analyzed in the case studies, the objective will be to signal what should be reproduced and what can be done to be pioneering in the area.

The development of the business plan is the formalization of all the decision process regarding, operations and the financial model, based on a broader analysis which includes previous studies assessment, market investigation, case studies examination, and objectives definition.

# 2. Literature Review

## 2.1 Human-Animal Relationship Concept

HAR can be defined as the interactions between humans and animals and the bond created through those contacts. This relationship can be positive, neutral or negative for the parties involved, depending on the perceptions created by one about the other.

Human-Animal Relationship (HAR) can be characterized, as reported by the American Veterinary Medical Association (AVMA), as a bond, between animals and people, which can be advantageous for both. These relationships can include different contact forms - emotional, psychological and physical (AVMA, 2017). Another proposed definition for HAR is the intensity of connection and affinity or on the contrary, disaffection that exists between people and animals. It is the way interactions evolve to create a relationship that will become predictable the future interactions between the parts involved. These links may embody different types of interactions: visual, tactile, olfactory and auditory (Waiblinger et al., 2006). These HAR studies are realized by the Anthrozoology field that "explores the spaces that animals occupy in human social and cultural worlds and the interactions humans have with them" (DeMello, 2012).

Humans and animals relationship encloses some ambiguity; this happens because people perceive animals in very different ways (DeMello, 2012) and these perceptions rely, in part, on people's previous and present experiences with animals (Hills, 1993). This is also true for animals, which in line with their skills and contact with humans and environments in which people insert them into to, develop different perceptions of the human figure (Waiblinger et al., 2006).

From the animal's point of view, the perception regarding coexistence and interactions can be positive, neutral or negative which is formed and shaped by previous experiences (Munksgaard et al., 1997). In some cases such as painful or stressful situation, even positive interactions can create some aversion from the side of the animal. On the other hand, extremely positive interactions can help diminish aversiveness and negative relations towards people (Waiblinger et al., 2006).

From the human's point of view, the study "The Motivational Bases of Attitudes Toward Animals" (Hills, 1993), that consisted of interviewing people with different perspectives regarding the human-animal relationship, indicated conflicting values between farmers, zoo workers, veterinarians and animal rights activists. While farmers tend to demonstrate a less emotional connection with an instrumental interest in animals, the opposite group – animal rights activists – defend that animals should be recognized as equal to humans – and therefore have equal rights. When comparing the urban public with the two different opposites, the research verified that people's attitudes towards animals were more similar to farmers since livestock production was and still is very common and acceptable in most cultures.

However, it is possible to observe some evolution and alteration in people's behaviors towards animals over the years.

## 2.2. Human-Animal Relationship Evolution

Since ancient times, humans and animals have been exposed to social exchanges with each other. (Zeder, 2012) Increasingly, over time, the human-animal bond has become more relevant, stimulating the curiosity of both scientific and non-scientific communities. (Hills, 1993)

Over the past 11.000 years, human beings were able to bring animals closer and domesticate a vast number of species from different classes (Zeder, 2012). The process of domestication and socialization emerged for evolutional needs where the collaboration was relevant, and the objectives were common: shelter, nutrition, and safety (Walsh, 2009).

Even though this process has its origin based on human necessities such as food, clothes, transportation and labor, the frequent interaction between both parts generates a relationship that can be more or less sentimental (Hills, 1993).

In our contemporary society where constant changes are an everyday reality, people increasingly feel more stressed, anxious and nervous and pets might be a way to obtain stability and recover energy. Moreover, it is becoming ordinary to suffer a lot of changes within relationships and households, and on the contrary, animals offer some steady, comforting and trustworthy relation that help surpass disruptive alterations (Walsh, 2009).

Studies also show animals can have a very positive impact on childhood development. Evidence suggests companion animals are intuitively entertaining to young children, capture their attention, and motivate curiosity, which is a factor that endorses and foster children's learning.

The increment of sensitivity towards animals throughout the years has been a factor to bring humans and animals closer. The increased research regarding human-animal relationship has been confirming the benefits that animals, especially pets, can bring to people. Sable (1995: 335) refers "the presence of pets increases feelings of happiness, security, and self-worth and reduces feelings of loneliness and isolation." Besides the emotional and social benefits, studies also suggest animals can have practical benefits – in ways humans cannot – in people's mental and physical health, diminishing blood pressure, reducing depression, endorsing survival (Sable, 1995) and decreasing the importance of trivial health problems as well as enhancing life quality (Macpherson Calum et al., 2013). It is also suggested that animals can have a substantial influence shaping children development in many fields such as bonding, creation of empathy, ability to nurture and in the cognitive progress (Melson, 2003). Moreover, in older adults, it was possible to observe that animals were able to reduce psychological distress as well as the necessity to see the doctor as frequently as non-pet owners (Siegel, 1990). All the evidence of the Siegel (1990) study suggests that pets can be real partners, help relax in stressful situations, make people feel protected, loved and accepted and promote a healthier life.

It is agreed that the HAR provides mutual benefits for both and consequently the number of planned dynamics between animals and pets have been growing with the purpose of improving people's lives. That's where Animal Assisted Intervention starts.

## 2.3. Animal Assisted Interventions

The existence of many studies supporting that animals, especially dogs, are successful in improving our mental and physical health, has led to professionals believing animals could be used for therapeutic purposes (Wells, 2011). However, many European institutions during the18th and 19th centuries were already using animals with treatment intents. In 1792, in England birds and rabbits were used to help patients with mental problems, in 1867 in Germany dogs and cats were used to help epileptic people. These therapies were then expanded to support a wide variety of diseases, even war traumas (Grandgeorge & Hausberger, 2011).

Real developments and scientific investigation in this field initiated with the psychologist, Boris Levinson, in 1960 that started bringing his dog to his medical appointments with children and their response to the therapy was much more favorable when the dog was present. His studies have been underpinned by other researchers regarding Animal Assisted Therapy (AAT) in health facilities (Wells, 2011).

There is a distinction that should be provided, according to some authors AAT can have several denominations such as "animal-assisted therapy, pet-facilitated therapy, zootherapy, animal-assisted activities." However, there is a general agreement between the professionals of the area that a correct term is Animal Assisted Interventions (AAI) (Grandgeorge & Hausberger, 2011). AAI are interventions that strategically include animals to carry out a therapeutic procedure or an improvement process (Berget & Ihlebæk, 2011). This term comprehends Animal Assisted Therapy (AAT), Animal Assisted Activities (AAA) and Animal Assisted Education (AAE) (Okjin et al., 2015). As stated by the Humane Society for Animal Assisted Therapy (ESAAT), AAT can be defined as "deliberately planned pedagogic, psychological and socially integrative interventions with animals for children, youths, adults and senior citizens with cognitive, social-emotional and motoric disabilities, behavioral problems and focusing support. It also includes health-promoting, preventive and rehabilitative measures" (ESAAT, 2017). AAT is based on the creation of a connection between the individual, the animal and the therapist aiming to trigger positive interactions and excellent communication. These bonds have the objective to positively affect physical, emotional and cognitive skills and improving people's wellbeing (ESAAT, 2017). While in AAT there is an insertion of the animal in the treatment plan and the process is designed and structured accordingly to the specific patient's goals, in AAA there are recreational and social visits that can be replicated with many people (Animal Assisted Intervention, 2017). In AAE the animals assist children and young people with learning intentions, principally, children with behavioral issues (Okjin et al., 2015).

AAE it is helpful to increase social activity, empathy, proper leadership behaviors, improve memory, understanding and verbal skills. AAT therapy supports self-esteem, reduces anxiety, and enhances the treatment and counseling in situations of drug abuse and depression. AAA is suitable to mold behaviors, raise cooperation, motivation, and willingness to work.

In line with the overview study realized by Andrea Beetz (2012) the evaluation of 69 reviews about people and animal intercommunication, it was possible to validate the benefits that Animal Assisted Interventions can have in the quality of life of mental-, physical- and non-ill individuals. Contact with animals fosters social interactions between people - independently of the age factor-, enhances trust and reliance on others, expands empathy and compassion – when bonds are made -, curtails aggressive attitudes, helps with depression, stimulates better temper, balances cortisol – which is an hormone produced by the human body to control stress, inflammations and the immune system (Frazão, 2016) -, lowers the blood pressure and equilibrates the heart rate, reinforces serenity by reducing fear and anxiety, eases apprenticeship

– through better focus, attention, motivation and calmness - ,  diminishes cardiovascular diseases risk, helps with recovery processes, affects the feeling of pain – meaning less medication for physical discomfort – and strengthens the immune system (Beetz et al, 2012).

Most of the AAT programs are oriented for people living in healthcare spaces (i.e., elderly people living in nursing homes or ill individuals hospitalized) and have shown amelioration outcomes. Studies analyzed by Wells (2011) revealed AAA such as visits to nursing homes stimulate mental mechanisms and mitigate anxious actions and AAT with schizophrenia patients improved their motivation (Wells, 2011).

There are several studies that prove the benefits of these therapies. However, there is scant information and research regarding the lack of effect and adverse effects of AAT. Some papers, refer some safety problems and allergies but most do not mention animal-transmitted diseases (Grandgeorge & Hausberger, 2011).  Some studies such as "Prevalence of zoonotic agents in dogs visiting hospitalized people in Ontario: implications for infection control" and "Methicillin-resistant Staphylococcus aureus in resident animals of a long-term care facility" look upon these risks and refer visit pets can appease not only the animal-transmitted diseases but also some human diseases. Moreover, animals can carry some microorganisms that might be harmful to "immunocompromised patients" (Lefebvre et al., 2006). In spite of that, other analysis and orientations indicate that with the appropriate and rigid health and safety precautions these risks can be reduced (Bert et al., 2016) and accidents almost eliminated (Brodie et al., 2002). These norms comprehend strict measures regarding the selection of patients and health conditions of the pets (i.e., frequent veterinary appointments, up to date vaccination and temperament inspection). That being the case, the investigation defends the benefits of these therapies overlap the risks (Bert et al., 2016).

These strict regulations also encompass the professionals who want to become therapists. It is necessary to meet specific standards and hold sufficient expertise in sociable behaviors progression, animal educational training, therapy formation, capacity to nurture professional and positive relationships with both other professionals and patients, be able to evaluate which therapy is more suitable according to the patient necessities, knowledge about animal-human transmittable diseases and risk control, be able to achieve the goals through the interventions and evaluate improvement and development (Chandler, 2001).

## 2.4 The Role of Animals in Diseases

Significant part of AAI are targeted to disable people with conditions that comprehend autism, addiction, cancer, heart disease, dementia, developmental disorders, schizophrenia, emotional and behavioral problems, chronic pain (CRC Health, 2015), traumas, chronic truancy, extreme hyperactivity (Daniel Goleman, 1990), depression, Alzheimer, orthopedic problems, high-risk pregnancies (Bert et al, 2016), cerebral palsy, pervasive developmental disorders, multiple sclerosis, spinal cord injury, stroke, and mental disorders (Muñoz Lasaa, 2015).

The differences between animals trigger distinct reactions in people since each animal has a different heal potential (Grandgeorge & Hausberger, 2011). Although the use of pets such as dogs, cats, and even horses is more frequent in AAT, many other animals such as lives, rabbits, birds, fish, hamsters, llamas, and donkeys can be employed in these therapies, this is because each animal has different characteristics and aptitudes that can be useful for various problems (Chandler, 2001).

In Table 1, elaborated by Okjin et al. (2015) it is possible to visualize which can be an adequate animal for a specific AAI conforming to the necessities of people.

*Table 1. Characteristics of Animals for AAI*

| | Breed | Move | Contact | Emotional Communication | Safety | Exercise | Pleasure | Infectivity |
|---|---|---|---|---|---|---|---|---|
| Fish | 3 | 0 | 0 | 1 | 3 | 0 | 1 | 2 |
| Reptiles | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 2 |
| Birds | 3 | 1 | 2 | 1 | 3 | 0 | 1 | 2 |
| Hamster | 3 | 3 | 1 | 1 | 2 | 1 | 1 | 2 |
| Guinea Pig | 3 | 3 | 3 | 1 | 3 | 1 | 1 | 2 |
| Rabbit | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 2 |
| Sheep/Goat | 1 | 1 | 3 | 2 | 2 | 2 | 1 | 2 |
| Cattle | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 |
| Pig | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cat | 2 | 2 | 3 | 3 | 2 | 2 | 3 | 2 |
| Dog | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 2 |
| Horse | 1 | 0 | 2 | 3 | 2 | 3 | 2 | 2 |
| Dolphin | 0 | 0 | 2 | 2 | 2 | 3 | 1 | 2 |
| Pet Insect | 3 | 3 | 1 | 1 | 3 | 0 | 0 | 3 |
| Monkey | 0 | 1 | 1 | 2 | 0 | 2 | 2 | 0 |
| 0=bad, 1=medium, 2=good, 3= excelent | | | | | | | | |

Source: (Okjin et al, 2015)

Several studies in diverse health fields have determined essential effects of animals in different settings related to the type of disease and environment in which the patient is inserted in.

Patients with Alzheimer's disease that were exposed to AAT with dogs and cats showed improvements in behavior opposing to the control group that was not disclosed to AAT. Dogs were able to reduce individual's aggressive attitudes and anxiety (Filan & Llewellyn-Jones, 2006). Cats commonly are used for people who are afraid of dogs and will get better results through a calmer experience (Therapy Pet, 2017).

Dogs give children with autism the possibility to try and experience nonlinguistic social initiatives and articulate those attitudes with humans. Through the birth of a sentimental connection between the patient and the therapy dogs, it is possible to achieve a better relationship between the patient and the family (Solomon, 2010).

AAT with horses can incorporate the treatment of the horse and horseback riding in which autistic children show valuable outcomes such as "greater sensory seeking, sensory sensitivity, social motivation, and less inattention, distractibility, and sedentary behaviors." (Bass et al., 2009).

Farm Animals also create positive impacts decreasing stress levels and improving the self-confidence of psychiatric patients with schizophrenia and affective problems (Berget B, 2008).

In cancer cases, people who have to be hospitalized, especially children, suffer a substantial impact in their life. They have to change from the comfort of their homes to a total distinct environment, deal with a new disease and its painful treatments. Bonding with dogs in these situations helps people adapt to illness and all changes (Bouchard F, 2004). Moreover, a study regarding the effects of the presence of animals during chemotherapy was carried by Orlandi et al. (2007) and the findings were that the presence of dogs in the room during the treatment had an impact in the after-treatment levels of depression – resulting in lower levels.

Studies related to chronic heart failure were also analyzed and reported that AAA had beneficial effects on cardiopulmonary pressures, neurohormone levels and levels of anxiety (Cole et al., 2007).

When encountered with spinal cord injury and multiple sclerosis, hippotherapy (therapy with horses) is the most adequate. It is capable of reducing spasticity – severe muscular contractions - temporarily (Lechner HE, 2007) and develop superior postural stability which supports the idea that this therapy is a capable solution to improve balance disorders in individuals (Menezes et al., 2007).

Regarding language disorders, both hypnotherapy and dog therapy has proven to be efficient. Hippotherapy improves the speech and language skills due to better motivation and attention of patients (Gutierrez, 2016) and dog therapy displays improvements in language capabilities but also non-verbal communication (LaFrance et al., 2007).

According to the review of the most recent literature targeting neurologic diseases realized by Muñoz Lasaa (2015), it is possible to allocate some animals to specific problems. Children with cerebral palsy obtain better results with horses, improving symmetry of muscle activity, balance, walking speed and self-esteem. Children with pervasive developmental disorders achieve good results with dogs – improving the disposition to play, consciousness of social settings, friendship, integration, positive behaviors, relationship with the family and performance in other therapies –, llama and/or rabbit – increasing the use of language and social inclusion –, horse – improving sensory sensitivity and seeking, motivation to socialize, attention and decreasing distractibility and sedentary behavior – and donkey – improving the physical expressions. In adults with pyramidal, syndrome horses help with spasticity, balance, welfare, lower-limb motor control and dogs support improves walking pattern and speed. Regarding adults with dementia or intellectual disability an aquarium fish during mealtimes helps in nutritional intake and supplementation; dogs reduce anxiety, sadness, transmit positive emotions and enhance motor activity; donkeys improve autonomy and social inclusion; horses help to gain strength, balance, and ability to execute functional events and also a better quality of life (Muñoz Lasaa, 2015).

Even though dogs are proven to be the most multifunctional help in AAI, in oncologic patients in the palliative care unit, cats and rabbits showed life quality gains. The presence of birds in the hospital also reveal more activity, mental development, and social interactions (Bert et al., 2016).

## 2.5 Trends

Animals are increasingly gaining significance in people's lives. The transition to the new approach of keeping animals as pets instead of treating them only for utilitarian purposes (i.e., working animals or food) is a relatively recent trend (Spencer S, 2006). This does not mean the humanization of pets is exceptionally new, animals have been spoiled for thousands of years in several communities all over the globe (Derr, 2004). However, there is a notable increase in the intensity of the financial, emotional and cultural investments made by humans in pet animals (Nast, 2006) as well as increasing animal rights movements and organizations that highlight mistreatment and killing of animals and focus on the elimination of such acts through education, legislation, adoption programs and rehabilitation. Consequently, the number of animals used in laboratory experiments has decreased (Mukerjee, 1997) and businesses show a growing concern about animal welfare – companies with animal cruelty on their business model can be at risk (Wiles, 2017).

Nowadays, the majority of people who own pets consider them as a friend and even as a family. Research shows cats and dogs are not the only ones, part of society includes fish, gerbils, ferrets, turtles, rabbits, and even farm animals in the family nucleus (Walsh, 2009). Pet ownership rates have grown substantially, and the future perspectives predict rates will keep growing. This means the demand for new and environmental-friendly – which is something relevant for owners – solutions for pets will also thrive (Packaged Facts, 2016).

Moreover, these new trends are not only focused on pet animals but also farm animals. It is widely believed people are increasing their concerns on animal welfare and it has been suggested this ethical matter impacts individuals' behaviors in such a way the percentage of people adopting a vegan diet on the 21st century is on the rise (Radnitz, 2015) Additionally, individuals are also adopting other types of animals such as pigs, goats, and chickens, as pets.

With the importance of animals becoming more relevant every year, it's accurate to say, animals and people are becoming closer.

Although there's some lack of evidence regarding the effects of farm animals in people's diseases, the study "Complementary Therapies for the Body, Mind and Soul" (Okjin et al, 2015), suggests that some farm animals can be good to improve areas such as contact, emotional communication, exercise, and pleasure by interacting with that farm animal. As an illustration, in some nursing homes in the US, goats are used in AAA to entertain the elderly (Hall, 2014).

In compliance with the previously analyzed evolution, it is observable that innovative institutions are emerging with AAT programs and nature-based education and activities (i.e., summer camps, nursery school, daycare, community-based programs) (Green Chimneys, 2017). Moreover, schools are adopting new methods that can promote concern and enthusiasm for nature and foster skills development, responsibility and caring such as having animals in the classroom (ADEC, Department of Environmental Conservation) or even adopting resident animals for the school which are responsibility of the children (Agrupamento de Escolas Santos Simões, 2017). AAT for problematic adolescents is also applied in schools to help students control aggressive behavior and gain responsibility. (Os Tratadores, 2015)

Another emerging trend in AAI is the use of animals in the olfactory detection of diseases once this sense is empathetic and developed in animals. (Teodoro-Morrison et al., 2014). The keen sense of animals – especially rats and dogs - can be used to discover pathologies such as cancer, tuberculosis, epilepsy, and diabetes and help people saving their lives. (Sá, 2017)

In line with current trends, it is believed AAI programs will keep persisting and proliferate in the future even with a particular scarcity of efficacy results data.

### 2.6 Conclusion

HAR can be defined as the interactions between humans and animals and the bond created through those contacts. This relationship can be positive, neutral or negative for the parties involved, depending on the perceptions created by one about the other. However, there has been an evolution regarding the perceptions of people towards animals over the years. It is now generally acknowledged the benefits that HAR could have in people's lives, and there's also the biggest concern regarding animal welfare. Evidence that supports and proves this benefits for our physical and mental health serves as a foundation for the expansion of AAI. Although there are some critics of the previous studies regarding this matter, patients with severe medical conditions that had access to AAI show improvements and life quality enhancement.

The community is now giving special attention to animals and to what is possible to achieve with their help. New trends are emerging, the importance of animals for people is growing as well as the investigation of new forms of human-animal collaboration. There are still some barriers regarding some legal matters, transmitted diseases control, and bias that must be eliminated with additional investigation, studies and norms.

Concluding, it is possible to achieve some consensus between experts regarding the benefits that AAI have in people. AAI can improve people's lives, and further investigation is recommended to achieve better results in more specific sub-areas.

## 3. Methodology

This section sets the basis for the methodologies used to prove the viability of project developed throughout this thesis (Table 2).

*Table 2. Business Plan Methodology*


**Market Analysis**

Quantitative Research

The first step of the analysis incorporates the market-based criteria which involve the external, internal and competitive factors. To study these forces, a market analysis is performed in Chapter 4, obtaining a holistic view of all the relevant markets for the business idea, which fosters the evaluation and selection of the most suitable demand for the project's services. Both the current market and potential new markets will be assessed in this chapter. Through this screening, it will be possible to identify the attractiveness of the market and the business potential as well as the risks that might emerge in that specific sector. The components of the methodology include several evaluation tools divided into three dimensions:

External:

• Industry definition - Current and future condition of the industry, integrating market size, life cycle, growth, future trends and demand forecasts.

• Study of demographic factors - Previous analysis of the target market that will support the segmentation and targeting of the marketing plan. It includes age, income, location, interests, percentage of most frequent diseases according to place and behaviors.

• PESTEL (Political, Economic, Social, Technological, Environmental and Legal) Analysis – Definition of the external business environment and how each element of this external environment can affect the project, both positively and negatively.

Internal:

• The business model – How do the companies create value for customers, what are the core strategies and what best approach suits the shareholders.

• Resources and capabilities – What resources and capabilities are necessary to pursue success in AAI field, how can they be designed to stay competitive.

Competitors:

• Porter's 5 Forces model – The magnitude of each of the five forces enables a better evaluation and estimation of the profitability level and how can companies improve its competitive position (Indiatsy C.M. et al., 2014).

Qualitative Research – Case Studies

To perform in-depth analysis, the qualitative analysis is performed using survey interviews. The collection and interpretation of information given by experts in the area will allow the project to obtain knowledge about experiences and outcomes and achieve insights that would not otherwise be possible. The primary goal of qualitative research is to gain different perspectives and a better comprehension of the Animal Assisted Interventions and its impacts on people. In this case, mainly in people with specific disabilities, mental disorders, and elderly population. The process will include interviews with professionals of the area and people who already experienced some AAI. This analysis and the respective results will be introduced in chapter four as case studies, which can show what kind of companies are present in the sector, what do they do differently and which are their best practices.

**Business Concept**

After the market analysis realized in chapter four, it will be possible to identify market opportunities that emerge from market gaps and lack of exploration of the AAI market in Portugal. This opportunity will be enlightened in chapter five, as well as the evolution and development of the project, highlighting each phase and the embedded processes that will be necessary. Moreover, the main activities of the business and its scope will be specified and explored to define the core activities and focus of the project.

Objectives

Chapter six states the goals of the project divided into two types – short- and medium-term aims and long-term objectives. Respectively, the first group integrates what the project will try to achieve in the first and second years, what are the first goals and how these goals are connected with the second group that includes long-term objectives, where the company will define the future targets for the next years and what is critical to achieving in order to have the wanted positive impact, growth and sustainability of the business.

Long-term Development Strategy

In Chapter 7 a development strategy is presented, which means it is explained how the business can grow in a second phase, saying, what other types of business can be included or how other markets can be achieved.

Operating Model

In Chapter 8 the methodology through which the strategy and ideas will be implemented is given step by step. It is possible to divide the implementation into three main plans:

- **Marketing** – Development of the mission and vision of the company, definition of the market segments and the most suited target market, setting of the value proposition and explanation of what will be offered to society and its linkage with strategic management, determination of the positioning and differentiation strategy, formulation of the 8Ps – Services, Price, Place, Communication, Presence, Productivity, People and Process.
- **Organization** – Study and choices regarding logistics matters – Dimension, Localization, Processes and Operations, Suppliers and Value Chain -, Human resources handling - policies, salaries, processes and structure and the criteria used for these decisions -, assessment of the necessary technical resources – for investment and operations – and what partnerships can be placed.
- **Implementation Requirements** – This field is related to legal matters, in compliance with legislation – requirements for the company's start and growth with the right conditions and licenses.

Financial Plan

Chapter 9 reflects the projections and assumptions for three different scenarios that will be studied to find the most suitable funding source and understand the attached benefits and risks of each setting.

In scenario 0 the investment is lower, and the organization dislocates to health centers and other associations to provide the AAT. However, this scenario cannot work with farm animals. Scenario 1 presents the possibility of renting a space to perform the AAT and simultaneously dislocating to other institutions. There is also no possibility to work with farm animals since there is a risk related with some frequency in a change of location.

Scenario 2 shows an organization that starts working dislocating to other associations while starts building its farm for the AAT which can create more capabilities and possibilities for future growth in other markets and reduces volatility regarding the place and credibility. However, there is a higher investment associated.

With these projections, it will be possible to build an accurate evaluation of the project based on future cash flows, NPV and IRR that can support the economic decision. The development of a sensitivity analysis enables the interpretation of numerous possibilities and in the presence of a pessimist scenario, understand if the investment is still worth it.

Finally, detecting, according to which scenario, the most suitable funding source and understand the attached benefits and risks of each setting to conclude which is the most sustainable financial plan.

# 4. Market Analysis

## 4.1. External Analysis

### 4.1.1. Industry Definition

Animal Assisted Interventions are therapies and activities that involve animal as a form of treatment. These interventions can be performed in many different settings such as schools, nursing homes, hospitals, rehabilitation centers, and prisons. AAI is still a very recent industry; it is considered an alternative medical treatment which lacks some standardized clinical studies. However, this sector has been growing around the world since there has been an evolution in people's mindset existing now a widespread acceptance among the public, researchers, and clinicians. Even though there is limited evidence regarding this industry, AAT research is getting superior and recurrent. (Fine, 2015).

### 4.1.2. Industry Data

AAI have been gaining visibility and reputation over the years. The reasons behind this popularity are not only the benefits of the therapy itself but also the influence on therapeutic costs.

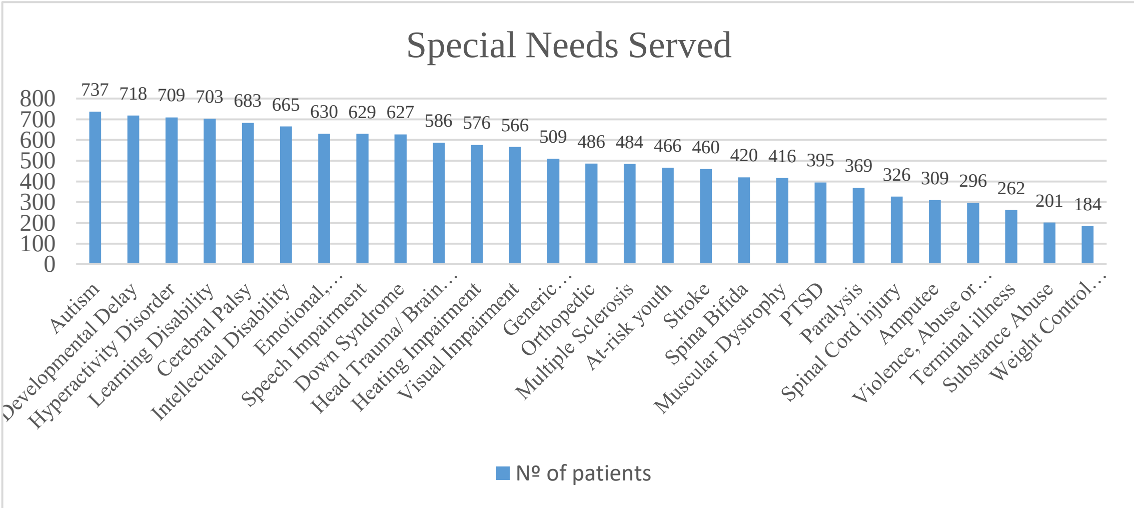
The increasing expenses related to traditional therapies can compromise people's capabilities and freedom to access those treatments. AAT can be a more accessible way to enhance individuals' behaviors and welfare. Additionally, if AAT can reduce patient's time in health care facilities and decrease medical interventions, the adjacent costs are going to reduce as well. Consequently, if AAT can reduce medical costs, health insurance companies and even the state will be interested in this reduction since their co-participation can be lighter. (Steven M. Niemi et al., 2010)

As stated by The Balance, animal therapies are becoming incrementally sought and applied due to all the benefits that result from it, and it is agreed that this expansion will keep developing over time. Consequently, the number of people searching for AAT certification is also rising to cope with the increasing demand. It has been suggested that over the next decade, jobs, where AAT can be integrated, will develop faster than other careers. (Kramer, 2017)

An analysis realized in the United States for the Interactive Autism Network with the information given by parents of children with autism spectrum disorders have shown that from the 8000 families involved in the study, 568 families reported using one or more AAT programs. Equine therapy was the most frequently employed therapy (61%), followed by animal or pet therapy (30%) and finally service dogs (9%). According to 83% of the interviewed parents, AAT improved their children's condition, while 16% didn't notice any change and only 1% claimed it worsened their children's situation (IAN, 2011).

