

A Work Project as part of the requirements for the Award of a Master Degree
in Management from the NOVA – School of Business and Economics

MEDICAL CANNABIS INDUSTRY IN PORTUGAL:

Opportunity or Opportunism?

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4th January 2021

Abstract

The recent shift in laws regarding cannabis use has made the medical cannabis industry an attractive business. As it starts to develop in Portugal, this study intends to characterize the state of the industry in Portugal and define opportunities that the country can take advantage of. After framing the industry under the Porter's Diamond of National Advantage, representatives of companies operating in Portugal provided insights based on their experiences. Findings suggest the nation possesses a set of conditions that make it attractive for cannabis companies, but inefficiencies and lack of infrastructure have damaged the industry development. As such, the government needs to play an active role as a facilitator of development and take further action, so that ultimately the domestically based companies can maintain a lasting international advantage.

Keywords: Medical Cannabis, Portugal, International competitiveness, Industry development

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

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1 Introduction

1.1 From cannabis plant to a 20\$ billion industry

1 Cannabis



Figure 1 - Differences of plants and type of leaves of *Cannabaceae* species.

THC

Tetrahydrocannabinol is one of the active components of cannabis. Connecting to cannabinoid receptors, THC is the main responsible for marijuana's psychoactive effects, affecting the user's thinking, coordination, concentration, sense of time, or memory.

When heavily consumed, it can prompt hallucinations, delusions, and, ultimately, psychosis. In the long-term, it has been linked with abnormal development of the brain, when used heavily and at a young age. (19)

CBD

Cannabidiol is the second most common substance in cannabis. Unlike THC, CBD does not cause any psychoactive effect on the human brain.

CBD is mainly used for medical treatments, for disorders such as epilepsy, anxiety, or chronic pain.

Cannabis is a genus of flowering plants in the family Cannabaceae (Bloomsbury 2011). The number of species within the genus is uncertain, however, three species may be recognized: *Cannabis sativa*, *Cannabis indica*, and *Cannabis ruderalis* [figure 1]. From these plants results a variety of products used with a wide range of uses.

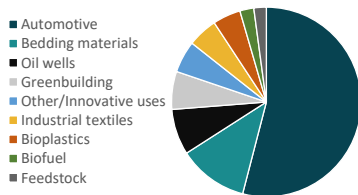
To understand *Cannabis'* diversified use, it is crucial to acknowledge its components and properties. There are more than four hundred identifiable chemical constituents known to exist in a plant, and at least 85 different cannabinoids have been isolated from the plant (ProCon.org 2009). The most produced cannabinoids are *Cannabidiol* (CBD) and *Tetrahydrocannabinol* (THC), with only THC being psychoactive. The THC produced and THC to CBD ratio have been responsible to categorize each plant regarding their phenotype (Small and Beckstead 1973). Although production conditions influence cannabinoid production, THC/CBD ratio is genetically determined and remains fixed throughout the life of a plant. When with a high THC content, *Cannabis* is associated with euphoric mind effects, while a rather high level of CBD is linked to muscle relaxation.

Cannabis properties dissimilarity enable the creation of a broad range of products to serve different industries. In the following section, the differences between industrial (hemp), recreational, medical, and legal cannabis are detailed. Furthermore, examples of uses of each type will be provided.

2 Recreational, Medical and Legal Cannabis

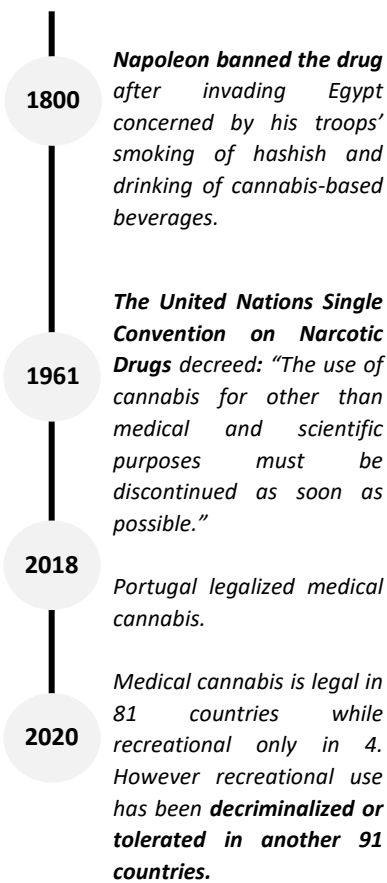
This report will focus on the medical cannabis industry. For this reason, a clear distinction between these *Cannabis* related terms must be made to avoid ambiguity and to clearly identify the scope of this report.

Figure 2- Sales share of hemp forecast in the United States in 2022, by industrial product type:



Industrial Cannabis or Hemp is a very low THC content *cannabis* used for producing a broad range of products. The most useful product is fiber, as it can be refined into a variety of commercial items, including paper, rope, textile, clothing, biodegradable plastics, paint insulation, biofuel, food and animal feed [figure 2]. As industrial hemp contains no more than 0.2% of THC, it can also be used to produce CBD based products. In compliance with United Nations 2020 guidelines, international control from hemp products has been removed (Vieira 2020).

