HOGEWEY

Bringing life to those who have forgotten

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Abstract

Title: **HOGEWEY - Bringing life to those who have forgotten**
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Dementia is one of the major sources of social and economic burden that societies face nowadays. For that reason, the World Health Organization and the Alzhemeir's Disease International have been focusing their efforts on raising awareness to this cause. Nevertheless, there is still a long way to go, particularly in developing regions.

The present dissertation reviews the existing literature on this topic and, in a form of a case study, analyses a success case in the dementia care market. The case study intends to introduce the reader to Hogewey, a Dutch healthcare institution designed to resemble a typical Dutch neighbourhood. Hogewey's only purpose is to provide high quality care for its dementia patients, by offering them a safe, comfortable and human space to live.

After introducing Hogewey's case, some teaching notes are proposed in order to guide an in-class discussion. Next, the main findings are condensed in the conclusion: Hogewey's critical success factors are described and a summarized SWOT analysis is presented as some key elements to replicate Hogewey in Portugal. Finally, the limitations of this dissertation are identified and some future research is suggested.

Resumo

Título: **Hogewey – Trazendo vida para aqueles que já esqueceram**
Autora: Teresa Morais Sarmento

A demência é uma das maiores fontes de peso social e económico que, actualmente, as sociedades enfrentam. Por esse motivo, a Organização Mundial de Saúde e a Associação Internacional da Doença de Alzheimer têm focado os seus esforços na sensibilização para esta causa. Ainda assim, existe um longo caminho pela frente, particularmente nas regiões em desenvolvimento.

A presente dissertação examina a literatura já existente sobre este tema e, através de um "case study", analisa um caso de sucesso no mercado dos cuidados de demência. O mesmo pretende apresentar o leitor a Hogewey, uma instituição de saúde holandesa projectada para se assemelhar a um típico bairro holandês. O único objectivo de Hogewey é providenciar cuidados de elevada qualidade para os seus pacientes que sofram de demência, oferecendo-lhes um espaço seguro, confortável e humano onde possam viver.

Após a apresentação do caso de Hogewey, são propostas algumas notas para guiar a discussão do caso em aula. Seguidamente, as principais conclusões são resumidas na conclusão: os factores de sucesso de Hogewey são descritos e uma análise SWOT é apresentada, tal como alguns elementos essenciais para a replicação de Hogewey em Portugal. Finalmente as limitações da dissertação são identificadas e é sugerida futura pesquisa.

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Chapter 1: Introduction

Dementia and, specially, Alzheimer's disease concern every country, every culture and every race. This syndrome, which has a strong global prevalence, imposes a huge social and economic burden on societies, still, lack of awareness is a major challenge faced nowadays and, sometimes, dementia is wrongly considered a normal part of ageing (Prince & Jackson 2009; WHO 2012). Societies must act, governments must implement plans of action and dementia must be considered a public health priority (WHO 2012).

Nevertheless, and according to Asch & Volpp (2012), it is necessary to understand that people are not interested in healthcare production. What people really want and, more important, need is health. But, healthcare professionals and hospitals just focus on producing healthcare, without considering that if people could acquire health some other way, they would (Asch & Volpp 2012). For this reason, in future, successful healthcare systems will shift their activities from delivering just health services towards a broader range of approaches that deliver health (Asch & Volpp 2012).

With this in mind, the present dissertation explores the need and the possibility of replicating Hogewey - a healthcare "village" based in the Netherlands - in Portugal, whose only purpose would be to provide specialized care to people living with dementia. The study conducted in a form of a case study, aims to answer the following research question: **The need and viability of replicating a "dementia village" in Portugal.**

The dissertation is divided in five chapters and is structured as follows. In the next section -*Chapter 2: Literature review*- the central literature upon which we build our research on will be presented. The data presented in this chapter was collected from a wide variety of academic articles and some reports from international organizations, e.g., WHO, ADI, Alzheimer Europe.

In *Chapter 3: Methodology*, first, the methods used to study the research question will be presented and, afterwards, the reader will be introduced to the case study **Hogewey – Bringing life to those who have forgotten**. The case study aims to introduce Hogewey's vision, strategy and operations.

Following this, the fourth chapter (*Teaching Notes*) starts by defining the case's learning objectives and some key teaching questions, with the respective solution guidelines, are suggested.

Finally, the dissertation ends by summing up the main conclusions, presenting the limitations of our research and suggesting some further research.

Chapter 2: Literature Review

2.1 Dementia

2.1.1 Dementia definition

Dementia is a syndrome caused by a disease of the brain, usually chronic, characterised by a progressive, global deterioration in the person's intellect, including memory, learning, orientation, language, comprehension, judgment (Prince & Jackson 2009), calculation and thinking. The awareness of the demented person is not clouded, but with the progress of the disease, the losses of cognitive function increase and a decline in emotional control, social behaviour, or/ and in motivation is common to occur (WHO, 1992, cited in WHO, 2012).

Dementia syndrome is linked to a very large number of brain pathologies and the most common form of dementia is Alzheimer's disease, which contributes to 50–75% of cases (Prince & Jackson 2009). Other common types comprise vascular dementia, dementia with Lewy bodies, and frontotemporal dementia (see Appendix 1 for other types of dementia). The boundaries between subtypes are indistinct and mixed forms often co-exist (Prince & Jackson 2009; Alzheimer's Association 2010).

2.1.2 Dementia risk factors

Dementia affects mostly older people, so advanced age can be considered the principal risk factor. However, in cases when the syndrome is revealed before the age of 65 years, the most probable cause is considered to be genetic, particularly in the case of Alzheimer's disease (Prince & Jackson 2009; Alzheimer's Association 2010).

There are other factors believed to contribute to the development of dementia. Evidence suggests that there is strong influence of the environment (Breitner et al., cited in Prince & Jackson, 2009), educational level (Ott et al. 1995), head injury (Fleminger et al. 2003) and cardiovascular risk factors and cardiovascular disease (Blass 2009; Helzner et al. 2009).

2.1.3 Dementia progression

Currently, there are no treatments available that cure or even alter the progressive course of dementia (Prince & Jackson 2009; Alzheimer's Association 2010). Although there are multiple clinical trials trying to find a cure, currently the most that it can be done is to decrease some of the disease's symptoms (Prince & Jackson 2009).

However, if a reversible condition is identified as the cause of dementia, it can be cured and treated effectively. The detection of these causes of dementia only happen in a small number of cases in more developed countries (WHO 2006).

Every dementia case is different, depending on the disease's impact and on the person's characteristics. Nevertheless, in most cases, and particularly in Alzheimer's case, three different stages of the disease can be identified (see Appendix 2): early stage (first year or two); middle stage (second to fourth or fifth years); and late stage (fifth year and after) (WHO 2006).

2.2 Dementia global prevalence

Dementia is considered to only affect older people, but according to different estimates, between 2% (WHO 2006) and 10% (Prince & Jackson 2009) of all cases start before the age of 65 years. After this age the likelihood of developing the syndrome doubles with every five years (Prince & Jackson 2009).

In 2015, 47.5 million people live with dementia worldwide, and this number is foreseen to almost double by 2030 and more than triple by 2050 (see Table 1 and Appendix 3). A large portion of this increase is considered to be caused by the ageing of the population in LMIC (Prince & Jackson 2009). It was estimated that every four seconds, someone in the world is diagnosed with dementia, equivalent to 7.7 million new cases of dementia per year (Prince & Jackson 2009; WHO 2012).

It is also interesting to notice that although women are more affected by this syndrome, it is believed that this is due to the fact that women live longer than men (Plassman et al. 2007).

Table 1: Updated estimates of the number of people with dementia living in G8, G20, OECD, LMIC and HIC countries, and as a percentage of world total

Region	People with dementia millions (% of world total)			Proportionate increase (%)	
	2013	2030	2050	2013-2030	2013-2050
G8	14.02 (32%)	20.38 (27%)	28.91 (21%)	45	106
G20	33.93 (76%)	56.40 (75%)	96.61 (71%)	66	185
OECD	18.08 (41%)	27.98 (37%)	43.65 (32%)	55	142
High income	17.00 (38%)	25.86 (34%)	39.19 (29%)	52	131
Low and middle income	27.84 (62%)	49.76 (66%)	96.27 (71%)	79	246
World	**44.35**	**75.62**	**135.46**	**71**	**205**

Source: Adapted from Alzheimer's Disease International 2013

2.2.1 Dementia prevalence in Europe

In Europe, ADI estimated that there were 9.95 million people living with dementia in 2010. These values are to some extent higher than the latest estimates presented by Alzheimer Europe, which point to an average of 7%, near 8.4 million people aged 60 years and over living with dementia in 2012. This number corresponds to an average of 1.55% of the total European population. In what concerns the Netherlands, the country is below the European average, with 1.47% of the Dutch population affected. However, Portugal is above it, with 1.71%, near 182 526 people suffering from the syndrome (Alzheimer Europe, 2013).

2.2.2 Limitations

Nevertheless, it is important to understand that disease prevalence figures are estimations and do not reflect the exact numbers. Alzheimer's Disease International (ADI) identifies three main limitations in the estimation of the syndrome's prevalence worldwide that are: poor coverage of data in some developing religions, e.g. Sub-Saharan Africa, possibility of considering poor quality studies in the prevalence calculation, and assuming that dementia's prevalence was uniform within GBD (Global Burden of Disease) regions. Moreover, the future growth predictions are based upon demographic statistics that may not be accurate for some world regions. And, finally, changes in risk exposure, mortality rates and treatment were not considered in the calculation (Prince & Jackson 2009).

2.3 Dementia impact

2.3.1 Impact on the patient

People who struggle with dementia witness the loss of his/her cognitive and functional capabilities (WHO, 1992, cited in WHO, 2012). In a review (Wimo et al. 1999) the impact of this syndrome on patients is highlighted. Usually, patients wish to remain independent to the maximum extent, however, with the disease's progression, they require more and more supervision and assistance with activities of everyday life (see Appendix 2).

Although, currently, it is not considered a terminal disease (Mitchell et al. 2009; Sachs et al. 2004), this syndrome was reported to be among the top four causes of disability, in adults aged 60 years and over. With about 8 569 000 years lost due to ill-health, disability or early death (DALYs), dementia's burden is only surpassed by ischaemic heart disease, cerebrovascular disease and chronic obstructive pulmonary disease (Bebbington 2001).

In the developed countries, Alzheimer and other dementias are the fifth leading cause of years of life lost (YLLs), causing a major disability burden in these societies. Overall, dementia accounts for 11.9% of the years lived with disability due to a non-communicable disease (WHO 2006), i.e., a chronic disease with, often, slow progression that is not spread from person to person (WHO 2015).

2.3.2 Impact on family, friends and carers

Informal care (i.e., not paid care) to disabled elderly relatives is a source of tremendous burden and stress to family and friends (Schulz & Beach 1999). The demented person's family is affected at personal, emotional, social (Almberg et al. 1997) or financial level (Wimo et al. 1997). Which leads to a decrease on their quality of life and on their physical and mental health (Cuijpers 2005), even after the disabled relative has been institutionalized (Almberg et al. 2000). A study (Schulz & Beach 1999) shows that about half of the spouses providing care to their disabled partners, experiment anxiety associated to caregiving. Also, these people had a much higher mortality risk than those whose spouse was not disabled.

2.3.3 Economic impact

Dementia affects every health system worldwide (ADI, 2010) representing a significant economic burden on society (Wimo et al. 2006; Prince & Jackson 2009), similar to those caused by heart disease and cancer (Hurd et al. 2013). ADI estimated a global cost of $604 billion in 2010, with a rising trend.

The costs can be divided in three different types: direct medical costs, direct social costs and informal care costs. First, direct medical costs refer to the medical care system and include costs of hospital care, medication, and clinic visits. These account for about 16% of total costs incurred, representing a total of $96.41 billion (see Table 2) (ADI, 2010).