In agreement with Professional Association of Therapeutic Horsemanship (PATH) statistics, there were, in 2013, 58,336 participants of all ages in their equine therapies aiming to improve several health problems as shown in graph 1. The waiting list totaled 5,261 people, which shows the high demand for the alternative treatment. (Professional Association of Therapeutic Horsemanship, 2013).

*Graph 1. Special needs served by Hyppotherapy*




A study carried by Therapy Dogs International with the aim to understand the perceptions not only of patients but also from staff regarding therapy dogs highlighted the foundations of the future rise in demand for these services. It was possible to verify that patients wanted to increase the frequency of therapy dogs' visits. The most distinguished benefits expressed by patients were "positive mood alteration" (96%), "increased socialization" (86,5%), "increased verbalizations" (86%) and "increase alertness" (80%). Staff members pointed out an increase in professionals morale (43,2%), better communication with patients (23,35%) and stress reduction ( 11,4%) (Therapy Dogs International Inc, 1998).

All evidence suggests that AAI is an industry that will keep growing and flourish in the coming years, thus in the industry lifecycle AAI sector is in a transaction phase from the introduction to the beginning of the growth phase. In this stage the capital needs are noticeable, and the number of competitors is growing once the service is becoming widely accepted and the market more attractive resulting in new entrances and boosting companies' necessity to define a strong differentiation strategy. This period also requires funds to Research and Development (R&D) and adaptation to customer's wants and needs. (Porter, 1980)

In Portugal, AAI has been taking significant steps forward in both education and health mainly since 2013. There are already some psychiatric hospitals (i.e., Centro Hospitalar Conde de Ferreira) and schools working with therapeutic dogs. On the Other Hand, Private Health Groups have been demonstrating interest in the area and studying the matter. The Group José de Mello Saúde, which is a reference in Portugal, states animal-co-therapy can be an innovative methodology. (Sociedade Portuguesa de Pediatria, 2016)

Three recognized programs took off in Torres Vedras, Oeiras and Silves in school settings to help with learning difficulties. In Silves, besides learning disabilities, it was also developed a program aiming to improve problematic juveniles with risk behavior. The young adults claimed the program helped them get calmer and gain responsibility. Teachers mentioned that with a traditional therapy juveniles would probably end up withdrawing from the program, however, with the successful dog intervention students were able to reduce and in some cases eliminate conflicts and improve their development during classes.

AAT in Portugal consisted only in equine therapy, until 2001, when the Association Ânimas was created and have been helping to develop this field.

In Cascais, there is already a program provided by the municipal council, which allows its residents to get AAT for free. Efforts are being undertaken by multiple associations to reach more schools and even the Portuguese health system.

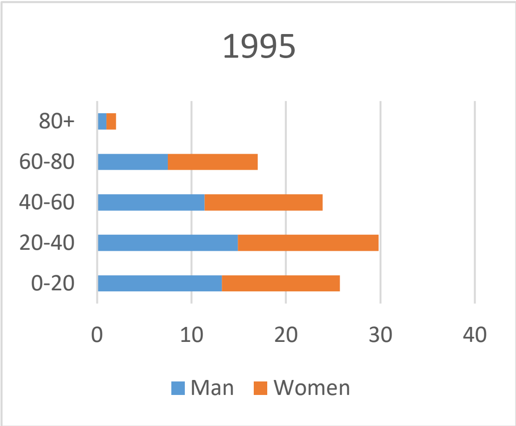
In 2013, the AAT courses arrived at the university in Portugal through a pioneer post-graduation in ISPA. With many non-certified courses, this post-graduation is a step forward in validity and credibility of AAT.

To date, in Portugal, there is no regulation regarding AAT animals. (Os Tratadores, 2015)

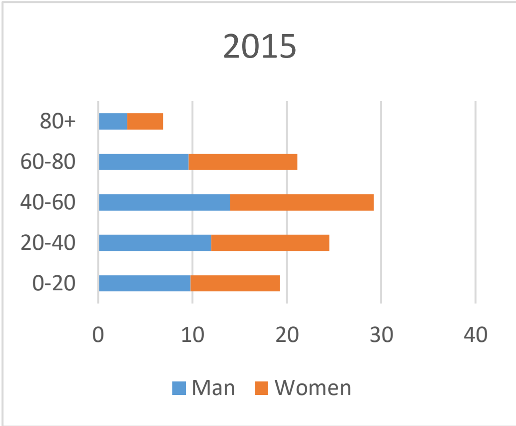
### 4.1.3 Demographic factors

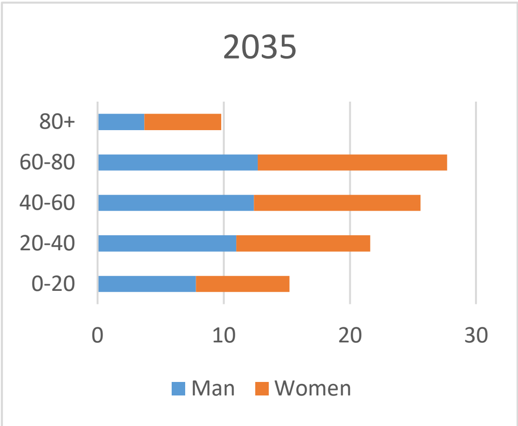
Portugal has an estimated population of 10.292.989 inhabitants (PORDATA, 2017), a value that has been decreasing over the years. From this number, approximately 21% are 65 years old or above, the mortality rate is superior to the birth rate, there is a rise in the average life expectancy of both man and women and a negative migration balance thus sustaining an aging population. (Agência Lusa & INE, 2016).

Graph 2. Aging Population by Gender in 1995




Graph 3. Aging Population by Gender in 2015



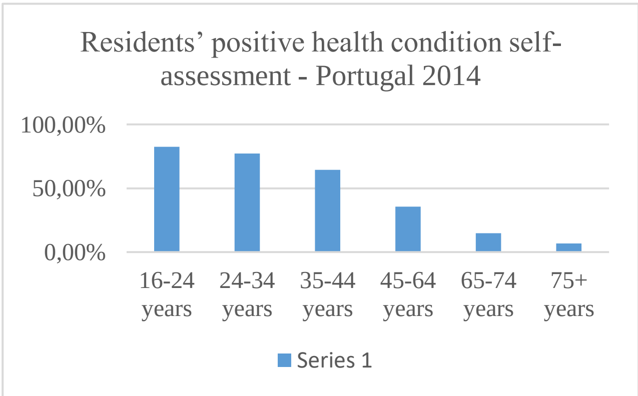

Graph 4. Aging Population by Gender in 2035

Source: Adapted from (Population Pyramid, 2018)

It is possible to observe in graphs 2 and 3 the demographic aging in Portugal comparing 1995 and 2015. It is foreseen that by 2035 the population number will be even lower and more of 50% of the population will be over 50 years old (Graph 4).

As reported by Direcção Geral de Saúde most of the Portuguese citizens over 16 years old classify their health as good or very good, especially man (50,5%) over women (42,1%). This rate is higher at a younger age and gradually decreases with age as it is possible to perceive in graph 5 (DGS, 2016).

*Graph 5. Residents' positive health condition self-assessment*




Fonte: Eurostat 2016

According to Instituto Nacional de Estatística (INE), 636.059 individuals of the resident population – around 16% – suffer from a physical or mental disability - including minor ones -

and have difficulty in performing at least one of the 6 primary daily activities – seeing, listening, walking, remembering/focusing, showering/ getting dressed, understanding others/ making themselves understood. In the group between 15 and 65 years old, 40,5% have at least one health problem or long-term illness, and 17,4% have difficulty performing one of the six essential daily activities. Regarding the elderly population – above 65 years old - nearly 50% have to struggle or can't perform at least one of the six tasks (INE, 2012), and 25% have difficulty in the realization of personal care activities. Concerning the intensity of pain, 30% of all age groups reveal having moderate, intense or very intense pain regularly. (DGS, 2016)

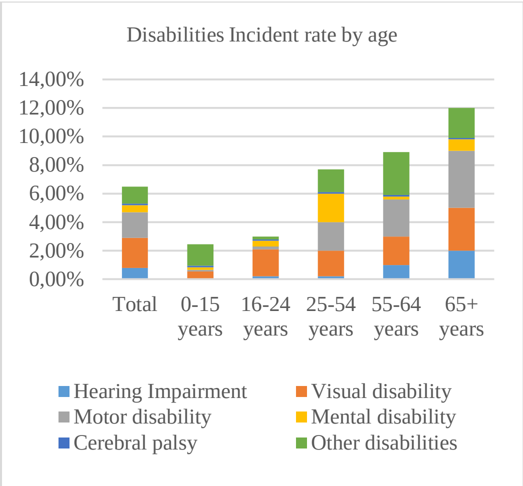
From the total number of incapacitated citizens, 9% presents a degree of disability inferior to 30%, 10% a degree between 30% and 59%, 16% with values between 60% and 80%, 12% with a level superior to 80% and the remaining 54% suffer from some disability but the corresponding degree was not identified (INE, 2007).

As reported in 2001 CENSOS, it was possible to estimate a 6,1% incident rate on the total population, being the visual impairment (1,6%) the most common problem followed by motor disability (1,5%), hearing impairment ( 0,8%), mental disability ( 0,7%), cerebral palsy (0,1%) and others ( 1,4%) (INE, 2002). The latest data confirms the actuality of the previous data, estimating 980.000 habitants cannot walk or climb stairs, 27.659 habitants with visual impairment and 26.860 with hearing impairment, 68.029 with comprehension disabilities. (Diário de Notícias, 2017)

As part of the Global study Burden of Diseases (GBD) it was possible to identify which factors are more relevant and responsible for reducing health: Poor eating habits (15,8%), high blood pressure ( 13%), tobacco smoke ( 12,2%), upper body mass index (11,5%), high plasma fasting glucose (10,2%), alcohol and drugs abuse (8,7%), high levels of cholesterol (5,5%), occupational risks (4,7%), low glomerular filtration rate (4,3%) low level of physical activity (3,8%) and others (10,3%) (DGS, 2016).

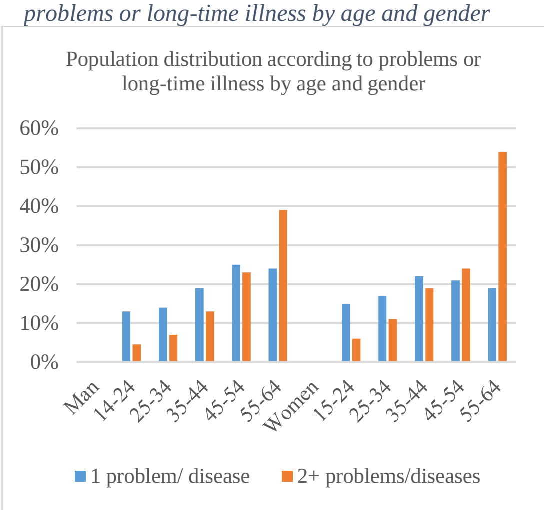
When comparing variables such as age, incident rate and type of disability it is possible to observe in graph 6 the incident rate increases with age in almost every disability (INE, 2002). In graph 7 it is possible to see that seniors have higher propensity to have more diseases as they get older, especially women (INE, 2011). Also, graph 7 reveals cerebral palsy is more common among younger ages while motor disability and hearing impairment are more common among the elderly.

*Graph 6. Disabilities Incident Rate by Age*



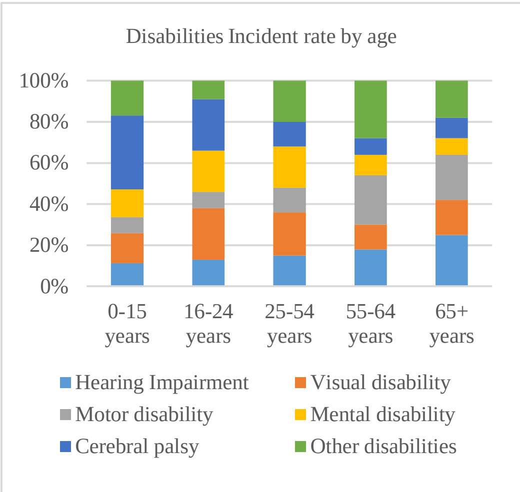

Adapted from (INE, 2002)

*Graph 7. Population Distribution according to problems or long-time illness by age and gender*



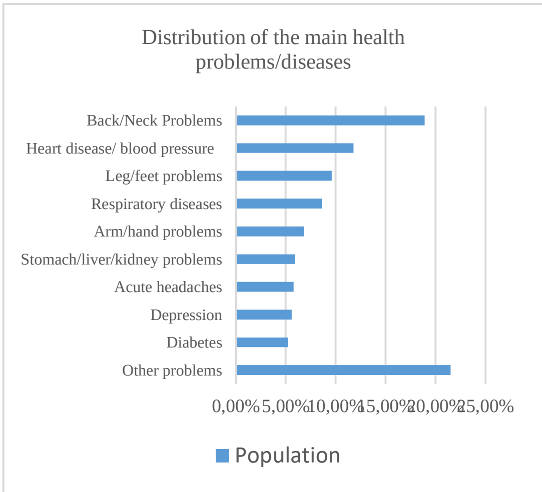

Adapted from (INE, 2011)

*Graph 8. Disabilities Incident Rate by Age*




Adapted from (INE, 2011)

*Graph 9. Distribution of the main health problems*




Adapted from (INE, 2011)

For people between 15 and 64, the most regular health problems and long-term diseases are neck and back problems followed by heart diseases and blood pressure, legs/feet problem, thoracic complications (INE, 2002)

As reported by INE, in 2015, the leading cause of death in Portugal was the circulatory system disease causing 32.443 fatalities and representing 28,9% of the mortality rate. The second leading cause was malignant tumors with 26.647 deaths and a 24,5% rate. Respiratory diseases were the third cause (12,4%), followed by endocrine, nutritional and metabolic diseases (5,3%) and behavioral and mental disorders (3,0%) (INE, 2017).

People have been leaving inner cities and moving to the coast leading to a concentration in specific cities. The most populated cities by the number of residents are now Lisbon, Sintra, V.N. Gaia, Oporto, Cascais, Loures, Braga, Matosinhos, Amadora and Almada, 6 of which belong to Lisbon district. This clustering is probably one of the factors capable of explaining uppermost rates in two regions, the center and Lisbon with the highest disease incident rates - 6,7% and 6,3% respectively - in Portugal (INE, 2012).

From the mentioned diseases, several were already stated in chapter 2 as problems which may be faced with animals' help. Therefore, it has been suggested that AAI can have a positive impact on both incident and mortality rates and the recovering process.

For the proposed sector it is possible to estimate an approximated potential market of 391 134 citizens which represents 4% of the total population (Table 3).

*Table 3. Calculation of the Potential Market*

| **Portugal** | **Total** | **%** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inhabitants** | 10 292 | 100% | | | | | | | | |
| **Above 65** | 2 161 528 | 21% | **W/ Difficulties** | | | | | | | |
| | | | Total | 1 080 764 | | | | | | |
| | | | Percentage | 50% | | | | | | |
| **Difficulties and Disabilities** | 1 646 878 | 16% | **Disability Degree** | **<30%** | **30%-59%** | **60%-80%** | **>80%** | | | |
| | | | **Population %** | 9% | 10% | 16% | 12% | | | |
| | | | **Total** | 148 219 | 164 688 | 263 501 | 197 625 | | | |
| **Disabilities** | 627 872 | 6% | **Type** | **Visual** | **Motor** | **Hearing** | **Mental** | **Cerebral Palsy** | **Others** | **AAT** |
| | | | **Population %** | 1,60% | 1,50% | 0,80% | 0,70% | 0,10% | 1,50% | 4% |
| | | | **Total** | 164 688 | 154 395 | 82 344 | 72 051 | 10 293 | 154 395 | 391 134 |
| **By Region** | **Total** | **%** | **Further** | | | | | | | |
| **Lisbon** | 504 964 | 5% | **Disease Incident Rate** | **Rate** | 7% | | | | | |
| | | | | **Total** | 33 833 | | | | | |
| **Sintra** | 383 946 | 4% | | **Rate** | 6% | | | | | |
| **Cascais** | 210 889 | 2% | | **Total** | 24 189 | | | | | |
| **Vila N. Gaia** | 300 001 | 3% | | | | | | | | |
| **Porto** | 214 119 | 2% | | | | | | | | |

## 4.1.4 PESTEL Analysis

PESTEL analysis is an approach used to examine and evaluate the external business environment and recognize which external factors – beyond the company's control - can affect performance. PESTEL stands for Political, Economic, Social, Technological, Environmental and Legal factors (FME, 2013). This methodology helps organizations predicting future environmental trends, enables companies to acquire the necessary knowledge and information which are relevant to decision making, planning, modifications and strategic development (Kim-Keung, 2014).

Political

Between 2011 and 2015 Portugal was led by a Centre-right coalition that was able to achieve an absolute majority. The government implemented several structural reforms and had to struggle with the fiscal deficit and the negative impacts of the economic crisis.

From the last legislative elections in Portugal - in 2015 - resulted in some political instability once the winning party – Centre-right coalition - was not able to achieve an absolute majority (47%). For this reason four parties from the opposition – Centre-left and left wing – formed a Centre-left coalition to govern with a majority (51%) (Banco de Portugal, 2017). This caused some doubts and uncertainty in Portuguese citizens. Although this coalition has been showing superior stability than expected, there is some uncertainty regarding political issues in Portugal since the four parties involved in the coalition support very different ideologies. With delicate economic circumstances in the country, an economic downturn could divide the alliance.

- The current scenario could influence the economy which would consequently have a detrimental effect on the economic power of the population and businesses' survival. On the other hand, the left-wing can be an advantage for this specific case since they are more open to alternative therapies and the likelihood of this treatment being integrated into the National Health System (SNS) is higher.

In the same elections, for the first time in Portugal, a deputy was elected from a new party called PAN which stands for People, Animals, and Nature.

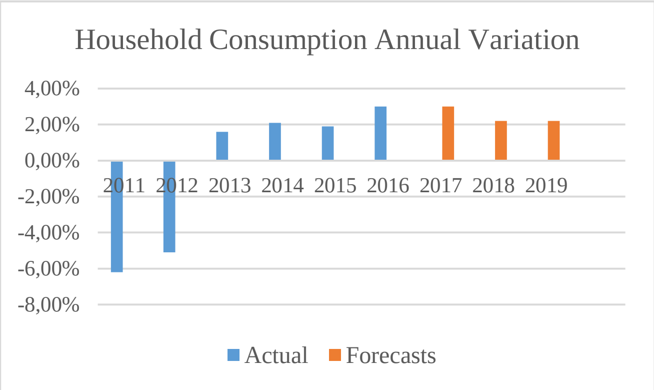
- This scenario expresses people's concerns regarding the environment and a stronger and more extensive link between humans and animals. In this business specific case, this can be extremely advantageous once it can result in the broader adherence and greater visibility of human-animal relations and government support for AAI.

Economic

The Portuguese Gross Domestic Product (GDP) has grown in 2016 achieving 204.56 billion US dollars and representing 0,33% of the world economy. The value of GDP per capita in 2016 was 22347.03 US dollars a number that has been growing since 2013. The Portuguese economy has grown 2,8% on the first quarter of 2017 compared to the first quarter of 2016, and GDP growth rate increased and achieved 1% on March 2017, reaching the higher growth rate since 2010. (Trading Economics, 2017)

In 2016 the inflation rate was 0,6% which means there was a slowing pace in price evolution which caused some stimulation to spend more on both products and services. For 2017 the inflation rate should be around 1,4% which means the population suffers a sure loss of purchasing power which can affect businesses. However, household consumption variation has been increasing, and it is expected to maintain positive values as it is possible to observe in graph 10. The Domestic demand is recovering from the crisis and has potential to foster economic growth. (Banco de Portugal, 2017)

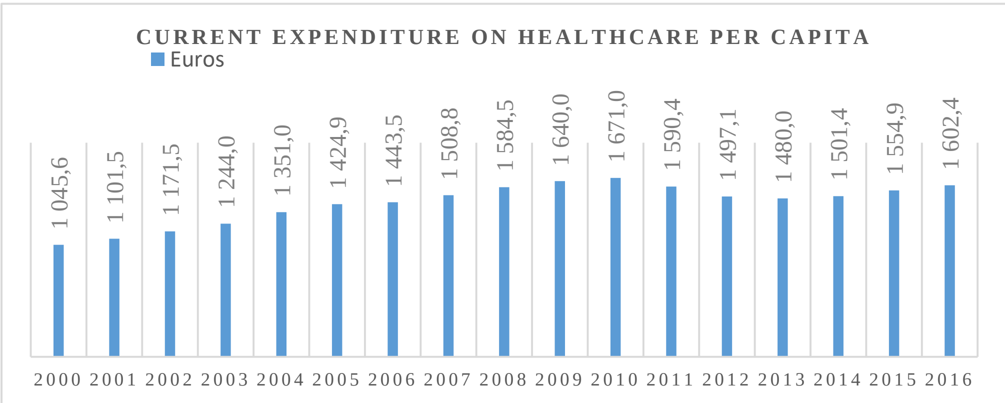
*Graph 6. Household Consumption Annual Variation*




Source: Bank of Portugal

In health industry, it is possible to observe in Graph 11. the evolution of current expenditure on healthcare per capita which have been increasing.

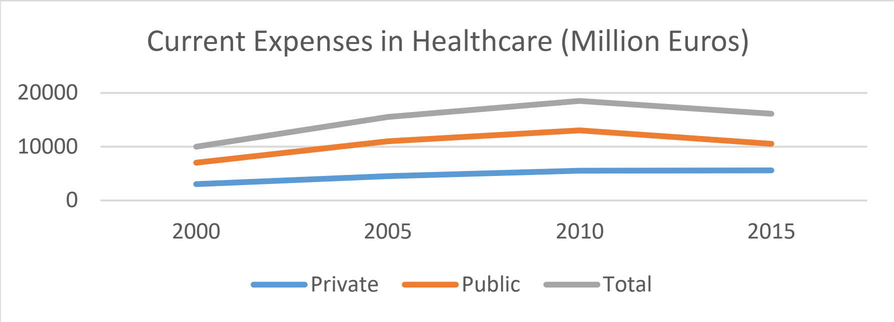
*Graph 7. Current Expenditure on Healthcare per capita*




Source: INE, PORDATA, 2017

Comparing this expenditure in public sector and private sector it is possible to notice public sector expenses represent around the double of private sector expenses (Graph 12).

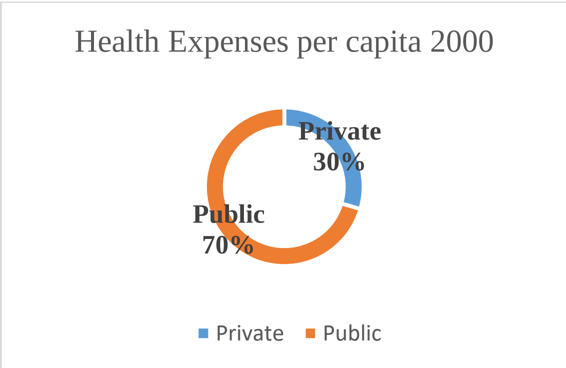
*Graph 8. Current Expenses in Healthcare (Million Euros)*



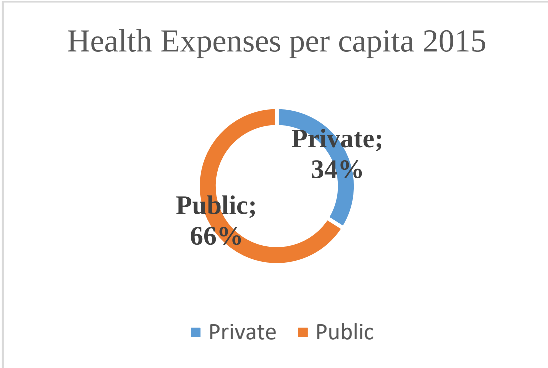

Source: (INE, 2017)

Measuring the expenses in healthcare per capita in the private and public sector, it is possible to perceive that in 2000, the private sector value per capita was 308,78€ while in the public sector the value per capita was 736,39€, in 2015 the private sector value per capita was 521,22€ while the public sector value per capita was 1012,63€ (INE, 2017). This proves the private sector is gaining importance (Graphs 13 and 14).

Graph 13. Health Expenses per capita in 2000




Graph 14. Health Expenses per Capita in 2015




Source (INE, 2017)

From the 34% of the private sector, 27,6% is spent by families, 1,7% by health subsystems and 3,7% by insurance companies. From the 66% in public sector, 58% is spent by SNS and SRS (Secretaria Regional de Saúde).

The economic prospects are favorable for Portugal since the most alarming imbalances such as fiscal deficit, net public debt, and trade imbalance are being corrected for some years now (Banco de Portugal, 2017).

In all circumstances, if AAI were able to provide a cheaper alternative to other therapies with the same or better results, the company could succeed in a challenging environment. Moreover, it is possible to understand that the inclusion of AAI in SNS would be extremely advantageous for AAI companies.

<u>Social</u>

As mentioned in demographic factors, Portugal has a long-term tendency of an aging population. This aging happens as a result of declining birth and death rates and increasing average life expectancy (DGS, 2014)

*Table 4. Population Variation*

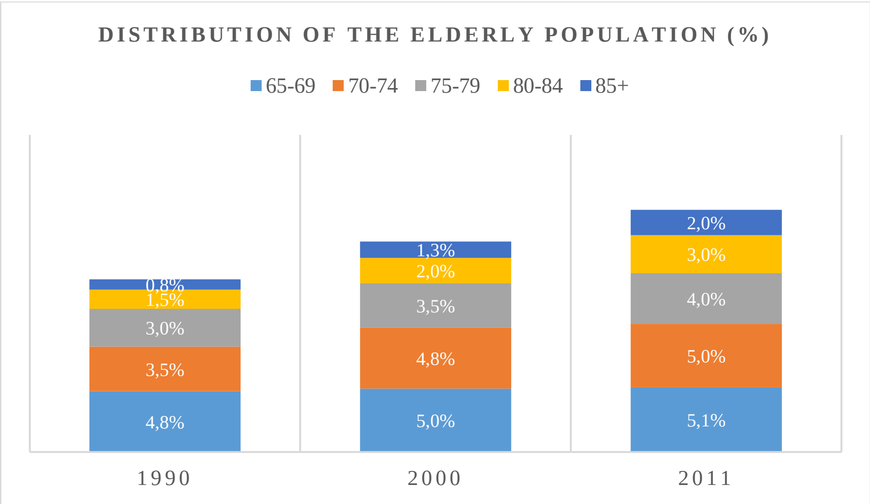
| Years | 0-14 | 15-64 | 65+ |
|---|---|---|---|
| 2001 | 1.656.602 | 7.006.022 | 1.693.493 |
| 2011 | 1.572.329 | 6.979.785 | 2.010.064 |

Source (DGS, 2014)

In table 4 it is visible the decline in at younger age groups and a sharp increase in the group above 65 years old.