Figure 3- Legality of cannabis timeline



Recreational Cannabis, also known as marijuana, is pot used without medical justification. Recreational marijuana usually contains more THC than the medicinal variety, providing users with a psychedelic experience.

People have been using marijuana for centuries. Apart from an Emir in Arabia that outlawed the used of cannabis in his jurisdiction, it was just during the last two centuries that countries started raising restrictions to recreational *cannabis* cultivation, use and possession, ending up criminalizing it. In the 21st century, many countries revised laws and significant changes occurred regarding use and possession, and a decriminalization policy has been followed by many countries. However just a few countries have legalized it. Therefore, demand for recreational *cannabis* products is still heavily dependent on illegal and unregulated market supply.

As recreational drug, Cannabis Sativa is the most widely used drug in the world. According to the World Health Organization (Elfein 2018), the number of illicit cannabis users reached 250 million in 2018, accounting for 3,2% of the world population. About 147 million people (2,5% of world population) consume the drug on an annual basis. European Monitoring Centre for Drugs and Addiction (EMCDDA 2018) estimates that one in eight young adults (15-34 years old) have consumed the drug at least once in the past year.



Figure 4- *The first records of marijuana being used medically come from China. As far back as 2737 BC, the pharmacologist and Emperor Shennong wrote a medical book that cited marijuana as a treatment for a variety of conditions, such as absent-mindedness, rheumatism, constipation, and gout. Emperor Shennong carried out his research on himself to find out the medical*

Medical Cannabis can be considered as all cannabis-based products that can be used to treat a medical condition. This term usually refers to the commercialization of products in the form of the whole raw plant, or through processed products, such as oils, tinctures, or edibles. On the other hand, medical cannabis can also be associated with pharmaceutical cannabis, which represents pharmaceutical products prepared using cannabinoids. These medicines must undergo rigorous clinical trials in order to be approved (Prohibition Partners 2019)

The use of medical marijuana has been associated with a wide range of conditions. The most common use has been in the treatment of chronic pain, especially for multiple sclerosis and nerve pain patients. Furthermore, it has been effective on Parkinson's disease patients, for its muscle relaxing effects. Some professionals have also reported using it for mental health disorders, such as PTSD, or for mitigating HIV-induced appetite loss (Grinspoon 2018).

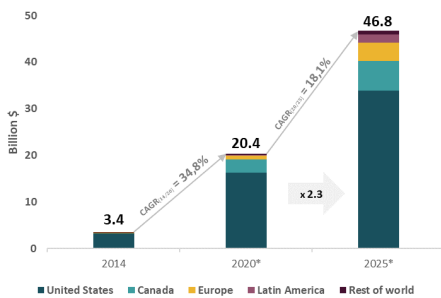
Most recreational and medical cannabis products are very similar. The two main differences are regarding the product's attributes and access. Recreational cannabis has typically a relatively higher THC content, which is a highly demanded attribute from recreational users. The second reason is regarding the access to each cannabis type. To access medical marijuana apart from market compliance with mandatory legislation and regulation requirements, it is also needed to have a

qualifying condition. In another hand, recreational cannabis does not require a recommendation once it is legalized. Different minimum age requirements may apply when accessing these products.

The on-going legalization process for medical and recreational uses previously referred to is transferring customers from the black market to the legal cannabis market. **Legal Cannabis** refers to all sources of products within hemp, recreational and medical cannabis, currently legalized and following up-to-date regulative procedures.

3 Legal Cannabis Industry

Figure 5- Legal Cannabis worldwide spending forecast points to 46.8 billion dollars in 2025, 2.3 times more than 2020 spending.



According to the latest estimates, cannabis trade is a \$214 billion market.

Representing about 10% of the market pie, legal cannabis worldwide spending [Figure 5] amounts to 20,4 billion dollars in 2020 (BDSA 2020).

Hemp industry accounts for almost 30% of the legal share, leaving the bigger piece to medical and recreational cannabis. Legal cannabis spending distribution is expected to switch from an adult-use share of 10% (against 90% of medical) in 2014 to 66% in 2024, aligned with recreational use legalization prospects (BDSA 2019).

As a result of legalization on-going processes, legal cannabis industry has been growing at a fast pace. The industry’s compounded annual growth rate (CAGR) equals 35% in the last six years. The industry growth observed is expected to be followed by another period of market expansion. Although at a slower pace, it is still expected to keep growing at double digit rate, CAGR [20/25] is 18%. This growth will push the industry’s current value to more than double by 2025.

In 2020, United States and Canada represented 93% of legal cannabis worldwide spending while Europe and Latin America follow with 4% and 1%, respectively. By 2025, US and Canada dominance is expected to remain while Europe and Latin America increase their share to 8,3% and 3,6%. Annual

European market spending is expected to increase to 3,9 billion dollars until 2025, from 0,8 in 2020 [Figure 5].

