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V-Portugal

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V-Portugal

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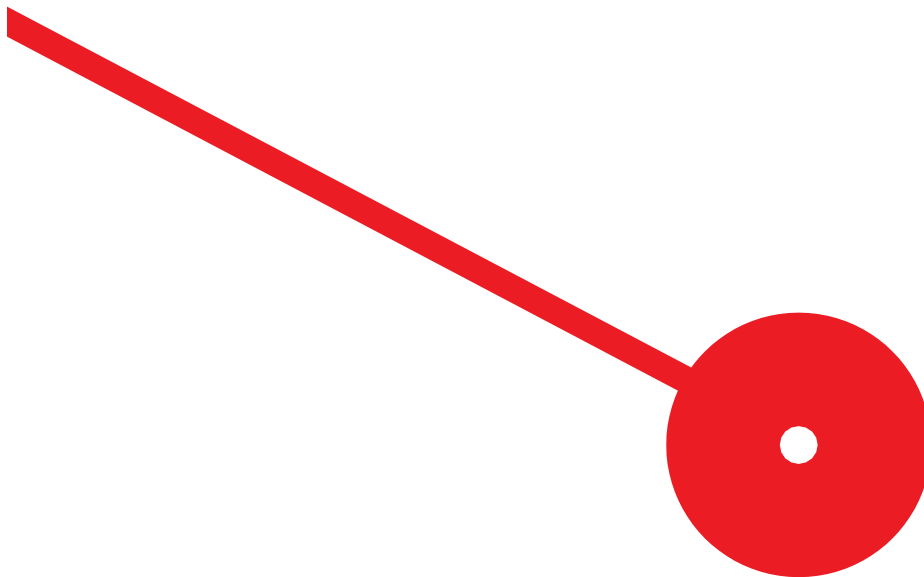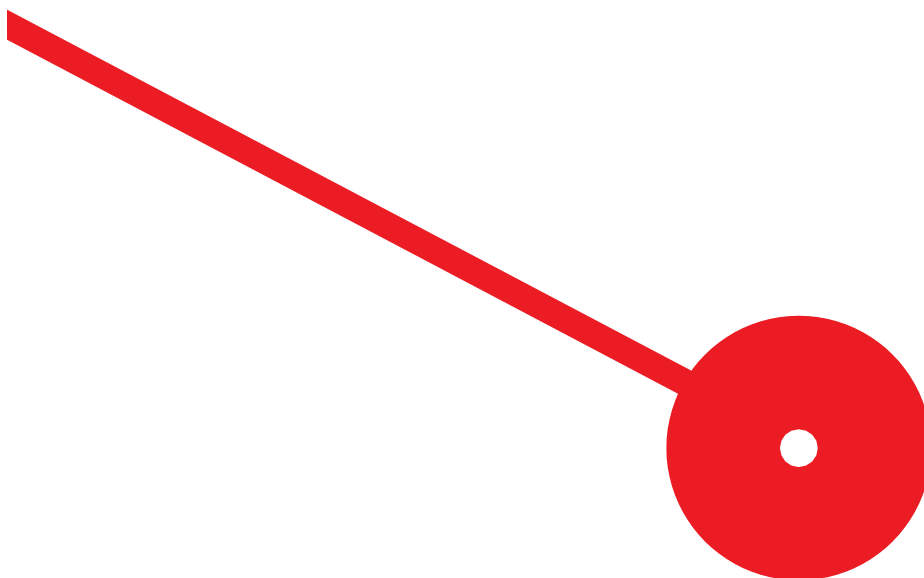**Trabalho de Projeto apresentado ao Instituto Superior de Contabilidade e Administração do Porto para a obtenção do grau de Mestre em Estudos Interculturais para Negócios, sob orientação de Sandra Ribeiro**

Resumo:

No âmbito do Mestrado de Estudos Interculturais para Negócios, o presente relatório de projeto apresenta e descreve um trabalho na área dos estudos interculturais - V-Portugal.

O trabalho de projeto prévio, no qual se alicerça o projeto aqui descrito, consistiu na conceção de um empreendimento inovador, aliado à realidade virtual que visava a criação de um software aplicativo e que funciona através do uso de óculos de realidade virtual. Denominado "Second Chance", este projeto concebido em 2018, combinava a componente tecnológica e turística, com o objetivo de captar o interesse de estrangeiros em Portugal promovendo, desta forma, a nossa cultura internacionalmente. O produto e o serviço da V-Portugal estava direcionado a um público com interesse em viajar e conhecer Portugal, satisfazer desejos visuais, como por exemplo, observar zonas paisagísticas de Portugal.

A ideia "V-Portugal" nasceu durante o meu percurso académico no Instituto Português de Administração e Marketing, ideia esta finalista da EDP University Challenge, embora não vencedora. Na sua génese, esteve a consciência social e a sensibilidade relativamente a um público, muitas vezes, negligenciado – os idosos - normalmente, com mobilidade reduzida. A aplicação e os óculos permitiriam a esta faixa etária viajar sem ter de sair de casa. Foi por ter percebido a viabilidade deste conceito em um contexto diferente do inicialmente concebido que o procurei desenvolver e adaptar à área base do Mestrado – Estudos Interculturais para negócios.

Palavras chave: Interculturalidade; Realidade Virtual; Turismo; Tecnologia; Portugal.

Abstract

In the context of the Master of Intercultural Studies for Business, this project report presents and describes a work in the area of intercultural studies - the V-Portugal.

The previous project work, on which the project described here is based, consisted in the design of an innovative venture, allied to virtual reality that aimed to create an application software that works through the use of virtual reality glasses. Called "Second Chance", this project conceived in 2018 combined the technological and tourist component, with the aim of capturing the interest of foreigners in Portugal, thus promoting our culture internationally. The product and service of V-Portugal was aimed at an audience with an interest in travelling and getting to know Portugal, satisfying visual desires, such as observing scenic areas of Portugal.

The idea "V-Portugal" was born during my academic career at the Portuguese Institute of Administration and Marketing, and was a finalist in the EDP University Challenge, although not a winner. At its genesis was the social conscience and sensitivity towards an often neglected public - the elderly - normally with reduced mobility. The application and the glasses would allow this age group to travel without having to leave home. It was because I perceived the viability of this concept in a different context than initially conceived that I sought to develop it and adapt it to the base area of the Masters - Intercultural Studies for business.

Key words: Interculturality; Virtual Reality; Tourism; Technology; Portugal.

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The exponential development of technology, namely virtual reality (VR), has changed the way many generations work, communicate and entertain themselves. Virtual reality in tourism, for example, is an established reality which can be regarded positively or negatively, but which nonetheless is inspirational for a project in Intercultural Communication for Business.

Undeniably, my interest in virtual reality led to a business idea, proposed in 2018, entitled *Second Chance*. Thus, instead of stating something new, I chose to use a previously exploited and market-worthy business idea and expand it and adapt it to the evolving technological and digital world, where people are central; where each individual may be perceived as unique and valuable; where the understanding and acceptance of interculturality is essential for any thriving business.

V-Portugal, the project now undertaken, drew on the business idea conceived for *Second Chance* and developed it further – it now combines technological and touristic components and aims to capture the interest, not only of foreigners to promote our culture internationally, but also aims to encourage inter-generational culture flows.

In order to improve and develop the initial idea to fit this new intercultural framework, we draw on the literature and address, in chapter 1, the concepts of interculturality and generational culture.

Chapter 2 describes the technological development namely virtual reality, in order to illustrate the technological framework underpinning *V-Portugal*. We address the concept of virtual reality, its evolution over the years, abroad and in Portugal, and the presence of virtual reality in areas such as art, education entertainment and tourism. Topics such as expectations are also discussed. Additionally, in this chapter we present a brief overview of some virtual reality applications available. Finally, we discuss the VR market to perceive its dimension and the feasibility of this project.

Chapter 3 details the project *V-Portugal*. We not only present the idea behind it and its technological support (the application and the product), how it works and its use, but we also analyze the project's feasibility using a business-oriented perspective. The topic of social responsibility is addressed, and we show how this project fits into that scope.

The conclusion presents an overview of the work carried out and advocates the conviction that this business idea is feasible and, above all, sustainable and appealing.

CHAPTER I – GENERATIONAL INTERCULTURAL FLOWS

1. Generational Intercultural flows

1.1 Interculturalism

Soriano (2004, p. 91) considers that interculturalism refers to the coexistence of cultures on an equal footing. Many authors use the same meaning to denominate multiculturalism. The author believes, however, that the most appropriate is to use the term *multiculturalism* for the empirical evidence of coexistence of cultures, while *interculturalism* has a normative or prescriptive claim and refers to the requirement of coexistence of cultures on an equal footing. Interculturalism acts in conformity with the concepts of the rights of cultures, criticizing juridical imperialism and imperialism and proposing an alternative between liberalism and communitarianism.

According to Astrain (2003), the notion of interculturality, for different reasons, has been identified with multiculturality, however the current theoretical positions allow a distinction between both. Interculturality, unlike multiculturality, is not simply two cultures mixing or integrating. Interculturality alludes to a type of society in which ethnic communities and social groups recognise each other in their differences and seek mutual understanding and appreciation. The prefix "inter" would express a positive interaction that concretely expresses itself in the search for the suppression of barriers between peoples, ethnic communities and human groups.