Portugal has a considerable percentage of older adults that have been increasing as it is possible to observe in graph 15. It is expected the proportion of seniors reaches 40,4% of the population until 2050.

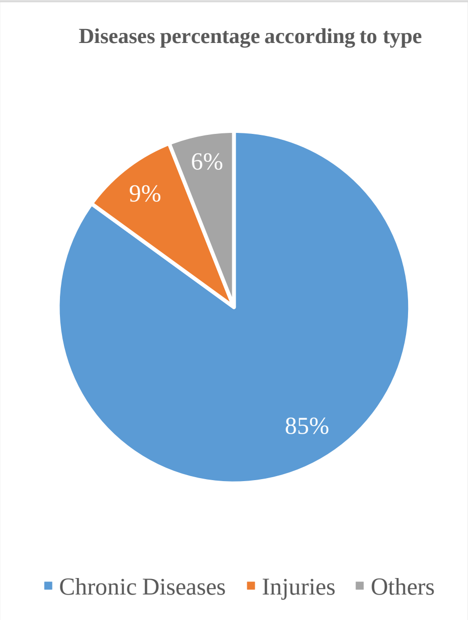
*Graph 9. Distribution of the elderly population*



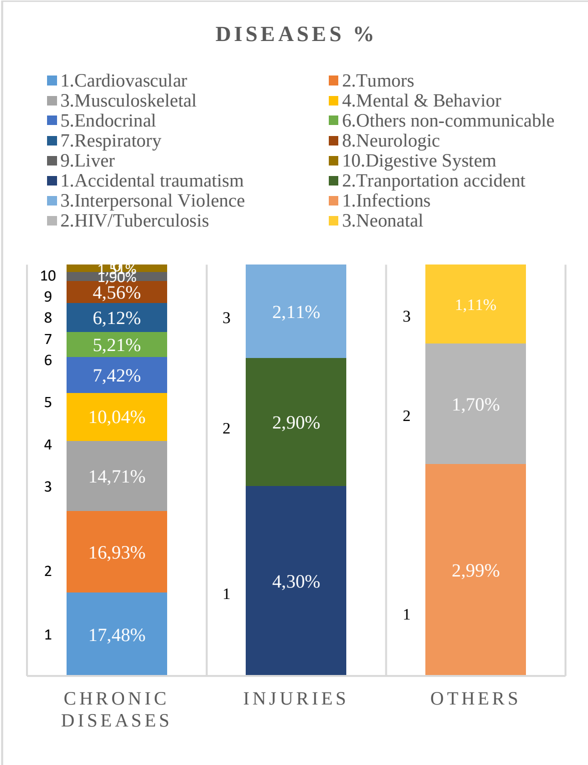

Although the increase in average life expectancy is recognized as a remarkable accomplishment, it is also a factor that is leading to profound changes in the principal mortality causes. As people are achieving higher ages, there is a higher risk of developing chronic and degenerative diseases. Consequently, the use of health and care services is also superior. In some OCDE countries, 40% to 50% of health expenditures end up being spent with the elderly group (DGS, 2016).

Graphs 16 and 17 shows 85% of diseases are chronic diseases, 9% injuries and 6% other conditions. The diseases with more significant impact on morbidity, incapacity and premature death in Portugal are cardiovascular diseases (18%), tumors (17%), musculoskeletal disorders (15%), mental and behavioral diseases (10%) and diabetes and other endocrine disorders, blood diseases and urogenital tract diseases (7%). (DGS, 2015)

*Graph 16. Diseases Percentage according to type*



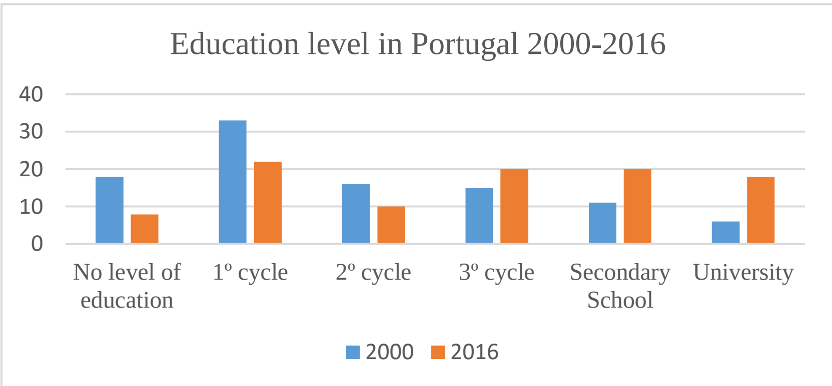

*Graph 17.General Diseases' Percentage Detailed*




Source: (DGS, 2015)

The resident population from 15 and over has positively evolved over the years regarding education level. In graph 18 it is possible to perceive the progression and reversal from 2000 to 2016.

*Graph 10. Education Level in Portugal 2000-2016*




Source (Pordata, 2017)

Concerning the average age of retirement in 2000 was 58,8 while in 2016 is 62,8. (Pordata, 2017) However, at the moment, the retirement age without penalty is 66 years and three months, and the trend is upwards following an increase in the average life expectancy (Economias, 2017).

This increase in retirement age may have an adverse effect on the business. Although the period raises this could not be enough to maintain people working which may lead to a higher unemployment rate and earlier retirements.

On the other hand, if AAI is capable of keeping people healthier for longer, this could help people maintaining their jobs in good conditions.

Regarding health, one of the most significant concerns according to World Health Organization (WHO) in Portugal is the obesity rate in adolescents (5%) - one of the highest in Europe (WHO, 2017).

AAA can be an excellent way to help reduce this rate fostering physical activity and fighting sedentary behaviors.

Also in the health field, AAT can help in more than 37 health issues presented in table 5. Many of which – as mentioned before – is presenting evolution in incident rates, mainly due to population aging. Moreover, cardiovascular diseases have the highest incident rate in Portugal and are one of the issues in which AAI presents considerable improvements.

*Table 5. Diseases/ Problems that can be improved through AAI*

| | | | | | |
|---|---|---|---|---|---|
| Autism | Developmental Delay | Hyperactivity Disorder | Learning Disability | Cerebral Palsy | Intellectual Disability |
| Mental health, emotional problems | Speech Impairment | Down syndrome | Head Trauma/ Brain Injury | Hearing Impairment | Visual Impairment |
| Generic Conditions/Disorders | Orthopedic | Multiple Sclerosis | At-risk youth | Stroke | Spina Bifida |
| Muscular Dystrophy | PTSD | Paralysis | Spinal Cord injury | Amputee | Violence, Abuse or Trauma |
| Terminal illness | Substance Abuse | Weight Control Disorders | Cardiovascular diseases | Epilepsy | Alzheimer |
| Schizophrenia | Cancer | Dementia | Chronic pain | Depression | High-risk pregnancies |

## Technological

Portugal has always been slightly behind other countries in matters of R&D, the delay overcoming in scientific research only started happening in 2006. This results from the development of the document " Commitment with Science for Portugal - overcoming the scientific and technological backwardness " which aimed to bet on knowledge and competence in scientific and technical areas, human resources and scientific culture, R&D institutions and infrastructures, Internationalization and economic valorization of research. In 2013, a diagnosis was realized by FCT (Fundação para a Ciência e Tecnologia) aiming to define a future strategy for investigation and innovation. The result was 15 main priorities where Portugal presented actual or potential competitive advantage, being Health one of them (Guerreiro CS, 2017).

| | Total | Corporate |
|---|---|---|
| **2013** | 2.232.248 | 1.035.966 |
| **2014** | 2.234.369 | 1.036.532 |

*Table 6. Incentives Increase*

There has been a tendency of rising incentives for R&D (table 6).

Regarding R&D in Health, investment has increased. According to DGEEC (Direção-Geral de Estatísticas de Educação e Ciência), investment in R&D in Health was in 2014, 377 million euros which represent an increase of 16% compared to 2013 with 325 million euros. Companies invested 120 million euros in 2014, more 7% than 2013 and represented 32% of total investment in the sector (HCP, 2016).

Additionally, the program "Saúde no Horizonte 2020 - Oportunidades de financiamento para 2018-2020" counts with a budget of 2.000 million euros to finance projects in the Health field. The areas of investment included customized medicine, innovative industry, global health, innovative health systems, the role of environment in health, digital transformation, big data solution and others (HCP, 2017).

Portugal has been allocating around 0,9% of the GDP to Research and Development (R&D), this is a value that has been stable for some years (Pordata, 2017).
Companies in Portugal have access to an excellent national infrastructure network as well as communication and internet infrastructures. The new program can represent an opportunity for AAT companies who want to develop the research field to give credence to AAI.

Environmental

Portugal has been trying to reduce pollution in the country and minimize climate exchange through a competitive economy which is only possible to achieve through a low carbon economy. There are some agreements in the European Union in which Portugal is embedded in to face these problems. Paris agreement sets that the average global temperature should be limited to levels below 2Cº. Packet Energy-Climate has the frequent target of reducing 40% of Greenhouse gases emissions until 2030. Finally, PNAC 2020/2030 intends to assure a sustainable path to the reduction of Greenhouse gases by lowering between 18% to 23% until 2020 and 30% to 40% until 2030. Energy and industrial production and transport industries release some of the most dangerous compounds to human health and ecosystems. The exposition to those is directly related to human mortality and the effort reduce those effects can beneficial for the country and people's health and even cost-effective in health expenses. (Agência Portuguesa do Ambiente, 2016)

The reduction of pollution and greenhouse emissions might become Portugal an exciting place for people looking for individual therapies and health issues related to respiratory illness.

Legal

Regarding animals, there is a law (Decree Law 118/99) that allows visually impaired individuals accompanied by a guide dog to access transports and public-access facilities where usually, dogs are not allowed to get in.

To AAI it is possible to get some certification in four entities ( i.e., Educação and Ânimas) recognized by the Secretary of state for rehabilitation but not an official certification, there is still no law in Portugal which represents a legislative gap and an obstacle to the proliferation of this programs and activities.

The party PAN have been able to implement beneficial laws in line with:

- Human-animal relation: In the light of the law animals stopped being considered inert things and started being recognized as sentient beings; criminalization of animal abuse; landlords can't forbid animals in rented houses.
- Health: All the public canteens have to offer a vegetarian option; reducing plastic waste; tax reduction in cereals and vegetables without sugar; tax benefits in organic certification for agricultural producers.

This state of affairs with the right proposals from AAI professionals can lead to the constitution of new laws regarding this specific matter.

## 4.2 Internal Analysis

### 4.2.1 Business Model

The Business Model in which lays AAI is usually based on a mission that implies solidarity towards people. This raises the need to analyze which business model would be more fruitful regarding the solidarity dimension: For-profit organization or Non-profit organization.

For-profit organizations (FPO) usually are founded with the primary goal of generating profits by managing legal business activities. The profits raised by the company often are divided and shared between the owners, employees, and shareholders.

For-profit companies usually, have several objectives with the top mission of generating income and develop valuable products or services that customers want/need.
Regarding funding sources FPO resort more to bank loans, investors and generated revenues.

If the service or product presents real market potential, it is also possible to obtain funding from global investors and venture capitalists.
Respecting the audience, FPO attempt to attract a target market to create a relationship with customers and increase repeat purchases.
In leadership matters, this type of business model follows an executive pattern where leadership duties are responsibility of selected individuals which have a stake in the financial success that can result in incentives or bonuses consequently; these groups are typically focused mainly in profit and increasing revenue.
The culture of an FPO is oriented for financial gains which means their emphasis is on key performance indicators and employees are motivated to be creative and develop new ideas that help to boost profits.
Taxation follows the usual rules according to the law which means these companies are not able to benefit from fiscal exemptions (Norwich University, 2016). Google, Apple, Dell, Samsung and many others are examples of FPO.

Non-profit organizations (NPO) are funded with the aim of creating a universal benefit to society by managing activities with charitable or educational. In this case, the income generated must re-enter the organization to help to accomplish the mission, and it can also be used to pay salaries and other needs (Carter, 2017).

To generate capital, these entities can have economic activities, equity, and income sources to the extent that is used to develop their activities and never deviated from the main social goal. NPO normally find alternative funding sources such as private donations, sponsorships, government grants, crowdfunding, and others.

The audience is usually broader and more diverse, the message of the NPO tries to reach and attract as many people as possible from volunteers, donors, sponsors and the general public.

Concerning NPO leadership, decisions are normally made by a board who is responsible for the sustainability of the organization but don't possess direct financial ownership. They are I charge of balancing organizational, economic, social, environmental and community issues.

The culture within NPO usually is more focused on community as the problems that have to be solved are little related to financial incentives. It is normal to see employees working extra hours of their own will attending night fundraising events or working on weekends. (Norwich University, 2016)

Commonly, the activities are generally of common and public interest, as it is in public entities and state, which involves some tax benefits. Equally, individuals and companies that donate to NPO can offset these donations as tax-deductible. (Autoridade Tributária e Aduaneira, 2016)

Relying on private and voluntary contributions and state support can be a challenge since there is some lack of investigation on the matter in Portugal.

Although for-profit organizations cannot have tax benefits and are customarily ruled to make profit, these organizations can also be solidary and give a significant portion of the profits, helping the community gaining access to treatments and still maintaining investors satisfied and willing to keep investing.

UNICEF, World Wildlife Fund, Alzheimer's Association and Farm Sanctuary are examples of NPOs.
There is also a third possibility which is a hybrid organization which combines the social logic of the NPO with the commercial philosophy of FPO, however, is highly challenging to finance. This can happen in different forms such as FPO with social overlay or creation of a subsidiary. In the first scenario, organizations are for-profit. However, the critical mission is charity and only a secondary profit concern. These are developed to seize private investments and philanthropic capital with the objective of social benefits.

These corporations use the power of the business to solve social and environmental problems. Warby Parker Eyewear serves the poor, for each pair sold, they offer one to people in need. Revolution foods helps over 1 million healthy meals to low-income public school students every week in the US aiming to fight obesity. The Seventh Generation gives 10% of its profits to charity. Impact Makers which is a consulting firm gives all of its profits to charity.

In these companies and many others like these, consumers and investors make money and make a difference. B corporations try to improve the life quality of their community.

While it is possible to take advantage of for-profit benefits, being able to receive foundation grants and use social orientation to strengthen marketing it can also have some difficulties such as less control, the social overlay can be legally challenged, and it can be harder to find investors (B Corporation, 2017).

In the second scenario, FPO can create the NPO subsidiary and vice versa. What happens is that corporations develop charitable foundations and NPO develop businesses to sustain the non-profit. Having an affiliate can help with the solidary status of the organization, protect the parent company from liabilities of the for-profit subsidiary and having the option of selling the subsidiary. On the other hand, it may be difficult for the nonprofit to become financially independent of the mother company, the management of two different models can be complicated and confusing to separate both entities and their proper charitable restrictions. Willian and Flora Hewlett Foundation that supports institutions to promote a better world in education, environment, global development and others, was founded by Hewlett-Packard (HP). While Greyston Foundation is helping the job market created the Greyston Bakery to support the foundation. (Fritz, 2016)

In Portugal, there is only one institution in Portugal which is Ânimas – Associação Portuguesa para a Intervenção com Animais, which is certificated and follows the NPO model with employees working voluntarily.  Others associations in the country work on a voluntary base and others as self-employed through "green receipts."

### 4.2.2 Resources and Capabilities

Resources and Capabilities are different elements that can be the foundation of the firm's strategy. According to Robert Grand (2008) "resources are the productive assets owned by the firm and capabilities are what the firm can do." Resources can be tangible (i.e., financial, physical), intangible (i.e., reputation, culture) and human (i.e., skills, motivation). The interrelation between the resources is what gives rise to organizational capabilities, and distinctive capabilities can provide competitive advantage (Grant, 2008).

To pursue the organization's goals many resources are needed to develop competitive capabilities.

<u>Tangible</u>

**Financial Resources** – To start a business, funding is essential. There are many start-up costs which in AAI organizations can include registering the business name, obtain a business line to communicate with potential clients, recruitment process, animals' alimentation, training and medical care, transportation, marketing, construction of the necessary infrastructures and many others that are required. These resources can be obtained from personal accounts, family & friends, loans, lines of credit, private investors, donations, government, own growing capital.

Private investors are suitable for FPO preferably lucrative. Typically, charity organizations are not profitable which means that seek for philanthropic investors.

Donations are the base for NPO which is usually the situation of charity associations, however, can be very uncertain.

The government presents non-refundable subsidies and incentives with low taxes to foster economic growth in the country, which consequently are beneficial conditions for start-ups.

Some companies in this sector try to start the business dislocating to health care centers that already exist to minimize costs and grow capital to invest in business growth (Bower, 1986).

**Physical Resources** – Physical resources can be defined as economic and exchange value assets with material existence. It can be cash, buildings, inventory, owned properties and others (Investopedia, 2017).The most suitable assets for these organizations are usually buildings, land, farms, equipment and therapy material.

There usually are three types of working methods in these organizations: (1) Without any owned physical resources, dislocating to other institutions and using its resources (2) Renting the space and material according to demand and (3) Using their physical assets within its facilities.

(1) The most common practice is the first one since it is still a new and emerging sector, most organizations work on a voluntary basis and lack the financial resources needed to acquire high valued assets.

(2) The second hypothesis can be beneficial for start-ups because they only invest knowing they will benefit the expected return. However, it is essential to form strategic partnerships which involve a certain level of volatility.

(3) Physical resources are fundamental for organizations with a broader therapy range that include larger animals such as horses or other farm animals. It is also quite relevant for investors since they can be liquidated when necessary and it can also originate tax benefits due to depreciation expenses. Additionally, having its infrastructures gives the organization greater autonomy by not relying only on others institutions' availability.

Discovering what opportunities can be seized for economizing the use of their resources and employing them more profitable (i.e., use fewer resources to support the same level of business or use the existing resources to support a larger volume of business) (Investopedia, 2017) can be a source of competitive advantage.

**Human Resources** – Human capital is one of the major keys to succeeding in Services Business. Human Resources are the basis of a company's voice. An authentic brand has to be able to solve customers' problems and simultaneously to be able to offer excellent customer experience. It is crucial that employees understand the customer journey and create an integrated process so that every part of the organization provides consistent, timely and relevant practices (Prashant Gandhi, 2017).

In therapy centers, patients' rehabilitation should be followed with the same therapy team to the full extent possible. Therefore, employees should be hired to the permanent board of the organization with a long-term perspective within the company as well as owning a scholar background that can be connected to disabilities and animals.

The recruitment process has to be extremely selective to find qualified employees with the intellectual and social skills necessary in this field.

**Animal Resources** – A "service animal" is a dog or other animal individually trained to assist an individual with a disability (University of Montana, 2010).

Therapy animals need to present calm, social and unaggressive temperament as well as learning, therapeutic and connection capacities. All animals involved in therapies need training and sensitization programs to be comfortable around people, respond to the therapist orders and not jeopardize patients' health. While pet animals can be trained and live with their owner, dislocating to therapies when necessary, farm animals need specific installations, conditions, and training.

In Portugal, there is only one certification for animal-assisted therapies realized by Ânimas within their facilities which cost around 600 euros. It is just applicable for dogs and consists in training and testing the dog and the respective owner for future animals assisted interventions. Therapy dogs also need to visit the veterinary more frequently to mitigate the risk of any disease that could harm the patients or compromise the treatment.

With farm animals there are no regulations for Animal Assisted Interventions, however, if for pets there are a lot of requirements to be fulfilled, for farm animals care should be doubled.

These living beings need a barn, natural space, particular food a daily caretaker and frequent veterinary visits to the barns. The related costs are higher, but they can also create extra value for patients.

<u>Capabilities</u>

Capabilities can be defined as "collective skills, abilities, and expertise of an organization" which emerge from the way people and resources are employed to obtain meaningful business results. Organization´s identity can be formed through its capabilities which define what is the company does best. (Ulrich & Smallwood, 2004). According to Spanos & Lioukas (2001) "technological and product development, production process, manufacturing, and logistics capabilities; production efficiency; market sensing, channel and customer linking, and technology-monitoring capabilities; marketing capabilities, such as skills in segmentation, targeting, pricing, and advertising" are the most common identified capabilities within companies (Spannos & Lioukas, 2001).

Corporate Functions

Financial control is relevant for these organizations. Most work on a solidary basis and have to be able to manage profitability with donations, volunteer work, and sustainability.

Strategic Management involves the formulation and implementation of the company goals through synergies between departments. The connection between strategy, departments and employees origins a strategic capability able to distinguish any Centre from the competition and attract new customers to the sector.

Innovation in health area is an excellent way to succeed in this field. This happens because people keep searching for better ways to improve life, health and relief pain. Therefore, new methods to attend customer needs will attract many customers.

**Human Resources** – AAI requires multidisciplinary teams with therapists that together can develop the best treatment possible according to patient needs and the company resources. Staff has to be able to work with complex cases, motivate and support patients and be aligned with the organization's main objectives and be specialized in the required areas.

**R&D** – AAI in Portugal still lacks research and development which can create some uncertainty. Research within Portugal and article and journal publication will improve information and visibility of AAI. To do that the company as to find a group of patients to follow for several years and publish results over the years. Partnerships with relevant entities such as Health Investigation Center and National Statistical Institute are crucial as well as the development of an internal investigation team. Being aware of the most common diseases and future trends in health allows the organization to adapt treatments and create new ones for the meet patients' needs.

**Operations** – The processes and resources that are used to produce an AAI quality service include location, space, equipment and the process itself.

Animal Assisted Education and Animal Assisted Activities can be realized in any facility or exterior space that do not present any risk to the patients. Moreover, the equipment is simple and encloses stress balls, animal and children toys, puzzles, books and basic exercise objects. Animals should have a harness to facilitate animal handling and cooperation.

Interventions can be realized individually or in a group, in the last case, for each therapy team (1 animal and one therapist) there should be no more than five patients. Interventions are normally realized in a group and the maximum number of participants depends on the type activities, objectives, and the responsible team.

In cases of profound disabilities, animal-assisted therapy is more appropriate, and space should meet patients' unique needs and present disability accesses and support equipment. This includes wheelchairs, crutches, special chairs/beds, activity mattresses, toys and exercise objects. Therapies can also be realized individually or in a group, for each therapy team (1 animal and one therapist) there should be no more than five patients and in more severe cases, therapy should be realized individually. The rooms should be cleaned after each session.

**Marketing** – According to the agency, Brand Learning, marketing capabilities enable the organization to focus on customer-centric marketing to create outstanding value and drive profitable demand-led growth (Marketing Week, 2017). For start-ups emerging in a new sector, marketing is essential to tell people about the company and its services and how can improve customers' life, this will generate demand and sales leads.

The marketing process - segmentation, targeting, pricing, and advertising – should be developed to identify new markets and create strategic partnerships.

Some people are still skeptical regarding the effects of AAI so certification promotion, success cases demonstrations, and research studies proofs can create awareness and expertise that will reduce people's reluctance regarding AAI.

Interviews with the national channels, journals, and magazines, promotion in health centers and hospitals, demonstrations in institutions are some of the most used forms of advertising AAI.

Support Services – Most commonly represented by really small businesses with small teams (less than 6), AAI organizations in Portugal normally, do not have support services. Therapists are responsible for their logistics, purchases and people’s management.

Support services are extremely important and can be performed by intern departments or outsourced depending on what is more effective.
IT specialists represent high costs for companies that have just started to grow. It is common to resort to outsourcing for specific necessities.

Human Resources Management which underpins the administrative processes related with staff can be performed by an internal department or outsourced. Commonly in this small businesses therapists take care of this process even though, a specialized professional could be more advantageous.

As well as Human Resources Management, Purchases and Payments are customarily taken cared internally while accounting and logistics are commonly outsourced due to the lack of know-how and physical resources.

## 4.3 Competitive Analysis

### 4.3.1 Porter's 5 Forces

Threat of New Entry - It is not difficult to enter this sector. Since it is new, there is no regulation and no policies. To perform the correct therapy, there is the necessity to be certified but once there are no laws regarding this matter, people can enter the business without any certification and start practicing. However, to be certificated it is necessary some investment in time and money with training and tests.

Bargaining Power of customers - Few companies are working in this field. There are some regions where are emerging some qualified professionals – mainly in Porto and surrounds – and it was also possible to identify one in the center and one in Algarve. There is not the possibility to choose one over another because is cheaper. However, these are normally solidary organizations that want to help people, and when patients don't have financial availability they tend to do it voluntarily in some cases, and other instances try to find a funding source or solidary institution that finances the therapies. These sources are commonly powerful and try to bargain the price.

Threat of Substitutes - Substitute therapies are in fact a big threat to the business. People prefer to start therapies that are prescribed by all doctors, have a good reputation and are incorporated in the National Health System. Patients turn to AAI normally for two main reasons: regular therapies lack results or interest for animals.

Bargaining Power of Suppliers - There is not much power regarding the suppliers. The business is based on a service that needs animals that can be rescued from a shelter. Those animals' health care and nutrition can be found anywhere since there are many suppliers and veterinaries.

The only element that can be more troublesome is the certification. There is only one institution in Portugal capable of providing an international accreditation. Otherwise, therapists have to go overseas to get a real certification.

Rivalry among Competitors - At the moment, in Portugal few therapists are performing AAI, normally do it as an individual instead of as an organization. It was possible to identify few credible institutions in the country. These AAI projects are pretty dispersed all over the country and the dislocation is difficult for both patients and associations.

There is not much rivalry at the moment but this is a sector with prospects to grow, which will probably cause new entrances. This is likely to happen in parallel with a rise of the potential market – mainly the aging population –, further research and promotion as well as the introduction of state support.

### 4.4. Case Studies

**Case 1- Pets4People**

Pets4People is the small for-profit business of Rosario Bobone in Lisbon. Rosario and her dog are the responsible team that work mainly in the patients' houses and some children institutions.

This small company presents a wide range of services such as Animal Assisted Therapies, Animal Assisted Activities, read for pets, overcoming animal fear programmes; workshops; animal behavior and interaction with farm animals.

Pets4People has as the main goal obtain financial support and subsidies to be sustainable and be able to work more frequently with institutions.

Alluding resources and capabilities it is possible to highlight Rosario's veterinary background studies and experience as well as know-how with animal behavior and formation in AAT.

Rosario refers it is challenging to be profitable in this business since many people with special needs don't have the financial means and it is difficult to obtain financial support. Typically, some dog food brands support Pets4People helping charity institutions. However, it is still difficult to work in this business in a full-time schedule.

Another matter discussed was the certification which was referred as difficult to obtain since there is only one Portuguese institution – Ânimas – that certificates AAT teams and works voluntarily which means the availability and frequency of the courses are low.

Pets4People plans are to obtain some business advice in financial and strategy area and get information about small business and start-up incentives that could apply to the company.

Rosario refers even though it is difficult to thrive in the business, it is rewarding and worth it.

**Case 2 - Kokua**

Kokua is three-year non-profit association lead by Diana Ferreira in Tavira. Kokua is formed by Diana Ferreira graduated in psychology with a post-graduation in Autism Interventions, Marco Serrão with a master in pharmaceutical science and dog trainer specialized in assistance and detection, Ricardo Gonçalves graduated in physiotherapy and dedicated in animal socialization and the two dogs, Sueca and Luna trained in proprioception, propaedeutic and obedience.

The organization presents a wide range of services such as Assistance dog training, Medical alert dogs training, Animal Assisted Interventions and Investigation with the program +Thesis and it also displays their facilities where they do some interventions and all the dog training. Space has two therapy rooms and one training room, two offices and exterior area.

Kokua has as the main goal to gain a financial structure and to become a sustainable association and give more credibility to AAI.

Regarding resources and capabilities, it is possible to highlight the team background studies and experience as well as know-how with animal behavior, formation in AAT and international certification of the President Diana Ferreira.

Kokua started based on voluntary work and only in the last year was able to attain financed projects to help underprivileged families. Kokua strives to obtain sponsors, social project contests, autarchic support, hospitals endorse and foundations prizes. All the financial resources received are invested in formation.

Diana refers it should exist some necessary criteria for AAI that would have to be applied to all organizations in the country to standardized procedures and avoid misconducted interventions which the president refer it is more frequent than desirable.