Second, there are the direct social costs, which are generated by formal services provided outside of the medical care system, include community services such as home care, food supply, and transport, and residential or nursing home care (ADI, 2010).

Finally, there are costs arising from informal care, i.e. the unpaid care provided by family members, friends, and others (Wimo et al. 2002). In a study done in Sweden, Wimo et al. (2002), describe the three different components of informal care: assistance with activities of daily living (ADLs, i.e. dressing, hygiene, eating, etc), assistance with instrumental ADLs (IADLs, i.e. complex activities related with meal preparation, shopping, laundry, etc.), and supervision/surveillance, which can be described as the management of behavioural symptoms or the prevention of dangerous events Also, this study concludes that the amount of informal care provided, which increases with the progression of the disease, is about 299 hours per month, about 8.5 times higher than the total of formal care (35 hours per month) and that supervision/surveillance account for half of the total informal care provided.

Both direct social care costs, a total of $255.69 billion, and informal care costs, $251.89 billion, contribute, equally, with around 42% each to the total of costs incurred globally (see Table 2) (ADI, 2010).

Table 2: Aggregated costs in different World Bank income groups (billions US$)

World Bank income groups	Number of people with dementia	Informal care (all ADL)	Direct medical costs	Direct social costs	Total costs	% of GDP
Low income	5036979	2.52	1.23	0.62	4.37	0.24%
Lower middle income	9395204	18.90	6.74	3.57	29.21	0.35%
Upper middle income	4759025	13.70	10.44	8.35	32.49	0.50%
High income	16367508	216.77	78.00	243.14	537.91	1.24%
All	**35558717**	**251.89**	**96.41**	**255.69**	**603.99**	**1.01%**

Source: Adapted from Alzheimer's Disease International 2010

Despite only 46.0% of the demented world population being estimated to be located in high income countries (Prince & Jackson 2009), 89.1% of global dementia costs are incurred in these countries, with near 70% of all the costs arise from Western Europe and North America (ADI, 2010) (see Table 3).

Table 3: Aggregated costs in different World Bank income groups, as percentages of total global costs

World Bank income groups	Prevalence	Informal care (all ADL)	Direct medical costs	Direct social costs	Total costs
Low income	14.2%	1.0%	1.3%	0.2%	0.7%
Lower middle income	26.4%	7.5%	7.0%	1.4%	4.8%
Upper middle income	13.4%	5.4%	10.8%	3.3%	5.4%
High income	46.0%	86.1%	80.9%	95.1%	89.1%
All	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Adapted from Alzheimer Disease International 2010

2.3.3.1 Limitations

Once more, it is important to recognize that the costs mentioned above are estimations made by the ADI in 2010. Although these are the best estimates calculated so far, the data used to compute them, i.e. ADI report 2009, has still some limitations that were mentioned in the previous subsection of this chapter. In addition, accurately identifying all the monetary costs of dementia is very challenging (Hurd et al. 2013; Wimo et al. 2013) and there is limited data, especially concerning developing regions (ADI, 2010).

2.4 Dementia care and quality

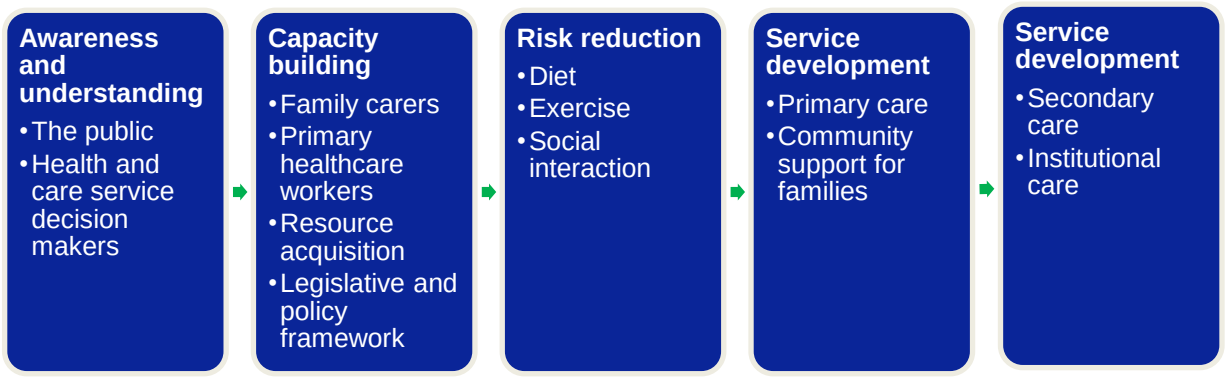
Since there is no cure for dementia (Prince & Jackson 2009; Alzheimer's Association 2010), the care provided to those who suffer from this syndrome is done with the purpose of reducing the frequency, severity and impact of the disease's symptoms. The final goal is to preserve the patient's cognitive and functional capacities to the maximum possible extent, to increase both patient and caregiver wellbeing (Odenheimer et al. 2013).

In 2012, the World Health Organization stated the main objectives for dementia care were:

- Early diagnosis;
- Optimization of physical health, cognition, activity and well-being;
- Detection and treatment of behavioural and psychological symptoms;
- Provision of information and long-term support to caregivers.

Finally, in the ADI report, 2009 a plan is presented with a wide variety of dementia services to be provided throughout the progression of the disease. This model should be implemented by countries that desire to deliver high quality of care to people suffering from dementia (see Figure 1).

Figure 1: A graduated approach to dementia service development



Source: Adapted from Alzheimer Disease International 2009

2.4.1 Opportunities for improvement in the quality of dementia care

Although currently dementia affects 47.5 million people worldwide (Prince & Jackson 2009, WHO 2015), it is common for dementia patients to receive inconsistent and unplanned treatment, leading to suboptimal care(Chodosh et al. 2007; Sachs et al. 2004). One reason that may suggest the lack of quality in dementia care, is the fact that dementia is not considered a terminal illness as it should be (Mitchell et al. 2009; Sachs et al. 2004).

Furthermore, it was observed that higher caregiver knowledge about dementia management leads to higher patient quality of life (Chodosh et al. 2007; Testad et al. 2005). However,(Chodosh et al. 2007) often informal caregivers and even physicians (Sachs et al. 2004) do not have the knowledge required to provide quality care to the demented person, specially in the end stage of the disease.

It is also necessary to create solutions to lessen the burden supported by family and friends (Thorslund & Parker, 1994, cited in Jansson et al., 1998). One solution presented by Jansson et al. (1998), is the creation of supportive models to ensure that both care provider and patient have the higher quality of life possible, under the circumstances. On one side, these models guarantee that family and friends that provide care have the necessary knowledge to deliver quality care. On the other side, with the help of trained volunteers, informal caregivers have both more assurance on the care they provide and more time for themselves which increases their satisfaction and life quality (Jansson et al., 1998).

Finally, the mobile health (mHealth) industry must be taken into account when analysing the opportunities to increase the quality of care of dementia patients, particularly in the safety dimension. For example, Lin et al. (2006), developed a system to monitor the daily lives of elders, without interfering with their routines. This way, if necessary, informal and formal caregivers can easily locate missing demented persons through mobile devices.

2.4.2 Institutionalization of dementia patients

In 2000, Smith et al. (cited in Luo et al. 2010), stated that in the US, a great portion of people living with dementia, would be institutionalized in nursing homes (NHs) with the development of their disease. This fact is supported by the ADI report, 2010, where it can be observed that social medical costs from the NHS have a greater impact in upper middle and high-income countries.

There are manly two types of care facilities where dementia patients can be institutionalized which are special care units (SCUs) and the traditional nursing homes (n-SCUs) (Kok et al. 2013). SCUs are characterized by having specialized trained personnel to deal with dementia patients (Luo et al. 2010), ensuring a higher quality of life for its residents (Wills et al. 1998; Testad et al. 2005). In comparison, n-SCUs follow a traditional medical approach to deal with the disease without special facilities for dementia patients (Wills et al. 1998).

Although there is no specific definition (Phillips, Potter & Simon, cited in Kok et al. 2013), SCUs are designed for dementia patients and put great emphasis on non-drug treatment of dementia symptoms (Testad et al. 2005). Consequently, these facilities are characterized by having resident security and safety locking systems, common living areas, signposts (Weisman et al. , cited in Kok et al. 2013) and, naturally, qualified caregivers to deal with characteristic dementia symptoms (Luo et al. 2010; Teri et al. 2005).

In a review, Kok et al. (2013) identified a more challenging behaviour among patients living in special care units, with more cases of agitation/ aggression, depression, global cognitive impairment and anxiety. However, it was also observed that elderly subjects who lived at SCUs had a better life quality and a better functional status.

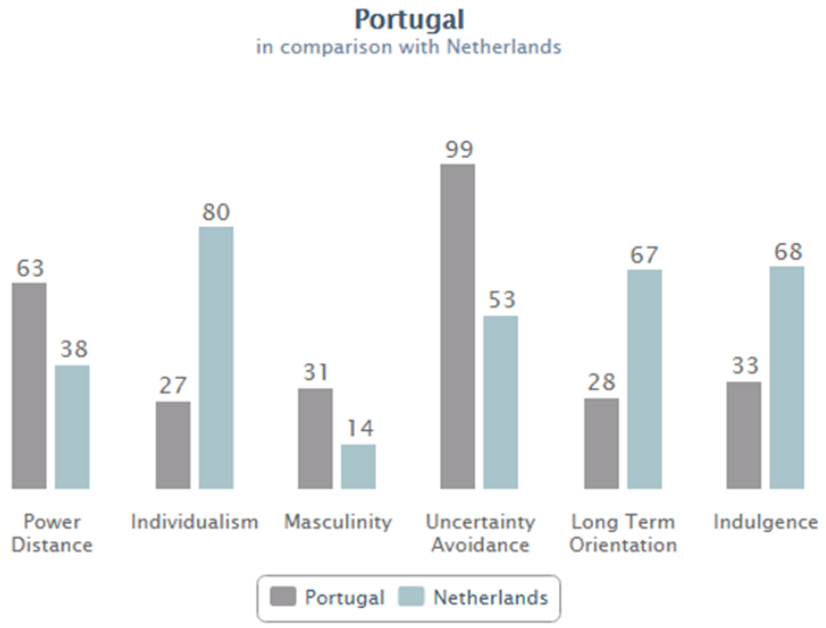
Additionally, there are small-scale, homelike SCUs, which serve as residence to about 8 to 12 demented persons. In these facilities, the personnel put their effort on trying to give a normal daily life to the residents, focusing on long-term care (de Rooij et al. 2012; Verbeek et al. 2010).

However, in a study (Chappell & Reid 2000), conclude that the quality of care provided in SCUs is often heterogeneous and do not necessarily provide better care than traditional nursing homes. It was also observed that although patients in small-scale homelike SCUs have less ADL decline, they also tend to have more agitation episodes (Kok et al. 2013).

2.5 Cultural differences between Portugal and the Netherlands

According to Hofstede (1984), culture influences our management skills so what is appropriate in one country is not necessarily appropriate in another. Hofstede presents five cultural dimensions (power distance, individualism, masculinity, uncertainty avoidance, long term orientation and indulgence) by which it is possible to characterize a country and its culture. When comparing Portugal to the Netherlands it can be concluded that these two countries have significantly distinctive cultures (see Figure 2).

Figure 2: Hofstede model- Portugal in comparison with Netherlands



Source: The Hofstede Centre Website (http://geert-hofstede.com/portugal.html)

The individualism dimension is particularly interesting to understand since it reflects the degree of interdependence a society maintains among its members. Portugal score is 27, which make it a collectivist country, where it is important for people to belong to groups and to care for all of their relatives. Consequently, it is common for Portuguese people to care for their elder relatives instead of placing them in nursing homes. On the contrary, the Netherlands score high in this dimension (80), making it an individualistic society in which individuals are only expected to take care of themselves and direct family (see Appendix 4 for a more detailed comparison of the differences between the two cultures).