For Pa nikkar (*apud* Vallescar Palanca, 2000), interculturality is not to be confused with multiculturalism, since the latter refers to the Western syndrome that consists in believing that there is a superculture, superior to all, capable of offering a benign and condescending hospitality and providing an answer to supposedly universal problems. Interculturalism, on the other hand, asks itself what these supposedly universal problems are.

1.1.1 International Business and Intercultural Communications

Today, it is almost impossible for a nation to live isolated from the rest of the world because we are in a *globalized* world. This means that we are under the influence of a phenomenon called 'globalization Thermo' which is difficult to define, and that generates all sorts of disputes. According to Beck (1998) we can think of globalization as a process in which national boundaries of the economy blur to facilitate a freer access to the factors of production and finished goods markets, and as a result, a growing economic integration. Otero (2008) claims that globalization is a process in which economic activity

in a country surpasses its and seeks to integrate customers and products from other countries of the world.

1.1.2 Tourism

In addition to the global economy, studying global tourism means considering themes of identity and diversity, representation, legacy, history, and how geographical regions are converted into significant destinations.

Tourism can be seen as a communication tool and a means to get to know other cultures. With the development of technology, it is easier to promote tourism, nowadays getting to know a place is just a click away, so there is an increasing desire to get to know new countries and cultures, therefore, interculturality plays a key role in tourism, since it is a means of contact between people with cultural diversity. By investigating tourism as a universal cultural phenomenon, we may relate it to the contentious concept of globalization, which is sometimes interpreted as a sign of Western dominance (Sarmento, 2020).

Today's tourism, whether virtual or in person, implies intercultural communication due to the fact that it involves people from all over the world whose purpose is to get to know new countries and cultures.

Tourism management as an intercultural enterprise has both challenges and opportunities. The potential for developing cultural tourist routes that empower and engage local communities in the preservation of cultural heritage, the challenge of promoting sustainable tourism, which affects employment, economic growth, poverty reduction, environmental protection, and the general preservation of authenticity in culture and heritage. Cultural assets and history that could otherwise be considered commonplace are elevated by acknowledging the worth of various segments of the community. Tourists, on the other hand, are drawn to the extraordinary rather than the mundane routine of daily life (Sarmento, 2020).

Thus, tourism is an important transformer of economies and societies, promotes social inclusion, generates employment and income opportunities. There are different types of tourism, with technological advances, virtual tourism increasingly becomes an option, nowadays it is possible to observe different places through virtual reality glasses, which shows that technology is more and more allied with tourism.

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1.1.3 Guides as Intercultural Mediators

In today's tourism, tour guides play a significant and diverse role. A guided tour's ability to provide tourists with a safe and high-quality experience depends on the interaction between the guide, the tourists, and the surroundings at a specific moment in time and space. The ability to manage and plan visitor experiences, improve destination perception, and carry out the principles of responsible tourism sets the job of guides in the tourism system apart. What tour guides explain and depict has an impact on how visitors view a location or destination, comprehend the local culture, partake in local activities, and behave when they are there. The tour guides serve as front-line workers, interpreters, and "ambassadors" for their destinations in the eyes of the tourists (Rabotić, 2010).

Tourist guides show and interpret local cultural heritage, living culture and cultural identity of a destination and therefore represent cultural mediators, of whom a customer expects to show sensibility towards their own culture as well as the guests. (Yu et al., 2001).

Access to attractions that can only be viewed in a planned group is provided by tour guides, the guided tour (non-public places). Tourists see mediation as helpful in situations where they anticipate difficulty finding specific attractions (lack of signalization, attraction relocation, underdeveloped infrastructure, etc.), as well as in situations where there may be a line at the entrance to a tourist attraction (when group visits take precedence over independent visitors) (Rabotić, 2010).

1.1.4 Generational culture and Interculturality

One of the most prevalent forms of digital exclusion in society is the exclusion of the senior population from the digital world. This fact presents significant issues for both the excluded people and the societies they are a part of in a rapidly aging and technologically mediated culture (Rebelo, 2016)

Cultural diversity (among them generational culture) and intercultural dialogue are intensely discussed topics in today's society which is marked by globalization. Cultural differences are the core subject for studies addressing intercultural communication. Good knowledge of other cultures is a necessary step to get to recognize the nature of these differences and to relate to others through attitudes of understanding and tolerance which

are premises for genuine intercultural dialogue, especially in the tourism industry (Jack, & Phipps, 2005)

According to Gelbtuch & Morlan (2015) each generation imagines itself to be more intelligent than the one that went before it, and wiser than the one that comes after it. In today's project management workplace, the presence of four (soon to be five) generations can lead to both wonderful synergies and problems. Thus, we may draw numerous parallels between negotiating cultural differences and managing intergenerational disparities on our project teams since generations are cultures, too. In both situations, the actions we observe on the surface are the result of underlying common experiences and ideals, and they frequently do not apply across national boundaries.

A straightforward, generally recognized definition of generation is: "a collection of people who were roughly born at the same time and who typically exhibit the same behaviors and attitudes" (Robinson, 2013, p.35). The common experiences and significant events that occur during a generation's formative years serve to define them more so than their chronological age. It is significant to remember that, marker years for generations may vary slightly depending on the reporting organization. People born close to a generational marker year may exhibit overlapping tendencies or identify with aspects of two different generations.

In looking at generational cultures, we are primarily interested in the Cohort Effect:

"The effect of being born and raised in a particular time or situation where all other members of your group have similar experiences that make your group unique from other groups" (Heffner, 2014).

In order to better understand how young people produce material for older audiences, one of V-goals Portugal's is to connect younger and older cultures.

2. Virtual Reality

2   The concept of virtual reality

The world is inevitably becoming more technological. In contemporary times, it is already strange for someone to be distant from screens. They have become evident in our daily life: at home, at work, or traveling, people are always in front of screens: present on televisions, cinema, computers, mobile phones, tablets, watches, among others. Screens involve us through the possibility of seeing, watching and perceiving with our own eyes (Introna & Ilharco, 2006). They can be defined as "a medium", "something that presents something" or "that makes something present", "something that collects information" or that "suggests something with relevance" (Introna & Ilharco, 2006, p. 7).

 Sight stirs our cognitive capacities and some claim that "seeing is believing". As such, McLuhan, cited by Introna and Ilharco (2006), defends the supremacy of vision over the other senses, to the extent that if we can see, then we are also able to believe and, therefore, we build our truth.

According to Ilharco (2006), contemporary technology is powerful because it functions as an extension of many of the human senses, including the nervous system. Screens provide an interaction between our senses, forcing us to participate and engage. New technologies seem to make the most of vision, since it is no coincidence that technological devices are equipped with a display, whether a mobile phone or a music player.

Ilharco goes further and states that "the screen is the skin of information technology" (2006, p. 3). They function almost like a new layer on the human body, by the fact that they show the individual 'relevant data, that is, relevant information, in each context. They choose, capture, process, organize, and structure information beforehand, so that they can then transmit it.

Somehow, society has already rooted a culture of trust in screens and in technology itself. The information that the screens present about the individual, for example, in a medical appointment, in a bank or in a public entity, ends up being more viable and trustworthy than the individual (Ilharco, 2006). Nowadays, much of the communication is done through mobile phones or other technological devices, which have undergone incremental improvements over recent years. Due to the multiplicity of sensory *stimuli* they imply,

they bring more and more opportunities for consumer engagement, something that digital marketing does not neglect (Chaffey & Ellis-Chadwick, 2016).

We faced a web 3.0, which marked a web generation, which incorporated high-speed connectivity, complex interactions, intelligent or semantic content and automated applications that can access multiple sources of information, what digital marketing wants is to make life easier for its consumers, so that they can be satisfied, identifying and anticipating behaviors more effectively. As such, all channels available on the Internet, such as websites, must be easy to use and clear in their understanding, as well as present adequate communication and performance, good customer service and functional distribution (Chaffey & Ellis-Chadwick, 2016).

Virtual Reality (VR) is not a recent concept, as the idea of its existence has been around for decades, taking us back to the 1960s, where the creation of the first immersive experiences or the invention of Sensorama, which may be considered the first VR system linked to the film industry, was already revealed (Steinicke, 2016).

VR is described as "the use of a computer-generated 3D environment – called a 'virtual environment' (VE) that one can navigate and possibly interact with, resulting in real-time simulation of one or more of the user's five senses" (Guttentag, 2010, p.638). It is one of the most remarkable technological tools to experience a service or product and "travel" to a destination. VR technologies enable tourists to travel and gain information about a destination without considering borders or the distance of any destination. It also changes the travel patterns and experiences of tourists at the destination (Kim & Hall, 2019).

Technologies, namely virtual technologies, make it possible to provide transformative and innovative, more immersive experiences, leading the user to immerse themselves in a virtual environment that transports them to another reality. In the case of museums, it allows viewing works of art with a detail that would not be possible to observe in person. Thus, virtual visits and the resources they make available are transforming the way visitors observe and interact with museum collections and objects, as well as their experiences.