The organization is already working with entities such as Hospital de Faro, Duarte Pacheco School and Coelho Cabanita School where the results and feedbacks are 100% positive.

Kokua plans to apply and gain new projects to be able to pay a salary to the professionals that work in the organization.

Kokua refers that although there are a lot of challenges in the area this is a business that is growing and it has become easier to participate in social projects.

**Case 3 – Ladra Comigo**

Ladra comigo is a for-profit company in Porto. The group is formed by Catarina Cascais, graduated in psychology with a master Clinical and health psychology and a course in AAI, Clara Cardoso with graduation and master in Gerontology, a particular class in pedagogical training and another course in AAI and the 4 dogs, Miles, Safira, Milu and Laika that are all certificated by Ânimas.

The association services are Animal Assisted Therapy, Animal Assisted education, and Animal Assisted Activities.

Ladra Comigo has as the main goal to eliminate bias that is regarding AAI, develop an investigation field and create a structured association.

Regarding resources and capabilities, it is possible to highlight the team experience, formation, and certification as well as background studies in health. Additionally, the association has partnerships with Active Care, Patinhas de Sabão, Clifala, Synapse, O toque da Atlântida, School Domus, Xeque-Mate, O Bosque das Patinhas, Vencer Autismo and also sponsors such as Clinica Veterinária Senhora da Hora, Paul Mitchell, Rolo Cardiology LDA. And Ânimas.

Ladra Comigo does not have physical installations, working within institutions and health centers facilities.

As Diana from Kokua mentions, Catarina and Clara share it should exist regulation for AAI that would have to be applied to all organizations since there are many people in the business without the necessary knowledge and experience to practice in AAI sector.

Catarina and Clara have been in contact with some political parties to stand for their plans which are creating some force within the National Assembly that supports AAI and its integration in National Health System.

**Case 4 - Ânimas**

Ânimas is a non-profit organization created in 2002 in Porto, gaining Community Private Social Institution status in 2004. The Institution is a member of Assistance Dogs Europe and Assistance Dogs International and it is formed by more than 18 professionals working as volunteers all with relevant backgrounds for AAI.

The association services are Animal Assisted Interventions, Training service dogs, Training and Certification of AAI professionals and scientific investigation. There are several scientific projects carried out within the framework of Ânimas' activities some realized by its members and others with institutional support.

Ânimas has as main goal setting up dissemination mechanisms which spread the best information and communication regarding the work realized in the organization. Ânimas also refers it is essential for them to raise awareness of people's mentality.

Regarding resources and capabilities, it is possible to highlight the diversity of the team, experience, formation, and certification as well as first mover and seniority in the sector.

Moreover, the Research and Innovation in Health Institute of Porto University hosted a group of European experts in "Healthy Ageing," and Ânimas was one of the examples of good practices realized in Portugal.

Ânimas has its installations and headquarters in Porto. However, actions for training and education are realized in a partner farm.

Isabel from ânimas refers the importance of the integration of AAI in the National Health System and mentions that it is genuinely beneficial for the health of the patients.

**Case 5 - Cercica**

Cercica (Cooperativa para a Educação e Reabilitação de Cidadãos Inadaptados de Cascais) is a Social Solidarity Institution born in 1976 to respond to necessities in education and social rehabilitation of individuals with mental disabilities.

In 2013, Cercica inaugurated a building dedicated to Animal Assisted Therapies which Maria, occupational therapist, refers as fundamental to emotional balance of the patients. It was also mentioned as an accessible and efficient treatment method in mental illness and social integration. AAT can create positive, substantial changes in patients from which emerge excellent therapeutic and motivational results which is ideal for the institution.

Cercica is not an AAT institution but complements its treatments and activities with AAI and refers it is very well received by the patients.

Cercica receives the support of a wide range of entities and programs such as Portuguese Government, Social Security Institute, IEFP( Employment and Professional Qualification Institute), Cascais City Council, Lisboa2020, Portugal2020, European Union – European Social Fund, INR ( National Institute of Rehabilitation), Associação São Bartolomeu dos Alemães em Lisboa, BPI, EDP, Calouste Gulbenkian Foundation, Montepio, Vodafone Portugal and many others.

<u>Gap Identification</u>

Interviews for this research have suggested four main gaps in these type of businesses:

- Lack of knowledge regarding the business world – These organizations are formed for people with education in psychology, veterinary, zoology or social studies. These professionals refer they do it mainly for passion to animals and people and show a high willing to help. However, these institutions are not normally acquainted with business strategy, financial specificities, and incentives.

- Lack of studies, investigation and scientific articles capable of proving the AAI benefits. Generally, due to lack of economic viability and some expertise in the research field, these studies are left as a secondary issue which hinders its validation.

- Lack of governmental and financial support, in contrast to regular Social Solidarity Institutions which have the support of many Portuguese entities, AAT institutions are not able to achieve these supports so easily.

- Voluntary work – Most of the existing associations didn't find yet a sustainability plan which leads the firms to rely on voluntary work. This has some benefits, but it can also harm the company. It is not unusual to find some unavailability in some associations which can cause some inconsistency and consequently, insecurity. Moreover, voluntary work means the only reward employees have people's improvements. They can prioritize other profession and fail to the voluntary task or even leave the organization at any time.

<u>Opportunities & Threats Analysis</u>

The SWOT analysis is a critical method for planning companies' development strategically by helping to define straight goals taking into account all factors – negative and positive - that can affect the project. This procedure can be divided into four fields: Strengths, Weaknesses, Opportunities, and Threats. (Ifediora C. Osita, 2014)

In this specific case since there is as yet no company, the analysis is adapted to the industry, to understand what are the opportunities and threats for a new company in the sector in Portugal and to future entries (Tables 7, 8 and 9).

*Table 7. Opportunities*

| Opportunities |
| --- |
| In Portugal there are some people working on AAI without any certification, being certificated internationally - Assistance Dogs International e Assistance Dogs Europe – will enable people to trust the company. |
| The combination of a multidisciplinary team with expertise in different areas of the business allows the company to grant a complete and quality service. |
| The aging population is a reality, seniors need extra care and AAI have a lot of benefits for older adults. |
| Raised concern about animals and more empathy towards them means people are more willing to interact more and participate in therapies with them. |
| Economy recovery facilitates the openness to new therapies and less resistance from both institutions and individuals. |
| The new party PAN can be an opportunity to legislate and support AAI in the country. |

*Table 8. Threats*

| Threats |
| --- |
| Since AAI are only emerging now, the company is an entirely new business which means establishing a reputation is challenging. |
| High start-up costs require significant initial investments, loans, and seed funding. |
| Lack of legal and state support. |
| Location on the outskirts can hamper the displacement of some patients. |
| Non-certificated entities providing wrong treatments can traumatize patients and consequently, trigger a lousy reputation for AAI. |
| Alternative Therapies supported by all medical institutions and the state are a threat to a new therapy which still needs some evidence and formal reports in Portugal. |
| Lack of commercial availability in a vast part of the disabled population. |
| Difficulty in accessing institution managers when presenting AAI projects to institutions. |
| Typically, the first contact is made directly with security or secretaries which tend to deny the project or the managers' contacts automatically. |

*Table 9. Strategies*

| Strategies |
| --- |
| Strengths and Opportunities – Specialization of some members of seniors and others with specific disabilities. Strive to insert AAI in the National Health System as well as in Private Health Groups. |
| Weaknesses and Opportunities – Search for alternative funding sources, build up effective partnerships with institutions and the party PAN. |
| Strengths and Threats - Certification of all members, of the institution and all animals. Contact directly with media to eliminate bias and expose all the benefits of AAI. |

Weaknesses and Threats – The dislocation of the company to health institutions can simplify the process. Moreover, those institutions have to evaluate the company and will only choose excellent and certificated professionals. Positive experiences will help the organization to gain access to other institutions easily. Appeal to state and health institutions to support people in need increased access to these therapies.

# 5. Business Concept

## 5.1 Business opportunity

It has been proved that human-animal relationships can bring excellent results for people's health, especially in AAI programs. AAI has been studied and practiced with more intensity and formally in other countries where there are already laws and code of practice (i.e., United States, United Kingdom). Up to now, most of the reliable studies held in this field report significant benefits for almost every disease – even when not directly, the animal is capable of helping the doctor/therapist to connect better with patients and achieve better results in every other therapy and objective.

AAI sector is a growing and flourishing industry in the world which is not too much explored in Portugal yet. However, Portugal is one of the countries with higher rates of aging population and the trend is still upwards, which means the market will keep growing. With 6,1% of the population with disabilities and 16% of the population with difficulties performing basic daily tasks, there is a significant potential market to AAI. Nonetheless, in this market, a big percentage face financial distress which means the donations/ financial participation and state support will have great importance. At the moment the political conditions are favorable which might ease this task.

With few certificated organizations operating in Portugal, the rivalry is still low and the opportunity to create a new and efficient therapy organization is a real opportunity.

The proposed model will be based on selling several services which are divided into two fields: the AAI and Farm Activities. It will be directly sold to the patients and indirectly to patients through healthcare institutions.

The company will have a physical space divided into two sections, one for pet therapies where the research will also take place and other for the farm activities.

AAI can be realized both in the company space and in health care facilities, schools or patient's location through the displacement of a team according to the needs of the clients. AAA with farm animals and farm activities will take place only in the organization's facilities.

To acquire and keep customers in the beginning, the company will partner with schools, social and health institutions and doctors that support these initiatives. Moreover, the organization will offer an experimental therapy to prove benefits and gain credibility.

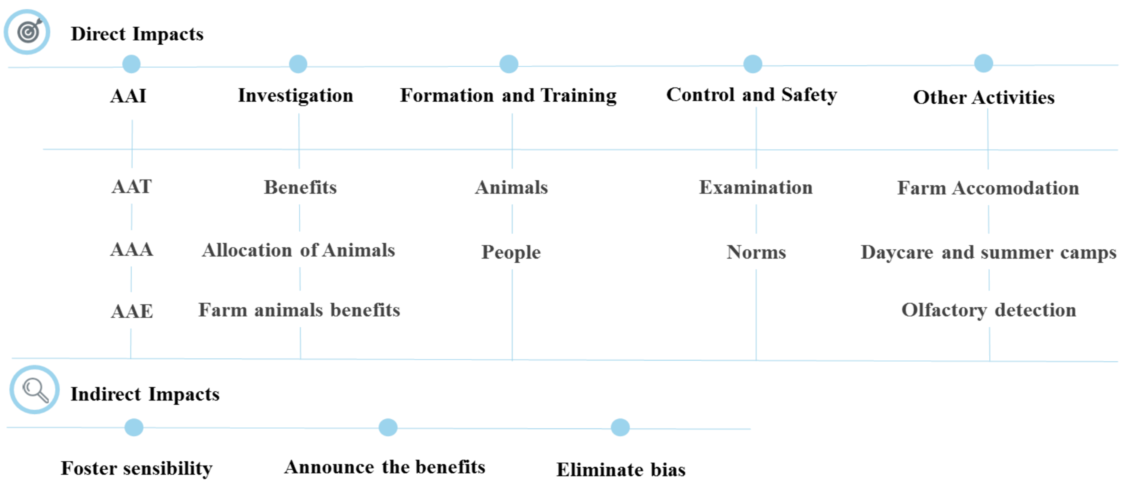
The differentiation factors will be the certification of the institution, the therapists, and the animals as well as the presence of a full-time professional evaluating the patients and advising which animals and therapies are best for each problem. Performing the treatments correctly is crucial and there are some institutions in Portugal performing healings without the necessary knowledge. Also, the environment will be different from everything it was already seen. The facilities will be placed in a natural environment, with quality premises where everything will be designed to create an atmosphere of relaxation with elements such as water, plants, green fields, calming sounds, and animals.

Another critical factor is that although Centro de Terapia Assistida por Animais - CTAR is a for-profit organization, it will be a solidary one. Therefore, most of the profits will be invested in the organization - to keep growing and developing – and to provide therapies for patients with few financial resources.

All these factors mentioned above will be described and analyzed with more precision in the next chapters. In the coming sections will also be considered and discussed the cost structure and profit margin.

Analyzed Impacts

*Figure 1. Analyzed Impacts*




**Business Core Activities** – AAT are activities of the business to help with self-esteem, anxiety, depression and other specific diseases; AAA is activities of the business to increase cooperation, behavior, motivation, and happiness; AAE is activities of the company to improve verbal skills, understanding, memory, empathy, and social action.

**Investigation** – Regarding the benefits, scientific research and analysis of results are expected to contribute to the credibility of AAI. During AAI studies will be performed to analyze the patient's progression. In the allocation of animals, scientific research will be conducted to understand which pet is best for each disease and even a more profound investigation about benefits of farm animals in AAI. The results will be disclosed in Portuguese scientific articles.

**Training and people development** - Therapeutic animals must be trained, meet health standards and pass tests while therapists must also be prepared in both fields, animal training, and people therapy. Both therapists and animals must be certificated.

Control and Safety – Examination, evaluation, analysis of the patient situation, animal condition and environment is indispensable. A strict definition of norms and rules and respective compliance is mandatory.

**Other activities** – Farm Accommodation can be a future step in Hotel business which may be a direction to achieve profitability; Daycare and summer camps are included in green care that united with natural necessities can be innovative and a source of competitive advantage; olfactory detection is also a fascinating field that deserves a viability study.

**Indirect Impacts** - Direct contact with animals and positive experiences in the company will create a different perception of animals for people; due to all the investigation and achieved results the benefits will be visible and transmitted. Finally, it will be possible to demonstrate that with an individual control animals don't damage recovering processes and it is a viable process.

## 5.2 Project Phases

1- **Concept, Initiation, Definition, and Planning** – Duration: 5 Months – The idea for the project is being analyzed to determine if it is realistic to implement and complete the project. This thesis is the basis for the definition and planning where the project scope is defined, outlining what it has to be done. In this phase, it is also necessary to determine what resources are needed as presented in chapter 4 and calculate budget and schedule as will be displayed in the next sections.

2- **Project's Presentation to Investors and Donators** – Duration: 8/12 Months – After the project is finished and the viability has been proven the next phase embodies obtaining funding. The different types of funding sources will be analyzed and chosen accordingly in chapter 9. The project will be presented to various sources to get the best deal.

3- **Launch and Execution** – Duration: 24 to 48 Months

3.1- To start the business project it will be necessary to put up two teams (1 therapist and one dog each) that have to be certificated. Secondly, the creation of the organization in legal terms.

3.2 – The next phase will be the presentation of the project to health, care, and state institutions to form partnerships. The beginning of the work in those institutions will help to generate additional funds for the company.

3.3- Investments in marketing will start being made to create a good reputation and brand recognition.

3.4-The business growth plus the investors' funds are expected to enable the company to acquire and construct the physical space through a phased approach.

3.5- Formation of a new team, adoption of new therapy animals, creation of new therapies, certification of all animals and new treatments, and training of employees. Beginning of farm activities and development of transportation methods.

4- **Performance and control** – Duration: Continuous – This phase occurs at the same time as the previous one since it is a continuous measuring and assessment of the business performance and evolution. This includes investigation and studies on AAI. All interventions will be verified and controlled and patient's progression and reaction will be monitored and documented (i.e., scientific articles). It is also relevant to calculate key performance indicators for financial performance evaluation, improvement, and correction.

5- **Expansion** – This phase implies the development of other projects, expansion, and construction of the physical space and it is also related with different opportunities that would expand the business activities, development and growth. These possibilities are explained with in detail in chapter 7.

## 5.3 Main Activities

The organization will have three main activities in Animal Assisted Intervention field:

**Animal Assisted Therapies** – These practices have to meet specific criteria and have to be performed by therapists with AAT knowledge and specialized expertise which decides the specifics of each session including duration and activities. The animals are the treatment's essential element through which the therapists will design specific tasks aiming to foster progress in patient's physical, social, emotional and cognitive functioning. These interventions can be held in group or individually, in health care facilities, home or the nature and carried out for individuals of any age.

This physical, occupational therapy involves utilizing animals with the goal of improving individuals' cardiovascular health, range of motion, concentration, social and verbal skills, attention span, relationships, anxiety and others.

For example, for an individual with a physical disability or injury that has led to muscle weakness - in the arms - he/she can be encouraged to pet the animal with the weak arm. Weights can be added by the therapist and the task can be to brush the dog with an extra weight which utilizes a more joint range of motion and usage of the arm muscles. Therapists can also use the brushing task in other animals - such as cats or horses - to assist in individual and sequencing ideas as well as remembering the sequence by using more than one utensil in a specified order. When individuals complete the task alone, they are more motivated. Therefore, they are more likely to recall the sequence. Animals motivate patients to achieve physical therapy by encouraging activities such as walking, jumping or running. Dogs can assist individuals in gait training by walking the dog. Additionally, allowing patients to clip the leash onto the dog will also help with motor skills and providing treats to dogs at the end of the session will enable people with motor skills as well and also the emotional gratification of treating the dogs for their performance. The simple use of animals psychologically motivates patients to perform the exercises necessary for recovery.

**Animal Assisted Education** – The goal of this intervention is to assist cognitive function of the patients. It is performed by a trained animal-handler team and an educational professional with specialized expertise. As AAT it can also be held in group or individually, in health care facilities or educational facilities and carried out for individuals of any age. This is typically targeted for children and young adults with learning disabilities. The animal introduction dramatically facilitates the learning process. AAE can include therapy dogs in classrooms or individual therapies where one patient, for example with reading disabilities, reads for the dog. Children don't feel afraid to read for the dog and feel animals are listening to them. Moreover, it is easier for the educational professional to motivate the patient with the animal's presence.

**Animal Assisted Activities** – In this intervention there is not a specified therapeutic goal. The objective is to improve life's quality, entertain, relax and motivate people. This practices can be applied in all cases, all institution and for people of all ages. For example, nursing homes can benefit a lot with the presence of animals. Older adults playing with cats helps them to get distracted and entertained and in some cases reduce undesirable behaviors. Moreover, it helps them create affection and empathy. These therapies can also include contact and activities with farm animals which may also have entertaining and relaxing benefits.

# 6. Objectives of the Plan

## 6.1 Strategic Objectives

*Table 10. Strategic Objectives*

| Strategic Objectives | | | | | | |
|---|---|---|---|---|---|---|
| **Market Standing** | **Innovation** | **Financial Objectives** | **Human Resources** | **Physical Resources** | **Social Responsability** | **Profit Requirements** |
| - Attract and maintain a new customer base; | -Development of a new therapy with farm animals, as well as the skills and methods required to perform it; | - Economic growth – Increase revenue by 35% in the first year before investment (which applies to scenario 0 and 1) and increase revenue by 80% in the first year after the construction of the physical space. | Selection and development of professionals able to create success for customers; | - In scenario 0 the objective is to obtain a secure range of facilities where AAI can be practiced. | - Increase community outreach | - Achievement of quantifiable financial well-being, growth, and sustainability |
| - Achieve 10% (around 39.000 clients) of the potential market in 10 years; | -Development of a new therapy with farm animals, as well as the skills and methods required to perform it; | | - Develop the abilities and skills necessary to perform therapies flawlessly; | - In scenario 1 the objective is to prevent any increase in the rented facilities cost over the years. | - Raising awareness to the positive effects of AAI on the community | |

| | | | | | | |
|---|---|---|---|---|---|---|
| - Expand to new markets such as nursing homes and child care; | | - Financial efficiency – Increase net profit every year achieving a 40% growth in the tenth year. | - Align incentives and rewards of employees with company's objectives; | - In scenario 2 the objective lays on the facilities construction within the period of 4 years. | - Increase the number of conceded grants over the years | |
| - Customer Growth after 2nd year (stabilization) | | | **Productivity** - Efficient use of resources. However, animals will have a limited number of therapies that can perform per day to be productive and being open to the patients without getting tired. | | | |

## 6.2 Intermediate and Short-term Objectives

*Table 11. Intermediate and Short-term Objectives*

| **Intermediate and Short-Term Objectives** | | | | |
|---|---|---|---|---|
| Obtain the necessary initial funding and financial support; | - Form partnerships with health-care and social institutions | - Start AAI scientific research | - Control costs | - Attract new customers |
| - Attract investors | - Obtain state support | - Recruitment, selection, and certification of the employees | - Create a company's fund | - Communicate with international institutions |
| - Obtain donations | - Study new types of therapies | - Create a Human Resources Plan | - Invest in a secure communication and marketing strategy | - Foster regular training |

# 7. Development strategy

After transcending the start-up phase and having a stable business, it is crucial to building a development strategy to grow in the following stages.

According to Ansoff Matrix, there are four types of growth strategies: Diversification, Market Development, Product Development and Market Penetration.

Within diversification, there are two options:

- Farm accommodation – Representing a new service for a new market, the broader market would comprehend all people who enjoy countryside trips, want to take time off from the urban environment and are looking for some natural space to relax.

According to a study realized by the agency Trivago, nature and rural tourism is a rising trend among Portuguese tourists (Trivago, 2017). The number of rustic accommodations has been growing over time and according to INE, in 2014 there was an increase of 6% compared to 2013 and the demand for this natural tourism followed the rise in the supply side. (INE, 2015)

- Rural Packages - International plans with flights and accommodation included. This would bring people from other countries to visit our country and create wealth for both the organization and the country.

In line with the previous strategy, European travelers are looking for different experiences. European tourists (27%) refer cultural backgrounds are the main reason for going on holiday. They prefer to interact with local people and get to know their culture and traditions.

Additionally, farm stays and agritourism are incrementally desired because it represents an excellent way to be in direct contact with that specific culture. (CBI, 2016)

Within Service Development, where for the existing market there will be new services in a sense that the AAI would create a new strand for the regular services there are three options:

- Summer camps – There are other countries with a stronger tradition regarding children in summer camps than Portugal. However, with some alterations in the traditional family structure and lifestyle, the number of participants have been increasing. It has been becoming more popular and transforming into service with considerable use with different offers from educational, cultural, athletic or leisure. Parents are searching for this service but also companies searching for this service for the employees' children, which means the company could benefit from some partnership with these organizations.

- Nursing homes – With the aging population already mentioned previously, the potential market for nursing homes will keep increasing in the coming years. Therefore, there is a significant probability that the number of opportunities in this sector increases. Additionally, a study carried by the União das Misericórdias Portuguesas revealed that 78% of the elderly living in nursing homes suffer from dementia (Jornal de Notícias, 2016). Having a nursing home with AAI can be very helpful to fight and improve quality of life for these individuals.

The demand for elder services in Portugal maintains an upward trend. The private elderly residential sector has billed 165 millions of euros in 2015, which means there was an increase in the invoicing of 3,1% compared to 2014 (Jornal de negócios, 2016).

- Daycare – Centre for children and seniors. In line with the nursing homes, there are elderly that only need daycare and prefer to live in the comfort of their homes. Regarding child care, although we have an aging population the occupancy rate in Portuguese kindergartens is high. These two segments would have the opportunity to be entertained all day with AAA and farm activities.

Within Market Development, to achieve a new market one option could be viable:

- New location – If the company can succeed in the current location, this can be expanded to another location where the same gaps are present.

To all the hypotheses above mentioned, market analysis and further studies would have to be performed to study the viability of each one.

# 8. Implementation

## 8.1 Marketing strategy

### 8.1.1 Mission and Vision

**Mission** - To provide qualified and certified Animal Assisted treatment that improves health and life quality, recommended by doctors to their patients and carefully performed by our team.

**Vision** -To become a trustworthy health institution, a national and international reference on human treatment and a driver for a positive change on the AAI status - supporting the underpinnings of the incorporation of AAI in the Health system. To that end, we must continuously support scientific research, certificate our therapies and therapists, create awareness of how significant the human-animal relationship can be and of its potential to treat human health conditions.

### 8.1.2 Segmentation and Targeting

Market Segmentation can be defined as a marketing strategy that aims to distinguish and outline the potential groups or set of customers more attractive that can devolve into targets for the organization. (Drayton, 2010)

To begin the segmentation for CTAR, the appropriate segmentation variables must be identified. Regarding geographic characteristics, the region with most population dimension will be taken into account. Concerning demographic characteristics, the age and type of disabilities are essential factors to consider.

Therefore, the analysis performed is showed in table 13.

*Table 12. Demographic by Region*

| | | Demographic - Region | | | Appendix |
|---|---|---|---|---|---|
| **Effect** | | **North** | **Centre** | **South** | |
| Positive | Population Dimension | ++ | +++ | + | A.2 |
| Positive | Disabled people | +++ | +++ | ++ | A.3 |
| Positive | Elderly | ++ | +++ | + | A.1 |
| Positive | Diseases | ++ | +++ | + | A.4 |
| Negative | Competition | +++ | ++ | ++ | A.5 |

**Population Dimension** – In Portugal, the highest population rate is in the Centre, including several regions. Lisbon and Centre region present a resident population of 5.145.279 which is a robust market to pursue comparing to other areas. More information on this matter is given in appendix A.2.

**Disabled People** – Analyzing the distribution by region, it is possible to verify the percentage of disabling and incapacitated individuals is 10% in the North, 7,8% in Alentejo, 7,5% in Lisbon district, 6,6% in the center which means Lisbon and Centre combined to make a total of 14,1%. More information on this matter is presented in appendix A.3.

**Diseases** – According to DGS the utilization rate of the National Health System service center is quite high in Lisbon and Setubal. Concerning the number of ill individuals and the ratio ill individuals / 10000 habitants, in 2015, Lisbon, LVT and Alentejo have the highest rates ( Appendix A.4) what reinforces the same region as the elements mentioned above.

**Elderly** – The aging Index is higher in Alentejo (178) followed by Centre (163,4), Algarve (131) and Lisbon (117,3). The graph is presented in appendix A.1.

**Competitors** – The number of certified competitors is meager and are localized in North and Algarve. The number of AAI organizations - non and certificated - is higher in the North and not very explored in the Centre. In Appendix A.5 is possible to visualize the distribution map of the institutions in Portugal.

Target

The target market is elderly with some activities difficulty and disabled and ill people of all ages residing in Portugal Centre.

### 8.1.3 Value proposition

The value proposition states the benefits that customers can expect from the service and how can their lives be improved by it. It also shows why the service is superior to other offers in the market presented by competitors. As such, it is a critical component in defining strategy. (University of Minnesota, 2010)

A strategy is directly connected with the mission and vision of the company being the central elements that drive a company to achieve its goals. Strategic Management is crucial to the organization development and growth as it coordinates decisions, actions, and functional activities to design strategies that enable organization's success. (Boundless, 2016)

To be aligned with strategic management, CTAR's value proposition is underpinned by the Value Proposition Canvas which is divided into two components, the customer profile, and the value map.

Regarding customer profile, it is necessary to describe what service the customers want to get done, highlight what problems clients face when they are trying to get the job done - adverse outcomes they wish to avoid - and understand customer gains which are how they measure the success of a job well done - positive outcomes clients wish to achieve.

Within the value map, it is necessary to list the services that underpin the organization's value proposition, describe how these services can reduce or eliminate the problems that clients try to avoid making their life more comfortable, finally outline in which way company services can increase or maximize outcomes that customers expect and desire.

The challenge is to obtain a fit between what customers want and how the service eases pains and create gains. (Pokorná, 2015).

The value proposition applied to CTAR is: We believe AAI is the best way to increase social activity, empathy, motivation, physical and mental well-being. CTAR is a certified company with a solidary set that keeps developing and improving therapies to deliver quality services that can improve health and life quality.

### 8.1.4 Positioning – Differentiation

Health is an essential pillar of life. What evidence shows in the health process trust is vital for people. It is essential to mediate therapeutic procedures and can also influence the outcomes due to the effects that can have on patients' perceptions of quality, cooperation in treatment and permanence with a health care provider. Those are some elements that stimulate people to reach health care and to provide the proper information that enables a precise diagnosis. (Calnan & Rowe 2004)

CTAR presents all the elements necessary to pursue a differentiation strategy. With a service portfolio that incorporates AAT, AAA, and AAE, which are therapies performed to improve health and life quality, the organization will pursue that trust and will be able to differentiate from future competition through certification and quality, service diversity and continuous research. With many cases of Animal Assisted Therapy being performed without the necessary knowledge in Portugal, it is critical to creating a strong positioning that shows how reliable is the organization. To this end, all therapists and therapies will be certificated, all professionals and animals involved will have training and an experience period and we will have experts performing continuous research to observe the therapies' benefits and what other therapies can be developed in our center.