2.6 Replication strategy

It is not uncommon to have new and successful business concepts to be copied by competitors. Once a business has proven its value, every player will want to capture some of it and there is nothing it can be done to prevent it, since it is not possible to protect business from imitators (Higgins et al. 2008).

A replication strategy comprises two different stages: exploration and exploitation. In the first phase, exploration, the business model is created, experienced and improved, according to the external and internal environments. The second phase, exploitation, happens when the business model has become stable and it is possible to leverage it through replication. The replicators will only be able to create value if they learn and refine the business model. To do so, they must choose the components to replicate, the suitable location to establish and develop the knowledge and skills to operate the model (Winter & Szulanski 2001).

2.6.1 Key factors of a replication strategy

In a study, Hoffman et al. (2008) point that firms usually tend to expand to host markets with similar characteristics to their home markets. In a paper, Winter & Szulanski (2001) discuss the key elements of replicating a business model, which are responsible for generating sustainable growth and profit. Firstly, they highlight the importance of the process' speed, since in a competitive setting is crucial to be on time, otherwise competitors may capture the value. Additionally, they discuss the importance of a broad scope of knowledge transfer from the central organization to the replicator. This knowledge transference includes the valuable traits of the business model, the methods by which

such traits are replicated, and the kind of environments where the business will be successfully operated. This knowledge is not fully available at the start, so it must be acquired by a learning process.

In order to facilitate the knowledge transference, some social enterprises have even created formal visit programmes, where they charge a fee to give insights about their business model. This way they are able to capitalise on their own intellectual property (Higgins et al. 2008).

Chapter 3: Methodology

3.1 Methods

To analyse the research problem *The need and feasibility of replicating a "dementia village" in Portugal*, qualitative research in a form of a case study was opted. Qualitative research was chosen since the intended to analyse Hogewey's strategy and operations and according to White (2000), *this approach is used to study the way organizations, groups and individuals behave and interact.* Defined by Johnson (cited in White, 2000), a case study is a*n enquiry which uses multiple sources of evidence. It investigates a contemporary phenomenon within its real life context when the boundaries between phenomenon and context are not clearly evident*. Consequently it was determined that a case study was the best method to answer the research problem proposed.

Information was collected from reports organized by the Alzheimer's Disease International the World Health Organization and the Alzheimer Europe Organization, from the Alzheimer Nederland website, Hogewey's website, Hogewey's brochure, newspapers and 14 online news articles. After carefully analysing and comparing the data from these diverse sources, 4 online news articles were excluded due to discrepancies with Hogewey's website and brochure. The remain relevant information was used to create the case study.

To develop the teaching notes, one focus group and two interviews were conducted. The focus group was held in *Casa do Alecrim* and 8 workers participated. Also, the interviews were done to M.D. Luís Lopes, clinic director of *Residência Sénior Prof. Maria Ofélia Ribeiro* and Eduardo Rodrigues, an engineer working in *Libervita*, an innovative senior residential compound which will open this year in Cascais. *Libervita* and a "dementia village" share some characteristics, so Eduardo Rodrigues was able to give some insights of the type of challenges this project may face. Both the focus group and the interview to M.D. Luís Lopes were done with the purpose of understanding the Portuguese dementia care market, to study if families would be willing to place their demented relatives in a "dementia village" and if they would have the financial resources to do it so (see Appendix 5 and 6 for the scripts of the focus group and interviews).

3.2 Case Study: HOGEWEY - Bringing life to those who have forgotten

3.2.1 Introduction

Many times, a nursing home is very institutional: nurses walk around in white clothes; people sit together in big rooms to eat meals. We decided that's not how we would like to live when we get old.

- Isabel van Zuthem, Hogewey's information officer[1]

Completed in 2009, Hogewey, located in an industrialized suburb of Amsterdam, is a fully equipped village, home of 152 residents. With a water fount at the entrance, in front of the village's theatre, and with beautiful tree- lined streets and avenues, Hogewey is a step back into the 1950's. In this small village, neighbours interact with each other and participate in a variety of activities, such as gardening, baking, cycling or painting. However, this is not a normal village, it is a home for the demented or, as many like to call it, this is the "Dementia Village" (see Exhibit 1).

Exhibit 1: Hogewey

Source: Hogewey website (http://www.vivium.nl/hogewey)

3.2.2 Dementia

Alzheimer's disease, the most common type of dementia, was first discovered by Alois Alzheimer in 1906 when performing an autopsy to a woman who was described as having

[1]Moisse K 2012, ABC News Website, viewed 25 March 2015, http://abcnews.go.com/Health/AlzheimersCommunity/alzheimers-disease-dutch-village-dubbed-truman-show-dementia/story?id=16103780&singlePage=true

strange behavioural symptoms and a long loss of short-term memory[2]. Alzheimer's Disease International defines dementia as *a syndrome due to disease of the brain, usually chronic, characterised by a progressive, global deterioration in intellect including memory, learning, orientation, language, comprehension and judgement*[3]. Without a cure, dementia affects mostly elderly people and its global prevalence has a profound global impact.

3.2.2.1 Dementia worldwide

World Health Organization (WHO) and Alzheimer's Disease International (ADI) estimate that today there are 47.5 million people suffering from dementia worldwide and this number is predicted to rise to 75.6 million people in 2030[4]. Some countries (e.g. Canada, Denmark, England, Japan, Netherlands, Norway, etc.), have already developed some kind of action plan to deal with this major source of social and economic burden. Costs due to this syndrome have been valued by ADI at $ 604 billion in 2010 with a rising trend, a consequence of the ageing of the population, particularly in developing regions[5].

Without a cure, and particularly in developed countries, many dementia patients end up in nursing homes. These nursing homes can be mainly traditional nursing homes (n-SCUs) or special care units (SCUs). Also, in high income countries, the presence of small-scale, homelike SCUs, with only 8 to 12 patients, is becoming common. The main difference between n-SCUs and SCUs is the treatment given to dementia patients. In SCUs and small-scale, homelike SCUs, the carers are trained to provide specialized care to demented people. On the contrary, in traditional care facilities, patients do not receive specialized care and are constantly under high levels of medication.[6]

[2]Berchtold, NC & Cotman, CW 1997. Evolution in the Conceptualization of Dementia and Alzheimer's Disease: Greco-Roman Period to the 1960s.
[3]ADI, 2009, World Alzheimer report 2009.
[4] WHO Website, Fact sheet nº 362, viewed 30 March 2015, http://www.who.int/mediacentre/factsheets/fs362/en/
[5] ADI, 2010. World Alzheimer Report 2010: The Global Economic Impact of Dementia.
[6] Kok, JS, Berg, IJ & Scherder, EJ, 2013. Special Care Units and Traditional Care in Dementia: Relationship with Behavior, Cognition, Functional Status and Quality of Life - A Review. Dementia and geriatric cognitive disorders extra

3.2.2.2 Dementia in the Netherlands

According to Alzheimer Europe estimates, in 2012, 1.47% of the total Dutch population -245,560- people were living with dementia in the Netherlands [7](see Exhibit 2). Although below the European average of 1.55 %, this number represents a cost of € 32.5 million for the Dutch government[8]. And 3.5%, the highest percentage on Europe, of national GDP is spent on the elderly care[9].

Exhibit 2: Dementia prevalence in Netherlands

Age group	Men with dementia	Women with dementia	Total
30 – 59	5,637	3,127	8,765
60 – 64	1,090	4,882	5,972
65 – 69	7,882	6,242	14,125
70 – 74	9,804	12,769	22,573
75 – 79	15,665	21,448	37,112
80 – 84	20,500	35,934	56,343
85 – 89	14,765	41,265	56,030
90 – 94	6,748	28,788	35,536
95+	1,156	7,858	9,014
Total	83,247	162,314	245,560

Source: Alzheimer Europe report 2013

In 2008, the State Secretary for Health, Welfare and Sports, Dr. J Bussemaker, announced the three-year Dutch "Dementia Care Plan"[10]. In 2013, after concluding that it was necessary to increase the efforts to fight dementia, it was launched a new eight-year plan the "Delta Plan for Dementia", with a required investment of € 200 million. The main goal of the "Delta Plan" is to increase scientific research for future patients and better care for current patients.

[7] Alzheimer Europe 2013, Dementia in Europe Yearbook 2013
[8] Alzheimer Nederland Website, viewed 30 March 2015, http://www.alzheimer-nederland.nl/extra/deltaplan-dementie.aspx
[9] Stern F 2014, Allianz Website, viewed 31 March 2015, http://knowledge.allianz.com/?2843/The-right-life-in-the-wrong-one
[10] Alzheimer Europe Website, viewed 31March 2015, http://www.alzheimer-europe.org/Policy-in-Practice2/National-Dementia-Plans/Netherlands?#fragment-1

Today, around 70% of people with dementia live at home alone, with relatives, friends or carers, who provide formal or informal (i.e. not paid) care[11]. Moreover, national statistics show that 82% of formal or informal carers suffer from some type of burden (emotional, physical, financial or social) or at high risk of suffering from it[12].

3.2.3 Hogewey the beginning

In 1992 Hogewey was just another ordinary nursing home in Weesp, a suburb 20 minute drive from Amsterdam, Netherlands. It was run just like any other care facility for people with dementia, with locked doors, crowded dayrooms, non-stop TV, nurses in white coats and, of course, heavy medication. However, when Yvonne van Amerongen, who worked there, suddenly lost her father she was surprisingly relieved for knowing that he would never have to stay in a place like that. Conscious of this fact, she and other co-workers started to think about the type of facility they hoped their relatives would live in, for the final stage of their lives.[13]

With the fixed idea of creating a place where they would enjoy living their last days, a brainstorming process began in November of 1992, and by the early 1993, Yvonne van Amerongen and six other founders had discovered their answer: “In life, we want to live with people like ourselves. We want to be surrounded by people we would choose to be friends with, those with similar values, similar jobs and with similar interests”, Yvonne declared[14].

[11] Alzheimer Europe 2013, Dementia in Europe Yearbook 2013
[12] Alzheimer Nederland Website, viewed 30 March 2015, http://www.alzheimer-nederland.nl/extra/deltaplan-dementie.aspx
[13]Gupta S 2013, CNN Website, viewed 25 March 2015, http://edition.cnn.com/2013/07/11/world/europe/wus-holland-dementia-lessons/
[14]Fernandes E 2012, Associated Newspapers Ltd Website, viewed 25 March 2015, http://www.dailymail.co.uk/news/article-2109801/Dementiaville-How-experimental-new-town-taking-elderly-happier-healthier-pasts-astonishing-results.html

3.2.4 Hogewey today

3.2.4.1 Vision & Leadership

Hogewey can be defined in three words: living, wellbeing and care[15]. These concepts constituted the vision of Jannette Spiering and Yvonne van Amerongen, two of the six founders, when they developed a plan to offer a safe and comfortable environment to demented people, where they could feel their independence and privacy respected as if they were in a typical society.

In the end of 2009, with the help of the government and local supporters, the project was finished, and a dementia village was born with two main objectives. First, by providing a safe, familiar, and human environment, Hogewey aims to reduce the negative feelings (e.g. confusion, anxiety and anger) which are so common among people suffering from dementia. In their homes, residents (in this village there are no patients) are surrounded by personal possessions they recognize and by other residents who share the same interests, education and background, i.e. the same lifestyle. Second, Hogewey intends to keep its residents active in order to maximize the quality of their lives. To accomplish this goal, there are more than a dozen clubs to keep the residents occupied during their stay in Hogewey[16].

As director, Jannette Spiering is responsible for assuring that Hogewey' vision dictates every aspect, from the infrastructures to the type of care provided, and, also, that it is recognized and embraced by every employee.