According to Tori & da Silva Hounsell, M. (2020), "Virtual Reality" is a contradictory term. How could something that is virtual be real at the same time? In fact, virtual environments are, at the same time, real. They are different, alternative realities, artificially created, but they are perceived by our sensory systems in the same way as the

physical world around us: they can thrill, give pleasure, teach, entertain and respond to our actions, without needing to exist in tangible (touchable) form. Technology today allows access to synthetic, immersive and high-definition environments that can transport us to alternative realities at low cost. All it takes is a smartphone and a display for us to have access to immersive experiences that, a few years ago, were accessible only to the privileged few with access to expensive equipment. But in essence, apart from economies of scale and technical improvements (higher definition images, more accurate sensors, fewer delays, etc.), there is not much difference between current concepts, techniques and technologies and those used in previous generations of virtual reality. (Tori & da Silva Hounsell, 2020).

2.1 Virtual Reality in Tourism, Art, Education and Entertainment

Portugal is seen as a brand. The *Country Brand Awards 2020*, in the category of tourism promotion, recognises, in its first edition, the work done to build the country's brand in the current context. Portugal leads the European ranking of the best countries in the promotion of tourism, and conquered the third place worldwide.

The study carried out by the University of Técnico in Lisbon, states that, Portugal has been the scene of great experiences with Virtual Reality, especially when it comes to entertainment. For example, in 2017, the world's largest Virtual Reality experience (Zero Latency) arrived in Portugal, after having passed through countries like Australia and Japan.

The Virtual Reality & Augmented Reality Association (VRARA), presented a map in Lisbon, where it shows a growing ecosystem, already with about 30 companies, which are classified by activity. "With this initiative we can verify that there are many companies, in an ecosystem that integrates universities, training centres and that already dynamizes several events", said the co-president of the Lisbon Chapter of VRARA, Gonçalo Pratas (2020).

According to Gonçalo Pratas, with the map presented, they will be able to communicate to foreign investors that Portugal has the capacity to host Competence Centres in this area. Additionally, the co-president pointed out that, at this moment, they already have enough talent and national VR/RA experience. One of the objectives in Portugal is to show that this ecosystem is growing and that there is talent, technological skills and conditions that rival other countries for the development of projects in this area.

According to Stankov & Gretzel (2020), the concept of Tourism 4.0 currently fuels visions of similar technology-based transformations towards highly interconnected and digital systems in the tourism industry. Knowing this, Tourism 4.0 proposes a new paradigm, emerging as a way to unlock all the innovation potential of the sector and the territories where it is developed. It aims to establish a collaborative ecosystem involving all stakeholders, from local inhabitants, public entities, private entities and visitors, allowing to create an enriching tourism experience, both in the "physical world" and in the "digital world".

In order to create a vision centered on the traveler and targeted at the tourism industry, Tourism 4.0 seeks to establish a concept of collaborative innovation in which all stakeholders collaborate with tourists. Tourism 4.0, which aims to use technology to promote a more positive social and economic environment, increase influence and collaboration amongst all players in the ecosystem, and make it possible to preserve present conditions while securing future conditions, is centered on sustainability. By fostering resource use that is more mindful and informed and by enabling the structuring of new physical and digital offerings, tourism 4.0 is dedicated to sustainability and digitalization.

Often known as the "post-digital era", tourism 4.0 unites the physical and digital worlds. This means that at this point, techniques like artificial intelligence (AI), big data, virtual reality, and cloud computing are part of the industry, along with an understanding of the notions of the collaborative economy and extensive usage of the internet and social networks. Utilizing these tools can help satisfy consumer demand, streamline operations, make the most efficient use of resources, and improve user experiences.

The world has changed and so has the Tourism customer. That is why this new understanding is so necessary and important, to know who you are dealing with and be assertive in your message. The main characteristic of the traveller nowadays is immediacy. This is because, with a mobile phone in hand and connected to the Internet, the customer is able to discover, explore, meet, compare, evaluate and simply share everything. The vast majority of people visit websites and surf the internet using smartphones. So, if the company does not offer a responsive portal to serve these customers, applications and other resources focused on mobile, it will be devoured by the competition.

Online reputation monitoring is another crucial trait of the contemporary traveler. Nowadays, it's quite simple to spread a positive or negative experience to thousands of individuals. Watch the reviews that are posted on Google My Business, TripAdvisor, and other social media sites and online travel agencies. Even if you disagree, try to respond to all of them and defend the negative ones because thousands of potential customers will observe and evaluate your attitude. As an illustration, consider Google Arts & Culture, which was founded in 2011 after the Google Art Project's predecessor, the Google Arts & Culture platform, was introduced. The mission of the Google Cultural Institute is to provide everyone with unique access to cultural heritage throughout the world (Pascoal, Tallone & Furtado, 2020).

For Portugal, the platform has a special page called "Wonders of Portugal", where it explores not only art and Museums but also the magnificent landscapes declared World Heritage Sites by UNESCO, such as the winegrowing Douro or the *Passeio das Virtudes* in the historic centre of Porto. Soon after ISCAP signed a protocol with Google, the Portuguese state announced in December 2017, that it had also signed a partnership with Google. In the first phase, the collections of seven national museums - Archaeology, Ancient Art, Contemporary Art - Chiado Museum, Costume, Theatre and Dance, Tiles and Coaches - would be made available online and integrated in a "fascinating cultural itinerary, which includes more than a thousand museums and monuments". By the end of 2018, the Portuguese state hoped that the platform would include all palaces, museums and national monuments (Pascoal, Tallone, & Furtado, 2020).

The field of arts can also receive a great differential with VR. Relief paintings, sculptures, virtual museums with details on the walls and ceiling, besides the artworks themselves, music with virtual instruments, among others, are some of the possible applications. This can give artists and the general public dimensions never before seen or felt, by eliminating or altering the restrictions of the real world or expanding the imagination.

The education area has much to gain from VR, both in conventional and distance education. Some applications include, virtual laboratories, remote meetings of students and teachers to have a class or some collective activity, participation in virtual events, consultation of virtual libraries, exceptional education, among others.

Entertainment applications have the advantage of reaching very high scales of consumption, enabling the launch of a series of products. It is the case of video games

that made viable the microprocessor chips and some low-cost VR peripherals. Among the several applications, besides three-dimensional video games with real time interaction, there are: virtual tourism, virtual cycling, virtual sports and virtual cinema.

2.2 Virtual Reality Speculation

According to the World Economic Forum (2017), estimated consumer spending on VR is anticipated to upsurge to 200 billion dollars by 2027. Another forecast of VR market size mentioned that it would be 209.2 billion dollars in 2022 (Statistica, 2020). The longevity of VR technology will generally increase its market share and undoubtedly develop its capacity to arouse our five senses in the future (Guttentag, 2010). Indeed, and as a mere curiosity, there are publications of experimental studies working with "e-noses and tongues" for odor and taste since the beginning of the year 2000 (Di Rosa, Leone, & Chiofalo, 2020; Cheng, *et al*., 2021)

VR technology is proposed for some natural destinations that are sensitive and fragile (Karadimitriou, 2020). For example, some areas are in danger because of the great number of tourists such as the Russian and Canadian Arctic, Greenland, Alaska, and the Himalayas (Huddart & Stott, 2020). These destinations can use VR tools to preserve and deliver their resources to future generations. In fact, according to Karadimitriou (2020), tourists have a chance to experience destination attractions by considering the environmental equilibrium.

Javaid *et al.* (2020) have discussed how VR enables people to come together without the need to travel and gives them the opportunity to help stop COVID-19. It also has benefits such as reduced trip costs for individuals, improved efficiency and performance of some businesses, and reduced effects of absenteeism or negative environmental impacts among destinations. Furthermore, the attractions shared via VR may impact the decision-making of tourists and help promote the destination itself, thus increasing its popularity (Morosan & Bowen, 2018).

The growing adoption of mobile contactless technologies, resulting from pandemic restrictions on social distancing, has become a global trend. This has enabled businesses to continue to engage with and serve customers. In addition, with the majority of people working from home, there has been an increased need to use cloud-based systems to enable remote working. This was reflected in increased investment in automation to optimise efficiency across all aspects of the business.

As in Europe and the rest of the world, the tourism sector in Portugal faced similar challenges with the need for social distancing, responding to new health and hygiene procedures, while also having to cope with a decrease in the tourism sector, as the volume of travel was conditioned and compromised. During the course of the pandemic, most of the hotel industry in Portugal remained open, albeit without expressive Government support, when compared to European Union countries.

2.2.1 Expectations for 2022

According to IDC (International data corporation), sales in VR hardware would increase by 46.9% between 2022-2026 due to the introduction of new brands and stronger business segment adherence. IDC predicted 50 million virtual and augmented reality glasses will be marketed, with an average yearly growth rate of 35% (Llamas, 2022). Analyst M. Thomas (2019) noted however that augmented reality gadgets only make up a small portion of the industry, and that sales may also be concentrated in the enterprise.