CTAR positioning statement: For people who want to improve their life quality and health, the AAI is a service realized with the help of qualified animals and performed by CTAR, which supports and serves any problem or disease itself as well as other therapies. Unlike alternative therapies or competing companies, our services are certificated and based on continued research ensuring excellent results and a higher rate of improvement.

### 8.1.5 (8Ps)

#### 8.1.5.1 Product/Service

Our services are Animal Assisted Interventions; these interventions will take place, initially, in the required institutions or private installations through the dislocation of CTAR teams. When the company facilities have been established, the services will have the two strands: Dislocation of the team and therapy in CTAR premises.

Animal Assisted Therapy - These therapies would be realized by one therapist and one therapy dog with a specific plan designed accordingly with the necessities of the patient and will be recognized individually.

The team can realize the therapy in health institutions, private facilities and in the future in CTAR facilities. These therapies suit any age group, several disabilities, psychological problems, and fears.

Animal Assisted Education - These activities would be realized with professionals involves in education or psychology, generally suited for children or young adults with special educational needs.

Animal Assisted Activities - These activities can be performed individually or in a group. Suited for any age group and any situation. These are leisure activities that will be presented not only with dogs but also with other pets and farm animals mainly in CTAR facilities but also outside - nursing homes, children institutions or hospitals - fostering the bond between animals and humans.

#### 8.1.5.2 Price

Animal Assisted Therapy - These therapies are particular, intense and personalized. Since the target market is the central region, it is taken into account the average income, the number of potential customers and the competitors' price. Once pursuing differentiation and having a service of excellence the price will be 40€ per hour outside CTAR facilities and 35€ per hour in the organization facilities. As the institutional mission is to improve people's lives and some people might not be able to pay that amount we will have a solidary method that offers grants for people in need.

Animal Assisted Education - These activities would be realized with professionals involved in education or psychology, normally suited for children or young adults with special educational needs. In this case, the animal most common is the dog. For individual sessions, the price is 40€ per hour and for group sessions or presence in classes is 50€.

Animal Assisted Activities - These activities can be performed individually or in a group. Suited for any age group and any situation. These are leisure activities that will be played not only with dogs but also with other pets and farm animals mainly CTAR facilities but also outside - nursing homes, children institutions or hospitals - fostering the bond between animals and humans. The Activities realized within the organization facilities will have a price of 10€ each person (entrance) while outside will have 30€ per hour.

#### 8.1.5.3 Place

Initially, the service provision will be realized in institutions or private facilities in Centre and Lisbon regions and realized only by dogs.

The company's facilities will take some time to construct which means the farm animals will be introduced in a second phase. Space will be located in Portela de Sintra, Sintra. There are 76.000 m2 for 64.000€ with a possibility of payment of 168€ per month (Idealista, 2017). The area will be divided into two parts, the therapeutic center, and the farm. The two buildings will be constructed separately and will have surrounding green fields. The image below represents the idea of the project and has an estimated cost of 500€/m2. The project will be constructed in different phases to extend the costs over time. The images in Annex C illustrate the space and architectural plan.

#### 8.1.5.4 Promotion/Communication

As a start-up the promotion will be first introduced through personal selling, this is, CTAR's representative will interact directly with possible corporate clients - health institutions, nursing home, schools, parish council, city council, companies, others.

Since AAI are relatively recent, the first activity will be free to show how it works and how much benefits it can bring.

Furthermore, the company will bet vigorously on social media by placing daily messages with information about packages, experiences, and data to raise interest in the organization and to gain people's affection. To informative matters that will be a website whereas to show positive experiences and the brand entrails it will be used Facebook and Instagram.

Additionally, CTAR will join forces to achieve recognized influencers in Mass and Social Media known by their connection with animals to obtain recommendation statements which are a widespread and effective strategy nowadays. Annex C presents the logo of CTAR.

8.1.5.5 People

CTAR is a company that aims to help people, not only clients but all stakeholders. For a company that provides services, creating value for the customer is extremely relevant.

In the health sector, trust is one of the fundamentals of the activities success. Therefore, employees have to present a strong work ethic, positive attitude - being able to create a good environment during sessions-, team-oriented - capable of taking the most out of collaboration, be an effective communicator, be very patient - able to work in stressful situations that will be very common -, be flexible - adaptable to different environments, people, therapies and new ideas.

For employees to be this good and perform what the company expects, it is necessary to have a trade-off system qualified to enable, motivate and guide the team.
Upon their entry, staff will have an integration week to understand the values and processes of the organization and meet co-workers. Additionally, employees will have a training program in their first month suited to the working area.
In the beginning, employees applying to AAT area will have to be certificated to be accepted. In the future, for employees who work in activities or education area who want to be promoted to the therapy area, the company will offer the certification program to the ones eligible for the position.

#### 8.1.5.6 Process

External

In the initial phase, the process will consist in the dislocation of the teams - 1 therapist and one dog - to the places needed. In the first meeting, an evaluation is realized by one therapist and the organization expert to design the best therapy or activity. During the process all the parameters will be analyzed to develop research and present the evolution process, this task will be realized by the therapist and the research team.

After the construction of the facilities, other processes will be added. Customers will dislocate to CTAR installations where can be evaluated and performed all AAI. Transportation can be arranged for an additional cost depending on the departure point that will be presented by any available member of the team.

AAI will evolve with the same requirements and control as the external ones.

The additional strand is farm activities that will only take place in CTAR facilities. Customers will be accompanied by a team member - responsible for the farm area - throughout the farm and will be able to participate in the daily activities as members of CTAR. Visits will be limited to a specific number to give attention to all and preserve animal rights.

Internal

The organization will have a weekly meeting with all staff members to discuss ideas, current problems, plan the next week and make decisions.

There will be three distinct departments that have to be interconnected and work together even though each unit has different tasks.

Management department is responsible for presenting the project to institutions and possible customers; scheduling practices; allocation of tasks and therapies to the teams; data handling; monitoring accounting and financial planning.

Animal Assisted Interventions Department is responsible for:

Animal Assisted Therapies, Animal Assisted Education, and Animal Assisted Activities planning, designing and execution; animal training; research; control and analysis of improvements.

Farm Department is responsible for: Animal care and cleaning, animal socialization, and recuperation - when needed; farm activities programming; installations cleaning.

8.1.5.7 Physical Evidence

The environment of CTAR will be focused on relaxation and peace. The idea of improving customer's quality of life will be present in every element of the company.
Employees would always present a calm attitude, dressed in a white polo with a small company logo and black trousers - in the winter - or shorts - in the summer.
The Building interior will transmit peaceful energy to green areas, small water fountains and soft colors. The farm would also have rest areas as we can see in the Annex C.

The exterior will also be very natural and green with plenty of open-air space and a lake. The land will be divided into two areas: the therapy center - possible to compare with the building in image x. However, it will be smaller - and the farm that will have the animals free throughout the space animals and active areas for people to interact with them.

Once introduced the accommodation field, in another future phase, rooms will be added and constructed around the green area, very simple as it is possible to see in picture X. These will first be able to employees and specific events (i.e., summer camps). As the company grows, the accommodation field it hopes to expand and enter the rural tourism sector.

8.1.5.8 Productivity - With the intention of achieving high productivity and quality CTAR will implement the following practices:

*Table 13. Productivity Practices*

| Productivity Practices |
|---|
| - Semi-annual evaluations |
| - Feedback policy |
| - Training for all levels |
| - Flexible schedules |
| - Team building events |
| - Therapy quality control |

### 8.1.6 Marketing Costs

The website and logo will be developed internally to reduce costs.

The institutional video will be developed by MKTG LDA. With an approximated cost of 500 euros.
The company will make an effort to realize events in institutions and health centers which will incur in variable costs depending on the size of the event.
Personal selling – In the beginning, the teams will have the primary responsibility to identify

and seize opportunities and raise awareness regarding AAI as well as attracting new customers.
Influencers – By offering experiences to what is now called influencers, will allow the company to gain more exposure quickly.
These costs will be analyzed in detail in chapter 9.

## 8.2 Organizational Strategy

### 8.2.1 Capacity, Logistics and Operations

#### 8.2.1.1 Dimension and Localization

In the initial phase, CTAR will not have the physical space since it will take some time to be constructed. After raising the necessary funds to start building the center, the location will be in Santa Maria e São Miguel in Portela de Sintra, Sintra. This region is a very touristic place and at the same time, has hidden places that are very natural, green and rural.
Space has 76.000 m2 and is surrounded by Sintra mountains.
The therapy building will have 500m2 with therapy rooms, activity and education rooms, relaxation lounge, canteen and snack-bar/mini-market and staff rooms.
The farm building will have 500 m2 and has the intention to keep animals during the night and cold/warm days. It would also have covered places to interact and perform the activities with the animals.

#### 8.2.1.2 Operations and Capacity

In the first phase of the project, operations will be performed with minimal costs to generate revenue for the investment in the physical space. Initially, CTAR will start with only one team and with some market growth two teams that will perform the therapies in the partner institutions. The transportation and treatments will be paid by the organizations or individuals, and "sponsors" will be seized for cases of financial difficulties.

In the second phase, with the company facilities, the goal will be to balance costs with revenues. As the company grows, the capacity will increase as well.
The therapeutic center will have around 500m2, and the farm will have approximately 500 m2 with two floors plus the exterior areas.

The capacity of the facilities is significant; however, in the beginning, the capacity will be limited to the number of available staff members and well-being conditions that follow:

- It would be possible to receive between 10-15 people per day in the farm.
- AAA with dogs can have a maximum of 5 individuals per dog.

- AAE can have one dog per class or 1 dog for 1or 2 kids with a learning disability.
- Dogs can't work more than 4 hours per day. One therapist can have two dogs, that way it is possible to work 8 hours per day and assist eight patients per therapist.

#### 8.2.1.3 Suppliers

The service rendering explains a little relation with suppliers. However, the certification and animals' food will be provided by external sources.
Therefore, the certification will be realized by Ânimas in Porto.
Animals food will be provided by Rações Zezere, that presents a high price/quality ratio. Bar and Canteen food will be provided by ao 26 Vegan Food project and the farm vegetable garden.

#### 8.2.1.4 Value Chain

The set of activities that a company can carry out to create value for its customers can be defined as the value chain. These events and their connection affect costs and profit, so it is really important to understand how this activity is performed and what is that creates value (Mind Tools, 2017). The following value chain ( Table 15) presents the value structure of CTA

*Table 14. CTAR Value Chain*

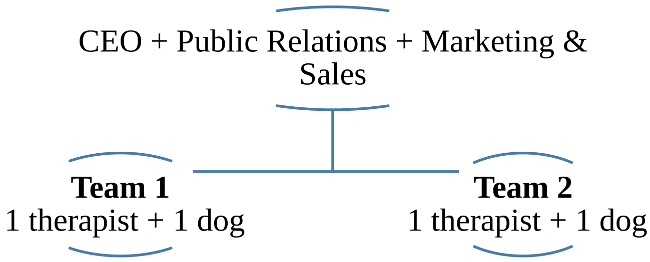
| | | | | |
|---|---|---|---|---|
| **Firm Infrastructure** | | | | |
| Funds collection<br>Maintain focus on helping people | | | | |
| **Human Resource Management** | | | | |
| Training programs<br>Certification | Appraisals and rewards | | | |
| **Technology Development** | | | | |
| Research Work<br>IT and database | | | | |
| **Procurement** | | | | |
| Direct contact with suppliers - Animal and People's food | | | | |
| **Inbound** | **Operations** | **Outbound** | **Marketing & Sales** | **Service** |
| Animal training<br>Data reception<br>Facilities Planning<br>Dislocation Planning<br>Material Acquisition<br>Therapies | Certified AAT<br>Realization of<br>Realization of<br>Interactions and<br>Quality Control<br>Assessment | Improvements<br>Research<br>Continuous follow-up | Promotion<br>Advertising<br>Direct Sales<br>Group Sales | Customer Survey<br>Welcoming environment<br>Focus on customer well- |

### 8.2.2 Human Resources

#### 8.2.2.1 Structure

The first structure (figure 2) will be formed with three individuals. It is an entire flat structure, and everyone has to do everything. However, while 2 employees will be more focused on training the dogs and performing therapies, the third person will be centered in searching and seizing new opportunities, creating a strong network, improving customer portfolio, attract investors, putting in motion and following the construction and development of the physical space, being responsible for the financial matters and recruiting when needed.

*Figure 2. Structure 1*

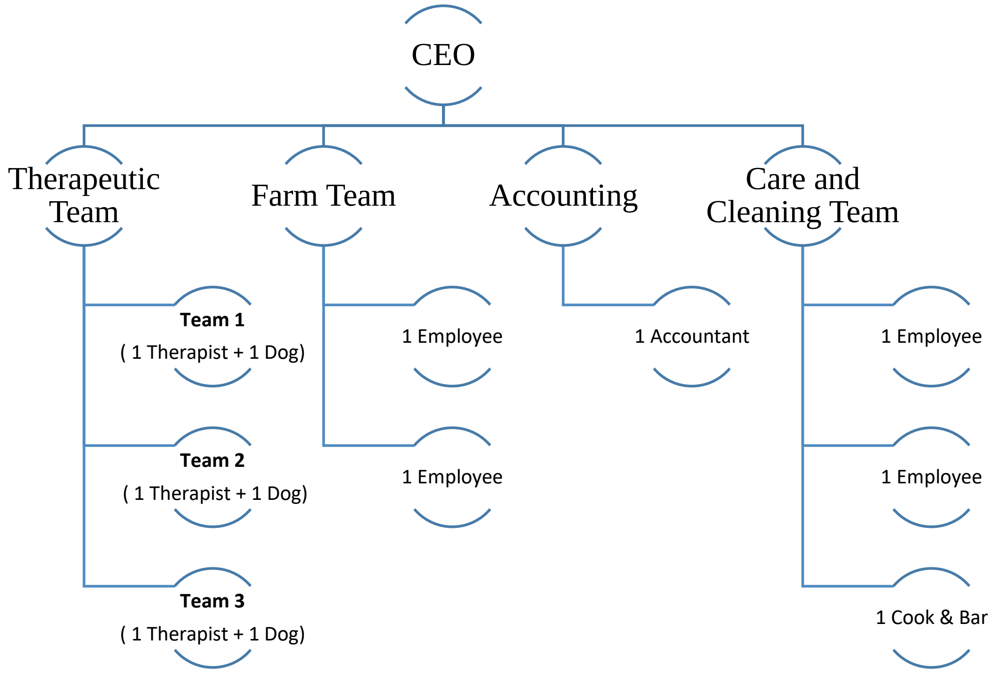



The second structure (figure 3) will be developed over time alongside with company growth.

When the physical space is ready, the structure and dimension will require a bigger team. Therefore, teams will be divided according to the working area: Therapies, Farm, Finance, Marketing and Care & Cleaning.

Therapies team will be formed by three teams that will perform AAT, AAE, and AAA. These teams will work in CTAR premises but also in other institutions. AAA will be performed by these teams only outside the physical space and with the help of dogs.
The Farm team will be working only within CTAR facilities and performing AAA with farm animals. This team will be comprised of two people.
Financial matters will have one staff member and Marketing and Sales 1 more staff member.
The Care & Cleaning team will be formed by two people that are responsible for cleaning the exterior and interior spaces and feeding animals.
Additionally, the organization will open a volunteering internship program with AIESEC for people who want to learn about all or some of these fields.
CEO will keep being responsible for all the tasks mentioned and structure 1 with the addition of coordinating the teams and facilities and receiving and programing the visits to space.

*Figure 3. Structure 2*




### 8.2.2.2 Policies and Salaries

The company foresees business growth and thereby opportunities for job creation, salary growth, and career growth. Employees would have the chance to build a career in CTAR and be both financially and professionally well rewarded within the same job and rising to superior jobs. To achieve that it is necessary to improve both individual and professional skills. All opportunities are dependent on CTAR need and budget availability.

Implemented Policies: Annual Performance and Salary Review: Employees can be entitled to merit increases each year. These promotions opportunities are based on staff performance during the year which is measured through continuous evaluation of certain parameters such as realization of special projects, achieved goals, initiative, and customer satisfaction. However, promotions are limited and dependent on departments' necessity and availability.

Bonus: Staff can receive a Bonus that offers prompt recognition for excellent performance, big contributions and achievements well above what would normally be expected. Bonus will be discretionary which means it is a decision made by management and there is no payment guarantee. Eligible actions could be attracting new clients or new investors, obtain donations, a significant cost saving ideas/actions, outstanding effort during critical times.

Transfers: The movement to another job can be established, with the same salary range, however, it may involve a salary increase and a title alteration.

Salaries would be slightly above Portuguese average which is 980€ in the private sector (Human Resources Portugal, 2016)

Therapists with higher education, formation in the field and certification with no experience will start with 1100€ per month. In AAI sector this is a high salary and will entice qualified professionals. AAA and AAE professionals are not required to have certification, however, we will require the certification - which is only possible to obtain abroad - or higher education in the field and consequently the salary will be as high as AAT professionals.

In the Management department - CEO, accountant and marketing and sales - will start as well as a base salary of 1100€. To the farm team, it is required to have experience with animals and people and formation in some field that prepares them for it. This work is softer and less demanding so that salaries will start at 950€ per month. Finally, the cleaning and caring team will work receiving 900€ per month.

All these base salaries will be subject to the mentioned policies and will be increased accordingly.

### 8.2.3 Partnerships

There are many benefits derived from strategic partnerships such as access to other markets and clients, improved development, better competitive positioning. Partnerships allow companies to extend capabilities without having to create them in-house and taking significant risks.

The result are normally more efficient and adaptable companies. A survey realized by Frost & Sullivan highlights that CEOs refer partnerships as one of the main growth strategies. (Frost & Sullivan, 2017)

CTAR will bet on strategic partnerships to attract more customers, develop and grow. Therefore, all entities that would be synergetic with CTAR were contacted.

-AIESEC it is a global student organization that gives students the opportunity to participate in internships and volunteering programs all around the world. Throughout this partnership CTAR would receive young volunteers from 2 months to 1 year, giving them accommodation and food in exchange for their work.

-26 Ao Vegan Project it is a vegan restaurant very open to "improve the world" initiatives, the restaurant would collaborate with CTAR by selling some natural products to our bar and canteen and offering food workshops.

-Centro de Yoga de Sintra it is an organization that gives yoga classes. Having Yoga classes adapted for specific disabilities in our environment could also have excellent benefits for our patients and attract other customers. The classes could be inside our facilities but also in outer space with an animal view.

-Hospitals and Clinics would be a great way to forward people with specific problems directly into CTAR center. Also, they could use our services in their facilities which would also be a great way to raise awareness regarding there therapies, the company and gain credibility.

-Portuguese Medical Association would be the most important partnership. If CTAR had this organization endorsement bias would be eliminated. This requires studies and research which prove AAT it is a reliable therapy suggested by doctors. This would be a partnership that would take some work and time to start.

## 8.3 Implementation Requirements

### 8.3.1 Legislation

Firstly, registration of the new company is required. This registration - type of company, brand, name request - can be realized online. The following documents are necessary:

*Table 15. Legislation 1*

| Legislation |
|---|
| - Commercial registry - Conservatória do Registo commercial |
| - Social insurance registration |
| - Declaration of activity initiation |
| - Certificate of Admissibility |
| - Social Capital Deposit |
| - Society Constitution Act |

Currently, open a company costs 360€ which includes commercial registration and society associated publications, an amount paid at the time of company's constitution.

After the opening there are other monthly costs associated:

*Table 16. Legislation 2*

| Legislation |
|---|
| - IRC (21%); |
| - Derrama (up to 1,5%); |
| - IVA (23%, 13% or 6%) ; |
| - 23,5% rate over the employees' salaries |

Source: (Rodrigues, 2016)

### 8.3.2 Requirements

New companies have to meet requirements, especially when trying to participate in financial support programs. The most common are:

*Table 17. Requirements*

| Requirements |
| --- |
| - Correctly established and registered |
| - License and legal requirements necessary to exert activity. |
| - Regularized Tax status and social security. |
| - Prepared accounting and accordingly to the law. |

# 9 Financial Plan

## 9.1 Projections

Three different scenarios, based on the different analyzed case studies have been created to analyze the benefits and risks of each model. The intention is to understand which of the following models would suit best the organization.

The most common scenario in Portugal which it will be represented in the model by Scenario 0. In this case, the organization dislocates to other associations to render its services.

There are no investments in buildings, external supply or development, the only investment necessary is with formation and certification of the teams. The organizations' growth is based on the number of clients that is possible to reach and attract. The main benefits are the costs controlled and low, and the company does not depend on external funding sources and their respective requirements. However, on the other hand, the credibility can be lower since there are some individuals offering AAT in those modes which are have not the necessary knowledge to practice and exercise specified functions. The response capacity to demand is also lower, and the ability to growth into other markets is more limited.

There are two organizations in Portugal who rent the space to perform its activities but also keep the dislocation services to other associations, obtaining two income sources. This represents scenario 1, where there are some investment and costs with space, materials, and maintenance without the direct involvement of complex funding sources. In both scenarios 0 and 1, there is no possibility of working with farm animals due to the possession of the space and the possibility of frequent location changes.

Finally, Scenario 2 represents organizations that construct and develop, over time, their facilities. In Portugal, this scenario is normally related with hippotherapy. There is no association in Portugal that combines, pets therapy, horses therapy, and farm animals therapy yet. In this case, the organization would have the three main strands with the possibility, capacity and space to develop into other fields such as research and investigation, hotel business, nursing home, animal care and many others. The risk related is the large investment needed and the funding source solicitation and acquisition.

Moreover, the following assumptions were created based on the previous realized analysis to support the 3 Financial Models:

General Assumptions

Assumption 1) The inflation rate predicted for 2018 and 2019 is 1,5%. (Banco de Portugal, 2016).

Assumption 2) Prices were defined according to the market prices observed through the case studies. See table 19.

*Table 18. Price*

| Price | In | Out |
|---|---|---|
| AAT | 35 € | 40 € |
| AAA | 35 € | 40 € |
| AAE | 40 € | 40 € |
| Farm activities | 10 € | 0 € |

a) Applicable to scenarios 1) and 2)

b) Applicable to scenario 0) and scenarios 1) and 2) with dislocation.

Assumption 3) The number of clients defined for the first year and for the next years in the case of the farm activities that will only begin in the second year, all according to capacity and target.

*Table 19. Clients Number*

| Clients | 1st Year | Next Years |
|---|---|---|
| AAT | 35 | |
| AAA | 35 | |
| AAE | 35 | |
| Farm activities | 0 | 30 |

Assumption 4) Projections

a) Expectations are the price remains stationary for the following years in the three scenarios.

b) Farm activities only apply to scenario 2

c) It is expected that in the first year customer growth will be higher than for the next years. It is assumed that the scenario two will have higher growth comparing to scenarios 1 and 0 since there will be more activities and it is possible to growth into other business areas.

d) In the following years, expectations are the customer growth will increase smoothly.

e) According to PorData the average monthly earnings of employees in Portugal in the Health and Social sector was in 2015, 958€ (Pordata, 2018)

According to PorData, the average monthly earnings of employees in Portugal according to qualification was in 2015, 2.042,6€ for senior positions, 1.422,4€ for middle management, 1.298,5€ for foremen and 567€ for non-qualified personnel. (Pordata, 2018)

As in the beginning, professionals will be responsible for several positions; salaries will float accordingly.

f) Rates are according to Deloitte Fiscal Guide. (Deloitte, 2017)

j) The update rate was calculated to obtain the NPV and IRR. To calculate this rate the beta levered used was from the healthcare support services in Europe, the risk-free rate from Germany and the market risk premium in Portugal. (Damodaran, 2018)

Specific Assumptions

Scenario 0)

g) Supplies and Services are lower in this scenario and include subcontracting of veterinary services only for pet animals, accounting services, transportation logistics, communications, tools and features, representation expenses, publicity, and insurance.

h) The investment is low, and it respects some portable therapeutic materials and transportation equipment.

Scenario 1)

g) Supplies and Services in Scenario 1 include subcontracting of veterinary services which are higher comparing to scenario one since there will be more animals from the start point. Moreover, accounting services and security services for space will be necessary as well as monthly rent payments, electricity, water, gas, fuel and therapeutic materials. Representation expenses, publicity, and insurance, will have the same cost as scenario 0

h) Investment is higher due to the maintenance of the space, investment in technical material such as special equipment, transportation equipment, and computer programs. Scenario 1 includes monthly rent payments, and scenario 0 presents lower S&S costs by using other's institution's resources.

Scenario 2)

g). In scenario two costs will be higher due to space maintenance, functioning, operations and more quantity and diversity of animals and their care plus all the costs mentioned in the previous scenarios.

h). In this scenario the facilities will be constructed, the land will be bought as well as the therapy equipment needed.

Investment in fixed assets should be much larger compared to the other scenarios. It includes the facilities construction with an approximated budget of 600.000 in the construction year, maintenance, technical resources investment and materials. (Fontes, 2017)

This scenario will also allow the organization to provide Farm activities and develop more accurate research.

There is also an extra investment in biological assets due to the acquisition and care of farm animals.

*Table 20. Projections*

| | Projections | Construction | Renting | Dislocation |
|---|---|---|---|---|
| | **Sales** | | | |
| a) | Price evolution | 0,00% | 0,00% | 0,00% |
| b) | Farm Activities | 1 | 0 | 0 |
| c) | Customer Growth 1st Year | 80,00% | 40,00% | ##### |
| d) | Customer Growth after 2nd year (stabilization) | 60,00% | 30,00% | ##### |
| e) | **Human Resources** | | | |
| | Administration | 1300 | 1300 | 1300 |
| | Management | 1300 | 1300 | 1300 |
| | AAT | 1200 | 1200 | 1200 |
| | Farm | 950 | 950 | 950 |
| | Cleaning | 700 | 700 | 700 |
| | Internship | 500 | 500 | 500 |
| f) | **Responsibilities** | | | |
| | Social entities | 23,75% | 23,75% | ##### |
| | Human Resources | 23,75% | 23,75% | ##### |
| | Insurance | 1,00% | 1,00% | 1,00% |
| | Food Allowance | 4,52 | 4,52 | 4,52 |
| g) | **FSE** | | | |
| | Subcontracting Veterinary Services | 2000 | 1000 | 500 |
| | Accounting | 500 | 500 | 500 |

| | | | | |
|---|---|---|---|---|
| | Cleaning | 0 | 0 | 0 |
| | Security | 200 | 200 | 200 |
| | Transport Logistics | 1000 | 1000 | 1000 |
| | Lawyers | 0 | 0 | 0 |
| | Rent | 0 | 300 | 0 |
| | Electricity | 200 | 200 | 0 |
| | Water | 90 | 90 | 0 |
| | Gas | 90 | 90 | 0 |
| | Fuel | 1000 | 1000 | 1000 |
| | Communications | 0 | 0 | 0 |
| | Tools and utensils | 1000 | 1000 | 1000 |
| | Office Material | 0 | 0 | 0 |
| | Representation Expenses | 1000 | 1000 | 1000 |
| | Conservation and Repair | 0 | 0 | 0 |
| | Publicity | 500 | 500 | 500 |
| | Insurance | 1000 | 1000 | 1000 |
| | Royalties | 0 | 0 | 0 |
| | Litigations | 0 | 0 | 0 |
| | Certifications | 1200 | 600 | 600 |
| | Legal Requirements | 360 | 360 | 360 |
| | Others | 2000 | 0 | 0 |
| h) | **Fixed Assets Investment** | | | |
| | Capex Maintenance | 10 000 | 5 000 | 0 |
| | Land and natural resources | 64 000 | 0 | 0 |
| | Construction Investment | 600 000 | 10 000 | 0 |
| | Health Equipment Investment | 5 000 | 1 000 | 1 000 |
| | Transportation equipment | 6 000 | 6 000 | 20 000 |
| | Computer Programs | 1 000 | 150 | 0 |
| | Biological Assets | 600 | 0 | 0 |

| | Risk free rate germany | Beta levered | Market risk premium | Rate |
|---|---|---|---|---|
| j) | 0,32% | 0,83 | 3,55% | 3,27% |

## 9.2 Financial Statements

According to the stated assumptions three models were developed to build the financial statements for each one. The detail can be analyzed in Annex 6. For the three models, it was estimated the price and quantity to obtain the final value of service provision, costs with human resources, external supplies, and services costs and the required investments. Thereby, it was possible to obtain the predicted financial results presented in the following tables (22, 23, 24, 25) and graphs (18, 19, 20, 21).