In 2016, the USA illegal market was responsible for supplying 87% of the market. As of today, the share distribution remains similar and a majority of the market still inaccessible. A study points out that the cannabis industry could generate 131.8 billion dollars for federal tax revenue and add 1.1 million jobs by 2025 if it were legalized in all states (Parker 2019).

1.2 Research question

This research will focus on the state of the medical cannabis industry in Portugal, and if the country has the potential to achieve international competitiveness, especially at the European Union level. As such, the research question can be defined as “What is the state of the medical cannabis industry, and can Portugal achieve a strong international positioning?”

2 Understanding the Legal Cannabis industry

Acknowledging the industry’s structure, market segments and what kind of activities can companies engage in might be the first step to truly understand the industry. Wiley’s (Parker 2019) value chain for legal cannabis separates the industry into 5 main activities: Cultivation, Product extraction & manufacturing, Testing, Distribution/Retail, and Ancillary services.

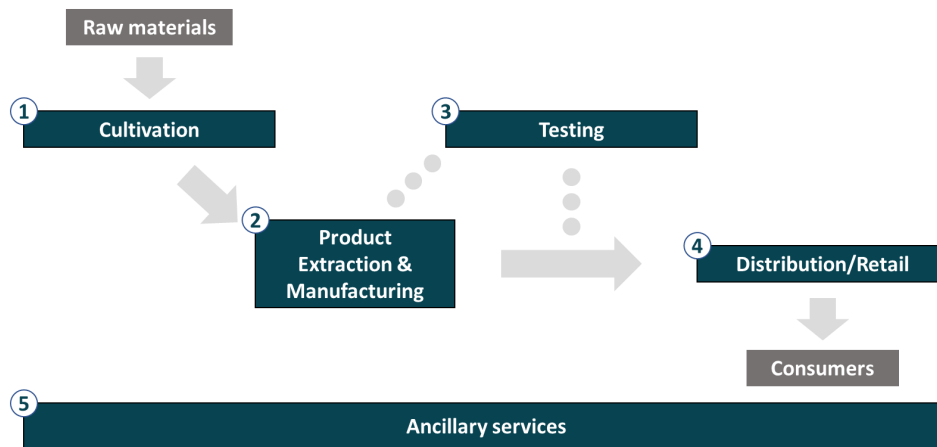


Figure 6 – Wiley’s Cannabis industry value chain.

Phase	Activity Type	Number of Businesses
Cultivation	Primary	2 500 - 3 500
Product Extraction & Manufacturing	Secondary	1600 - 2000
Testing	Tertiary	100 - 150
Distribution & Retail	Tertiary	3 300 - 4 300
Ancillary Services	Tertiary	13 000 - 18 000

Figure 7 – Estimated number of cannabis business within the U.S. 2017.

Cultivation is the primary activity. Cultivators are essentially the producers/growers of the plant and flower. The cultivation process can take up to ten months including six phases: seed selection, sprouting, growth, maturation, harvesting, and curing. This “touching the plant” activity is highly regulated, with cultivators requiring licenses and permits from regulators.

The extraction and product manufacturing services may, or often may not, be performed by a cultivator or dispensary. As a “touching the plant” activity, this activity is also highly regulated, licenses and permits are necessary to operate. In the **Cannabis extraction** phase, the flower is converted into concentrates using specialized equipment. **Product manufacture** phase processes the flower or concentrate and packages the product for wholesale or retail.

Testing ensures product safety and compliance with regulations. Testing services provide a detailed report on product quality, safety, and composition.

Distribution and Retail phase involves physical logistics, brick and mortar stores or dispensaries, and e-commerce applications. All three distribution methods also require legal licenses to operate.

Finally, **ancillary services** providers offer a variety of services to support the cannabis industry such as equipment suppliers, tax, legal services, banking, accounting, rentals for storefronts, product warehousing, and media services.

3 Methodology

3.1 Data collection and analysis

To characterize the state of the cannabis industry in Portugal, secondary data was collected. Such data was schematized through Porter's Diamond of National Advantage. This framework is directed at understanding how international competitiveness as a country.

Subsequently, six in-depth semi-structured interviews were performed. These interviews were targeted at individuals with connections to existing companies in Portugal and were done on a convenience sampling basis (BRM, 2012). Firstly, extensive research was done to select a number of companies with apparent connections to the Portuguese cannabis industry. Subsequently, these companies were filtered by answering the question *"Is the company a license applicant or holder in the legal cannabis industry in Portugal"*. Lastly, representatives from these companies were contacted, mainly through LinkedIn. Appendix 8.1 presents the questions posed to those individuals.

Four out of the six interviews were made through videoconference, and participants consented to the recording of the interview. However, the remaining two meetings were made through phone-call and were not possible to record. Five out of the six participants were either CEOs or co-founders of medical cannabis companies and one with extensive experience and several projects on hemp production.