In terms of consumer use, augmented and virtual reality is primarily found on smartphones and tablets, and will continue to be so in the near future. The metaverse is generating interest and investment in augmented reality, virtual reality, and other related technologies.

In truth, virtual reality is a fast-evolving technology with a wide range of applications. Virtual reality now will seem significantly different than it will in the future, due to daily technology developments and investments. For example, virtual reality, when it first emerged with Ivan Sutherland's headset with the launch of VR arcade games in the 1990s is different from today's standalone headsets, which already allow users to submerge themself in other worlds, both with friends and strangers. Thus, we do not know exactly what virtual reality will look like at the peak of its life cycle, but we now know the possibilities it could offer. It is expected that this technology will be used in other sectors as well, such as military training, education, and medical assessments. Of course, not everyone who uses VR may be enthralled by the experience, so we cannot expect this technology to engulf everyone's lives when the time comes. However, based on current trends, we can expect VR to become a truly mainstream device, similar to the Xbox or Playstation series of videogame consoles.

(Aslop, 2022; Llama, 2022), reports indicate that the market for virtual reality is expected to increase (Graph 1). In addition, approximately one in every five USA customers has tried virtual reality, with 55 percent indicating they enjoyed it in 2020.Based on these statistics, we can predict that these numbers will only continue to rise as the technology improves, becomes more efficient and more affordable every year (Graph 2).
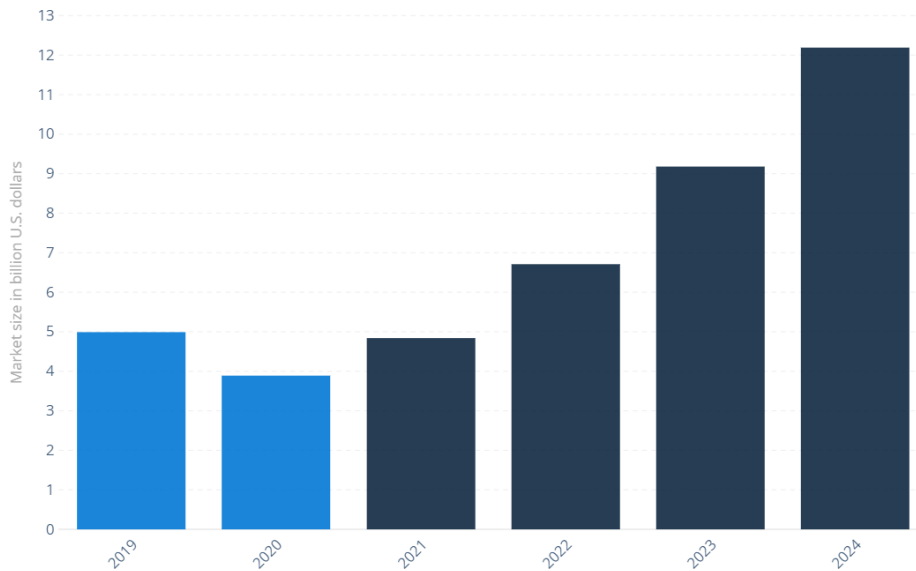
Graph 1.VR market size worldwide in 2019 and 2020, with forecasts up until 2024. (Source: Statista)
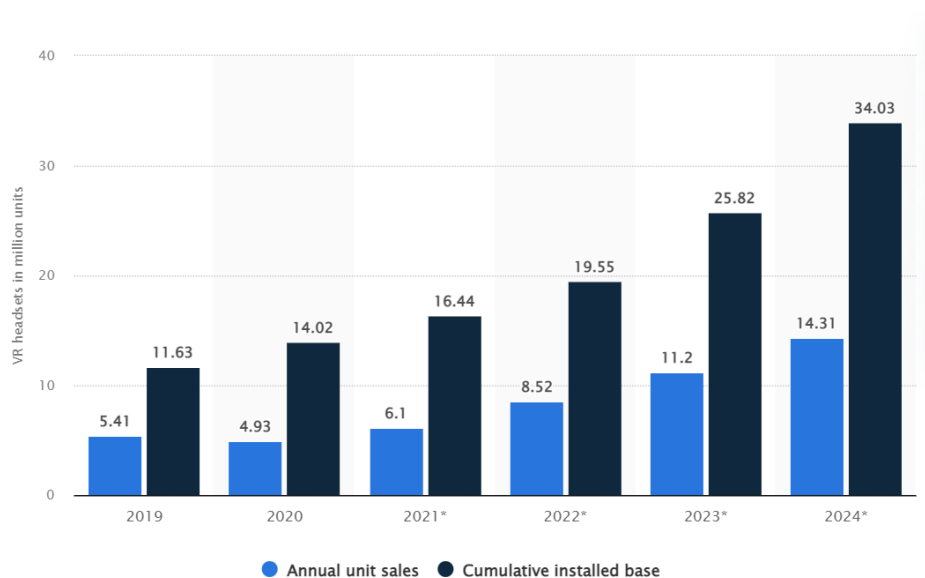
Graph 2. Virtual reality (VR) headset unit sales worldwide from 2019 to 2024 (in million units) (Source: Statista)

2.2.1.1   Consumer VR market revenue

The consumer virtual reality market, which can be divided into hardware and software segments, is forecast to reach 2.6 billion U.S. dollars in size the next years, and set to grow further in the following years, rising to beyond five billion U.S. dollars by 2023 (Alsop, 2022). Alsop's report on Consumer Virtual reality presents various other statistics, which enable us to perceive VR's evolution and future tendency. We will list some of this information as we believe it is relevant to justify the investment in the project presented in chapter 3.

Virtual Reality Statistics:

- 78% of Americans are familiar with VR technology.

- Global VR video gaming revenues reached $22.9 billion in 2020.

- There are more than 171 million VR users worldwide.

- Demand for standalone VR devices have grown over 16 times between 2018 and 2022.

- 70% of VR headset-owning consumers have bought a game on it.

- 14 million AR and VR devices were sold in 2019.

- Sony has sold more than 5 million PlayStation VR units.

- The virtual reality market was valued at $15.81 billion in 2020 and is expected to grow at a rate of 18%.

- VR is expected to become mainstream in the next 3-4 years.

Market reports on VR reveal that VR is becoming one of the most lucrative technological branches. Games such as Oculus Quest 2 have helped VR global sales. Analysts estimate there are more than 5 million Oculus Quest 2 headsets which generated $732 million for Meta.

Video games have been the biggest reason for purchasing a VR headset. Although its entry point is significantly more expensive than consoles for the average consumer, VR statistics confirm that the VR gaming industry is steadily growing. In fact, with so many

VR businesses attempting to make it more accessible, analysts believe it might become the next smartphone in terms of adoption, that is to say, more than 80% of manufacturers predict that virtual reality will become widespread in the near future, with an estimate of 26 million headsets sold per year by 2023.

PlayStation, for example, sold 5 million VR headsets in 2019, making it one of the most popular choices for VR gaming. With the launch of PSVR 2, the number of PlayStation gamers who own a VR headset is expected to rise.

More VR users mean more apps and games sold, too. Analysis of the data found in Alsop's report (2022) reveals that VR's greatest potential is still in gaming, while 52% of responses cited TV and movies, 42% for watching sports, while 38% of responses said it's best employed for social media. VR was found to be most popular among people aged 25 to 34.

Nonetheless, while the technology exists and is widely available, it is still too expensive and unusual for the typical customer. Despite this, millions of Americans have already experienced virtual reality, whether at home, at parties, or at VR arcades. While a VR headset may not be as common in people's homes as a laptop or a TV set, the number of VR users is growing every year. Virtual reality statistics, calculated from the number of units shipped, reveal that the number of people interacting with VR is nearing 200 million.

When it comes to understanding how to make money with VR content, most organizations sell products (headsets, for example) or a subscription. This includes hardware as well as virtual reality content such as games, apps, and subscription. However, a significant number of organizations have started selling virtual events such as concerts. The latter has seen a significant increase in the last two years, owing perhaps to the pandemic situation lived worldwide, and to the emergence of virtual reality experiences and apps that enable event planning in virtual reality, for example, and even "virtual tourism".

2.3   Virtual Reality in Tourism

Virtual reality is, as stated in section 2.2, already in use in the area of tourism and its marketing to improve the travel experience and possible affect travel consumer behavior in the tourism business (Beck & Egger, 2019). For example, using VR potential customers can get a feel for the environment of the venue they are about to book. On the other hand,

virtual reality in tourism may also lead to virtual "travels", thus minimizing costs, providing limitless accessibility and eliminating negative environmental impacts and social-cultural exclusion (Marasco & Balbi, 2019). Indeed, access to an internet connection is often enough to travel around the world and to share personal experiences.

Virtual reality's mainstreaming has an impact on how businesses operate. It provides a persuasive case for how clients choose a particular destination before making a booking. It is quite vivid and may display what is most visually appealing. Furthermore, personal perception of relevance, or involvement (Celsi and Olson, 1988) is decisive to capture and maintain consumer attentiveness. Thus, VR in tourism marketing, has a bigger scale effect on consumer decisions (Barnes, 2016).