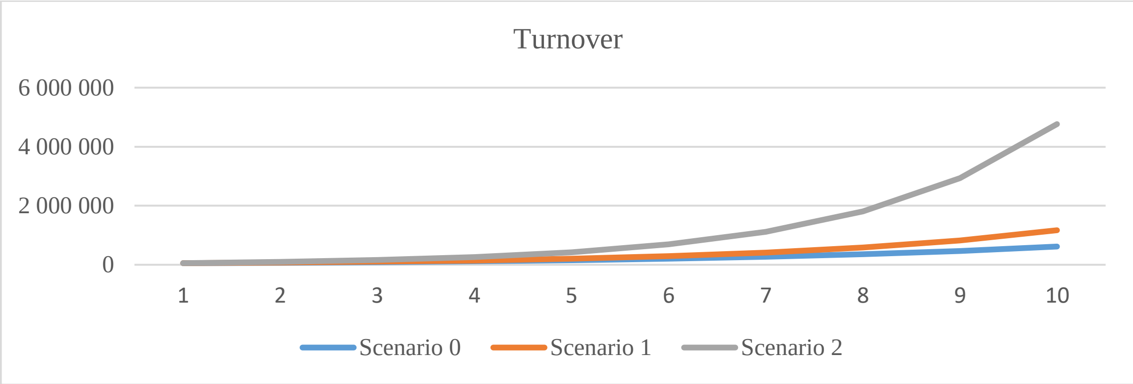
## 9.3 Comparative Analysis

### Turnover

*Table 21. Turnover*

| Turnover | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Scenario 0 | 50 400 | 66 503 | 87 750 | 115 787 | 152 781 | 201 594 | 266 003 | 350 991 | 463 133 | 611 104 |
| Scenario 1 | 49 508 | 70 350 | 99 968 | 142 054 | 201 859 | 286 841 | 407 601 | 579 201 | 823 045 | 1 169 547 |
| Scenario 2 | 54 000 | 97 927 | 160 221 | 260 198 | 422 562 | 686 241 | 1 114 455 | 1 809 874 | 2 939 236 | 4 773 320 |

*Graph 11. Turnover*

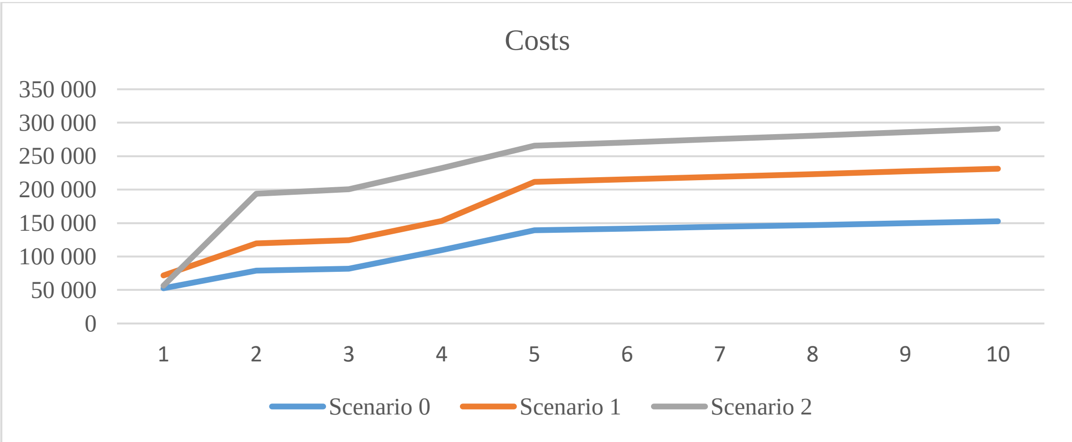



## Costs

*Table 22. Costs*

| Costs | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Scenario 0 | 52 550 | 78 856 | 81 697 | 109 366 | 139 059 | 141 686 | 144 364 | 147 095 | 149 880 | 152 720 |
| Scenario 1 | 71 750 | 119 512 | 124 384 | 152 997 | 211 378 | 215 244 | 219 184 | 223 200 | 227 294 | 231 466 |
| Scenario 2 | 56 430 | 193 926 | 200 515 | 232 075 | 265 807 | 270 704 | 275 697 | 280 788 | 285 977 | 291 268 |

*Graph 12. Costs*

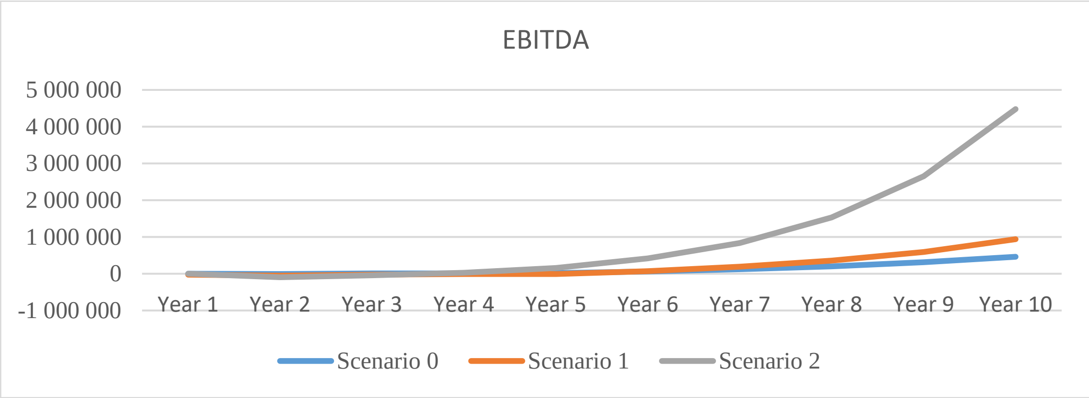



## EBITDA

*Table 23. EBITDA*

| EBITDA | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Scenario 0 | -2 150 | -12 354 | 6 054 | 6 420 | 13 721 | 59 908 | 121 639 | 203 896 | 313 253 | 458 384 |
| Scenario 1 | -22 242 | -49 162 | -24 417 | -10 943 | -9 520 | 71 597 | 188 417 | 356 001 | 595 751 | 938 081 |
| Scenario 2 | -2 430 | -95 999 | -40 294 | 28 123 | 156 755 | 415 536 | 838 757 | 1 529 087 | 2 653 259 | 4 482 052 |

*Graph 13. EBITDA.*

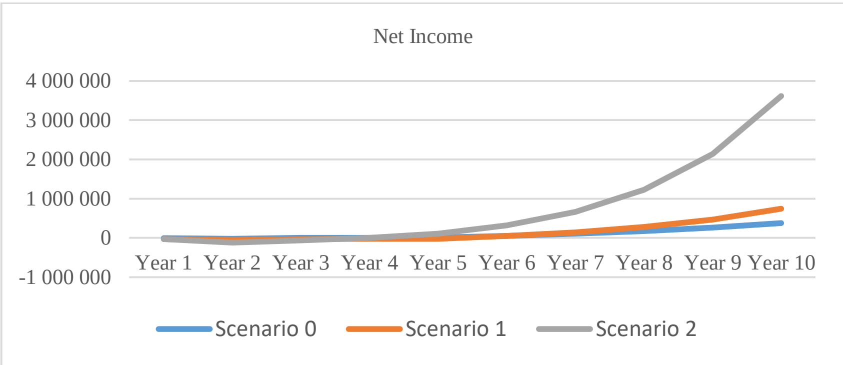



## <u>Net Income</u>

*Table 24. Net Income*

| Net Income | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Scenario 0 | -7 740 | -17 973 | 190 | 304 | 10 086 | 51 466 | 105 539 | 176 338 | 265 140 | 378 869 |
| Scenario 1 | -27 209 | -56 029 | -33 342 | -21 948 | -21 104 | 48 140 | 142 295 | 277 568 | 470 081 | 744 468 |
| Scenario 2 | -29 298 | -118 550 | -62 352 | 4 832 | 110 158 | 320 905 | 664 848 | 1 225 149 | 2 135 647 | 3 615 673 |

*Graph 14. Net Income*




## 9.4 Evaluation and Economic Decision

Net Present Value represents the difference between the cash inflows and outflows. It is possible to sense the profitability of the investment throughout its projections.

In case the NPV is positive, the projected earnings generated exceed the foreseen costs. If the NPV is positive, that means the project/investment will be rewarding, and it should be done. The contrary implies that will be a net loss.

IRR or Internal Rate of return is used for the same purpose of measuring the profitability of future investments. It is a discount rate that represents the return in the percentage of the invested capital in the project. (Investopedia, 2018)

*Table 25. NPV vs IRR*

| | NPV | IRR |
|---|---|---|
| Scenario 0 | 794 366 | 27,22% |
| Scenario 1 | 446 937 | 10,82% |
| Scenario 2 | 2 568 903 | 9,98% |

According to the study realized in this thesis, the more rentable project would be Scenario 2, and the best return would be Scenario 0.

However, all projects present a positive NPV and IRR which implies that all the investment made would have a positive return.

Animal Assisted Therapy associations can be presented with some obstacles in the start-up phase, but for all scenarios, it is possible to observe the viability of this new area.

## 9.5 Sensitivity Analysis

Scenario 0

It is possible to understand raises in price and quantity as the same impact in the NPV. Percentually, the price, and quantity have a higher effect in NPV than the costs.

Which implies that if the costs increase by 2,5% but the price/quantity increase by 2,5% as well, the balance will be positive.

*Table 26. Variables Increase for Scenario 0*

| | Variable Increase | 2,5% | 5,0% | 7,5% | 10,0% |
|---|---|---|---|---|---|
| **Costs** | -NPV% | -11% | -23% | -34% | -46% |
| | NPV | 703 632 | 612 898 | 522 164 | 431 430 |
| **Price** | +NPV% | 15% | 29% | 44% | 59% |
| | NPV | 910 993 | 1 027 620 | 1 144 247 | 1 260 874 |
| **Quantity** | +NPV% | 15% | 29% | 44% | 59% |
| | NPV | 910 993 | 1 027 620 | 1 144 247 | 1 260 874 |

Scenario 1

It is possible to understand raises in price and quantity as the same impact in the NPV. Percentually, the price, and quantity have a higher effect in NPV than the costs.

Which implies that if the costs increase by 2,5% but the price/quantity increase by 2,5% as well, the balance will be positive.

*Table 27. Variables Increase for Scenario 1*

| | Variable Increase | 2,5% | 5,0% | 7,5% | 10,0% |
|---|---|---|---|---|---|
| **Costs** | -NPV% | -30% | -60% | -91% | -121% |
| | NPV | 312 000 | 177 063 | 42 126 | -92 810 |
| **Price** | +NPV% | 36% | 71% | 107% | 142% |
| | NPV | 605 795 | 764 654 | 923 513 | 1 082 372 |
| **Quantity** | +NPV% | 36% | 71% | 107% | 142% |
| | NPV | 605 795 | 764 654 | 923 513 | 1 082 372 |

Scenario 2

In this case, it is possible to understand raises in price don´t have a higher impact on costs. Which means if the expenses raise by 2,5%, the price has to grow by more than 10% to negate the increase in costs.

On the other hand, quantity has more impact than costs in this model. So if the amount raises, costs can increase as well, and the margin will still be positive.

*Table 28. Variables Increase for Scenario 2*

| | Variable Increase | 2,5% | 5,0% | 7,5% | 10,0% |
|---|---|---|---|---|---|
| **Costs** | -NPV% | -7% | -14% | -21% | -28% |
| | NPV | 2 388 064 | 2 207 225 | 2 026 387 | 1 845 548 |
| **Price** | +NPV% | 1% | 2% | 3% | 4% |
| | NPV | 2 596 031 | 2 623 160 | 2 650 288 | 2 677 416 |
| **Quantity** | +NPV% | 16% | 32% | 48% | 64% |
| | NPV | 2 976 933 | 3 384 963 | 3 792 993 | 4 201 023 |

## 9.6 Funding Sources

According to Caixa Geral de Depósitos the Portuguese financial sector is showing the ability to grant credit once more. However, banks are still cautioning against financing, and it is incredibly relevant for this associations to know how to access other funding sources. (Saldo Positivo Empresas, 2014)

This was one of the challenges seized in the Case Studies for the start-ups in AAT and the most common funding sources used are:

- Venture Capital/ Private Equity – Start-up companies turn to venture capital funds to raise capital, offering in return a percentage of the business which fluctuates according to growth objectives. These funding companies assume, almost always, minoritary and temporary participation (between 3 to 7 years) in the company's capital, participating in the management project and sharing the risk with the entrepreneur. Normally, after that defined timeline, they sell their part to the owner of the company or other interested parties.

- Business Angels – According to APBA ( Associação Portuguesa de Business Angels), the BA investment is realized on emerging opportunities by private investors who want to improve the financial capacity of Small and Medium-sized companies but also improve their experience and business network. These investments represent around 25.000 euros to 600.000 euros, and as in venture capital, the Investor gets a participation in the company (APBA, 2017).
- Crowdfunding – This is a collaborative funding source that has been gaining expression in Portugal over the years. Project supporters can access a platform where the plan is presented and make their contribution in cash. If the association can obtain the requested amount, it is possible to reward the participants.
- Self-financing - For entrepreneurs who prefer not to become dependent on outside sources, there is a trend in the business world called bootstrapping, where entrepreneurs use their resources. The pros are the entrepreneurs do not lose autonomy neither are subject to the limitations imposed by an external investor. The project is developed more slowly but with total control over the project.
- Friends and Family – Just as self-financed, in this case, entrepreneurs recur to closer financial sources, this could be realized in the same parameters as a crowdfunding source, investor source or bank source. (Saldo Positivo Empresas, 2014)
- State Incentives – Portugal 2020 presents several options for small and medium companies looking for funding sources. For the Qualification Incentive System of Portugal 2020 are eligible SMEs of any nature and in any legal forms except financial, defense and bet game institutions. The criteria necessary to apply are – among others - having a minimum limit of total eligible expenditure per project of 25.000 euros and being legally, and financial constituted and stable. Within eligible expenditure are listed equipment, software, hiring costs, participation in fairs, consulting services and patent validation. (Portal dos Incentivos, 2018)

The optimized final financial solution varies according to the scenario. For the scenarios which required less investment Self-financing, crowdfunding and friends and family can be suitable and imply lower risk. While for a project with a big investment private equity or banks can be the only way to obtain financial viability. Nevertheless, the final solution requires further studies and can be a combination of several financing sources. Just as is in the case of state incentives, which can be applied in all scenarios however, requires at least one additional financial resource.

# 10. Conclusion

The work developed in this thesis concerns the development of a business plan for an Animal Assisted Therapy Center.

Due to the fact that the sector is in an initial phase, most of the existing companies' constraints and performance requirements had to be assessed directly with the professionals of sector associations. To ensure the relevance of this study, the focus was set on the development of a solution and business plan to overcome the lack of strategic goals and financial robustness in these already established businesses using scenario-based planning techniques, assumptions and different hypothesis.

It was possible to conclude and comprehend that Portugal offers a high potential market for AAI, mainly due to the aging population and central diseases.

Based on the Case Studies analyzed it was possible to create three different scenarios that were studied to understand which one would be more sustainable for this type of organizations. The dislocation of the therapists to institutions and health centers represents scenario 0, in this case, the costs are minimal and the business partnerships have a considerable weight in its success. Renting, scenario 1, has the business based in a rented infrastructure, costs are considerably higher as well as the dependency of external entities. Finally, Scenario 2, Constructing, represents the most bold one including the building and developing of the business own center and infrastructures and also special therapies with farm animals.

For small business and a professional who would prefer to keep total control of the company, scenario 0 is the most appropriate. The investment and costs are small and can be split in blocks over time. For this scenario self-finance would be the most suitable funding source since there would be no significant necessity of recurring to external sources. The initial investment would be between 2.000 to 21.000 euros and would not be suitable for state incentives. This scenario presents the best IRR, however, in the long run, it would have to adopt another strategy to grow since it wouldn't be possible to keep responding to growing demand.

For a medium company and an entrepreneur who wants to launch their own company and brand scenario one would be indicated. The scenario relies on external sources such as the ability to find suitable facilities to rent or the investments that can range between 20.000 euros and

50.0000 euros. To achieve the necessary cash flows it's prudent to consider the hypothesis of recurring to external funding sources; this scenario would be suitable for crowdfunding, business angels, and some state incentives. This case represents the less attractive alternative, with the lower IRR and a low NPV even though both present positive values.

In Scenario 2, it would be possible to reach other markets, both national and international. It is a project with the potential to become a medium size company with satisfactory profits to appeal to the interest of venture capital companies, banks, and several state incentives. This scenario presents the higher NPV, but it also requires a considerable investment. Although the IRR is not the highest of the 3 scenarios studied, this business plan has the structure and capacity to grow exponentially in the medium/long term.

There is also the possibility to create a hybrid scenario that assumes an evolution of the concept and solution over time, with the project going through the three different stages, scenario 0, scenario 1 and scenario 2. This new scenario requires further investigation.

Future work

For the project to advance, it would be necessary to further investigate the funding sources and available state incentives. This would serve as the basis to kick-off the contacts with investors and understand which limitations the external parties would be present.

Another area that requires a deeper understanding, assessment and investigation is the possibility of merging AAT centers with other institutions such as nursing homes. Additional market researches will be helpful to understand the potential of the development strategies.

With the necessary research, AAI has the potential to sprout in Portugal since there is a considerable market potential that could benefit from the presented solution, primarily due to the aging population and central diseases active in Portugal.

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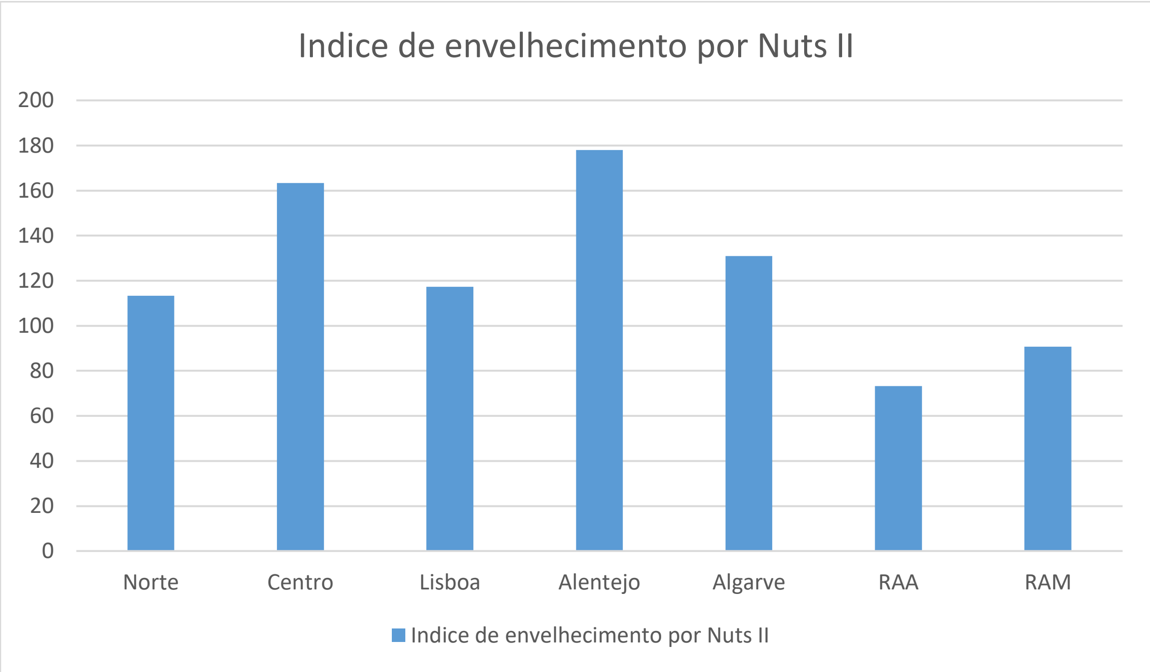
## 11. APPENDICES

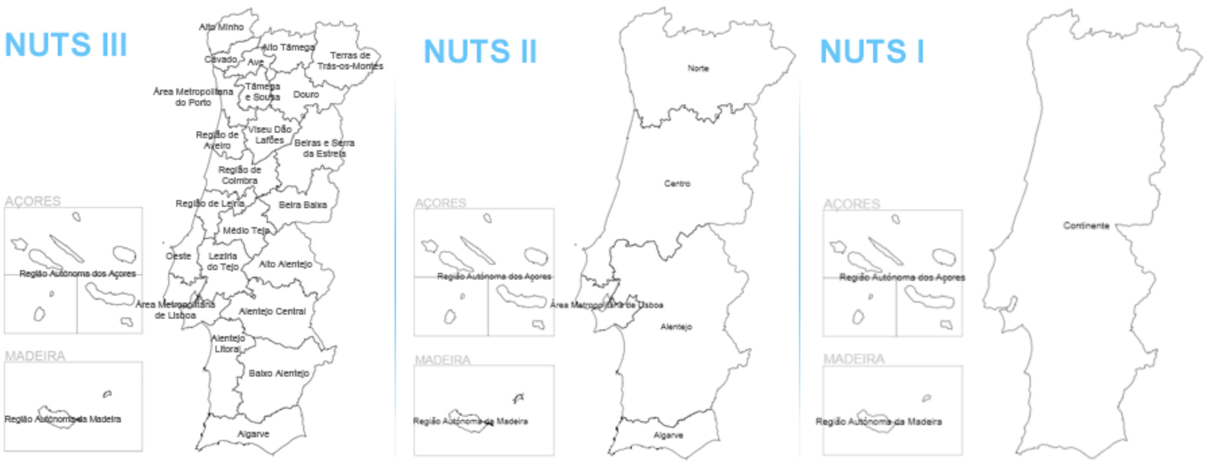
## ANNEX A – Demographic Factors

1. Aging Index by NUTS II




*Source: (Pordata, 2017)*

### 1.2 NUTS Definition

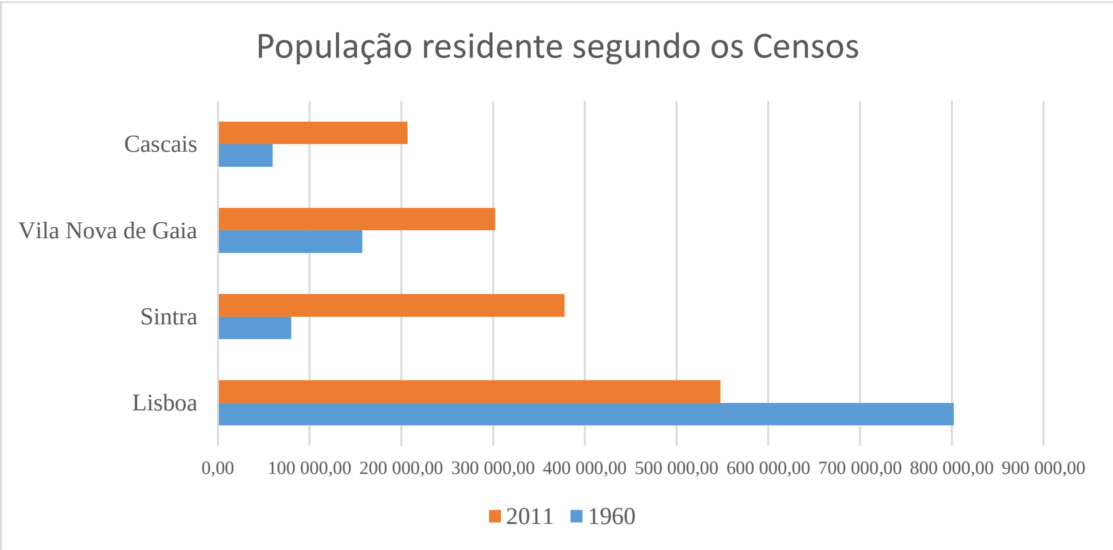



*Source: (Pordata, 2017)*

## 2. Resident Population and Variation Rate by NUTS II, 1991, 2001 and 2011

| Zona Geográfica | População residente | | | | Variação | | | Variação | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1981 | 1991 | 2001 | 2011 | | Nº | | | % | |
| Portugal | 9 833 014 | 9 876 147 | 10 356 117 | 10 561 614 | 34 133 | 488 970 | 205 497 | 0,35 | 4,96 | 1,98 |
| Continente | 9 336 760 | 9 375 926 | 9 869 343 | 10 047 083 | 38 166 | 493 417 | 177 740 | 0,42 | 5,26 | 1,8 |
| Norte | 3 410 099 | 3 472 715 | 3 687 293 | 3 689 609 | 62 616 | 214 578 | 2 316 | 1,84 | 6,18 | 0,06 |
| Centro | 2 301 514 | 2 258 768 | 2 348 397 | 2 327 580 | -42 746 | 89 629 | -20 817 | -1,86 | 3,97 | -0,89 |
| Lisboa | 2 482 276 | 2 520 708 | 2 661 850 | 2 821 699 | 38 432 | 141 142 | 159 849 | 1,55 | 5,6 | 6,01 |
| Alentejo | 819 337 | 782 331 | 776 585 | 757 190 | -37 006 | -5 746 | -19 395 | -4,52 | -0,73 | -2,5 |
| Algarve | 323 534 | 341 404 | 395 218 | 451 005 | 17 870 | 53 814 | 55 787 | 5,52 | 15,76 | 14,12 |
| RAA | 243 410 | 237 795 | 241 763 | 246 746 | -5 615 | 3 968 | 4 983 | -2,31 | 1,67 | 2,06 |
| RAM | 252 844 | 253 426 | 254 011 | 267 785 | 582 | -8 415 | 22 774 | 0,23 | -3,32 | 9,3 |

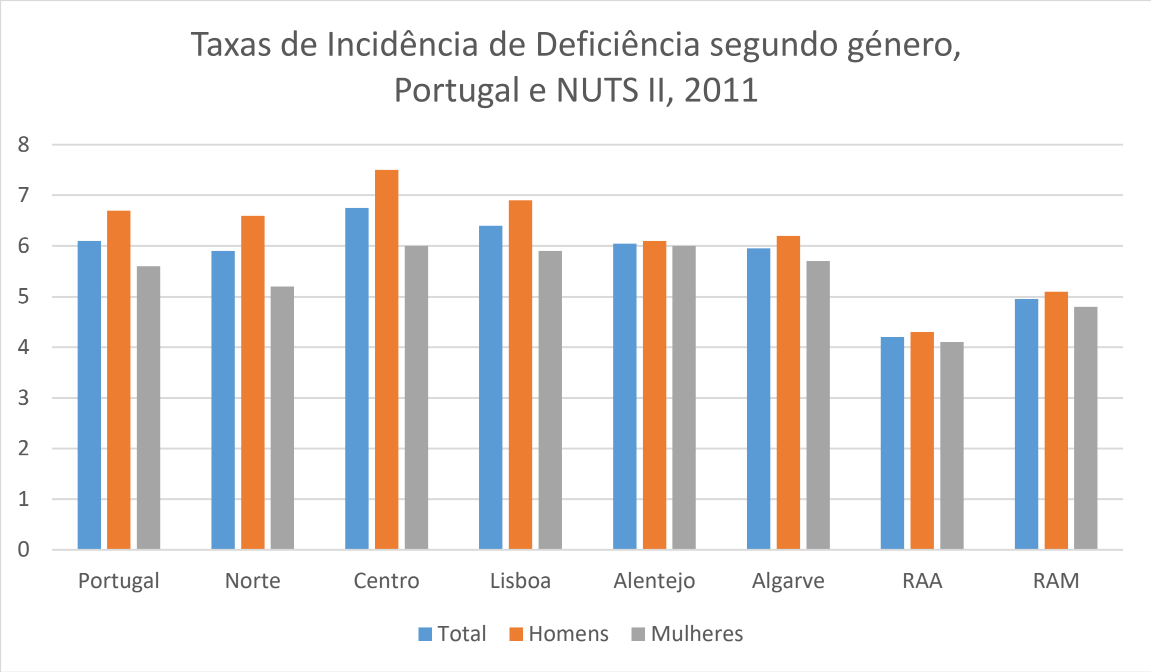
### 2.1 Resident Population According to Censos