As such, the recorded interviews were transcribed. Furthermore, the analysis performed will be based on content analysis (Columbia University 2020). Next, the relevant parts of the interviews were highlighted and coded. Additionally, notes from the unrecorded interviews were associated with the developed codes. Examples of codes are presented in Appendix 8.4. Furthermore, codes were standardized between the different data collections. After sorting and curating those codes, they were attributed into themes, being them either positive or negative. Finally, the codes were framed in Porter's Diamond of National advantage to proceed with an accurate representation of the medical cannabis industry in Portugal. Due to the promised anonymity, letters will be attributed to each interview.

3.2 Limitations

This research had some limitations. Firstly, the secondary-data available in relation to the medical cannabis industry is scarce and not up to date. For that reason, recent non-documented events with great impact on the industry may affect the report viability. This is especially observable in Portugal, as information available is outdated and inaccurate.

Regarding the primary data, several aspects could affect this study's viability. Nonetheless the relevance of data collected during six interviews, presents the risk of not being accurately representative of the industry. Furthermore, lack of experience in interviewing processes could induce problems, such as interviewer bias (Salazar 1990), affecting interview results.

Lastly, it must be noted that forecasts presented in this project are highly dependent on legislation and consequently dependent on government decisions. Therefore, any deviation from the recently observed legalization state/trend on a stable political environment can ultimately it affect the viability of this study.

4 Industry Analysis

Porter (1990, 75) believes that “companies achieve competitive advantage through acts of innovation.”. However, to sustain competitiveness companies must continuously invest in improvements, as single acts of innovation do not provide a lasting edge. The Porter’s Diamond of National Advantage, provides a framework to understand how nation conditions can provide a pillar for companies to innovate.

Porter’s core model includes four main determinants: Factor conditions, demand conditions, related and supported industries, and firm strategy, structure and rivalry (Porter 1990, 78). Also, later versions have included the role of the government and chance in business conditions (Vlados 2019).

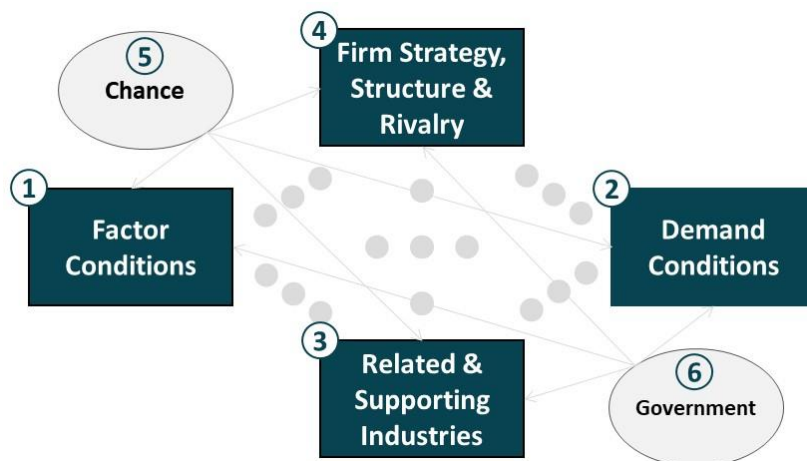


Figure 8 - Michael Porter’s Determinants of National Advantage including chance and government, the complete system. (Vlados 2019)

The individual and joint analysis of each of these aspects constitutes the system of the model. Such analysis provides detailed information on the basic environment in which firms compete, and what determines their ability to compete internationally. (Porter 1990, 78)

4.1 Factor Conditions

Factor conditions constitute the final determinant in a nation’s competitiveness, which can be divided into basic and advanced factors. Basic factors include climate, land, demographics or natural resources.

Advanced factors are those that can be created and developed, such as infrastructure, research, skilled labor and education. Advanced factors are the most important to create competitive advantage, whereas basic factors provide a basis that can be exploited to facilitate continuous development of advanced ones. (Porter 1990, 25)

Therefore, it is crucial to analyze Portugal's factor conditions to measure the country's potential competitive advantage. Regarding basic factors, Portugal has an ideal climate for marijuana production. Lisbon, the country's capital enjoys 41 sunshine days per year (Osborn n.d), ranking as 3rd European city with most days of sunshine per year. Regarding arable land price, despite a lack of data in the most recent study, Portugal's average price is under the EU-27 average [figure 9]. The southern area could be chosen for production given its average temperature is 17.9°C and its annual average humidity levels 65%, values within the ideal range to grow cannabis (Chandra 2011). Portugal's comparative low labor cost and a highly educated labor force in the medical, pharmaceutical, and agricultural sectors, can also support a competitive advantage in the cannabis industry. In Portugal, companies hourly labor cost average amounts to 14,6€, way below EU 27 average of 27,7€ [figure 10].