Another perspective on this issue may be the worldwide pandemic situation in 2020-2021 that inevitably pushed a number of industries, including tourism, to make significant investments in cutting-edge technology, such as virtual tours. Virtual tours not only played a crucial part in preventing the suspension of travel-related activities during the pandemic, but they may also have a significant impact on the industry's ability to recover after the epidemic (Lu *et al.,* 2022).

VR in tourism is becoming not only an instrument for generating profit, but in the context of virtual tours, it has also been used to promote and exchange cultural experiences and, more recently, to help those in need, that is to say, solidarity tourism (Nautiyal and Polus, 2022) .

2.3.1 Virtual Tours as Solidarity Tourism

Virtual Tours have, for some time, been used for planning and management, marketing, entertainment, education, accessibility, and heritage preservation by the tourism industry (Guttentag, 2010; Yung & Khoo-Lattimore, 2019). According to Guttentag (2010), accessibility is likely the most important benefit of virtual tours when an in-person visit is either impossible or preferable avoided because of atrocities, catastrophes, instability, or perceived insecurity, such was the case of the recent pandemic situation. For example, because of COVID-19, many museums have made their exhibits virtually accessible to anyone (Gretzel *et al.,* 2020).

However, virtual tours are now perceived as a new method for promoting humanitarian initiatives, as through virtual tours, people can collaborate with tourism organizations to support those in need and revive the sector after disasters.

V-Portugal is a project proposal based on social responsibility actions, by giving the elderly and other people with reduced mobility the opportunity to travel virtually. Additionally, it integrates VR headsets as the tool to enable vivid and immersive travel experiences.

3   V-Portugal: a project proposal

V-Portugal is a project proposal that is based on the creation of a virtual reality application focused on tourism, as well as the Portuguese culture and its international promotion. It is aimed at people who want to travel and sightsee Portugal, such as observing the beaches, forests, and other points of interest (cultural or not) from all over Portugal.

V-Portugal is a product and a service. The product is an app that works through the use of virtual reality headsets, which allow the user to enjoy the experience selected. The services are in the multiple possibilities that V-Portugal may offer possible clients available in the app.

Considering that this is a concept focused on promoting Portugal and that it allies tourism and technology, it increases the chances of great success and profitability, because it meets a need in this market segment (see chapter 2). It follows the current technological trends because the product that is associated to the service is the virtual reality glasses, a market that is on the rise and still has much to explore. In developing this project, we must consider that this technology market is the largest globally, which is in line with the product we offer.

The relevance of this project work, within the scope of my master's degree, is on the fact that it merges two aspects: business and the promotion of interculturality. More specifically, the valences of V-Portugal are notorious. It promotes a generational culture, as it allows a closer contact and interaction between different age groups and their idiosyncrasies, in a sharing dynamic system.

V-Portugal creates and aggregates a community whose objective is well defined: sharing content, share the beauty and the landscapes, the ethnographic and cultural diversity of Portugal, among others, without forgetting one of its basic purposes, that of creating loyalty among the senior public for whom it was also created, allowing them to travel virtually, despite their physical limitations.

Finally, it is important to include internationalization, fundamental for the projection of V-Portugal and also ensured by it. The possibility of selecting several languages gives this application a significant added value that will certainly ensure its growth and prosperity in the future.

3.1 V-Portugal

3.1.1 First phase: moving towards something new

This project had its genesis in the idea "2nd chance", with which I competed in the EDP Challenge, still as a university student in Marketing Management at IPAM. The "2nd chance" proposal associated financial profitability, guaranteed by virtual tourism, with social responsibility, translated by the idea's commitment to a very special market segment, such as people with reduced mobility, often confined to institutions, such as homes, without any leisure and entertainment prospects. The project that was focused on giving people with reduced mobility the opportunity to travel and fulfil their dreams and, at the same time, follow a trend, namely the growth of virtual reality.

For this project, market studies were made to validate the idea. These included the use of virtual reality glasses, the growth of this market, as well as the number of elderly and people with reduced mobility in Portugal. The project also considered a market analysis, mentioned in chapter 2, until 2024, ensuring that the project is in line with market trends.

During my master's degree in Intercultural Studies for Business, I realized that this concept could be applied to the promotion of interculturality allied to tourism, and so *V-Portugal* was developed.

One of the most important factors for the creation of V-Portugal is based on people's desires; the desire they have to visit certain destinations. The app, accompanied by virtual glasses, give the person the possibility to have an immersive experience, very close to reality.

With this application, people have the possibility to choose what they want to see, from cities of Portugal to the most beautiful landscapes of the country, to an experience, thus being able to fulfil the dream of "visiting" places that have never visited. This is one of the biggest purposes of the application: to make its users happy and fulfilled, however, the use of this application is not based solely on the will of the people. The user, depending on the destinations that the application provides, can choose them out of curiosity, desire or simply taste. Above all, it is a way of attracting tourism to Portugal and at the same time promoting areas of the country in an international context, making our culture known. It may also be a way of attracting investment to Portugal.

It is an idea that is unique and different and, for these reasons, we believe that this project has everything to be successful.

Table 1 shows the differences between the *Second Chance* and *V-Portugal*. It is possible to understand what was added and used from one idea to another, in order to adapt to the new context.

DIFFERENCES AND SIMILARITIES	
SECOND CHANCE	**V- PORTUGAL**
Virtual reality app	Virtual reality app
Works through virtual reality glasses	Works through virtual reality glasses
Focused on Portugal	Focused on Portugal
Only sells one service	Sells product and service
National context	National and international context
Only focused on the elderly and population with reduced mobility.	The service is focused on elderly people and people with reduced mobility. The product is aimed at the general public, with a greater focus on young people, able to share their personal user experience.
Content created by specialised teams	Content created by specialist teams, as well as crowsourcing.
Focused on social responsibility	Focused on social responsibility, tourism, entertainment; promotion of Portuguese culture and involving generational cultures.
B2C	B2C and B2B

Table 1 Differences and Similarities between Second Chance and V-Portugal

3.1.2 The company

I will address the first steps when creating a company, as well as the type of company that V-Portugal would be, if eventually the project were to exist. For this, it is necessary to carry out an internal and external analysis in order to understand how the company can be set up and speculate on its success in the market.

3.1.3 Internal Analysis

Vision: To be recognised as an innovative company, with the vision of giving people a happy and joyful time and, at the same time, making Portugal known.

Mission: To develop software applied to virtual glasses, giving people the possibility to get an experience that is very close to reality, so that in this way, the user can experience various destinations in order to arouse interest in visiting Portugal or simply to virtually visit the place.

***Values*: Dedication,** always seeking to solve customers' problems. Employees should be active and available to meet customer needs.

Factors of Innovation/Differentiation: Use of software, applied to glasses, that enable a virtual journey, with the objective of fulfilling wishes and getting to know part of the Portuguese culture.

3.2   Analysis of the environment

PEST analysis is an analytical model that facilitates understanding about the external factors that can impact a company's operation and is widely used for business expansion. It is an analytical model whose main function is to provide a more macro vision of the company. The idea is based on the understanding that external factors, such as the country's political and economic situation, cause significant impacts on the company's operations. The execution of a PEST matrix can be fundamental for the future of the enterprise. The simplicity of the tool and the knowledge it enables make it a frequent request in market research.

Since it provides a complete mapping of external factors, the PEST matrix is an excellent ally in the search for new opportunities. By visualizing the company in a more macro-level scenario, managers can identify unexplored paths or markets with good growth possibilities. The interesting thing is that the effectiveness of the analysis is not diminished according to the sector in which it is implemented. This is because, due to the model covering several factors, it is possible to give more or less weight to certain elements. We identify the environment in which the company will operate, as well as the risks. I have highlighted, in figure 1, the environments as the main elements that may affect our company or the sector where it operates.

Figure 1 Pest Analysis

3.2.1 Economic Environment

Addressing the economic environment in relation to our service or product, it is here that we must pay attention to the economic climate of a country, as it is one of the major factors that influence the activity and success of a company. The financial state of the country can lead to the company having or not a higher rate of profit and can also influence the purchase of our product.

In our specific case and approaching our target country (Portugal), the financial situation is not the most stable, however, as it is a technological product with the ambition of internationalization, the market is bigger as well as the number of opportunities and its target audience.

The Portuguese economy maintains a growth profile in 2022-24, in a context of increased uncertainty associated to the conflict in Ukraine. Gross Domestic Product (GDP) grows 4.9% in 2022, 2.9% in 2023 and 2.0% in 2024, benefiting from greater inflows of funds from the European Union and the maintenance of favourable financial conditions. Inflation may increase to 4.0%, reflecting the rise in the price of raw materials and constraints in global supply chains, and falls to 1.6% in 2023 and 2024. If this forecast is confirmed, this represents a maintenance of the growth rate of 4.9% (Table 2).