3.2.4.2 The village & Activities

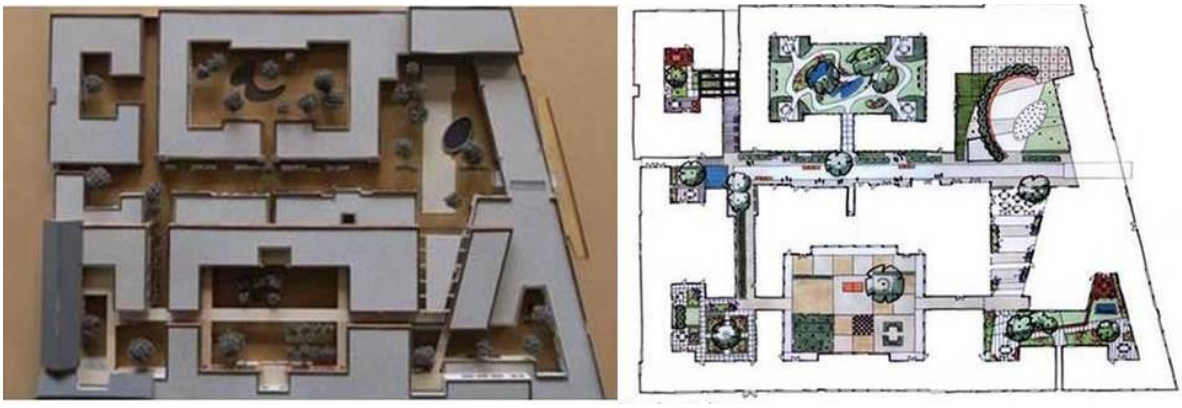
With a vision of "normal" living serving as a guiding principle, the old anonymous and unfriendly nursing wards gave way to 23 new modern apartments made of brick, as it is so common in the Netherlands. The project was developed by Molenaar&Bol&VanDillen

[15] Vivium Zorggroep 2010, "Living life as usual De Hogeweyk: unique housing in lifestyle for elderly people with dementia"
[16] Henley J 2012, Guardian News and Media Limited Website, viewed 25 March 2015, http://www.theguardian.com/society/2012/aug/27/dementia-village-residents-have-fun

architecten bv. (MBVDA), a company with a wide experience in the design of care facilities[17].

Occupying 15,310 square meters, of which 7,702 are not built on, Hogewey is covered with streets, alleys, large squares, fountains and a park, so that residents can enjoy the life outdoors (see Exhibit 3), something that would not be possible outside this village since a demented person is conditioned by his/her illness[18].

Exhibit 3: Hogewey's plan



Source: http://hogeweyk.dementiavillage.com/en/

Isabel van Zuthem, communications advisor of Hogewey, says that the idea is to provide a normal environment for the residents. *When you have Alzheimer's, you walk around and have the feeling that you're lost. It's very, very important that the surroundings, the atmosphere and the way things look are as normal as possible because that makes them feel comfortable*[19]*.*

Furthermore, in this neighbourhood there are plenty of amenities, a theatre, a restaurant, a café, a supermarket, a barber/ beauty salon, a post office and there is even a gigantic chess board. All these services can be enjoyed without using “real money”, money chips are used instead. On the other hand, since after all this is a care facility, there is a nursing

[17] Vivium Zorggroep 2010, “Living life as usual De Hogeweyk: unique housing in lifestyle for elderly people with dementia”
[18] Vivium Zorggroep Website, viewed 30 March 2015, http://www.vivium.nl/hogewey
[19] Taylor C 2012, Deutsche Welle Website, viewed 25 March 2015,http://www.dw.de/dutch-create-neighborhood-for-dementia-patients/a-15812582

home, a Snoezelen room, for sensorimotor stimulation, and a physiotherapist to ensure every healthcare needed is provided[20].

In order to maximize the life quality of the people living in the neighbourhood (one of the goals of this institution), there are a wide variety of activities which the residents can enjoy. There are twenty five types of activities designed to occupy and stimulate the occupants of this small village. For those who appreciate more the outdoor life there is gardening and cycling, and for those who are used to more traditional activities, there is the baking club and bingo. In addition, there is painting and music for people who love art and culture and in the Mozart hall residents can attend musical performances. Visits to the outside world are also arranged, for example residents can go swimming, visit the Pasar Malam (Asian market) or the Indische Club (Indian society).

3.2.4.3 The residents & Their homes

To live in Hogewey, it is necessary to be diagnosed by the Dutch National Health Service with severe to extreme dementia. Nevertheless, there is a twelve month waiting list[21] and only when a resident passes away a new vacancy is open. On average, residents are women (70%), 84 years old and spend three to three-and-a-half years in the village, which is their final home[22].

Each apartment has around 220 square metres and is home for 6 up to 7 people. Every house has three common areas: a kitchen, a lounge, and a dining room. *A demented person doesn't like to sit alone*, Yvonne van Amerongen states[23]. Every apartment has wide glass windows that lead to the street or to some garden, and private personalised bedrooms.

In this small-scale living scheme, residents are allocated to each residence according to their lifestyle. A research made by the agency Motivaction identified 7 different lifestyles that represent the Dutch society: Traditional, Urban, Gooise, Cultural, Christian, Indian and

[20] Vivium Zorggroep Website, viewed 30 March 2015, http://www.vivium.nl/hogewey
[21] Martins C 2015, Expresso
[22] Stern F 2014, Allianz Website, viewed 31 March 2015, http://knowledge.allianz.com/?2843/The-right-life-in-the-wrong-one
[23] Tagliabue J 2012, The New York Times Website, viewed 25 March 2015, http://www.nytimes.com/2012/04/25/world/europe/netherlands-hogewey-offers-normal-life-to-dementia-patients.html?_r=1

Homely (see Exhibit 4). The house lifestyle guides every aspect of the home's design, meaning that the food, the music, the decoration, the daily activities, and, even, how the table is laid are all set according to the residents' profile[24]. The lifestyle allocation helps to build a sense of belonging and encourages contact among residents[25].

Exhibit 4: Lifestyles' description

Lifestyle	Description
Traditional	The "ambachtelijke" or the traditional lifestyle comprises people from the working class, who used to have traditional professions (e.g. plumbers, carpenters, etc.). The home's atmosphere is comfortable and the design is solid and traditional. These residents, who often participate in the house chores, believe their care providers are members of their family and prefer to enjoy their traditional Dutch meals in a casual way, sometimes in front of the TV.
Urban	The "city dwellers" have ordinary Dutch modern and urban homes, decorated with their own things, e.g. rugs, photographs, paintings, etc.. They used to live in urban centres and have social, extravert personalities. Their meals are enjoyed together with the other residents and, to satisfy the social needs of these residents, trips to the zoo, swimming pool and amusement parks are regularly organized.
Gooise	Residents from the *Gooise* lifestyle are concerned with etiquette, correct manners and external appearance. The name of this lifestyle comes from the *Gooi* area of the Netherlands, which is associated with the Dutch aristocracy. The homes are classically decorated and special emphasis is given to the appearance. Care providers are seen as servants and meals are believed to be social occasions where French cuisine, in fine glass and porcelain, is appreciated.
Cultural	The "culturele" residents, love art and culture so their homes are covered with paintings, CD's, papers and shelves of books. They also appreciate visits to museums, concerts and to the theatre. On weekends, these residents prefer to have late breakfasts.
Christian	Residents who belong to the "Christelijke" lifestyle are very devoted to their religion. Common behaviour among Christian residents includes saying grace, praying, listening to religious music and church visiting. Meals are simple Dutch recipes, and a chocolate or a biscuit is served with the tea or coffee.
Indian	The "Indische" or the residents from Indian origin have homes decorated with personal objects from their indigenous culture. Memories of India are often evoked with the help of videos, DVDs, photographs, music, incense and even food, since helpers are taught to cook Indian cuisine. Moreover, outside of one of the "Indische" houses, there is an Eastern style garden, with a large stone bust of Buddha where they can pray and meditate.
Homely	The "huiselijke", also known as the homely. These people, as the ones from the traditional lifestyle, put great emphasis in their family, home and prefer traditional Dutch recipes. Their daily activities involve folding of the laundry, peeling the potatoes and, occasionally, enjoy playing old-fashioned games.

Source: Author

[24] Vivium Zorggroep Website, viewed 30 March 2015, http://www.vivium.nl/hogewey
[25] Vivium Zorggroep Brochure 2012, Wonen in De Hogeweyk

In Hogewey there is no visits schedule, family members can visit and stay the time they wish, as they would in "the real world". Besides, family participation is encouraged since it brings a positive contribution to the house environment.

As in "the real world", in the outdoors, people from different lifestyles interact with each other, but Hogewey's staff has observed that residents feel more comfortable and respond best in their homes.

In order to choose the appropriate lifestyle to every resident, the family helps to select the future residence. However, sometimes, family members want to put their relative in one of the *Gooise* lifestyle homes, because *they think they'll get more expensive food or things. But we spend the same on each house,* Yvonne van Amerongen declares. However, when unhappy feelings in the person in question are detected, the staff relocates him or her to a more suitable apartment[26].

3.2.4.4 Quality & Safety

Hogewey was projected in a way so that the block of apartments forms a boundary from the outside world and there is no need for fences and walls to keep residents inside. There is only one entrance that open at the press of a button by the doorman. This guarantees that residents can enjoy freely the weather stations in Hogewey's outdoors, which is described as a safe and comfortable environment.

To each house a team of caregivers is allocated so that the care provided can be personalized and, consequently, more efficient[27]. There is a computer with medical records of each resident of that particular house. Besides, audio and video surveillance are permanent so, if necessary, carers can act immediately[28].

To ensure residents receive quality care there are 240 people (doctors, nurses, restaurant employees, social workers and management personnel) working in Hogewey[29] and there

[26] Fernandes E 2012, Associated Newspapers Ltd Website, viewed 25 March 2015, http://www.dailymail.co.uk/news/article-2109801/Dementiaville-How-experimental-new-town-taking-elderly-happier-healthier-pasts-astonishing-results.html
[27] Vivium Zorggroep Brochure 2012, Wonen in De Hogeweyk
[28] Martins C 2015, Expresso
[29] Vivium Zorggroep Website, viewed 30 March 2015, http://www.vivium.nl/hogewey

are two carers to each resident[30]. Every employee, more than half are women, has received the proper training to deliver the care needed. And since this is not a usual care facility, the technical aspects of care are often not suitable and a different mentality from the staff is required[31].

Carers wear casual street clothes and can be seen as "villagers" that are always present to help residents if necessary, i.e. in case of confusion, getting lost, etc.. For example, if a resident wants to buy 10 port wine bottles a "villager" will help him or her and later on will return the extras to the supermarket. It is harder for Hogewey's care providers than it is for carers from traditional nursing homes. In Hogewey they are regularly on their own and the work never stops, since all residents suffer from severe to extreme dementia and need 24 hour care[32]. However, their role in this village is crucial to the residents' treatment and so they must embrace Hogewey's vision of care.

Unlike what happens in traditional homes, at Hogewey physical restraints are not commonly used and residents are under considerably lower levels of medication. Before moving to Hogewey, residents would appear severely introverted or angry, however after having moved, staff reports state they have become more alert, engaged, calm and even happy. With the help of personal objects, food and music, residents' memories are evoked and they remember things from their younger days, giving a feeling of familiarity, safety and comfort[3334].

In this make-believe world, the most important aspect is to not correct the residents. If they say they are 24 years old and they are there on vacations with their parents, carers just go along with it. Nevertheless, Isabel van Zuthem, Hogewey's information officer explains that

[30] Gupta S 2013, CNN Website, viewed 25 March 2015, http://edition.cnn.com/2013/07/11/world/europe/wus-holland-dementia-lessons/
[31] Vivium Zorggroep 2010, "Living life as usual De Hogeweyk: unique housing in lifestyle for elderly people with dementia"
[32] Archer 2012, Psychology Today Website, viewed 31 March 2015 https://www.psychologytoday.com/blog/reading-between-the-headlines/201204/stepping-back-in-time-help-alzheimers
[33]Fernandes E 2012, Associated Newspapers Ltd Website, viewed 25 March 2015, http://www.dailymail.co.uk/news/article-2109801/Dementiaville-How-experimental-new-town-taking-elderly-happier-healthier-pasts-astonishing-results.html
[34] Vivium Zorggroep Website, viewed 30 March 2015, http://www.vivium.nl/hogewey

we wouldn't lie about it, of course. If asked, a staff member would say they're living somewhere where they get the care and support they need[35]*.*

Quality of care and living is not only observed by carers, but by families, residents and even by the society in general. Once every two years, home care facilities belonging to the Vivium Care Group, like Hogewey, ask their residents and their respective family to fill in a client satisfaction questionnaire to assess the perceived performance of caregivers and, consequently, the clients' satisfaction level. The country's average is 7.5, but in 2010 their score was 9.1.