Advanced factors are harder to replicate as it needs constant innovation and development to recreate them, rather than a one-time effort replication. By maintaining sustained investment in the development of advanced factors, countries can differentiate within an industry. The biggest the relevance of a factor to an industry, the biggest the importance to invest in its improvement. (Porter 1990, 79)

On the other hand, the existence of adequate systems to manage and facilitate access to medical cannabis is crucial for industry development. The regulation of the industry in Portugal is responsibility of INFARMED (Autoridade Nacional do Medicamento e Produtos de Saúde), which also regulates pharmaceutical and healthcare products. In contrast, there have been some countries that created dedicated agencies to specifically manage cannabis-related processes, which simplify both licensing and prescription management (Prohibition Partners 2020, 16).

Regardless, national agencies efficiency in its role as access facilitator to medical cannabis, private initiatives, such as *Cancard +* [figure 11], in the United Kingdom, lower access barriers of patients. This has allowed more than a million people to be confident on police description when caught in possession of small quantities.

Also, research could largely determine the direction of this industry, so it plays a central role in its development. Some companies already operating in the country are engaging in independent research. One of those is *EXMceuticals*, which has set up a research facility in collaboration with the Science Faculty of Lisbon (FCUL) (Rocha 2020). This laboratory has been awarded a grant from the Portuguese Government and the EU, to finance research of viricidal cannabis components applied to disinfectants, in an effort to combat the ongoing pandemic (EXMceuticals 2020). Differently, some nations, such as France, UK, and Australia have created government-controlled research programs, which will enhance countries' knowledge in cannabis medicines (Prohibition Partners 2020, 10).

Although recent legalization efforts improve the public opinion on the drug, cannabis use is still widely stigmatized (Prohibition Partners 2020, 8). Several associations have been created with the goal of educating both medical practitioners and patients on cannabis uses and benefits. So far, this has yielded several initiatives, including the creation of a post-graduate program on medical cannabis (OPCM 2020).

4.2 Demand conditions

According to Porter (1990, 82), the characteristics of home market demand are often related to the way foreign customers perceive national products. The existence of a national demand allows companies to further understand buyers, which in turn drives innovation that improves international positioning.

In 2001, Portugal gave its first step on the legalization process. In an attempt to reduce extremely high rates of VHI and heroin users, Portugal decriminalized the consumption of all drugs. Two decades later

Portugal is seen as a role model of the new way of “*war on drugs*”, given its success in reducing VHI and heroin rates and consistently ranking below average on most drugs usage (Bajekal 2018).

After medical cannabis legalization in 2018, its use is allowed only as a last resort treatment and requires a medical prescription. However, since medical cannabis was approved, sales have been residual (Prohibition Partners 2020, 89). One of the reasons for the weak sales is the fact that the approval application (ACM) process is too complicated and time-consuming, which has led to the approval of only one medicine, Sativex. Even then, pharmacies have not marketed this product, as the inexistence of prescriptions and its high retail price make would undermine its sales (Câncio 2020).

Similar situations have been observed throughout Europe, where it has been difficult to access legal medical cannabis. Contrarily, in Germany, systems in place have been efficient in facilitating prescriptions, which has fueled the growth of domestic markets. For this reason, the German market has become the biggest market for cannabis products in Europe (Prohibition Partners 2020, 29).

On the other hand, North American companies have pursued a high degree of product diversification, aiming at satisfying the national desire for different products. This has created a culture of innovation at companies and further improved regional companies’ international positioning (Prohibition Partners 2019)

Similarly to other European Markets, there has been the emergence of ‘grey markets’, where companies operate under legality inconsistencies. One of the most popular markets is CBD products, which contain a low THC level and are usually extracted from hemp. By infusing the cannabidiol into oils, companies choose to market them under the category of ‘novel food’, which falls into a legal limbo (EMCDDA 2020). In Portugal, there has been an extensive growth of such stores, but the demand is hard to understand due to the shady nature of these businesses.

4.3 Related and supporting industries

The framework also highlights the role of related and supporting industries in achieving a lasting competitive advantage. The author considers that if suppliers also have an international presence, they are more likely to provide benefits to downstream industries, by delivering their products in the most efficient ways (Porter 1990, 82-83).

Portugal has a long history of agricultural activity, especially in the south. Being one of the most important industries, it has shrunk to just about 2% of GDP, ranking 13th among EU peers. Agricultural land defines land that is either arable or under permanent crops, as arable land includes either temporary crops or vacant land. Portugal enjoys 40% of its territory as agricultural land (17th in EU), while just about 10% being considered as arable land, ranking 22nd in the European Union. This means that over 30% of the available agricultural land is occupied by long-term crops, such as vineyards. Still, the sector is prominent for the economy, as it employs about 6% of the population (The Global Economy 2019). Additionally, it is worth mentioning that at least one Portuguese agricultural company has shifted its production from strawberries to cannabis (Câncio 2020).