Quadro I.1.1 • Projeções do Banco de Portugal: 2022-2024 | Taxa de variação anual em percentagem (excepto onde indicado)

	Pesos 2021	BE março 2022				BE dezembro 2021			
		2021	2022 (p)	2023 (p)	2024 (p)	2021 (p)	2022 (p)	2023 (p)	2024 (p)
Produto interno bruto (PIB)	100,0	4,9	4,9	2,9	2,0	4,8	5,8	3,1	2,0
Consumo privado	64,2	4,4	3,6	1,9	1,6	5,0	4,8	2,2	1,8
Consumo público	19,2	5,0	1,5	-1,5	-0,1	4,8	1,4	-1,3	-0,1
Formação bruta de capital fixo	19,7	6,1	9,2	6,0	3,9	4,9	7,2	6,6	3,9
Procura interna	103,0	5,0	4,3	2,1	1,8	5,1	4,6	2,4	1,9
Exportações	42,0	13,0	14,2	7,5	3,8	9,6	12,7	7,8	3,9
Importações	45,0	12,8	12,3	5,5	3,3	10,3	9,3	6,2	3,6
Contributo para o crescimento do PIB, líquido de importações (em pp) [a]									
Procura interna		2,5	1,6	1,0	1,0	3,1	2,6	1,2	1,1
Exportações de bens		0,9	-0,3	0,5	0,4	1,1	0,2	0,6	0,4
Exportações de serviços		1,5	3,5	1,4	0,7	0,6	3,0	1,2	0,6
Emprego (número de indivíduos) [b]		2,1	1,4	0,6	0,4	2,5	1,6	0,5	0,3
Emprego (horas trabalhadas) [b]		5,0	5,1	2,2	0,4	8,3	4,0	0,6	0,3
Taxa de desemprego [c]		6,6	5,9	5,7	5,6	6,6	6,0	5,7	5,6
Balança corrente e de capital (% PIB)		0,7	-0,4	1,8	0,7	0,2	1,8	2,6	1,8
Balança de bens e serviços (% PIB)		-2,6	-4,1	-2,7	-2,1	-3,0	-2,1	-1,2	-1,0
Índice harmonizado de preços no consumidor		0,9	4,0	1,6	1,6	0,9	1,8	1,1	1,3
Bens energéticos		7,5	14,2	-2,1	-1,8	7,8	6,3	-1,3	-0,8
Excluindo bens energéticos		0,4	3,1	1,9	2,0	0,4	1,3	1,4	1,5

Table 2 Bank of Portugal Projections for 2022-2024

3.2.2 Technological environment

When it comes to high technologies, Portugal is considered a very developed country, a large part of the population has smartphones, has access to the internet, computers and many new high technologies that have been emerging.

Portugal is a technologically developed country, but nevertheless does not invest properly in this area. The average investment in Europe is around 64% while in Portugal the investment only reaches 22%, thus observing a very high margin. This way, investment in applications that can be used in services that help people is an excellent way of promoting the country technologically. Last year, 24% of companies increased

investment allocated to information and communication technologies (ICT) due to the pandemic context. The data is revealed this Monday by the National Statistics Institute (INE), in a survey on ICT use in companies.

The virtual and augmented reality market may have reached the tipping point it has been looking for some time, returning to sales volumes the industry has not seen in over six years. In 2021, sales of AR/VR glasses almost doubled and are expected to remain strong in the coming years. According to data from consultancy IDC, 11.2 million virtual and augmented reality glasses were sold last year, which means a 92.1% increase when compared to the previous year.

The big growth was largely due to strong demand for Meta's Oculus Quest 2 (chapter 2). IDC also noted that about half of the total volume of devices were sold in the last quarter of the year, mirroring a robustness of the segment during the Christmas season. "Meta has led the AR/VR industry by offering an affordable device and moving beyond the video game audience, attracting interest from non-gaming consumers as well as enterprises," explained Jitesh Ubrani, analyst at IDC (2022).

3.2.3 Socio-Cultural Environment

Currently, the use of applications in mobile phones is widespread, which facilitates the implementation of our product. Considering that our product/service involves an application that is directed at the older population and/or those with motor limitations may be an attraction factor.

Associating the application to tourism in Portugal, the pandemic interrupted the strong growth trend that was being observed in the tourism sector in Portugal. There were significant falls (>60%) in the number of guests, overnight stays, trips, occupancy of beds in tourist establishments and in revenue.

The pandemic also came to transform the preferences of tourists more isolated spaces, with greater social remoteness or far from major centres had a significant emergence in recent months. Proof of this is the good performance of Tourism in rural and residential areas.

Recent studies point to the possibility that some changes in travellers' habits and preferences may be more lasting. This, together with the period of labour shortages,

inflationary pressures and geopolitical tensions, could moderate the recovery of the sector, Costa, C. (2021, p. 31)

3.2.4 Political Environment

As far as the political environment is concerned, there are no restrictions to the development of this project in Portugal, as it is a country open to technology and with great investment in the tourim sector.

3.3   SWOT Analysis

Swot analysis is a strategic planning tool used in project management to analyse scenarios and support decision-making. It is usually used by companies before implementing any project with an impact on the business. The analysis provides a complete diagnosis of the situation of the company itself and the environments that surround it, in a way that helps risks and take advantage of opportunities. The SWOT analysis has already gone through several reformulations to adapt it to the needs of each project (figure 2). The method has become very popular, as it is simple and quick to apply and brings effective results for planning.
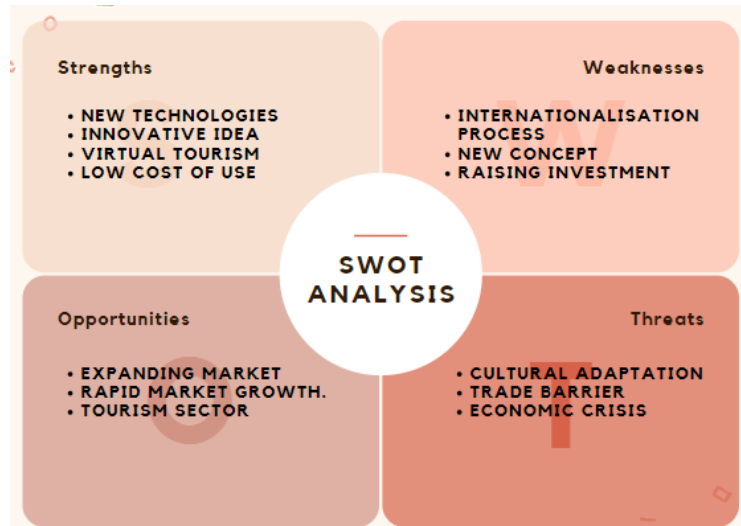
Figure 2 SWOT Analysis

3.4 Company Information

3.4.1 Name / corporate name

V-Portugal - I chose this name because it is an expression alluding to the branch of activity in which we are going to operate, V-Portugal, in English "see Portugal".

3.4.2 Logo and Layout

The logo should be allusive to Portugal and tourism, an image that can reflect both and virtual reality technology (figures 3 and 4).

Figure 4 VR Headset   *Figure 3 Portuguese Flag*

Here a possible idea for the logo is presented as well as the layout of the mobile application (figure 5):

Figure 5 Possible Logo

As far as the layout of the application is concerned, it should be practical, simple and appealing and available in several languages (figures 6 and 7).
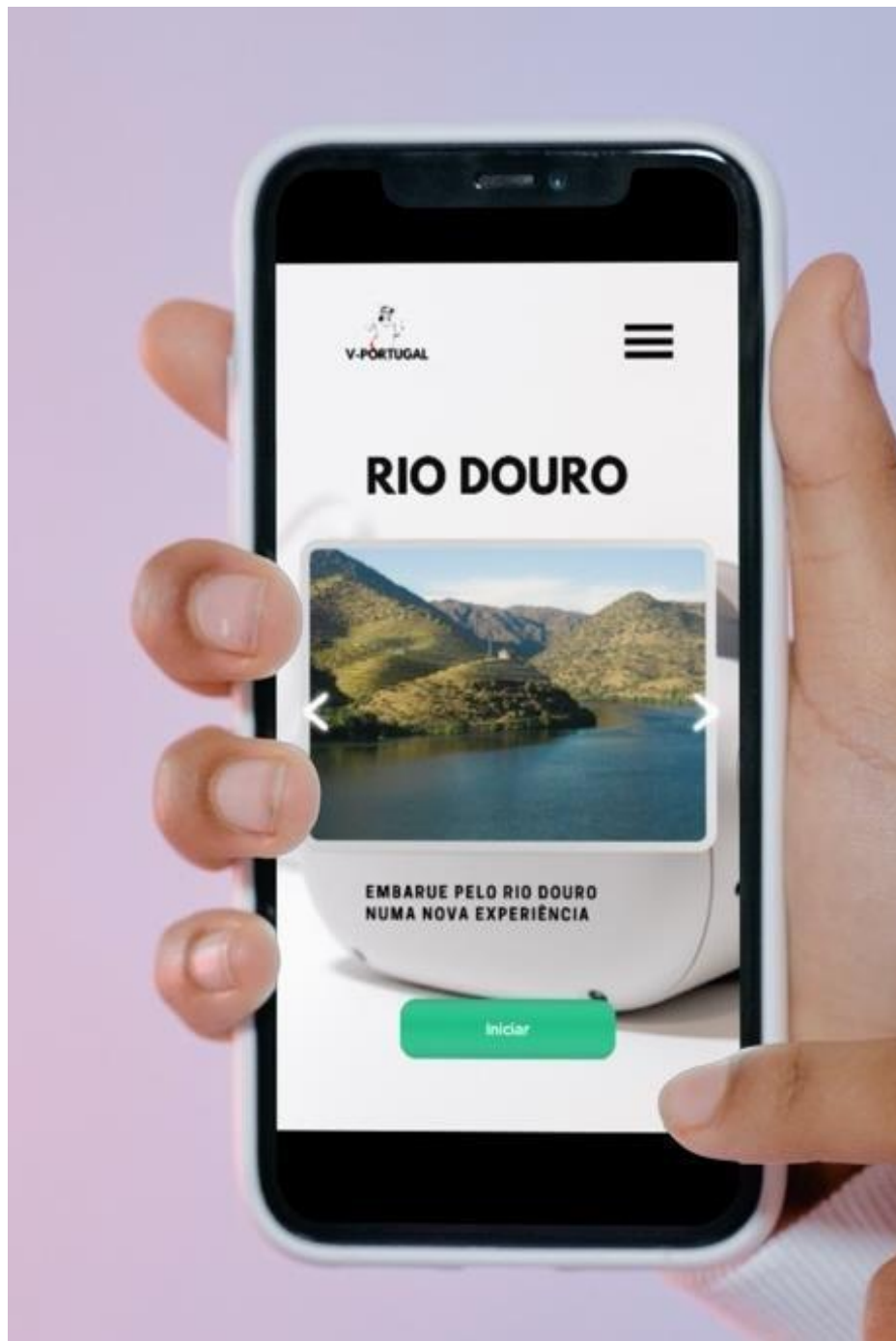