In 2010, from 194 healthcare institutions, Hogewey nursing facility was chosen to receive the Hospitality Care Award 2010. To be given this award, institutions are rated by a quality system where all aspects of the service provision (e.g., food, environment, client's opinions, etc.) are taken into account and evaluated. And in 2011, Hogewey was nominated to receive the Niek de Jong prize, which is only granted to healthcare projects which have contributed to a positive image to the care sector.

The "dementia village" has attracted the attention of the world, Germany, Japan, Switzerland, etc., and due to the high demand for visits to the care facility, it was created the Stichting Hogewey Educatief or the Hogewey Educational Association. This Association is responsible for the organization of workshops, visits and exhibits, all with the aim of share the know-how and expertise, which has been developed in this institution throughout the time, so that other organizations can replicate this project. Visits take two and half hours and have a cost of € 730 for a group of five people[36].

3.2.4.5 Financial structure & Sustainability

Hogewey is run by a non-profit group, Vivium Zorggroep (Vivium Care Group) as other eleven residential care facilities. The construction of the new Hogewey facilities had a similar budget to an ordinary nursing home, € 19.3 million, and was mostly financed by public funding, € 17.8 million. Thanks to the help of Greetje Versteeg, a qualified fund raiser connected with the Vivium Care Group, the lasting € 1.5 million were raised from

[35]Moisse K 2012, ABC News Website, viewed 25 March 2015, http://abcnews.go.com/Health/AlzheimersCommunity/alzheimers-disease-dutch-village-dubbed-truman-show-dementia/story?id=16103780&singlePage=true
[36] Vivium Zorggroep Website, viewed 30 March 2015, http://www.vivium.nl/hogewey

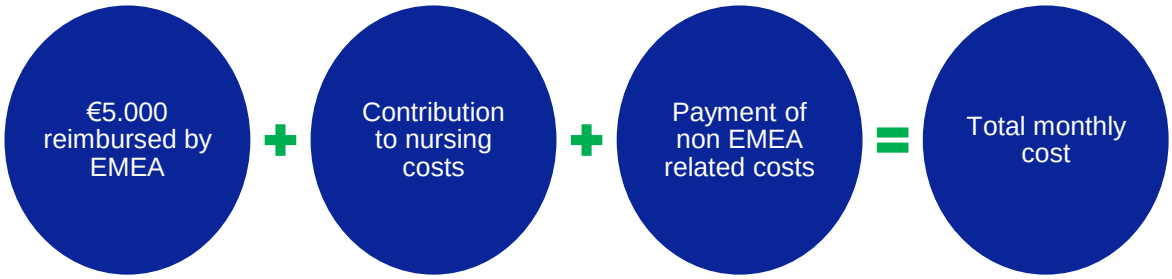
local sponsors and fundraisings[37]. The money raised by private donors was used to decorate the exterior and make it look like a typical neighbourhood, which is so essential to create the distinctive comfortable environment that this institution offers.

But the community's support did not end there. Some of the sponsors have become permanent donors, and with the funds they provide, additional activities can be offered to Hogewey's residents. Examples of these activities include visits to museums, the Asian market, to the Indian society, to the swimming pool, among others. To increase the income available, Hogewey's management decided to rent out the village's facilities, e.g., rent the theatre for conferences, the Mozart Hall for music performances; open the restaurant and the café to the public. Today, anyone can visit the village and enjoy a good Dutch meal at a competitive price of € 7.50[38]. The fact that Hogewey has its doors open to the "outside world", fits perfectly into the institution's vision of providing a life as normal as possible to its residents[39].

Residents monthly cost of € 5.000 is reimbursed by the Dutch public health insurance scheme (Exceptional Medical Expenses Act, EMEA), which is financed by taxpayers' contributions through their social security deductions. Residents pay an additional amount, depending on their disposable income[40], but this payment never exceeds € 3.300[41]. Also, the expenses of non EMEA related costs, e.g., hairdresser and laundry, are supported by the residents and their families (see Exhibit 5).

[37] Vivium Zorggroep 2010, "Living life as usual De Hogeweyk: unique housing in lifestyle for elderly people with dementia"
[38] Vivium Zorggroep Website, viewed 30 March 2015, http://www.vivium.nl/hogewey
[39] Vivium Zorggroep Website, viewed 30 March 2015, http://www.vivium.nl/hogewey
[40] Vivium Zorggroep Brochure 2012, Wonen in De Hogeweyk
[41] Planos J 2014, The Atlantic Monthly Group Website, viewed 30 March 2015, http://www.theatlantic.com/health/archive/2014/11/the-dutch-village-where-everyone-has-dementia/382195/

Exhibit 5: Hogewey's funding model



Source: Author

3.2.5 Conclusion

Currently, and according to estimates from the Alzheimer's Disease International and the World Health Organization, dementia affects 47.5 million people around the world and there is still no cure[42]. In many cases, people with dementia are simply ignored by the society and do not receive the proper care they deserve. Meanwhile, Hogewey's managers claim that the residents of the village have better quality of treatment and, consequently, superior life quality. However, there are many critics to this type of approach and some say that letting the patients believe in this *make-believe reality* is undignified for the residents/patients. Some even compare it to the film *The Truman Show*, in which the protagonist is part of a reality show without his consent.

Nevertheless, the village has attracted the world's attention and projects are being developed to replicate this success case throughout the world. Indeed, in California, USA, the "Mahal Cielo Village", a Hogewey's replication, will be opened for the first time in August of this year[43]. Can this be the solution? Is it possible to replicate this project in a country such as Portugal? And, if so which are the key factors to replicate such a project?

[42] WHO Website, Fact sheet nº 362, viewed 30 March 2015, http://www.who.int/mediacentre/factsheets/fs362/en/
[43] Mahal Cielo Village Website, viewed 13 April 2015, http://mahalcielovillage.com/

Chapter 4: Teaching Notes

4.1 Learning objectives

Hogewey's case study (see Appendix 7 for the case summary) was developed for students interested in the healthcare management field. It also could be interesting to analyse it in a general management or a strategy course, since the organization is capable of obtaining enhanced results with the pursuit of its clear vision and defined objectives. More specifically, the learning objectives of this case are enumerated bellow.

1. Raise students' awareness for the social and financial burden caused by dementia worldwide.
2. Allow students to understand how dementia is addressed by developed societies.
3. Allow students to reflect on the need there is to develop efficient strategies to deal with dementia, without forgetting the importance of investing on research for a cure and training of formal and informal caregivers.
4. Analyse Hogewey's strategy, and highlight the critical factors that made it a case of success.
5. Analyse the possibility of reproducing a viable "dementia village" in Portugal and the main critical factors to do it in successful manner.

4.2 Teaching Questions (TQ's)

Hogewey is a case of success in the healthcare sector, particularly, in the dementia management area, consequently, it should be carefully analysed. In order to do it so, and with a special emphasis made in studying Hogewey's replication viability, the following key questions are suggested:

TQ1. What are Hogewey's critical success factors?
TQ2. Is there a market for a "dementia village" in Portugal? Describe the opportunities and the threats of the market.
TQ3. Is the replication viable in a country such as Portugal? Describe the strengths and weaknesses of the project.
TQ4. Which are the key elements to replicate Hogewey in Portugal?

4.3 Suggested teaching methods

An interesting teaching method could be to divide the class into groups of three or four elements and ask them to prepare the case study, by answering the closing questions of the case. Students could be given a week time period to prepare and answer the case questions, after which, a class discussion would take place.

Every group should answer all questions in order to have a clear notion of all the aspects of the class discussion. To give accurate and detailed answers, students would have access to the case study, Hogewey's website and all other websites and reports they would find helpful to solve the questions proposed.

In the beginning of the class, with the purpose of giving students the opportunity to recall all the case aspects, the professor could ask for volunteers to summarize the case study. Then, if necessary, the professor would complement the summary by providing some meaningful detail that was forgotten. After the case summary, students could be asked to answer each topic, and afterwards, both students and professor, could comment on each response.

4.4 Analysis and conclusion

In this subsection, some guidelines to answer the teaching questions are proposed.

TQ1. What are Hogewey's critical success factors?

To replicate a project it is necessary to understand what contributed to its success in the first place. Consequently, TQ1 is the perfect opportunity to explore what prompted Hogewey to accomplish such a success. Below, we will describe Hogewey's critical success factors that students can extrapolate from the case study.

Commitment to the organization's vision and objectives

Throughout the case study students are given certain data which serves as evidence that Hogewey's vision, i.e., providing a "normal" living to its residents, is the organization's guiding principle. First, in sub-chapter 3.2.4.2 (The village & Activities), it is observable that the village was designed and built to resemble a traditional Dutch neighbourhood with a wide variety of amenities and activities, so that residents can continue to be as active as

possible and enjoy the small daily tasks of a normal living. In sub-chapter 3.2.4.3 (The residents & their homes), students can notice that residents' homes and, specially, their bedrooms are designed in accordance to their lifestyles and are decorated with their personal belongings, which, once more, is perfectly aligned with Hogewey's vision.

The care provided is also in accordance with the vision. Described in sub-chapter 3.2.4.4 Quality & Safety, the care offered is not similar to what is found in traditional nursing homes, carers do not wear white coats and medication levels are kept the minimum. Instead, carers are seen by the residents as friends, family or maids, depending on the resident lifestyle, and is essential to not contradict the patients.

Finally, the fact that Hogewey welcomes people from the "outside world" who wish to enter the village is related to the organization's vision, since in a typical society it is common for people in different situations to benefit from the same services.

Strong leadership

Focus on the organization's vision and, consequently, on its objectives is fundamental. However, for this focus to occur a strong leadership is needed to ensure that the strategy chosen is in accordance with the institution's vision and objectives. Also, employees must be committed and motivated to act accordingly to this strategy, particularly in the case of carers since they perform such an essential part in this "make-believe world". In Hogewey's case, this is the role of Jannette Spiering, the director. Jannette must make sure everything fits in the organization's vision, e.g., the activities, accommodations, schedules, etc..

Dementia care

As a care institution, its purpose is to provide treatment to its patients. To ensure the proper care is provided to its patients, in sub-chapter 3.2.4.4 Quality & Safety, students can find that all 240 workers have received training in dementia care. In the same sub-chapter, it is also mentioned that for caregivers, it is harder to work in Hogewey than it is in a traditional nursing home, i.e., residents need constant attention, and they responsible for have an entire village of demented people. However, carers and family members state that the patients seem more alert, engaged, calm and even happy, also the institution has already received some awards that support this view.

Facilities

Students can easily realize that Hogewey's innovative facilities are the source of its uniqueness. The accommodations are adapted to the patients' condition and every detail was developed so that they can live freely and safely.

Financial sustainability

The fourth factor that we present as a success driver is the ability to be financially sustainable. Several projects that are run by non-profit organizations tend to depend solely on donations or government contributions and do not generate enough income to sustain its activities. Although it belongs to a non-profit group, Vivium Care Group, Hogewey generates revenue by charging a monthly fee to each resident. Moreover, as it is described in sub- chapter 3.2.4.5 (Financial structure & Sustainability), some of the village's facilities and services are at the disposal of people from the "outside world". For example, the theatre can be rented or people can enjoy a traditional Dutch meal at the restaurant, for € 7.50. Consequently, with this structure, Hogewey is able to financially sustain its operations.