Financing has also proved to be a difficult activity in the rising industry. As the industry is still associated with undesirable risk, banks are reluctant in financing these firms, fearing reputational damages, and potential legal prosecution. On the other hand, institutions willing to provide capital must go through significant due diligence processes, to make sure that the customer is not engaging in illegal activities, which leads to cannabis companies paying excessively high fees. As such, alternative forms of financing have been considered, such as venture capital or crowdfunding (Parker et al. 2019). This issue is particularly observed in the US, as although the plant has been legalized both for recreational (15 states) and medically (35 states), it remains illegal on a federal level, damaging possible deals for banks (Prohibition Partners 2019, 93). The SAFE banking act aims at protecting against federal prosecution for financial institutions that provide capital to cannabis companies.

Other related industries are real estate and tech companies. Additionally, with the rise of business analytics and big data, cannabis companies will certainly take advantage of these sectors. Such analytics can be applied at all levels in the supply chain, helping to create distinguished capabilities (Vanstone 2020). On the other hand, reliable technology will be crucial for the growth of the sector, especially agriculture tech. The search for efficiency is especially high in this industry, so companies that provide innovative agricultural technologies that can drive growth will be rewarded.

4.4 Firm Strategy, Structure and Rivalry

Competition is one of the main drivers of innovation. Porter (1990, 83-85) believes that *“National circumstances and context create strong tendencies in how companies are created, organized, and managed, as well as what the nature of domestic rivalry will be”*. Such rivalry can improve companies’ international positioning. By experiencing home market contest, companies are forced to differentiate, while the standard competition forces will lead inefficient players into bankruptcy.

As such, understanding firm structure and national competitiveness are crucial to determine a country’s potential. As it stands, several companies already hold licenses for production in Portugal, with several of these facilities related to foreign investment (Pascual 2019, 41). Tilray, one of the biggest Canadian producers has established its European production center in Portugal, a unit that includes the production of the plant and manufacturing of derivatives, with both already obtaining a good manufacturing practice (GMP-EU) certification (Tilray 2020). Several other multinational companies, such as GW Pharmaceuticals, Aurora, and Flowr, have created or acquired facilities in the country.

The competitive environment of the industry is unique. Primarily, domestic supply can take a while to set up, as after the legalization moment, companies need to obtain licenses, build facilities, certify production, and, only then, may supply the market. Therefore, countries are initially dependent on international supply from more mature markets (Prohibition Partners 2019, 35-36).

Nevertheless, having an established industry does not necessarily guarantee a fierce domestic competition. The Netherlands is the biggest producer and exporter of medical cannabis in the EU, but production is monopolized by Bedrocan, which subsequently supplies it to the OMC (Office of Medicinal Cannabis) for distribution. However, this agency is now aiming at ending this monopoly, as applications for new producers are now being accepted (Pascual 2019, 28-31). In contrast, significant advancements have been made to supply the German market internally, with several companies assembling hubs in the country. Yet, imports continue to grow, and it is expected that the domestic supply will keep on not being enough to satisfy national demand (Prohibition Partners 2020, 39-43).

On the other hand, the North American market, exhibits different competitive environments. The stronger regional supply allied with a strong demand creates a much more dynamic competitive environment. For this reason, as stated before, there has been a strong pursuit of product diversification and, on the other hand, firms have expanded at a high pace, to face demand but also to achieve cost-efficiencies (Prohibition Partners, 2019). These factors aided Canadian corporations to leverage expertise and scale investments internationally (MNP LLP 2019).

4.5 Chance

Although not initially present in the Diamond, Porter has later stated that chance can lead to short-term advantages or disadvantages. Chance refers to events that are outside of companies' or government's control, such as natural disasters or economic cycles (Vados 2019). Also, Porter considers scientific breakthroughs as chance, but this is not the case for this industry, as the market is largely driven by scientific trials (Prohibition Partners, 2019). These events are hard to predict, but industry players must be aware of them (Vados 2019)

Covid-19 has had a powerful impact across all sectors of society. Consequently, the legal cannabis industry experienced increased demand, as consumers followed lockdown restrictions. Nevertheless, it has delayed several trials and approval processes, while forcing significant adjustments to business

operations (Vangst et al. 2020). Also, some experts have endorsed marijuana legalizations to help to cope with Covid-19 economic damages.

4.6 Government

All in all, as Porter (1990, 87-89) indicates, competitive advantage can be created. As such, each specific action of the government can have a direct impact on any of the attributes of the diamond, which in turn affects domestic companies. The same author considers that the government's primary role should be the development of a nation's creation of advanced factors.

As explained previously, Portugal legalized medical cannabis use in 2018. On the other hand, international policy changes also affect the industry ecosystem in Portugal. Recently, the United Nations has rescheduled cannabis, recognizing its medicinal uses. Also, although there is no EU-wide cannabis policy, but companies must comply with Good Manufacturing Practices (GMP-EU) (Kwai 2020).