*Source: (PORDATA, 2015)*

## 3. Disability Incident Rate

### 3.1 Incident Rate by Gender



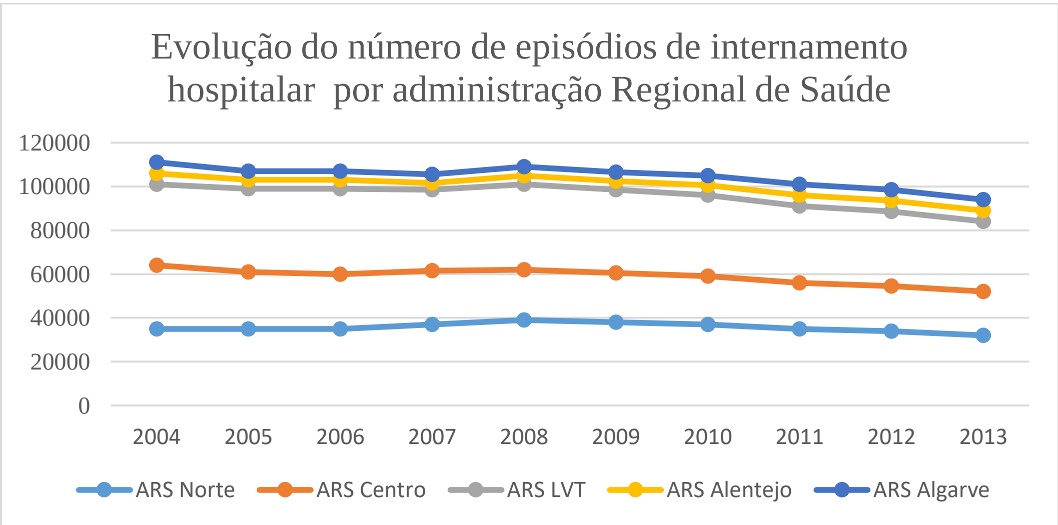

*Source: (INE, 2012)*

3.2 Incident Rate by Age groups according to NUT II (%)

| | Norte | Centro | Lisboa | Alentejo | Algarve | Total |
|---|---|---|---|---|---|---|
| 14-24 Anos | 1,3 | 0,8 | 1,6 | 0 | 0 | 1,1 |
| 25-64 Anos | 58,4 | 57,4 | 59,7 | 47,8 | 61 | 57,8 |
| 65-70 Anos | 40,4 | 41,8 | 38,7 | 52,2 | 39 | 41,1 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |

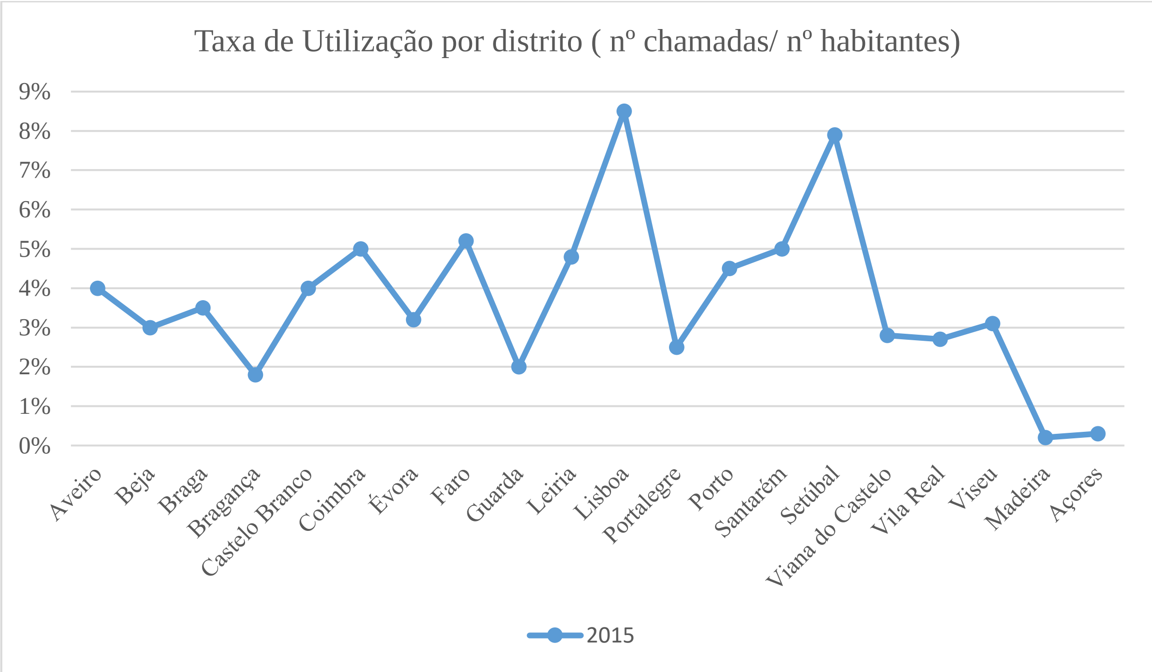
*Source: (INE, 2012)*

3.3 Hospitalisation evolution by Health Regional Administration Region



*Source: (GDH-ACSS, 2015)*

3.4 TAE( Triage, Advice and Channeling) Module utilization rate in SNS Health centre.




*Source: (DGS, 2016)*

3.5 Number of patients by ARS( Health Regional Administration) per 10.000 habitants

| | 2010 | | | 2011 | | | 2012 | | |
|---|---|---|---|---|---|---|---|---|---|
| ARS | Nº Doentes | População | NºDoentes / 10.000 hab. | Nº Doentes | População | NºDoentes / 10.000 hab. | Nº Doentes | População | NºDoentes / 10.000 hab. |
| Norte | 2 593 | 3 745 575 | 7 | 2 715 | 3 689 682 | 7 | 2 797 | 3 666 234 | 8 |
| Centro | 1 688 | 1 784 251 | 10 | 1 501 | 1 737 213 | 9 | 1 577 | 1 712 884 | 9 |
| LVT | 3 956 | 3 677 584 | 11 | 4 424 | 3 659 871 | 12 | 4 515 | 3 651 394 | 12 |
| Alentejo | 454 | 503 507 | 9 | 557 | 509 849 | 11 | 550 | 507 659 | 11 |
| Algarve | 367 | 434 023 | 9 | 416 | 451 006 | 9 | 406 | 444 390 | 9 |
| Total | 9 058 | 10 144 940 | 45 | 9 613 | 10 047 621 | 48 | 9 845 | 9 982 561 | 49 |

| | 2013 | | | 2014 | | | 2015 | | |
|---|---|---|---|---|---|---|---|---|---|
| ARS | Nº Doentes | População | NºDoentes / 10.000 hab. | Nº Doentes | População | NºDoentes / 10.000 hab. | Nº Doentes | População | NºDoentes / 10.000 hab. |
| Norte | 2 795 | 3 644 195 | 8 | 2 962 | 3 644 195 | 8 | 2 993 | 3 614 874 | 8 |
| Centro | 1 619 | 1 698 501 | 10 | 1 767 | 1 698 501 | 10 | 1 695 | 1 691 945 | 10 |
| LVT | 4 750 | 3 636 407 | 13 | 4 823 | 3 636 407 | 13 | 5 045 | 3 631 611 | 14 |
| Alentejo | 582 | 497 087 | 12 | 575 | 497 087 | 12 | 594 | 489 752 | 12 |
| Algarve | 389 | 442 358 | 9 | 412 | 442 358 | 9 | 426 | 441 468 | 10 |
| Total | 10 135 | 9 918 548 | 51 | 10 539 | 9 918 548 | 53 | 10 753 | 9 869 650 | 54 |

*Source: (DGS, 2016)*

4. Competitors

# ANNEX B – Financial Model

## Scenario 0

## Sales and Services

| PVP (sem IVA) | 2018 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sales and Services** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
| **AAT** | 40,00 | 40,60 | 41,21 | 41,83 | 42,45 | 43,09 | 43,74 | 44,39 | 45,06 | 45,74 |
| **AAE** | 40,00 | 40,60 | 41,21 | 41,83 | 42,45 | 43,09 | 43,74 | 44,39 | 45,06 | 45,74 |
| **AAA** | 40,00 | 40,60 | 41,21 | 41,83 | 42,45 | 43,09 | 43,74 | 44,39 | 45,06 | 45,74 |
| **Farm activities** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| **Total** | **120,00** | **121,80** | **123,63** | **125,48** | **127,36** | **129,27** | **131,21** | **133,18** | **135,18** | **137,21** |

| Quantity | 12 | nº meses atividade no ano | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sales and Services** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
| **AAT** | 35,00 | 45,50 | 59,15 | 76,90 | 99,96 | 129,95 | 168,94 | 219,62 | 285,51 | 371,16 |
| **AAE** | 35,00 | 45,50 | 59,15 | 76,90 | 99,96 | 129,95 | 168,94 | 219,62 | 285,51 | 371,16 |
| **AAA** | 35,00 | 45,50 | 59,15 | 76,90 | 99,96 | 129,95 | 168,94 | 219,62 | 285,51 | 371,16 |
| **Farm activities** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| **Total** | **105,00** | **136,50** | **177,45** | **230,69** | **299,89** | **389,86** | **506,81** | **658,86** | **856,52** | **1 113,47** |

**Annual Total**

| Services | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Tx.Iva |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AAT** | 16 800,00 | 22 167,60 | 29 250,15 | 38 595,57 | 50 926,86 | 67 197,99 | 88 667,74 | 116 997,09 | 154 377,65 | 203 701,32 | 23% |
| **AAE** | 16 800,00 | 22 167,60 | 29 250,15 | 38 595,57 | 50 926,86 | 67 197,99 | 88 667,74 | 116 997,09 | 154 377,65 | 203 701,32 | 23% |
| **AAA** | 16 800,00 | 22 167,60 | 29 250,15 | 38 595,57 | 50 926,86 | 67 197,99 | 88 667,74 | 116 997,09 | 154 377,65 | 203 701,32 | 23% |
| **Farm Act** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 23% |
| **Total** | **50 400,00** | **66 502,80** | **87 750,44** | **115 786,71** | **152 780,57** | **201 593,96** | **266 003,23** | **350 991,26** | **463 132,96** | **611 103,95** | |

| N/A | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 | Tx.Iva |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **%Sales** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | |
| | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | 23% |

# Human Resources

| **Gastos com pessoal** | 14 | nº meses atividade no 1º ano | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Nº Months** | | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| **Increment (Vencimentos + Sub. Almoço)** | | 0% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% |
| **Quadro de Pessoal** | - | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |
| Administração / Direção | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Management | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AAT | | 1 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| Farm | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cleaning | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Internship | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | | **2** | **3** | **3** | **4** | **5** | **5** | **5** | **5** | **5** | **5** |
| **Remuneração base mensal (bruta)** | - | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |
| Administração / Direção | | 1 300 | 1 326 | 1 353 | 1 380 | 1 407 | 1 435 | 1 464 | 1 493 | 1 523 | 1 554 |
| Management | | 1 300 | 1 326 | 1 353 | 1 380 | 1 407 | 1 435 | 1 464 | 1 493 | 1 523 | 1 554 |
| AAT | | 1 200 | 1 224 | 1 248 | 1 273 | 1 299 | 1 325 | 1 351 | 1 378 | 1 406 | 1 434 |
| Farm | | 950 | 969 | 988 | 1 008 | 1 028 | 1 049 | 1 070 | 1 091 | 1 113 | 1 135 |
| Cleaning | | 700 | 714 | 728 | 743 | 758 | 773 | 788 | 804 | 820 | 837 |
| Internship | | 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Remuneração base anual - TOTAL** | - | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |
| Administração / Direção | | 18 200 | 18 935 | 19 700 | 20 496 | 21 324 | 21 751 | 22 186 | 22 629 | 23 082 | 23 544 |
| Management | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AAT | | 16 800 | 34 957 | 36 370 | 56 759 | 78 736 | 80 310 | 81 916 | 83 555 | 85 226 | 86 930 |
| Farm | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cleaning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Internship | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **35 000** | **53 893** | **56 070** | **77 255** | **100 060** | **102 061** | **104 102** | **106 184** | **108 308** | **110 474** |

| **Outros Gastos (Encargos)** | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |
|---|---|---|---|---|---|---|---|---|---|---|
| Segurança Social | | | | | | | | | | |
| Órgãos Sociais | 4 323 | 4 497 | 4 679 | 4 868 | 5 064 | 5 166 | 5 269 | 5 374 | 5 482 | 5 592 |
| Pessoal | 3 990 | 8 302 | 8 638 | 13 480 | 18 700 | 19 074 | 19 455 | 19 844 | 20 241 | 20 646 |
| Seguros Acidentes de Trabalho | 350 | 539 | 561 | 773 | 1 001 | 1 021 | 1 041 | 1 062 | 1 083 | 1 105 |
| Subsídio Alimentação Euros / dia | 2 188 | 3 347 | 3 347 | 4 463 | 5 579 | 5 579 | 5 579 | 5 579 | 5 579 | 5 579 |
| Outros custos com pessoal | | | | | | | | | | |
| **TOTAL OUTROS GASTOS /Encargos** | **10 850** | **16 686** | **17 224** | **23 583** | **30 343** | **30 839** | **31 344** | **31 859** | **32 385** | **32 921** |
| **TOTAL GASTOS COM PESSOAL** | **45 850** | **70 578** | **73 294** | **100 838** | **130 403** | **132 900** | **135 446** | **138 043** | **140 693** | **143 395** |

## Supply and Services Costs

| **FSE (valor mensal sem IVA)** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Subcontracting Veterinary Services | 500,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Accounting | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Cleaning | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Security | 200,00 | 203,00 | 206,05 | 209,14 | 212,27 | 215,46 | 218,69 | 221,97 | 225,30 | 228,68 |
| Transport Logistics | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Lawyers | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Rent | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Electricity | 0,00 | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 |
| Water | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Gas | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Fuel | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Communications | 0,00 | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ferramentas e utensílios | 1 000,00 | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 |
| Office Material | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Representation Expenses | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Conservation and Repair | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Publicity | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Insurance | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Royalties | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Litigations | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Certifications | 600,00 | 609,00 | 618,14 | 627,41 | 636,82 | 646,37 | 656,07 | 665,91 | 675,90 | 686,03 |
| Legal Requirements | 360,00 | 365,40 | 370,88 | 376,44 | 382,09 | 387,82 | 393,64 | 399,54 | 405,54 | 411,62 |
| Others | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| **TOTAL FSE** | 7 660,00 | 9 252,40 | 9 391,19 | 9 532,05 | 9 675,03 | 9 820,16 | 9 967,46 | 10 116,97 | 10 268,73 | 10 422,76 |

+

| **FSE Total Anual** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Subcontratação de atividades específicas do negócio | 500,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Contabilidade | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Limpeza | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Segurança | 200,00 | 203,00 | 206,05 | 209,14 | 212,27 | 215,46 | 218,69 | 221,97 | 225,30 | 228,68 |
| Logística de transporte | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Advogados | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Renda | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Eletricidade | 0,00 | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 |
| Água | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Gás | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Combustíveis | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Comunicações (inclui internet) | 0,00 | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 |
| Ferramentas e utensílios | 1 000,00 | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 |
| Material de escritório | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Despesas de representação | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Conservação e reparação | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Publicidade | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Seguros | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Royalties | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Contencioso e notariado | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Outros serviços | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| **TOTAL FSE** | 6 700,00 | 8 278,00 | 8 402,17 | 8 528,20 | 8 656,13 | 8 785,97 | 8 917,76 | 9 051,52 | 9 187,30 | 9 325,11 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Iva dedutivel | 1541 | 1903,94 | 1932,4991 | 1961,486587 | 1990,908885 | 2020,772519 | 2051,084106 | 2081,850368 | 2113,078123 | 2144,774295 |

# Investments

| **Investimento** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Investimento por ano** | **Ano 0** | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** | Acum |
| **Activos fixos tangíveis** | | | | | | | | | | | | |
| Terrenos e Recursos Naturais | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Edificios e Outras Construções | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Equipamento Básico | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 11 000 |
| Equipamento de Transporte | 20 000 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 22 500 |
| Equipamento Administrativo | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros activos fixos tangiveis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Activos Fixos Tangíveis** | **21 000** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | 28 500 |
| **Activos Intangíveis** | | | | | | | | | | | | |
| Programas de computador | | | | | | | | | | | | 0 |
| Projectos de desenvolvimento | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros activos intangíveis | 0 | | | | | | | | | | | 0 |
| **Total Activos Intangíveis** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 0 |
| **Ativos biológicos** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Investimento** | **21 000** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | **1 500** | **28 500** |
| | | | | | | | | | | | | |
| **Taxas de Depreciações e Amortizações** | **Ano 0** | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** | VLC |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Activos fixos tangíveis** | | | | | | | | | | | | | |
| Edificios e Outras Construções | 2,00% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Equipamento Básico | 10,00% | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1 000 | 1 100 | 4 400 |
| Equipamento de Transporte | 25,00% | 5 000 | 5 125 | 5 250 | 5 375 | 500 | -4500 | -9625 | -14875 | -15250 | -10625 | -875 | 57 000 |
| Equipamento Administrativo | 25,00% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros activos fixos tangiveis | 25,00% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Activos Intangíveis** | | | | | | | | | | | | | 28 500 |
| Projectos de desenvolvimento | 33,000% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Programas de computador | 33,000% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros activos intangíveis | 33,000% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Amortizações** | | **5 100** | **5 325** | **5 550** | **5 775** | **1 000** | **-3 900** | **-8 925** | **-14 075** | **-14 350** | **-9 625** | **225** | **89 900** |
| **Acumulado** | | 5 100 | 10 425 | 15 975 | 21 750 | 22 750 | 18 850 | 9 925 | -4 150 | -18 500 | -28 125 | -27 900 | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iva Dedutivel | 23,00% | 4830 | 345 | 345 | 345 | 345 | 345 | 345 | 345 | 345 | 345 | 345 |

# Financial Statements

**Demonstração de resultados previsional**

| | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volume Negócios** | **50 400** | **66 503** | **87 750** | **115 787** | **152 781** | **201 594** | **266 003** | **350 991** | **463 133** | **611 104** |
| **Custos** | | | | | | | | | | |
| CMVMC | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| FSExternos | **6 700** | **8 278** | **8 402** | **8 528** | **8 656** | **8 786** | **8 918** | **9 052** | **9 187** | **9 325** |
| Custos com Pessoal | **45 850** | **70 578** | **73 294** | **100 838** | **130 403** | **132 900** | **135 446** | **138 043** | **140 693** | **143 395** |
| **Sub Total Custos** | **52 550** | **78 856** | **81 697** | **109 366** | **139 059** | **141 686** | **144 364** | **147 095** | **149 880** | **152 720** |
| **EBITDA** | **-2 150** | **-12 354** | **6 054** | **6 420** | **13 721** | **59 908** | **121 639** | **203 896** | **313 253** | **458 384** |
| Amortizações do Exercício | 5 100 | 5 325 | 5 550 | 5 775 | 1 000 | -3 900 | -8 925 | -14 075 | -14 350 | -9 625 |
| **Total Custos Exploração** | **57 650** | **84 181** | **87 247** | **115 141** | **140 059** | **137 786** | **135 439** | **133 020** | **135 530** | **143 095** |
| **EBIT** | **-7 250** | **-17 679** | **504** | **645** | **12 721** | **63 808** | **130 564** | **217 971** | **327 603** | **468 009** |
| Encargos Financeiros | 490 | 294 | 270 | 270 | 270 | 270 | 270 | 270 | 270 | 270 |
| **RAI** | **-7 740** | **-17 973** | **234** | **376** | **12 452** | **63 539** | **130 295** | **217 702** | **327 333** | **467 739** |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Impostos 19% | 19% | 0 | 0 | 44 | 71 | 2 366 | 12 072 | 24 756 | 41 363 | 62 193 | 88 870 |
| **Resultado Liquido** | | **-7 740** | **-17 973** | **190** | **304** | **10 086** | **51 466** | **105 539** | **176 338** | **265 140** | **378 869** |

| **Cash-Flow do Projeto 2** | **Ano 0** | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** | **Total** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cash-flow Operacional | | **-1 742** | **-10 006** | **4 904** | **5 200** | **11 114** | **48 526** | **98 528** | **165 156** | **253 735** | **371 291** | *16 545 506* |
| Investimento em Ativo Fixo | 21 000 | 1 500 | 1 500 | 1 500 | 1 500 | 1 500 | 1 500 | 1 500 | 1 500 | 1 500 | 1 500 | *-15 250* |
| Investimento em Fundo de Maneio | 8 686 | 1 199 | 3 696 | 4 523 | 6 073 | 16 188 | 13 754 | 18 165 | 23 985 | 31 665 | 0 | *-40 365* |
| **Total Investimentos** | **29 686** | **2 699** | **5 196** | **6 023** | **7 573** | **17 688** | **15 254** | **19 665** | **25 485** | **33 165** | **1 500** | **25 115** |
| **Total de cash-flow** | **-29 686** | **-4 440** | **-15 202** | **-1 120** | **-2 373** | **-6 574** | **33 272** | **78 863** | **139 671** | **220 570** | **369 791** | **16 570 621** |
| *Cash-Flow acumulado* | *-29 686* | *-34 126* | ***-49 328*** | *-50 448* | *-52 821* | *-59 395* | *-26 123* | *52 740* | *192 411* | *412 980* | *782 771* | *16 511 226* |

## Scenario 1

## Sales and Services

| PVP (sem IVA) | 2018 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sales and Services** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
| **AAT** | 37,50 | 38,06 | 38,63 | 39,21 | 39,80 | 40,40 | 41,00 | 41,62 | 42,24 | 42,88 |
| **AAE** | 37,50 | 38,06 | 38,63 | 39,21 | 39,80 | 40,40 | 41,00 | 41,62 | 42,24 | 42,88 |
| **AAA** | 40,00 | 40,60 | 41,21 | 41,83 | 42,45 | 43,09 | 43,74 | 44,39 | 45,06 | 45,74 |
| **Farm activities** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| **Total** | **115,00** | **116,73** | **118,48** | **120,25** | **122,06** | **123,89** | **125,75** | **127,63** | **129,55** | **131,49** |

| Quantity | 12 | nº meses atividade no ano | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sales and Services** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
| **AAT** | 35,00 | 49,00 | 68,60 | 96,04 | 134,46 | 188,24 | 263,53 | 368,95 | 516,53 | 723,14 |
| **AAE** | 35,00 | 49,00 | 68,60 | 96,04 | 134,46 | 188,24 | 263,53 | 368,95 | 516,53 | 723,14 |
| **AAA** | 35,00 | 49,00 | 68,60 | 96,04 | 134,46 | 188,24 | 263,53 | 368,95 | 516,53 | 723,14 |
| **Farm activities** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| **Total** | **105,00** | **147,00** | **205,80** | **288,12** | **403,37** | **564,72** | **790,60** | **1 106,84** | **1 549,58** | **2 169,41** |

| Annual Total | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sales and Services** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 | Tx.Iva |
| **AAT** | 15 750,00 | 22 380,75 | 31 803,05 | 45 192,13 | 64 218,01 | 91 253,80 | 129 671,65 | 184 263,41 | 261 838,31 | 372 072,23 | 23% |
| **AAE** | 15 750,00 | 22 380,75 | 31 803,05 | 45 192,13 | 64 218,01 | 91 253,80 | 129 671,65 | 184 263,41 | 261 838,31 | 372 072,23 | 23% |
| **AAA** | 16 800,00 | 23 872,80 | 33 923,25 | 48 204,94 | 68 499,21 | 97 337,38 | 138 316,42 | 196 547,64 | 279 294,19 | 396 877,05 | 23% |
| **Farm activities** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 23% |
| **Total** | **48 300,00** | **68 634,30** | **97 529,34** | **138 589,19** | **196 935,24** | **279 844,98** | **397 659,72** | **565 074,46** | **802 970,80** | **1 141 021,51** | |

## Human Resources

| Gastos com pessoal | 14 | nº meses atividade no 1º ano | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Nº Months** | | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| **Increment (Vencimentos + Sub. Almoço)** | | 0% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% |
| | | | | | | | | | | | |
| **Quadro de Pessoal** | - | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |
| Administração / Direção | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Management | | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| AAT | | 1 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| Farm | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cleaning | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Internship | | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Outros | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | | **3** | **4** | **5** | **6** | **8** | **8** | **8** | **8** | **8** | **8** |
| **Remuneração base mensal (bruta)** | - | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Administração / Direção | | 1 300 | 1 326 | 1 353 | 1 380 | 1 407 | 1 435 | 1 464 | 1 493 | 1 523 | 1 554 |
| Management | | 1 300 | 1 326 | 1 353 | 1 380 | 1 407 | 1 435 | 1 464 | 1 493 | 1 523 | 1 554 |
| AAT | | 1 200 | 1 224 | 1 248 | 1 273 | 1 299 | 1 325 | 1 351 | 1 378 | 1 406 | 1 434 |
| Farm | | 950 | 969 | 988 | 1 008 | 1 028 | 1 049 | 1 070 | 1 091 | 1 113 | 1 135 |
| Cleaning | | 700 | 714 | 728 | 743 | 758 | 773 | 788 | 804 | 820 | 837 |
| Internship | | 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Remuneração base anual - TOTAL** | - | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |
| Administração / Direção | | 18 200 | 18 935 | 19 700 | 20 496 | 21 324 | 21 751 | 22 186 | 22 629 | 23 082 | 23 544 |
| Management | | 0 | 0 | 0 | 0 | 21 324 | 21 751 | 22 186 | 22 629 | 23 082 | 23 544 |
| AAT | | 16 800 | 34 957 | 36 370 | 56 759 | 78 736 | 80 310 | 81 916 | 83 555 | 85 226 | 86 930 |
| Farm | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cleaning | | 9 800 | 10 196 | 10 608 | 11 036 | 11 482 | 11 712 | 11 946 | 12 185 | 12 429 | 12 677 |
| Internship | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | | **44 800** | **64 089** | **66 678** | **88 291** | **132 866** | **135 523** | **138 234** | **140 999** | **143 819** | **146 695** |
| **Outros Gastos (Encargos)** | - | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |
| Segurança Social | | | | | | | | | | | |
| Órgãos Sociais | | 4 323 | 4 497 | 4 679 | 4 868 | 5 064 | 5 166 | 5 269 | 5 374 | 5 482 | 5 592 |
| Pessoal | | 6 318 | 10 724 | 11 157 | 16 101 | 26 491 | 27 021 | 27 561 | 28 113 | 28 675 | 29 248 |
| Seguros Acidentes de Trabalho | | 448 | 641 | 667 | 883 | 1 329 | 1 355 | 1 382 | 1 410 | 1 438 | 1 467 |
| Subsídio Alimentação Euros / dia | | 3 282 | 4 463 | 5 579 | 6 694 | 8 926 | 8 926 | 8 926 | 8 926 | 8 926 | 8 926 |
| Outros custos com pessoal | | | | | | | | | | | |
| **TOTAL OUTROS GASTOS /Encargos** | | **14 370** | **20 325** | **22 081** | **28 546** | **41 810** | **42 468** | **43 139** | **43 823** | **44 521** | **45 233** |
| **TOTAL GASTOS COM PESSOAL** | | **59 170** | **84 413** | **88 759** | **116 837** | **174 676** | **177 991** | **181 373** | **184 822** | **188 339** | **191 928** |