Support of the government and local community

Lastly, in the case study (sub-chapter 3.2.4.5 Financial structure & Sustainability) it is mentioned that the project was largely funded by the government, without this contribution it would be significantly more difficult for the Vivium Care Group to finish the project. Furthermore, the contributions from the local community in the initial project funded the exterior decorations – the pond, iron benches, outdoor lighting-, therefore were essential to create such a unique environment in this care institution. Besides, those who became permanent donors subsidize some additional activities (e.g. concerts, Christmas markets, visits to museums, etc.), which are so important to maintain the residents active and engaged in the community life.

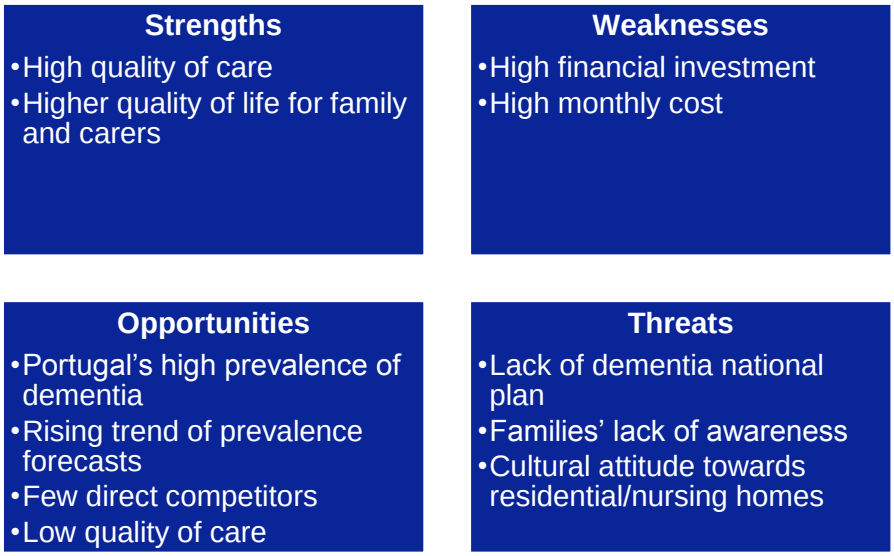
TQ2. Is there a market for a "dementia village" in Portugal? Describe the opportunities and the threats of the market.

&

TQ3. Is the replication viable in a country such as Portugal? Describe the strengths and weaknesses of the project.

To analyse the Portuguese market and the viability of a replication project it is suggested that the students use the SWOT analysis. Students should describe the opportunities and the threats of the market and analyse the strengths and weaknesses of the project in the Portuguese market. This way, students will have a perception of how the market is structured and if there is really a need to implement a "dementia village" in Portugal. Also, students will be able to understand if there is a strategic fit between the project and the market or not. The SWOT analysis guidelines are described below.

Figure 3: SWOT analysis of the replication project in the Portuguese market



Source: Author

Opportunities

- Portugal's high prevalence of dementia

The first opportunity students should understand is how many people in Portugal live with dementia, and, since the case study is about a care institution localized in the Netherlands,

compare how this number differs from the rest of Europe, particularly the Netherlands. This information is available in the Alzheimer Europe's website, in the *Dementia in Europe Yearbook 2013* report. In the same report, the following data can be found:

Table 4: Dementia Prevalence in Portugal, in the Netherlands and in Europe

Country	Men	Women	Total	% of population
Portugal	62.260	120.266	182.526	1.71%
Netherlands	83.247	162.314	245.561	1,47%
Europe	2.866.771	5.835.262	8.702.033	Average 1,55%

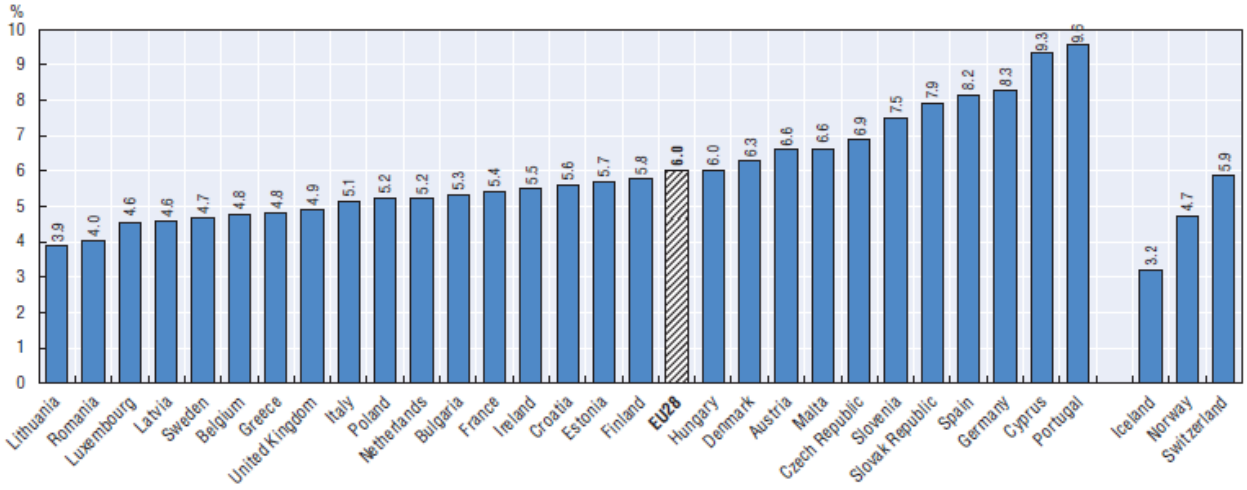
Source: Adapted from Alzheimer Europe 2013

When analysing the table above, students are able to conclude that, in 2012, it was estimated that Portugal had a total of 182.526 people living with dementia, about 1,71% of the total country's population, above the European average of 1,55%. *The Dementia in Europe Yearbook 2013* report also mentions another study from Nunes et al. (2010) which points to an estimate of 2,7% people with dementia, aged between 55 and 79, in northern Portugal. After recognizing these numbers, students could take a look at the prevalence percentage of the Netherlands, which is 1,47%, and determine that it is bellow both the European average and the Portuguese percentage.

- Rising trend of prevalence forecasts

Students can also mention that dementia has no cure and WHO and ADI predict the prevalence numbers to be characterized by an increasing trend, mainly due to the ageing of the population. Moreover, some of the disease's risk factors coincide with the cardiovascular risk factors (Blass 2009; Helzner et al. 2009), for example diabetes. Students could look at the Portuguese diabetes prevalence rates, which are easily found online in an OECD report, *Health at a glance 2014*. In this report, it is observed that, in 2013, Portugal had the highest diabetes prevalence in Europe (Figure 4), 9,5% of the Portuguese population suffered from diabetes (the European average was 6%). Therefore, the rising trend of prevalence numbers and, specifically, the Portuguese high prevalence of one of the disease's risk factors – diabetes- can be considered and opportunity to this project.

Figure 4: Prevalence estimates of diabetes, adults aged 20-79 years, 2013



Source: OECD, Health at a glance 2014

- Few direct competitors

In the *Dementia in Europe Yearbook 2013* report, students are also able to observe that there is an insufficient number of facilities specialized in the dementia care. Moreover, it is estimated that 30% of residents in general/non-specialized residential homes have dementia, which is a disturbing number, since these people do not receive the proper treatment in this facilities.

The Portuguese Alzheimer Association (APFADA), currently the leading national organisation to provide care and support to people with Alzheimer and their families, was responsible for the first residential home in the country - *Casa do Alecrim* - entirely designed to provide care to people living with dementia. In fact the lack of offer of services specialized in dementia care, and more specifically services specialized in Alzheimer care, is observed in the waiting list length of this institution, 400 people[44].

Furthermore, with an online research, students will be able to understand that in the past few years some institutions, mostly private, have been investing in providing care to people with Alzheimer and other dementias (see Table 5 for major direct competitors and see Appendix 8 for the main services provided). However the offer is still insufficient

[44] Focus group in *Casa do Alecrim*, April 2015

towards the existing demand[45]. The major direct competitors, the ones which offer dementia specialized treatment, are mentioned in the table below, with the respective geographic location and small description of the institution:

Table 5: Major direct competitors, respective description and geographic location

Organization/ Institution	Description	Geographic location
Portuguese Alzheimer Association (APFADA)	Leading national organisation to provide care and support to people with Alzheimer and their families	National coverage
Casa do Alecrim (APFADA)	Nursing home Day care Home Care	Cascais
Centro de dia Prof. Doutor Carlos Garcia (APFADA)	Day care	Lisboa
Casa dos Mestres	Nursing home	Lisbon
Campus Neurológico Sénior	Residential home Nursing home Outpatient Clinic Research Professional training	Torres Vedras
Hospital do Mar	Day Care Nursing home	Lisbon
Centro de Dia para Doentes de Alzheimer S. João de Deus (União das Misericórdias Portuguesas)	Day care	Porto
Casa de Saúde de Idanha	Nursing home	Belas, Sintra
Unidade de Cuidados Continuados Bento XVI (União das Misericórdias Portuguesas)	Nursing home Professional training	Fátima, Ourém

Source: Author

- Low quality of care

Once more, in the *Dementia in Europe Yearbook 2013* report, students can conclude that quite often the services provided are not suitable for people with dementia[46]. This lack of quality is mainly due to the inexistence of a national strategy to address this disease, and, consequently, health professional are not trained and do not possess the knowledge required to provide the correct quality service that these people need.

[45] Alzheimer Europe Yearbook 2013, focus group in *Casa do Alecrim*, April 2015, interview to M.D. Luís Lopes, May 2015

[46] This opinion matches the views of the people involved in the focus group made to the staff from *Casa do Alecrim* and the view of M.D. Luís Lopes, clinic director of *Residência Sénior Prof. Maria Ofélia Ribeiro.*

Threats

- Lack of dementia national plan

Students could study how the Portuguese government addresses this issue, and compare the Portuguese and the Dutch sceneries. By accessing the Alzheimer Europe's website, students can find a comparative report on national strategies to address the needs of people living with dementia. This report, *Dementia in Europe Yearbook 2014*, will allow students to conclude that although in the Netherlands there is a national dementia care plan, implemented since 2008, in Portugal the national strategy is still under development. This implies that Portugal still has a long way to go and the government might be apprehensible to support such an innovative project.

However, projects such as the *Unidade de Cuidados Continuados Bento XVI* was partially supported by the government through the *Programa Modelar*[47], which main purpose is to finance projects dedicated to the continued care of elderly people. Consequently, this project could apply to receive this type of support.

- Families' lack of awareness

Although dementia affects 1,71% of the Portuguese population, families are still not prepared to deal with the disease and lack of awareness is a major concern. It is not uncommon for families to not know how to deal with the demented relative. Sometimes they prefer to deny the real health status of the elder relative or, in other cases, relatives just think it is a normal part of ageing so they do not incur in extra efforts to delay the disease's progression[48]. Consequently, this lack knowledge and awareness might imply that families would not be willing to place their demented relative in a dementia village.

Nevertheless, since there is a high prevalence of the disease and it has a rising trend, sooner or later, people will be confronted with the reality, and will be forced to act[49]. Also, with the development of a national dementia plan, the population's awareness towards the

[47] Portal da Saúde Website, viewed 15 May 2015, http://www.portaldasaude.pt/portal/conteudos/a+saude+em+portugal/noticias/arquivo/2010/9/cuidados+continuados+lvt.htm?wbc_purpose=basic
[48] WHO 2012, focus group in *Casa do Alecrim* April 2015, interview to M.D. Luís Lopes, May 2015
[49] Interview to M.D. Luís Lopes, May 2015

disease will increase and families will understand that people with dementia need specialized treatment.

- Cultural attitude towards residential/nursing homes

The majority of the Portuguese population have a negative bias towards placing their elder relative in a nursing home. In Portugal people have the tendency to think it is their duty to take care of their family and, therefore, try to extend the time their relative is at home as long as possible. This attitude coincides with Hofstede model, in which Portugal is described as a collectivist country and where family is considered to be very important (Hofstede, 1984).