A European-wide framework could be a big step towards harmonization and to standardize access to medical cannabis. The European Union Parliament passed a resolution emphasizing "*the need for the standardization and unification of products containing cannabis-based medicines.*" (Pascual 2019).

5 Discussion

In order to truly understand the circumstances of the industry, six semi-structured interviews were conducted. These interviews will be referred to using letters, in order to preserve participants anonymity. The collected data was coded and associated with each of the elements of the framework. As such, an analysis of the findings will be presented.

5.1 Attracting basic conditions require further development

Portugal is *“just the perfect position for a producing company”* (Interview J). It exhibits optimal conditions for the establishment of the industry, especially for cultivating. For this reason, interviewed companies will be targeting mostly cultivation activities, with export-oriented businesses.

Cultivation is very much associated with basic conditions since the viability of the plant is directly connected with those basic conditions. Important conditions are the climate and relatively cheap labor, with the agricultural real estate market presenting attractive prices. This confers the country a relative competitive advantage, as companies consider it to be more profitable to produce in Portugal. This was evidenced by statements such as *“I think you can make good money just cultivating for now, so that is what we will do.”* (Interview J)

On the other hand, the wide-spread use of renewables in Portugal is also important for the long-term potential of cultivation activities. This, allied with the sunny weather, allows for the use of solar energy and reduces the heavy footprint associated with cultivating. An interviewed player thinks that environmental efforts are key in the industry, as not only *“cannabis consumers are more environmentally-friendly, and so it makes even more sense to have an environmental responsibility”* (Interview J) but also believes that, as the market evolves, consumers will identify with sustainable companies. On the other hand, companies are already making investments towards sustainability: *“Yes, in fact cultivation activities are not very environmentally friendly, but we are working on some solution already, I believe that there is efficient equipment that will help to reduce the negative impacts on environment”* (Interview A). If companies keep engaging in such efforts, Portuguese products will

be recognized internationally as being sustainable and consumers will tend to associate with national cannabis.

However, findings on advanced factors are concerning. Interviewees revealed worrying flaws among several dimensions on the advanced factors. Firstly, and while not being unique to Portugal, there is still a wide-spread stigma on cannabis use, be it for medical or recreational purposes. Although some improvements have been made, experts call for a more active role of the regulator as it must work as the main agent of education, but efforts have been rather limited. *“Sometimes it looks like the government is the main interested in not informing accurately”* (Interview B).

On the other hand, being an industry highly affected by scientific evidence, cannabis-related research was discussed. At the moment, research efforts have been limited in the country (Interview A).

Also, the current regulations and their enforcement are responsible for inefficiencies in processes. The hemp-medicinal cannabis novel that has occurred in the last two years (Interview B), explained by the hemp industry interviewee, is largely associated with lack of clarity on regulations, and it has been destructing to the industrial cannabis sector. Following the legalization of medical cannabis, the regulations created doubt on who was responsible for approving hemp production, which left producers with no licenses for almost two years. As such, both the lack of clarity in the regulations and the institutions’ inability to coordinate were an obstacle to industry development.

5.2 Domestic market still inexistent

Interviewees displayed optimism regarding the future of the domestic market. Nevertheless, they confirmed that the market in Portugal is currently virtually inexistent. This was mainly associated with the lack of information available to medical practitioners. However, experts went further on this theme to evidence that even when doctors are willing to issue prescriptions, the systems in-place make the medicines almost impossible to obtain. Also, it was explained that the prescription issuer must undertake extensive paperwork to justify it, differently from any other medicine (Interview L).

On the other hand, although some interest in the domestic market was shown, firms are exclusively export-oriented. This is owed to the difficult approval process, evidenced by a two-year process for the acceptance of the only pharmaceutical product in the Portuguese market, SativeX.

Also, most of the participants believe in the future of the market in Portugal, with some even attributing it to the grey market of the CBD, as *“People want to buy especially oils. But they have to buy it from shady businesses where the products are not trustworthy”* (Interview A). This not only puts patients in danger, who consume unregulated products, but also facilitates misinformation. The wider public acceptance of CBD products is an opportunity and must be accompanied with prevention of the dissemination of wrong information.

5.3 Lack of supporting activities harms the growth of domestic cannabis industry

As shown in the literature review, several factors create difficulties in financing for cannabis companies. The data collected shows that financing is one of the most difficult aspects of starting a cannabis business, with banks refusing to provide financing: *“We had problems with multinational banks, which specifically refused to provide financing for cannabis businesses because regulations are still not very clear”* (Interview L).

Also, as seen before, there is a wide range of supporting industries to cannabis businesses. Being a highly regulated industry, supply-chain activities require specialized equipment, which is hard to find in Portugal. This is translated in a *“substantial increase in costs, as we have to order this equipment from foreign countries”* (Interview A)

The development of the medical cannabis industry also presents an opportunity for the internationally recognized Portuguese pharmaceutical industry. By engaging in cannabis related research, companies can not only increase the patient-base, but also to improve the overall environment in Portugal, and help to anticipate international tendencies.