Figure 6 Layout

Figure 7 Language options

3.4.3 Economic Activity Code (C.A.E)

The classification of economic activities (C.A.E) is a classification system, so each economic and business activity is assigned one or more specific classification codes. At the level of economic activities, the CAE code allows:

    a. To register companies and similar entities upon their incorporation.

    b. Promote the licensing of economic activities.

    c. To support the Government's policies of incentives to economic activities.

V-Portugal is presented within Economic Activity Code 62030, with the National Classification of Goods and Services.

- Level: 1
- Section: J- Information and Communication Activities
- Division 62: Computer programming, consultancy and related activities
- Group: 620
- Class: 6203
- Subclass: 62030
- Designations: Computer hardware management and operation

Version: V00554 - Portuguese classification of economic activities, revision 3 (CAE REV.3)

3.4.4 Legal Form

One of the steps in the creation of our business is the legal situation of the company. After analysing all the types of companies that could be set up in Portugal, we selected the private limited company, because it seemed to us that it could guarantee the success of our business. I considered the strengths of V-Portugal, Lda, the assets, the type of responsibility, capital and investments needed and the number of partners.

Company: V-Portugal, Limitada	
Legal Nature: Private limited company	
Head Office: Porto	
District: Porto	
Municipality: Porto	
Parish: Porto	
Social Objective: To design and build software for virtual-reality glasses and to market it.	
Share Capital: To be defined.	
Members and Quotas: To be defined	

3.5   The App

The concept of V-Portugal consists in the download and use of an application. It is directed to a wide target audience, from the youngest to the oldest, however, due to the app's characteristics, it should have more adhesion amongst the youngest population due to the crowdsourcing possibility. Thus, the product is intended for all types of customers, whether for personal or commercial use. Companies in different sectors can, for example, create an account in order to promote their area. Personal users can take advantage of the functionality of the application to create content.

Details:

- The layout of the application should be simple, practical and appealing.

- The V-Portugal app would be made available on two different distribution channels, namely the App Store and the Play Store.

- The application download will be free and accompanied by a 60 seconds demonstration video.

- The video would consist in explaining the use of the application, it would be recorded in virtual reality and would contain a person demonstrating the use of the application, later containing teasers of the 7 selected destinations.

- The application aims to promote tourism in Portugal and capture foreign interest.

- The videos submitted to the platform would go through a selection phase, where they would be filtered in order to meet the requirements that were previously implemented, in order to ensure the quality and good content of the videos.

- Focused on companies in the tourism/restaurant sector (hotels, museums, restaurants, points of interest, localities such as cities, towns etc...)

- The type of account can be personal or corporate. Both can share videos as long as they meet the quality and content requirements imposed by the app.

After downloading:

- The consumer after downloading the application and after viewing the 60 seconds demo that will explain the concept of the application and how to use it, will have to create a user account*.

- In a more advanced stage, the user will have the option to upload videos on the platform.

- The videos submitted on the platform would then go through a selection phase, where they would be filtered to meet the requirements that were previously implemented, to ensure the quality and good content of them.

*It will aim to define a Crowdsourcing strategy, to obtain videos. Aiming to involve the Community with the application, in order to encourage the different types of users (younger and older) to provide videos, this way the application would tend to expand its dimension.

Destinations:

Regarding the destinations, the choice of the same was intended to present the type of video that seeks to share and at the same time promote and share Portugal nationally and internationally, at this stage it was planned to display 7 videos from different emblematic areas of the country, such as:

- Parque Nacional Peneda Gerês (figure 8)

- Serra da Arrábida

- Douro Internacional

- Lagoa das Sete Cidades

- Alqueva

- Alentejo

- Douro Vinhateiro (figure 9)

Figure 9 Parque nacional Peneda, Gerês

Figure 8 Douro Vinhateiro

User experience:

From the user's point of view, the valences of V-Portugal are significant. Besides being able to share content, in the form of videos, enriching the aggregated community, it ends up triggering, in a natural and spontaneous way, a chain of new shares and thus promoting the connection of generations in a contrasting perspective (young/old culture) around a common landmark - Portugal.

3.5.1 Social Responsibility

More than ever before, the concept of corporate social responsibility is gaining ground worldwide. The way that businesses treat their clients and employees, as well as their lack of care for how their operations affect the environment and the natural world in general, have all contributed to the development of this interest (López *et al.,* 2015). Apart from advancing the economy, corporate social responsibility also includes a moral and ethical obligation to people and the environment. Social responsibility refers to the fulfilment of the duties and obligations of individuals and companies towards society in general.

As explained, the service is taken from the *Second Chance* project of a social responsibility nature, and it is aimed at the elderly population and those with reduced mobility, giving them the possibility to travel without having to move around. The service is provided by a specialised team that will go to hospitals, homes and nursing homes to provide the best possible experience according to the customer's needs.

Considering that this service/concept is new and that the public to which it is directed is people with reduced mobility, it increases the probabilities of great success and profitability, as it meets a need in this market segment. This original service follows the current technological trends because the product that is associated to the service is the virtual reality glasses, a market that is on the rise and still has much to explore.

Internal information sources reveal that patients who are restricted to a bed, not only for lack of mobility, but also due to terminal illnesses, which prevent them from moving around, reveal desires and last wishes and we intend to be an option with the purpose of satisfying those same needs.

With this application, people have the possibility to choose what they want to see, from cities in several continents, to the most beautiful landscapes in the world, to an experience, thus being able to fulfil dreams of "visiting" places that until now were considered

unreachable. This is one of the biggest purposes of the application, having as main objective to make its users happy and fulfilled, however, the use of this application is not based solely on the will of the people.

The user, depending on the destinations that the application provides, can choose them out of curiosity, desire or simply taste. Thus, another of the primary objectives of the application is to please the user as much as possible. When creating this application, we always considered the people to whom it is aimed at, people with reduced mobility. These are elderly people or people with limited mobility who are in nursing homes or other facilities, which are not allowed to use this precious asset and that we want to give them. These are the very people who sometimes think that life has nothing good left to offer.

3.6   Investment Sources

Substantial capital is required for the development of a software application. Creating a quality app always requires a high investment, which is often beyond anyone's reach, so external investment is required. This can be done through investment programs, incubators, angel investors, venture capital, among others.

Angel investor:

An angel investor (also known as a private investor, seed investor or angel funder) is a high-net-worth individual who provides financial backing for small startups or entrepreneurs, typically in exchange for ownership equity in the company. Often, angel investors are found among an entrepreneur's family and friends.

Venture capital:

Venture capital (VC) is a form of private equity and a type of financing that investors provide to startup companies and small businesses that are believed to have long-term growth potential. Venture capital generally comes from well-off investors, investment banks, and any other financial institutions.

Incubators:

A business incubator is a company that helps new and startup companies to develop by providing services such as management training or office space. The National Business Incubation Association (NBIA) defines business incubators as a catalyst tool for either regional or national economic development.

3.6.1 Investment Programmes in Portugal

There are several investment programmes in Portugal which could support the creation of V-Portugal. The programmes are the following:

Startup Voucher:

Support for the development of projects at the idea stage. It provides various technical and financial tools for the creation of new innovative companies by entrepreneurs aged between 18 and 35.