Still, if families understand that their relatives will receive better treatment and will have a better quality of life in a care facility, they will try to do what is in the best interest of their ill relative.

Strengths

- High quality care

In the case study, sub-chapter 3.2.4.4 (*Quality & Safety)*, students are able to find evidence suggesting that Hogewey's type of care has been delivering better results than the traditional medical approach some institutions offer. Evidence of this higher quality of care includes: awards given to Hogewey, carers' views and opinions of the family and of the residents themselves.

Hogewey's care consists in lower levels of medication, provision of a comfortable and safe environment and consistent patients' stimulation through the activities offered and the freedom to continue with their daily activities. All these aspects contribute to increase the patients' quality of life. This approach is also supported by Manuel Caldas de Almeida, clinic director of *Unidade de Cuidados Continuados Bento XVI* [50] and M.D. Luís Lopes, clinic director of *Residência Sénior Prof. Maria Ofélia Ribeiro*[51].

- Higher quality of life for family and carers

[50] Município de Ourém Website, viewed 30 April 2015, http://www.cm-ourem.pt/index.php/inicio/209-saude/1642-primeira-unidade-de-cuidados-continuados-para-pessoas-com-demencia-inaugurada-em-fatima.html
[51] Interview to M.D. Luís Lopes, May 2015

Students can argue that the type of care this project offers will also increase the quality of life of family members and carers and that is also one of strengths of this project. Family members experience a tremendous burden when caring for their demented relatives. They are deeply affected at personal, emotional, social (Almberg et al. 1997) or financial level (Wimo et al. 1997). Thus, if their demented relative shows higher levels of happiness due to the quality treatment he or she is receiving, the family members will experience a decrease in this psychological burden, increasing their quality of life.

Additionally, due to the lack of knowledge about the disease and the correct treatment that should be provided, caregivers also experience psychological burden. Thus, by knowing that they are providing the correct treatment to dementia patients, their burden will also be decreased.

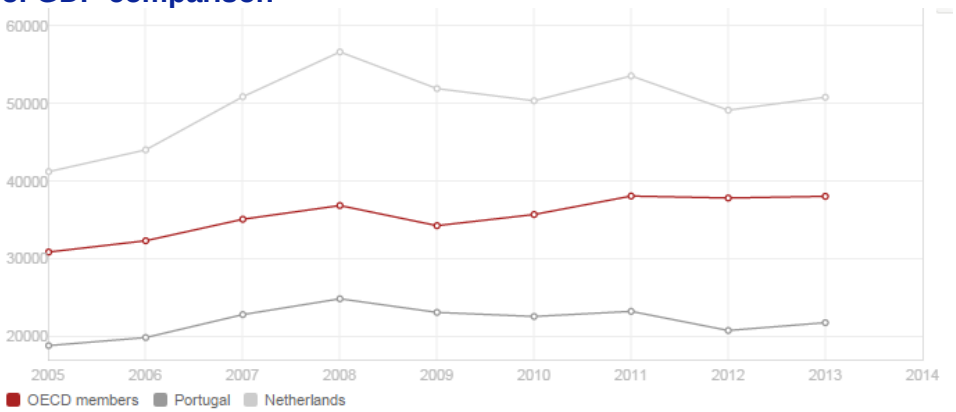
Weaknesses

- High financial investment

The first weakness students can identify is the lack of financial resources to build a project of this dimension[52]. Within OECD members, Portugal has one of the lowest country's GDP's[53] (see Figure 5) and it is still recovering from a social and economic crisis. Consequently, investors would be particularly reticent to fund a project with such a high cost, i.e., Hogewey's construction cost was of € 20 million[54].

[52] Focus group in *Casa do Alecrim* April 2015, interview to M.D. Luís Lopes, May 2015
[53] World Bank Website, viewed 4 May 2015 http://data.worldbank.org/indicator/NY.GDP.PCAP.CD/countries/OE-PT-NL?display=graph
[54] Vivium Zorggroep 2010, "Living life as usual De Hogeweyk: unique housing in lifestyle for elderly people with dementia"

Figure 5: GDP comparison



Source: World Bank (http://data.worldbank.org/indicator/NY.GDP.PCAP.CD/countries/OE-PT-NL?display=graph)

However, to prove that if investors are able to estimate a compelling return on their investment they will be willing to invest, students could give examples of projects that did require matching high investments and are now operating or are about to open:

- *Campus Neurológico Sénior*, in Torres Vedras, Lisbon, had an identical investment cost and is now successfully operating[55].
- *Libervita*, in Cascais, an innovative senior residential compound[56].

Also, other alternatives of developing this project could be studied, e.g., rehabilitating an existing care facility, smaller scale project, less extravagant exterior decorations, etc..

- High monthly cost

The most problematic weakness of this project is considered to be the high monthly cost necessary to cover all the village's costs. Portuguese families struggle financially to place relatives in nursing homes. Nowadays, and according to a market research realized by DECO PROTESTE, 2013, the average monthly cost of a non-specialized nursing home is € 550 in public institutions and € 770 in private institutions[57]. However, this value can reach the € 3.410, for example in the institution belonging to *Luz Saúde, Casas da Cidade*,

[55] Alzheimer Portugal Website, viewed 30 April 2015, http://alzheimerportugal.org/pt/news_text-78-11-226-campus-neurologico-senior
[56] Interview to Eduardo Rodrigues, May 2015
[57] Publico Website, viewed 30 April 2015, http://www.publico.pt/sociedade/noticia/dois-em-cada-tres-idosos-nao-tem-rendimentos-suficientes-para-pagar-o-lar-1588860

in in Lisbon[58]. Consequently, it would be extremely hard for families to pay the lowest monthly fee of € 5.000, charged in Hogewey.

In the possibility of implementing the project with fewer costs and at an affordable monthly price, similar to other residential institutions such as *Residências Montepio* that have an average monthly cost of € 1.700[59], there would be demand for it. But even in this case it only would be affordable only to the Portuguese upper-middle income class.

TQ4- Which are the key elements to replicate Hogewey in Portugal?

Portugal still has a long way to go in what concerns the provision of dementia care services. However, in the future, a dementia village has become an interesting alternative to residential homes. To replicate this project, there are some key aspects that must be taken into consideration.

Cooperation with Hogewey

To capitalize the organization's own knowledge, some social enterprises have developed formal programmes to successfully transmit insights of their business models (Higgins et al. 2008). In fact, in the case study (sub-chapter 3.2.4.4 Quality & Safety), it is mentioned that Hogewey has created a department which main responsibility is knowledge diffusion throughout workshops, visits and exhibits. A broad scope of knowledge transference is highly important in a replication strategy (Winter & Szulanski 2001). Consequently, Hogewey's cooperation would be essential. A replication of a dementia village will only create value if Hogewey's knowledge on providing care to demented people is captured by the replicator and if this knowledge is adapted to the Portuguese reality.

Competition

This project would face the competition of already stablished institutions who offer services to demented people, indirect and direct competitors. In order to facilitate the entry in the market and to obtain some tacit knowledge about the former, this project could be

[58] *Casas da Cidade* Website, viewed 30 April 2015, http://www.casasdacidade.pt/pt/servico-a-clientes/precos/

59 *Residências Montepio* Website, viewed 16 May 2015, http://www.residenciasmontepio.pt/not%C3%ADcias/not%C3%ADcias-resid%C3%AAncias-montepio/resid%C3%AAncias-s%C3%A3o-neg%C3%B3cio-em-expans%C3%A3o.aspx

developed throughout a strategic alliance with some already stablished player. This way, the project would also gain credibility among the government and potential clients. Most importantly, only a person who interacts with demented persons on a daily basis understands their difficulties and their behavior, as a result, it is crucial that this project be developed with the supervision of someone that has a close perspective of a demented person's actions.

Financial costs

A project of this dimension represents not just a significantly high investment cost, but a high maintenance cost. Costs incurred in the investment include: market studies, land acquisition, bureaucratic costs, infrastructure's construction, equipment acquisition, exterior's decoration, team training and marketing costs. In Hogewey's case these costs sum up to a total of € 20 million, however, different approaches (e.g., smaller scale project, less extravagant exterior decorations, rehabilitating existing facilities etc.) should be studied to reduce these costs.

It is important to pay special attention to bureaucratic costs, particularly what concerns legislation, since there is none regarding dementia treatment and what exists for residential homes is rather new (since 2012)[60].

Concerning maintenance costs these will comprise: security, labour, infrastructure maintenance, patients' living, taxation and management.

Cultural challenges

Firms tend to expand to host markets with similar characteristics to their home markets (Hoffman et al. 2008), specially with similar cultures since the person's culture influences every aspect of their daily life and what is appropriate in one culture may not necessarily be appropriate in another. According to Hofstede's cultural dimensions model Portugal and the Netherlands have rather distinctive cultures. More specifically Portugal is characterized by a collectivist, i.e., the individual feels responsible for his or her family[61]. Thus, the idea of placing an elder relative in a residential home is not well seen by the Portuguese

[60] Focus group in *Casa do Alecrim* April 2015, interview to M.D. Luís Lopes, May 2015, interview to Eduardo Rodrigues May 2015
[61] The Hofstede Centre Website, viewed 2 April 2015, http://geert-hofstede.com/portugal.html

society. Contrarily, the Netherlands' culture is individualistic so individuals are not expected to care for their elder familiars.

Geographic location

During the focus group made in *Casa do Alecrim*, emphasis was given to the geographic location of an institution with these characteristics. It was mentioned that it is crucial for this institution to be located near a hospital to assure the right care provision when necessary. Also, the patients admitted should have family living in the region so that they could visit their relatives whenever they wished to.

Chapter 5: Conclusion, Limitations & Future Research

5.1 Main findings

The purpose of this dissertation was to study *The need and viability of replicating a "dementia village" in Portugal.* The central literature was reviewed and, by collecting data available online, the case study **HOGEWEY - Bringing back life to those who have forgotten** was developed. This case presents the care institution Hogewey, giving emphasis to its vision, objectives, strategy and the care it provides. Hogewey's vision consists on proving a "normal" living to its demented residents, thus it was designed to resemble a usual Dutch neighbourhood, with streets, water fountains, street benches and a variety of amenities (e.g., theatre, supermarket, restaurant, etc.). The care provided is also singular, since carers try to keep residents' medication as low as possible and try to stimulate them with a wide range of activities, for example, baking and painting.

Recognizing what has driven this institution to success seemed crucial for a replication strategy, therefore Hogewey's critical success factors were studied and concluded to be: commitment to the organization's vision and objectives; strong leadership; dementia care; the facilities; financial sustainability and the support given by the government and by the local community.

To understand if there is a need for this project in Portugal, the Portuguese dementia care market was analysed and four opportunities for reproducing a dementia village were identified: the disease's prevalence estimations; the increasing trend of this number; the low number of direct competitors providing specialized dementia care; and the low quality levels many indirect competitors provide to demented patients. However, three challenging threats were also recognized: the lack of national strategy concerning dementia, which may lead to lack of government support; the lack of awareness of the Portuguese population towards the disease; and the negative cultural attitude families have towards placing an elder relative in a residential home. To overcome these threats some suggestions were proposed in the teaching questions analysis.

Regarding the viability of the replication of this village, it was necessary to analyse the potential strengths and weaknesses of this project in Portugal. This allowed understanding concerning the existence of a strategic fit between the replication project and the Portuguese dementia care market. It was concluded that a dementia village brings higher

quality of life for its patients, the relatives of the patients and the respective carers. Nonetheless, at present the Portuguese families do not possess the financial capability to pay the monthly fees paid at Hogewey. Consequently, if such a project could be implemented with fewer costs and the monthly fees could be at the same range of other Portuguese residential homes, e.g., *Residências Montepio*, which average monthly price is €1.700, there would be demand for it. But even in this case it only would be affordable to the Portuguese upper-middle income class.