# Supply and Services Costs

| **FSE (valor mensal sem IVA)** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Subcontracting Veterinary Services | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Accounting | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Cleaning | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Security | 200,00 | 203,00 | 206,05 | 209,14 | 212,27 | 215,46 | 218,69 | 221,97 | 225,30 | 228,68 |
| Transport Logistics | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Lawyers | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Rent | 3 000,00 | 3 045,00 | 3 090,68 | 3 137,04 | 3 184,09 | 3 231,85 | 3 280,33 | 3 329,53 | 3 379,48 | 3 430,17 |
| Electricity | 200,00 | 203,00 | 206,05 | 209,14 | 212,27 | 215,46 | 218,69 | 221,97 | 225,30 | 228,68 |
| Water | 90,00 | 91,35 | 92,72 | 94,11 | 95,52 | 96,96 | 98,41 | 99,89 | 101,38 | 102,91 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Gas | 90,00 | 91,35 | 92,72 | 94,11 | 95,52 | 96,96 | 98,41 | 99,89 | 101,38 | 102,91 |
| Fuel | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Communications | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Ferramentas e utensílios | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Office Material | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Representation Expenses | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Conservation and Repair | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Publicity | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Insurance | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Royalties | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Litigations | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Certifications | 600,00 | 609,00 | 618,14 | 627,41 | 636,82 | 646,37 | 656,07 | 665,91 | 675,90 | 686,03 |
| Legal Requirements | 360,00 | 365,40 | 370,88 | 376,44 | 382,09 | 387,82 | 393,64 | 399,54 | 405,54 | 411,62 |
| Others | 2 000,00 | 2 030,00 | 2 060,45 | 2 091,36 | 2 122,73 | 2 154,57 | 2 186,89 | 2 219,69 | 2 252,99 | 2 286,78 |
| **TOTAL FSE** | 13 540,00 | 13 743,10 | 13 949,25 | 14 158,49 | 14 370,86 | 14 586,43 | 14 805,22 | 15 027,30 | 15 252,71 | 15 481,50 |

| **FSE Total Anual** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Subcontratação de atividades específicas do negócio | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Contabilidade | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Limpeza | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Segurança | 200,00 | 203,00 | 206,05 | 209,14 | 212,27 | 215,46 | 218,69 | 221,97 | 225,30 | 228,68 |
| Logística de transporte | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Advogados | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Renda | 3 000,00 | 3 045,00 | 3 090,68 | 3 137,04 | 3 184,09 | 3 231,85 | 3 280,33 | 3 329,53 | 3 379,48 | 3 430,17 |
| Eletricidade | 200,00 | 203,00 | 206,05 | 209,14 | 212,27 | 215,46 | 218,69 | 221,97 | 225,30 | 228,68 |
| Água | 90,00 | 91,35 | 92,72 | 94,11 | 95,52 | 96,96 | 98,41 | 99,89 | 101,38 | 102,91 |
| Gás | 90,00 | 91,35 | 92,72 | 94,11 | 95,52 | 96,96 | 98,41 | 99,89 | 101,38 | 102,91 |
| Combustíveis | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Comunicações (inclui internet) | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Ferramentas e utensílios | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Material de escritório | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Despesas de representação | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Conservação e reparação | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Publicidade | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Seguros | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Royalties | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Contencioso e notariado | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Outros serviços | 2 000,00 | 24 360,00 | 24 725,40 | 25 096,28 | 25 472,73 | 25 854,82 | 26 242,64 | 26 636,28 | 27 035,82 | 27 441,36 |
| **TOTAL FSE** | 12 580,00 | 35 098,70 | 35 625,18 | 36 159,56 | 36 701,95 | 37 252,48 | 37 811,27 | 38 378,44 | 38 954,11 | 39 538,43 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Iva dedutível | 2 878 | 8 057 | 8 178 | 8 301 | 8 425 | 8 552 | 8 680 | 8 810 | 8 942 | 9 076 |

# Investments

| **Investimento** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Investimento por ano** | **Ano 0** | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** | Acum |
| **Activos fixos tangíveis** | | | | | | | | | | | | |
| Terrenos e Recursos Naturais | 5 000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Edificios e Outras Construções | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Equipamento Básico | 10 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 20 000 |
| Equipamento de Transporte | 6 000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 000 |
| Equipamento Administrativo | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros activos fixos tangiveis | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 150 |
| **Total Activos Fixos Tangíveis** | **21 150** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | 26 150 |
| **Activos Intangíveis** | | | | | | | | | | | | |
| Programas de computador | 6 000 | 6 000 | 6 000 | 6 000 | 6 000 | 6 000 | 6 000 | 6 000 | 6 000 | 6 000 | 6 000 | 36 000 |
| Projectos de desenvolvimento | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros activos intangíveis | 0 | | | | | | | | | | | 0 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Activos Intangíveis** | | **6 000** | **6 000** | **6 000** | **6 000** | **6 000** | **6 000** | **6 000** | **6 000** | **6 000** | **6 000** | **6 000** | 66 000 |
| **Ativos biológicos** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Investimento** | | **27 150** | **7 000** | **7 000** | **7 000** | **7 000** | **7 000** | **7 000** | **7 000** | **7 000** | **7 000** | **7 000** | **92 150** |
| | | | | | | | | | | | | | |
| **Taxas de Depreciações e Amortizações** | | **Ano 0** | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** | VLC |
| **Activos fixos tangíveis** | | | | | | | | | | | | | |
| Edificios e Outras Construções | 2,00% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Equipamento Básico | 10,00% | 1 000 | 1 100 | 1 200 | 1 300 | 1 400 | 1 500 | 1 600 | 1 700 | 1 800 | 1 900 | 2 000 | 3 500 |
| Equipamento de Transporte | 25,00% | 1 500 | 1 500 | 1 500 | 1 500 | 0 | -1500 | -3000 | -4500 | -4500 | -3000 | 0 | 16 500 |
| Equipamento Administrativo | 25,00% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros activos fixos tangiveis | 25,00% | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | -262,5 |
| **Activos Intangíveis** | | | | | | | | | | | | | 26150 |
| Projectos de desenvolvimento | 33,000% | 1 980 | 3 960 | 5 940 | 7 920 | 9 900 | 11 880 | 13 860 | 15 840 | 17 820 | 19 800 | 21 780 | -130680 |
| Programas de computador | 33,000% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36000 |
| Outros activos intangíveis | 33,000% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Amortizações** | | **4 518** | **6 598** | **8 678** | **10 758** | **11 338** | **11 918** | **12 498** | **13 078** | **15 158** | **18 738** | **23 818** | **-48 793** |
| **Acumulado** | | 4 518 | 11 115 | 19 793 | 30 550 | 41 888 | 53 805 | 66 303 | 79 380 | 94 538 | 113 275 | 137 093 | |
| | | | | | | | | | | | | | |
| Iva Dedutível | 23,00% | 3714,5 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | |

# Financial Statements

**Demonstração de resultados previsional**

| | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volume Negócios** | **48 300** | **68 634** | **97 529** | **138 589** | **196 935** | **279 845** | **397 660** | **565 074** | **802 971** | **1 141 022** |
| **Custos** | | | | | | | | | | |
| CMVMC | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| FSExternos | **12 580** | **35 099** | **35 625** | **36 160** | **36 702** | **37 252** | **37 811** | **38 378** | **38 954** | **39 538** |
| Custos com Pessoal | **59 170** | **84 413** | **88 759** | **116 837** | **174 676** | **177 991** | **181 373** | **184 822** | **188 339** | **191 928** |
| **Sub Total Custos** | **71 750** | **119 512** | **124 384** | **152 997** | **211 378** | **215 244** | **219 184** | **223 200** | **227 294** | **231 466** |
| **EBITDA** | **-23 450** | **-50 878** | **-26 855** | **-14 408** | **-14 443** | **64 601** | **178 476** | **341 874** | **575 677** | **909 555** |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Amortizações do Exercício | | 4 518 | 6 598 | 8 678 | 10 758 | 11 338 | 11 918 | 12 498 | 13 078 | 15 158 | 18 738 |
| **Total Custos Exploração** | | **76 267** | **126 110** | **133 062** | **163 755** | **222 716** | **227 161** | **231 681** | **236 277** | **242 451** | **250 204** |
| **EBIT** | | **-27 967** | **-57 475** | **-35 533** | **-25 165** | **-25 780** | **52 684** | **165 978** | **328 797** | **560 520** | **890 818** |
| Encargos Financeiros | | 450 | 270 | 247 | 247 | 247 | 247 | 247 | 247 | 247 | 247 |
| **RAI** | | **-28 417** | **-57 745** | **-35 780** | **-25 413** | **-26 028** | **52 436** | **165 731** | **328 550** | **560 272** | **890 570** |
| Impostos 19% | 19% | 0 | 0 | 0 | 0 | 0 | 9 963 | 31 489 | 62 424 | 106 452 | 169 208 |
| **Resultado Liquido** | | **-28 417** | **-57 745** | **-35 780** | **-25 413** | **-26 028** | **42 473** | **134 242** | **266 125** | **453 821** | **721 362** |

| **Cash-Flow do Projeto 2** | **Ano 0** | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** | **Total** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cash-flow Operacional | | **-18 994** | **-41 211** | **-21 753** | **-11 670** | **-11 699** | **52 327** | **144 565** | **276 918** | **466 299** | **736 740** | *32 830 674* |
| Investimento em Ativo Fixo | 27 150 | 7 000 | 7 000 | 7 000 | 7 000 | 7 000 | 7 000 | 7 000 | 7 000 | 7 000 | 7 000 | *-6 888* |
| Investimento em Fundo de Maneio | 7 192 | -78 | 4 983 | 6 754 | 9 350 | 25 190 | 25 144 | 35 776 | 50 884 | 72 353 | 0 | *-53 390* |
| **Total Investimentos** | **34 342** | **6 922** | **11 983** | **13 754** | **16 350** | **32 190** | **32 144** | **42 776** | **57 884** | **79 353** | **7 000** | **46 503** |
| **Total de cash-flow** | **-34 342** | **-25 916** | **-53 194** | **-35 506** | **-28 020** | **-43 889** | **20 183** | **101 790** | **219 034** | **386 945** | **729 740** | **32 877 177** |
| *Cash-Flow acumulado* | *-34 342* | *-60 258* | ***-113 452*** | *-148 958* | *-176 978* | *-220 867* | *-200 685* | *-98 895* | *120 139* | *507 084* | *1 236 824* | *32 656 310* |

# Scenario 2

## Sales and Services

**PVP (sem IVA)** 2018

| **Sales and Services** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **AAT** | 40,00 | 40,60 | 41,21 | 41,83 | 42,45 | 43,09 | 43,74 | 44,39 | 45,06 | 45,74 |
| **AAE** | 40,00 | 40,60 | 41,21 | 41,83 | 42,45 | 43,09 | 43,74 | 44,39 | 45,06 | 45,74 |
| **AAA** | 40,00 | 40,60 | 41,21 | 41,83 | 42,45 | 43,09 | 43,74 | 44,39 | 45,06 | 45,74 |
| **Farm activities** | 10,00 | 10,15 | 10,30 | 10,46 | 10,61 | 10,77 | 10,93 | 11,10 | 11,26 | 11,43 |
| **Total** | **130,00** | **131,95** | **133,93** | **135,94** | **137,98** | **140,05** | **142,15** | **144,28** | **146,44** | **148,64** |

**Quantity** 12 nº meses atividade no ano

| **Sales and Services** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **AAT** | 35,00 | 63,00 | 100,80 | 161,28 | 258,05 | 412,88 | 660,60 | 1 056,96 | 1 691,14 | 2 705,83 |
| **AAE** | 35,00 | 63,00 | 100,80 | 161,28 | 258,05 | 412,88 | 660,60 | 1 056,96 | 1 691,14 | 2 705,83 |
| **AAA** | 35,00 | 63,00 | 100,80 | 161,28 | 258,05 | 412,88 | 660,60 | 1 056,96 | 1 691,14 | 2 705,83 |
| **Farm activities** | 30,00 | 48,00 | 86,40 | 138,24 | 221,18 | 353,89 | 566,23 | 905,97 | 1 449,55 | 2 319,28 |
| **Total** | **135,00** | **237,00** | **388,80** | **622,08** | **995,33** | **1 592,52** | **2 548,04** | **4 076,86** | **6 522,98** | **10 436,77** |

**Annual Total**

| Sales and Services | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 | Tx.Iva |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AAT** | 16 800,00 | 30 693,60 | 49 846,41 | 80 950,56 | 131 463,72 | 213 497,07 | 346 719,25 | 563 072,06 | 914 429,03 | 1 485 032,74 | 23% |
| **AAE** | 16 800,00 | 30 693,60 | 49 846,41 | 80 950,56 | 131 463,72 | 213 497,07 | 346 719,25 | 563 072,06 | 914 429,03 | 1 485 032,74 | 23% |
| **AAA** | 16 800,00 | 30 693,60 | 49 846,41 | 80 950,56 | 131 463,72 | 213 497,07 | 346 719,25 | 563 072,06 | 914 429,03 | 1 485 032,74 | 23% |
| **Farm activities** | 3 600,00 | 5 846,40 | 10 681,37 | 17 346,55 | 28 170,80 | 45 749,37 | 74 296,98 | 120 658,30 | 195 949,08 | 318 221,30 | 23% |
| **Total** | **54 000,00** | **97 927,20** | **160 220,59** | **260 198,24** | **422 561,94** | **686 240,60** | **1 114 454,73** | **1 809 874,48** | **2 939 236,16** | **4 773 319,52** | |

| N/A | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 | Tx.Iva |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **%Sales** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | |
| | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | |
| **Total** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | 23% |

# Human Resources

| **Gastos com pessoal** | 14 | nº meses atividade no 1º ano | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Nº Months** | | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| **Increment (Vencimentos + Sub. Almoço)** | | 0% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% | 2,00% |
| | | | | | | | | | | | |
| **Quadro de Pessoal** | - | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |
| Administração / Direção | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Management | | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| AAT | | 1 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| Farm | | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cleaning | | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Internship | | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Outros | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | | **2** | **9** | **9** | **10** | **11** | **11** | **11** | **11** | **11** | **11** |
| **Remuneração base mensal (bruta)** | - | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |
| Administração / Direção | | 1 300 | 1 326 | 1 353 | 1 380 | 1 407 | 1 435 | 1 464 | 1 493 | 1 523 | 1 554 |
| Management | | 1 300 | 1 326 | 1 353 | 1 380 | 1 407 | 1 435 | 1 464 | 1 493 | 1 523 | 1 554 |
| AAT | | 1 200 | 1 224 | 1 248 | 1 273 | 1 299 | 1 325 | 1 351 | 1 378 | 1 406 | 1 434 |
| Farm | | 950 | 969 | 988 | 1 008 | 1 028 | 1 049 | 1 070 | 1 091 | 1 113 | 1 135 |
| Cleaning | | 700 | 714 | 728 | 743 | 758 | 773 | 788 | 804 | 820 | 837 |
| Internship | | 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Remuneração base anual - TOTAL** | - | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Administração / Direção | 18 200 | 18 935 | 19 700 | 20 496 | 21 324 | 21 751 | 22 186 | 22 629 | 23 082 | 23 544 |
| Management | 0 | 18 935 | 19 700 | 20 496 | 21 324 | 21 751 | 22 186 | 22 629 | 23 082 | 23 544 |
| AAT | 16 800 | 34 957 | 36 370 | 56 759 | 78 736 | 80 310 | 81 916 | 83 555 | 85 226 | 86 930 |
| Farm | 0 | 27 675 | 28 793 | 29 956 | 31 166 | 31 789 | 32 425 | 33 074 | 33 735 | 34 410 |
| Cleaning | 0 | 20 392 | 21 216 | 22 073 | 22 965 | 23 424 | 23 892 | 24 370 | 24 858 | 25 355 |
| Internship | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **35 000** | **120 894** | **125 779** | **149 780** | **175 515** | **179 025** | **182 605** | **186 257** | **189 983** | **193 782** |

| **Outros Gastos (Encargos)** | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** |
|---|---|---|---|---|---|---|---|---|---|---|
| Segurança Social | | | | | | | | | | |
| Órgãos Sociais | 4 323 | 4 497 | 4 679 | 4 868 | 5 064 | 5 166 | 5 269 | 5 374 | 5 482 | 5 592 |
| Pessoal | 3 990 | 24 215 | 25 194 | 30 705 | 36 620 | 37 353 | 38 100 | 38 862 | 39 639 | 40 432 |
| Seguros Acidentes de Trabalho | 350 | 1 209 | 1 258 | 1 498 | 1 755 | 1 790 | 1 826 | 1 863 | 1 900 | 1 938 |
| Subsídio Alimentação Euros / dia | 2 188 | 10 041 | 10 041 | 11 157 | 12 273 | 12 273 | 12 273 | 12 273 | 12 273 | 12 273 |
| Outros custos com pessoal | | | | | | | | | | |
| **TOTAL OUTROS GASTOS /Encargos** | **10 850** | **39 963** | **41 172** | **48 228** | **55 713** | **56 582** | **57 468** | **58 372** | **59 294** | **60 234** |
| **TOTAL GASTOS COM PESSOAL** | **45 850** | **160 857** | **166 950** | **198 007** | **231 227** | **235 606** | **240 073** | **244 629** | **249 276** | **254 016** |

## Supply and Services Costs

| **FSE (valor mensal sem IVA)** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Subcontracting Veterinary Services | 2 000,00 | 2 030,00 | 2 060,45 | 2 091,36 | 2 122,73 | 2 154,57 | 2 186,89 | 2 219,69 | 2 252,99 | 2 286,78 |
| Accounting | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Cleaning | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Security | 200,00 | 203,00 | 206,05 | 209,14 | 212,27 | 215,46 | 218,69 | 221,97 | 225,30 | 228,68 |
| Transport Logistics | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Lawyers | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Rent | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Electricity | 200,00 | 203,00 | 206,05 | 209,14 | 212,27 | 215,46 | 218,69 | 221,97 | 225,30 | 228,68 |
| Water | 90,00 | 91,35 | 92,72 | 94,11 | 95,52 | 96,96 | 98,41 | 99,89 | 101,38 | 102,91 |
| Gas | 90,00 | 91,35 | 92,72 | 94,11 | 95,52 | 96,96 | 98,41 | 99,89 | 101,38 | 102,91 |
| Fuel | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Communications | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Ferramentas e utensílios | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Office Material | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Representation Expenses | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Conservation and Repair | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Publicity | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Insurance | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Royalties | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Litigations | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Certifications | 1 200,00 | 1 218,00 | 1 236,27 | 1 254,81 | 1 273,64 | 1 292,74 | 1 312,13 | 1 331,81 | 1 351,79 | 1 372,07 |
| Legal Requirements | 360,00 | 365,40 | 370,88 | 376,44 | 382,09 | 387,82 | 393,64 | 399,54 | 405,54 | 411,62 |
| Others | 2 000,00 | 2 030,00 | 2 060,45 | 2 091,36 | 2 122,73 | 2 154,57 | 2 186,89 | 2 219,69 | 2 252,99 | 2 286,78 |
| **TOTAL FSE** | 12 140,00 | 12 322,10 | 12 506,93 | 12 694,54 | 12 884,95 | 13 078,23 | 13 274,40 | 13 473,52 | 13 675,62 | 13 880,75 |

| **FSE Total Anual** | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Subcontratação de atividades específicas do negócio | 2 000,00 | 2 030,00 | 2 060,45 | 2 091,36 | 2 122,73 | 2 154,57 | 2 186,89 | 2 219,69 | 2 252,99 | 2 286,78 |
| Contabilidade | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Limpeza | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Segurança | 200,00 | 203,00 | 206,05 | 209,14 | 212,27 | 215,46 | 218,69 | 221,97 | 225,30 | 228,68 |
| Logística de transporte | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Advogados | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Renda | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Eletricidade | 200,00 | 203,00 | 206,05 | 209,14 | 212,27 | 215,46 | 218,69 | 221,97 | 225,30 | 228,68 |
| Água | 90,00 | 91,35 | 92,72 | 94,11 | 95,52 | 96,96 | 98,41 | 99,89 | 101,38 | 102,91 |
| Gás | 90,00 | 91,35 | 92,72 | 94,11 | 95,52 | 96,96 | 98,41 | 99,89 | 101,38 | 102,91 |
| Combustíveis | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Comunicações (inclui internet) | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Ferramentas e utensílios | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Material de escritório | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Despesas de representação | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Conservação e reparação | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Publicidade | 500,00 | 507,50 | 515,11 | 522,84 | 530,68 | 538,64 | 546,72 | 554,92 | 563,25 | 571,69 |
| Seguros | 1 000,00 | 1 015,00 | 1 030,23 | 1 045,68 | 1 061,36 | 1 077,28 | 1 093,44 | 1 109,84 | 1 126,49 | 1 143,39 |
| Royalties | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Contencioso e notariado | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Outros serviços | 2 000,00 | 24 360,00 | 24 725,40 | 25 096,28 | 25 472,73 | 25 854,82 | 26 242,64 | 26 636,28 | 27 035,82 | 27 441,36 |
| **TOTAL FSE** | 10 580,00 | 33 068,70 | 33 564,73 | 34 068,20 | 34 579,22 | 35 097,91 | 35 624,38 | 36 158,75 | 36 701,13 | 37 251,65 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Iva dedutivel | 2 418 | 7 590 | 7 704 | 7 820 | 7 937 | 8 056 | 8 177 | 8 300 | 8 424 | 8 550 |

# Investments

| **Investimento** | | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Investimento por ano** | | **Ano 0** | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** | Acum |
| **Activos fixos tangíveis** | | | | | | | | | | | | | |
| Terrenos e Recursos Naturais | | 64 000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Edificios e Outras Construções | | 600 000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 600 000 |
| Equipamento Básico | | 15 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 25 000 |
| Equipamento de Transporte | | 6 000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 000 |
| Equipamento Administrativo | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros activos fixos tangiveis | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Activos Fixos Tangíveis** | | **685 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | 690 000 |
| **Activos Intangíveis** | | | | | | | | | | | | | |
| Programas de computador | | 0 | 1 000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 000 |
| Projectos de desenvolvimento | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros activos intangíveis | | 0 | | | | | | | | | | | 0 |
| **Total Activos Intangíveis** | | **0** | **1 000** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 1 000 |
| **Ativos biológicos** | | 0 | 5 000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 000 |
| **Total Investimento** | | **685 000** | **7 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **1 000** | **696 000** |
| | | | | | | | | | | | | | |
| **Taxas de Depreciações e Amortizações** | | **Ano 0** | **Ano 1** | **Ano 2** | **Ano 3** | **Ano 4** | **Ano 5** | **Ano 6** | **Ano 7** | **Ano 8** | **Ano 9** | **Ano 10** | VLC |
| **Activos fixos tangíveis** | | | | | | | | | | | | | |
| Edificios e Outras Construções | 2,00% | 12 000 | 12 000 | 12 000 | 12 000 | 12 000 | 12 000 | 12 000 | 12 000 | 12 000 | 12 000 | 12 000 | 468 000 |
| Equipamento Básico | 10,00% | 1 500 | 1 600 | 1 700 | 1 800 | 1 900 | 2 000 | 2 100 | 2 200 | 2 300 | 2 400 | 2 500 | 3 000 |
| Equipamento de Transporte | 25,00% | 1 500 | 1 500 | 1 500 | 1 500 | 0 | -1500 | -3000 | -4500 | -4500 | -3000 | 0 | 16 500 |
| Equipamento Administrativo | 25,00% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Outros activos fixos tangiveis | 25,00% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Activos Intangíveis** | | | | | | | | | | | | | 690 000 |
| Projectos de desenvolvimento | 33,000% | 0 | 330 | 330 | 330 | 330 | 330 | 330 | 330 | 330 | 330 | 330 | -3300 |
| Programas de computador | 33,000% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 000 |
| Outros activos intangíveis | 33,000% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Amortizações** | | **15 000** | **15 430** | **15 530** | **15 630** | **14 230** | **12 830** | **11 430** | **10 030** | **10 130** | **11 730** | **14 830** | **1 175 200** |
| **Acumulado** | | 15 000 | 30 430 | 45 960 | 61 590 | 75 820 | 88 650 | 100 080 | 110 110 | 120 240 | 131 970 | 146 800 | |
| | | | | | | | | | | | | | |
| Iva Dedutível | 23,00% | 142830 | 1380 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | |

# Financial Statements

**Demonstração de resultados previsional**

| | | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volume Negócios** | | 54 000 | 97 927 | 160 221 | 260 198 | 422 562 | 686 241 | 1 114 455 | 1 809 874 | 2 939 236 | 4 773 320 |
| **Custos** | | | | | | | | | | | |
| CMVMC | | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| FSExternos | | **10 580** | **33 069** | **33 565** | **34 068** | **34 579** | **35 098** | **35 624** | **36 159** | **36 701** | **37 252** |
| Custos com Pessoal | | **45 850** | **160 857** | **166 950** | **198 007** | **231 227** | **235 606** | **240 073** | **244 629** | **249 276** | **254 016** |
| **Sub Total Custos** | | **56 430** | **193 926** | **200 515** | **232 075** | **265 807** | **270 704** | **275 697** | **280 788** | **285 977** | **291 268** |
| **EBITDA** | | **-2 430** | **-95 999** | **-40 294** | **28 123** | **156 755** | **415 536** | **838 757** | **1 529 087** | **2 653 259** | **4 482 052** |
| Amortizações do Exercício | | 15 000 | 15 430 | 15 530 | 15 630 | 14 230 | 12 830 | 11 430 | 10 030 | 10 130 | 11 730 |
| **Total Custos Exploração** | | **71 430** | **209 356** | **216 045** | **247 705** | **280 037** | **283 534** | **287 127** | **290 818** | **296 107** | **302 998** |
| **EBIT** | | **-17 430** | **-111 429** | **-55 824** | **12 493** | **142 525** | **402 706** | **827 327** | **1 519 057** | **2 643 129** | **4 470 322** |
| Encargos Financeiros | | 11 868 | 7 121 | 6 527 | 6 527 | 6 527 | 6 527 | 6 527 | 6 527 | 6 527 | 6 527 |
| **RAI** | | **-29 298** | **-118 550** | **-62 352** | **5 965** | **135 998** | **396 179** | **820 800** | **1 512 529** | **2 636 601** | **4 463 794** |
| Impostos 19% | 19% | 0 | 0 | 0 | 1 133 | 25 840 | 75 274 | 155 952 | 287 381 | 500 954 | 848 121 |
| **Resultado Liquido** | | **-29 298** | **-118 550** | **-62 352** | **4 832** | **110 158** | **320 905** | **664 848** | **1 225 149** | **2 135 647** | **3 615 673** |

| Cash-Flow do Projeto 2 | Ano 0 | Ano 1 | Ano 2 | Ano 3 | Ano 4 | Ano 5 | Ano 6 | Ano 7 | Ano 8 | Ano 9 | Ano 10 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cash-flow Operacional | | **-1 968** | **-77 759** | **-32 638** | **22 779** | **126 972** | **336 584** | **679 393** | **1 238 560** | **2 149 140** | **3 630 462** | *161 781 002* |
| Investimento em Ativo Fixo | 685 000 | 7 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 | *-64 820* |
| Investimento em Fundo de Maneio | 42 859 | -31 262 | 10 476 | 17 005 | 27 907 | 72 913 | 91 675 | 148 958 | 241 985 | 393 064 | 0 | *-139 898* |
| **Total Investimentos** | **727 859** | **-24 262** | **11 476** | **18 005** | **28 907** | **73 913** | **92 675** | **149 958** | **242 985** | **394 064** | **1 000** | **75 078** |
| **Total de cash-flow** | **-727 859** | **22 294** | **-89 235** | **-50 643** | **-6 128** | **53 059** | **243 909** | **529 436** | **995 575** | **1 755 076** | **3 629 462** | **161 856 080** |
| *Cash-Flow acumulado* | *-727 859* | *-705 565* | ***-794 800*** | *-845 443* | *-851 571* | *-798 512* | *-554 603* | *-25 168* | *970 407* | *2 725 483* | *6 354 945* | *168 211 025* |

## ANNEX C – Marketing Plan

1. Place


Source: (Quintas Bacalhoa, 2017)

2. Logo

CTAR

Centro de Terapia Assistida
por Animais e Regeneração

3. Physical Evidence

(Areias do Seixo, 2018)