Momentum Programme:

Support for recent university graduates and finalists who have benefited from social action grants during their studies and who, at the end of their studies, wanted to develop a business idea.

Incubation Voucher:

Support for companies with less than one year in the area of entrepreneurship, through the contracting of incubation services provided by certified incubators. Support includes management services, marketing, legal advice and support, digitalisation support, intellectual property protection and support for applications to entrepreneurship and innovation competitions.

Pitch Voucher:

The Pitch Voucher promotes the strengthening of the relationship between startups and large companies. Through the Startup Centre platform, companies can launch technological challenges and startups can respond with innovative solutions.

Training for Entrepreneurs:

Courses aimed at entrepreneurs and their teams, co-financed at 90% through COMPETE funds. This measure allows to increase the training offer of the incubators and to respond to the needs identified by the entrepreneurs, enabling them to develop the business in a startup.

InovGov:

Bring startups closer to the public sector, promote their services and products to public managers and disseminate to startups how to access and compete for public tenders in different business areas.

Open Kitchen Labs:

Making the facilities and equipment of the network of 12 Tourism Schools across the country available to startups that want to test and experiment with products, services and concepts in the restaurant industry.

InovCommerce:

Launch of competitions for the presentation of entrepreneurial projects in the area of commerce, which contribute to stimulate innovation in the sector.

Energy Challenge:

Funding of technology-based start-ups to develop innovative ideas and projects in the area of energy, which help solve existing challenges and have strong market and internationalization potential.

There are several investment programs that help the development of startups, which are also based on the technological market. As this is an idea that intends to make Portugal more dynamic in terms of tourism, attracting foreigners and making the Portuguese culture known in an international context, the integration of this project in this type of programme.

3.7 Project Validity

3.7.1 Survey

To strengthen the rationale for the idea and to understand how people would accept this product, and to know the market, a survey was conducted using the Survey Monkey platform with a sample of 100 people, the vast majority university students in the Porto area, and it was found that there was an opportunity for this product.

A survey is a set of organized, predetermined questions that are asked of a sample of the population in order to enable statistical analysis and population generalization by the researcher (Pinsonneault & Kraemer, 1993). Because it makes it feasible to gather enormous amounts of uniform and comparable data in an efficient manner, one of this

instrument's original uses was to analyze a social problem. It is therefore regarded as the most useful and viable tool for this research (Saunders, Lewis, Thornhill & Bristow, 2021; Groves, Jr., Couper, Lepkowski, Singer & Tourangeau, 2009).

The aim of ou questionnaire was to understand whether people are familiar with virtual reality technology, as well as whether they would be interested in virtual travel.

The questionnaire was made up of 3 questions (table 3), directly related to the project, involving the virtual reality technology as well as the concept of the project. Since this concept applies to a general target audience, I chose not to include demographic factors of the respondents

Specific objectives	Question/items
Knowledge of virtual reality glasses	1. Are you familiar with virtual reality glasses?
If the idea is interesting enough to share/offer a virtual journey.	2. Would you be willing to pay for a virtual trip for your relative?
Interest in the project concept	3. If you were given a virtual tour to visit a place that you would not otherwise have access to, would you like it?

Table 3 Survey Questions

3.6.2 Results and discussion

Sample

For this questionnaire the sample was small, with only 100 responses, all of which were valid. The questionnaire was carried out within the *Second Chance* project, but it applies to the V-Portugal project since it derived from there. As stated previously, it was done using an online application, and the respondents were between 20 and 35 years old.

The most pertinent questions were about the idea.

Questions

1º Are you familiar with virtual reality glasses?

Conhece os óculos de realidade virtual?

Respondidas: 100   Ignoradas: 0

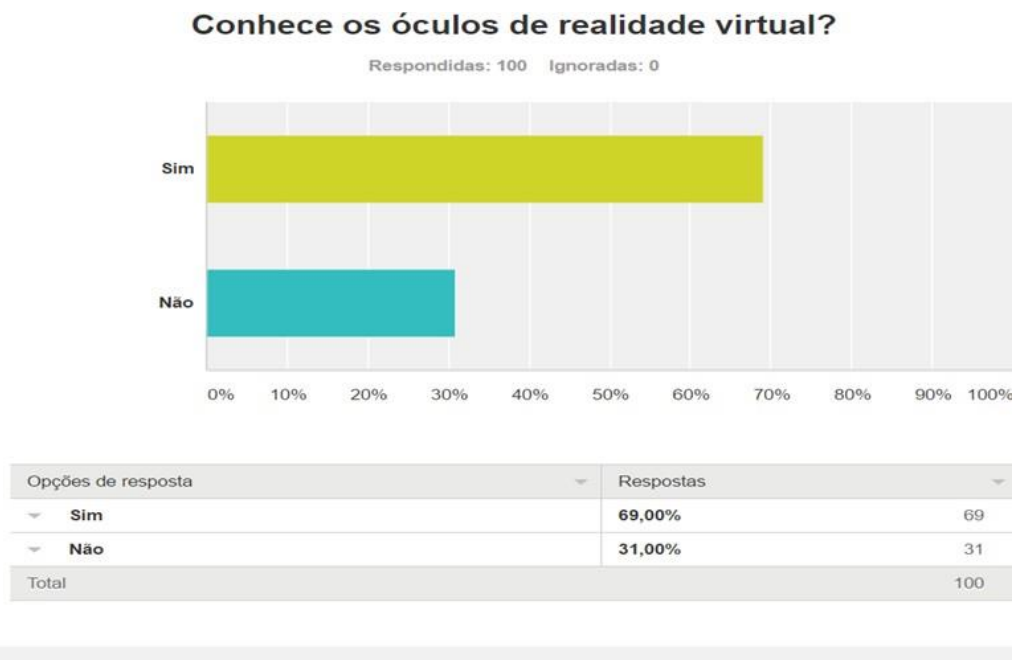| Opções de resposta	Respostas	
Sim	69,00%	69
Não	31,00%	31
Total		100

Figure 10 Question 1

The first question (figure 10) aims to understand if people know about virtual reality glasses.

The answers were surprisingly negative since a considerable number of people answered that they didn't know. Perhaps they are referring to the use of the glasses and not the glasses themselves, but that is not possible to know.

- 69% of the respondents answered that they knew while 31% answered that they did not know, since the sample is 100 respondents, in numbers, it translates into 69 "yes" and 31 "no" answers.

2º Would you be willing to pay for a virtual trip for your relative?

Estaria disposto/a a pagar uma viagem
virtual ao seu familiar?

Respondidas: 90   Ignoradas: 10

Figure 11 Question 2

This question (figure 11) is asked in order to understand if the respondents are interested in the idea of the project to the point of offering it to a relative, I chose a relative since they are close people. The answers were positive as the vast majority answered yes, which proves that the idea arouses the respondents' interest and curiosity.

- Of the 90 responses obtained, 74 answered "yes" against 16 answered "no". Percentage represents 82.22% "yes" and 17.78% "no", 10 people ignored the question, representing 10% of the total respondents.

3º If you were given a virtual tour to visit a place that you would not otherwise have access to, would you like it?

Se lhe facilitassem uma visita virtual, para visitar um lugar que de outra forma não teria acesso, gostava?

Figure 12 Question 3

The third question (figure 12) aims to understand if people would travel virtually if they had the opportunity and means to do so, since the V-Portugal application aims to fill/create that need. The answers were very positive, which reveals the innovation and quality of the project.

- Of the 100 responses obtained, 95 respondents answered "yes" and 5 "no", representing 95% "yes" and 5% "no".

Conclusion

Despite the small sample size, as well as the number of questions, I believe the results can be relevant. Most participants are familiar with virtual reality technology and would be interested in virtual travel, if they could. The questions were objective and related to the project. The responses were generally positive, which reveals the possible interest of people in this idea or in something similar.

V-Portugal is a product and a service targeted at an audience with an interest in travelling and getting to know Portugal. The application aims to satisfy those visual desires, as for example, to observe several landscape areas of Portugal. It is also to share and promote the Portuguese culture and capture foreign tourist interest. This report details a previous business proposal submitted in 2022 created by me and builds upon it to propose a new and updated project, which combines business and interculturality.

Without neglecting social responsibility, ever more pressing in today's world and, recalling the idea taken to the EDP Challenge competition, V-Portugal did not forget the elderly population with reduced mobility and contemplates them, through appealing videos that allow them to escape, even if virtually, to other places.

By sharing the contents that it promotes, and allow the upload of new user content, it will widen the market and promote generational interaction.

As a final personal note, I reinforce the idea that I developed a project that aims to offer a virtual visit service to all types of publics interested in knowing Portugal. The work done was very enriching and allowed me to deepen and review my perspective on tourism and how it can be experienced, in this case, in a virtual way.

The work under analysis allowed me, not only a more grounded approach and presentation of V-Portugal, but also the acquisition of a more consistent and comprehensive knowledge about the different areas that involve the reality of the technology, tourism and the interaction between generations who have different cultures.

In the era of globalisation and interculturalism. The idea presented here can be a vehicle to promote cultural diversity, just a click away and with a simple accessory like virtual reality glasses.

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