5.2 Limitations

The first limitation identified is the lack of access to Hogewey's data. Although the organization was contacted by email, Yvonne van Amerongen replied she could not help since she was already providing information to other Dutch students. As a result, only online news articles and data presented on Hogewey's website was used to develop the case study. Unfortunately, this data did not include specific facts about how the organization is structured in terms of departments and even specific details as the number of carers in each team allocated to the apartments. Secondly, some reports (e.g., ADI 2009 and ADI 2010), upon which the research was founded on, were based on approximations of costs and prevalence numbers. Thus these numbers are not exact rather an estimation of the reality. Also, due to time constraints only 3 interviews and 1 focus group were conducted to study the dementia care services provided to the Portuguese population. Another limitation found was the small quantity of formal data regarding the Portuguese dementia care, mainly due to the absence of a national dementia strategy, which is under development. Finally, the financial cost of this replication project was impossible to determine, so it could be only estimated that in the worst scenario possible would be similar to Hogewey's cost (€ 20 million).

5.3 Future Research

To study in more detail Hogewey's replication and viability a visit to the institution's facilities in the Weesp, Amsterdam, is proposed in order to obtain more insights about how the care is provided to the patients and to obtain some insights on how Hogewey's is managed. Further research could also include contact the architect firm responsible for the village's construction and the Guedes Cruz Architects, in charge of Libervita's project, to understand the main challenges and costs of this type of construction. Additionally, a financial analysis could be conducted to comprehend the viability of the project and

different alternatives of developing this project could be studied in order to decrease the initial investment. Finally, further market research could also be conducted to test the viability of this project in the Portuguese market. This market study could comprise interviews with experts and interviews and surveys to the Portuguese population to realize what they value in the dementia car and to better understand if they would be willing to place their relatives in a “dementia village”.

Appendixes

Appendix 1: Characteristics of dementia subtypes

Dementia subtype	Early characteristic symptoms	Neuropathology	Proportion of dementia cases
Alzheimer's Disease (AD)*	• Impaired memory, apathy and depression • Gradual onset	Cortical amyloid plaques and neurofibrillary tangles	50-75%
Vascular Dementia (VaD)*	• Similar to AD, but memory less affected, and mood fluctuations more prominent • Physical frailty • Stepwise onset	Cerebrovascular disease Single infarcts in critical regions, or more diffuse multi-infarct disease	20-30%
Dementia with Lewy Bodies	• Marked fluctuation in cognitive ability • Visual hallucinations • Parkinsonism (tremor ad rigidity)	Cortical Lewy bodies (alphasynuclein)	<5%
Frontotemporal dementia	• Personality changes • Mood changes • Disinhibition • Language difficulties	No single pathology – damage limited to frontal and temporal lobes	5-10%
*Post mortem studies suggest that many people with dementia have mixed Alzheimer's disease and vascular dementia pathology, and that this 'mixed dementia' is underdiagnosed			

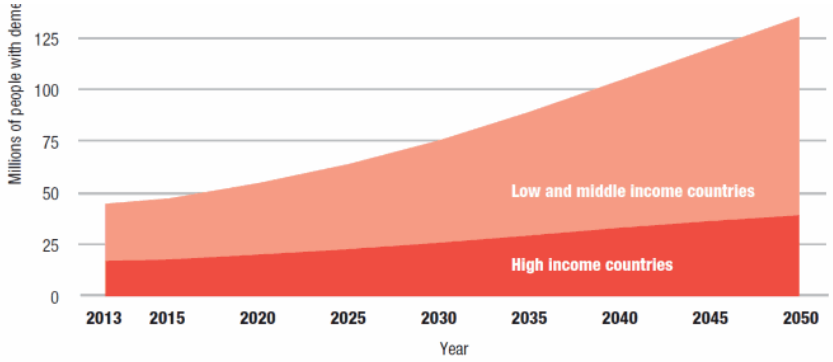
Source: Alzheimer Disease International 2009

Appendix 2: Stages and symptoms of dementia (Alzheimer's disease)

Early stage	Middle stage	Late stage
The early stage is often overlooked. Relatives and friends (and sometimes professionals as well) see it as "old age", just a normal part of the ageing process. Because the onset of the disease is gradual, it is difficult to be sure exactly when it begins. The person may: • have problems talking properly (language problems) • have significant memory loss — particularly for things that have just happened • not know the time of day or the day of the week • become lost in familiar places • have difficulty in making decisions • become inactive and unmotivated • show mood changes, depression or anxiety • react unusually angrily or aggressively on occasion • show a loss of interest in hobbies and activities	As the disease progresses, limitations become clearer and more restricting. The person with dementia has difficulty with day-to-day living and: • may become very forgetful, especially of recent events and people's names • can no longer manage to live alone without problems • is unable to cook, clean or shop • may become extremely dependent on family members and caregivers • needs help with personal hygiene, i.e. washing and dressing • has increased difficulty with speech • shows problems with wandering and other behaviour problems such as repeated questioning and calling out, clinging and disturbed sleeping • becomes lost at home as well as outside • may have hallucinations (seeing or hearing things that are not there)	The late stage is one of nearly total dependence and inactivity. Memory disturbances are very serious and the physical side of the disease becomes more obvious. The person may: • have difficulty eating • be incapable of communicating • not recognize relatives, friends and familiar objects • have difficulty understanding what is going on around them • be unable to find his or her way around in the home • have difficulty walking • have difficulty swallowing • have bladder and bowel incontinence • display inappropriate behaviour in public • be confined to a wheelchair or bed

Source: WHO 2006

Appendix 3: Number of people with dementia in low and middle income countries compared to high income countries



Source: Alzheimer's Disease International 2013

Appendix 4: Culture comparison between Portugal and the Netherlands

In the power distance dimension, Portugal scores 63 while the Netherlands score 38. This means that, in Portugal less powerful members of the society accept that the power is unequally distributed and those with the most powerful positions are admitted to have privileges.

The individualism dimension reflects the degree of interdependence a society maintains among its members. Portugal score is 27, which make it a collectivist country, where it is important for people to belong to groups and to care for all of their relatives. On the contrary, the Netherlands score high in this dimension (80), making it an individualistic society in which individuals are only expected to take care of themselves and direct family.

In the uncertainty avoidance both countries score high, however Portugal scores 99 and the Netherlands scores 53. Societies with high uncertainty avoidance have a need for rules and are intolerant of unorthodox behaviour and ideas.

Regarding the masculinity dimension, it determines what motivates people, wanting to be the best (masculine) or liking what you do (feminine). Both Portugal (31) and the Netherlands (14) score low in this dimension and are feminine societies, where excessive competition is not appreciated and life's quality is.

Portuguese people are characterized by having short-term orientation and great respect for tradition, Portugal scores 28 in the long-term orientation dimension. On the other hand, in the Netherlands (score 67), people have a pragmatic orientation and believe that the truth depends on the situation and time.

Finally, in the indulgence dimension it is defined the extent to which people try to control their desires and impulses. Although in Portugal (score 33), people feel that indulging themselves is somewhat wrong and have a tendency to cynicism and pessimism. In the Netherlands (score 68), put great emphasis on leisure time and tend to follow their desires.

Appendix 5: Script of focus group and interview to M.D. Luís Lopes

The duration of the focus group and interview was respectively, 1 hour and 32 minutes and the scripts were adapted according to the situation, but the structure was the following:

1) Introduction of the concept and the study
2) Questions about the Portuguese dementia care market:
    I. Qual a sua opinião sobre o serviço prestado a pessoas com demência em Portugal? Aspectos positivos e aspectos a melhorar.
    II. Sabe da existência de novos projectos relativos ao serviço prestado a pessoas com demência em Portugal?
    III. Quais as principais organizações/ instituições neste mercado?
    IV. Quais os serviços que essas organizações/ instituições prestam?
3) Questions about Hogewey
    I. Qual a sua opinião sobre o serviço prestado em Hogewey, na Holanda, a pessoas com demência? Aspectos positivos e aspectos a melhorar.
    II. Qual a sua opinião sobre a reprodução de uma "aldeia" da demência em Portugal?
    III. Existe mercado/oportunidade para esta "aldeia"?
    IV. Na sua opinião, em termos geográficos, qual seria a melhor localização para este projecto?
    V. Na sua opinião, quais seriam os maiores desafios a ultrapassar, na reprodução deste projecto?
    VI. Como poderia ser este projecto financiado financiado?
4) Questions about Casa do Alecrim (focus group case)
    I. Quais foram os maiores desafios que este projecto teve de ultrapassar?
    II. Poderia descrever as principais fases do processo de desenvolvimento deste projecto?
    III. Como foi financiado este projecto?
    IV. Como é financiado actualmente?

Appendix 6: Interview to Eduardo Rodrigues script

To Eduardo Rodrigues the questions were sent and he replied with the answers he was allowed to give. The questions were the following:

1. O empreendimento já está construído?
2. Se não, quando estará? E em que fase do projecto estão?
3. Se já está construído, quando abrirá?
4. Quem financiou o projecto?
5. Qual o custo do projecto?
6. Quais os custos de manutenção após estar aberto?
7. Quais os maiores desafios que este projecto tem de ultrapassar ou que já ultrapassou?
8. Terá procura?
9. Quanto custará uma mensalidade na Libervita?
10. Qual a capacidade da Libervita?

Appendix 7: Case summary

The case study **Hogewey - Bringing life to those who have forgotten** presents the reader to a nursing institution characterized by its innovative facilities to care for demented patients. Hogewey, located in Weesp, a suburb of Amsterdam, is a small village inhabited only by people living with advanced or extreme dementia.

Completed in 2009, Hogewey, part of the Vivium Care Group, has two main objectives. The first is to reduce the negative feelings (e.g. confusion, anxiety and anger) which are so common among people suffering from dementia, by providing a safe, familiar, and human environment. The second is to keep its 152 residents active in order to maximize the quality of their lives. To accomplish this goal, there are more than a dozen clubs (e.g. balking, bingo, music, cycling, etc.) to keep residents occupied during their stay in Hogewey.

Hogewey was designed to resemble a traditional Dutch neighbourhood, full of streets, alleys, large squares, water fountains and flower decorations. The village has also a theatre, a small supermarket, a barber/ beauty salon, a restaurant and a café so that residents can safely enjoy the life outdoors, which would not be possible outside the village since a demented person is conditioned by his/her illness

Residents are divided among the 23 residences according to the lifestyles they had before dementia entered in their lives. There are 7 different lifestyles representing the Dutch society: Traditional, Urban, Gooise, Cultural, Christian, Indian and Homely. The house lifestyle guides every aspect (e.g. food, music, smell, decoration, etc.) of the home's design and residents are given personalized bedrooms. All these small details have one objective in common, to stimulate the residents' memory.

All 240 Hogewey's employees (e.g. nurses, doctors, social workers, etc.) have received specialized training to deliver the proper care. And since this is not a usual care facility, the technical aspects of care are often not suitable and a different mentality from the staff is required.

The project was mostly financed by the Dutch government, € 17.8 million, and the final contributions, € 1.5 million were raised from local sponsors and fundraisings. Now, and to ensure financial sustainability, residents pay € 5 000 per month. To generate additional

income the restaurant and the café are opened to the “outside people” and it is possible to rent the village’s theatre for conferences or performances.

All this seems to be paying-off and Hogewey has already received some awards for the quality of care it provides. Caregivers also state that residents have a higher quality of life in the village than they would in a traditional nursing home. The village caught the world’s attention and the project has already been replicated in California, USA, and others have stated that intend to follow the example.

Appendix 8: Services provided by care institutions to the Portuguese demented population

Service provided
Information activities (newsletters, publications)
Awareness campaigns
Information activities (newsletters, publications)
Support groups for people with dementia
Counselling
Website information
Legal advice
Incontinence help
Home help (cleaning, cooking, shopping)
Home care (personal hygiene, medication)
Respite care at home (Sitting service etc.)
Meals on wheels
Alzheimer cafes
Day care
Residential/Nursing home care
Palliative care

Source: Author

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