Also, the importance of accurate information and education was seen to be a catalyst of the market. For this reason, the media has the responsibility of accurately informing the population, rather than use the stigma on the plant to create controversy.

5.4 Confidence on the market potential outweighs competition challenges

As the industry grows, and if proved to be profitable, new entrants will flood the market. The number of operating companies in Portugal has been growing consistently since legalization for medical purposes was approved. Surprisingly, players in the industry consider that the competition is still small when compared to the market potential: *“I think that there is a market for everyone and that different companies will be equally allowed to succeed”* (Interview A). Nevertheless, there is the recognition that Canadian companies in Portugal may have an edge, due to the higher availability of capital.

The industry is still in an initial stage of development and is expected to keep a high growth rate in the following years. Companies are currently focused on cultivating, but as the industry evolves, players must be aware of the competitive forces and constantly pursue the most promising business sectors.

All in all, licensed companies already hold a first-entrants advantage in a market where regulations limit the number of licenses, but as the market evolves this advantage will slowly lose importance. Companies must constantly pursue innovation in a way to differentiate from the competition, as *“domestic rivalry stimulates the development of unique pools of specialized factors”* (Porter, 1990). As such, the existence of strong domestic rivalry is beneficial for Portugal and should be promoted.

5.5 Covid-19 with mixed impacts on the industry

The pandemic certainly had an important impact on the industry. It meant Primarily, it impacted regulator activities, as resources shifted towards the fight on Covid-19. On the other hand, supporting industries operations were disrupted. This was felt especially in financing activities, as investors slowed down investment considering the economic uncertainty.

Surprisingly, Covid-19 was also referred as having a positive impact on the industry. This was attributed to an improvement on public opinion towards the plant, as *“more people realize the benefits of a legalized and regulated industry.”* (Interview B)

5.6 Government must work to facilitate development

The government has a special importance in this industry, as it is the regulator of the industry. Some interviewees have reported a positive feedback on the central authority, but the majority were very critical of the approval processes. *“I would characterize the process as ‘Machiavellian’. It takes lots of time and is just too bureaucratic. I don’t see the need for this”* (Interview L)

On the other hand, as seen before, legislation is the basic driver of this industry. The international tendency is to legislate cannabis use, especially for medicinal purposes, but interviewee J believes that even Portugal is moving in the direction of recreational legalization.

As such, the government’s goal must be to actively participate in the industry development, by creating systems that allow for the development of advanced factors, such as infrastructure and research. So far, systems in place have created inefficiencies and harmed the development of the industry in the country. This is an opportunity for Portugal to leverage its international reputation on drug-management policies.

6 Conclusion

It was seen that the cannabis industry is expected to grow at a high pace in the next few years. On the other hand, we have seen that, apart from the Netherlands and Canada, no country currently has an established industry. As such, understanding what conditions give Portugal a competitive advantage in relation to other countries is of uttermost importance.

The analysis confirms that Portugal possesses a set of basic conditions, such as climate conditions, cheap labor, and land, which constitute a strong basis for the development of the industry. Therefore, this should be leveraged and help to seize this opportunity. However, it also confirms the need for action to further establish Portugal as a favorable home-base for cannabis companies.

On the other hand, it was seen that developing cannabis businesses has an impact in a wide range of industries. This proves that being able to support its growth in the national territory has an impact in the overall economic environment, and the lasting damages to the economy due to the pandemic would certainly be minimized by the growth of the whole ecosystem.

The government action will be determinant as it directly influences the state of advanced factors, especially regarding infrastructure, research, and education. Although some improvements have been made, the creation of a specialized cannabis agency, which would actively communicate with operating companies. This way, the government can improve the accuracy of information, have a wider understanding of the benefits, and have an active role on the development of the industry, rather than serving merely as a licensing authority.

All in all, Portugal has the opportunity to become internationally competitive. The question is how the companies' and government's action will shape that competitiveness.

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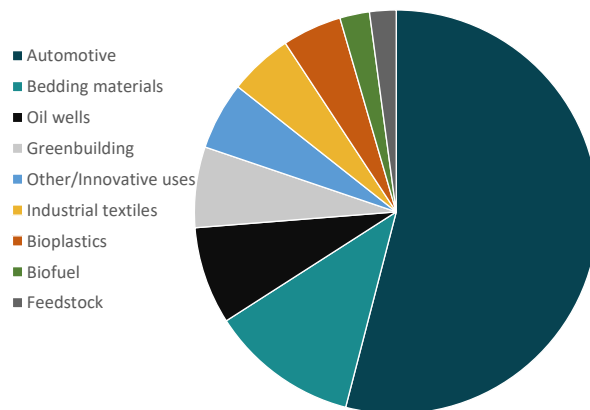
8 Appendix

8.1 Figures

Figure 1 - Differences of plants and type of leaves of *Cannabaceae* species.

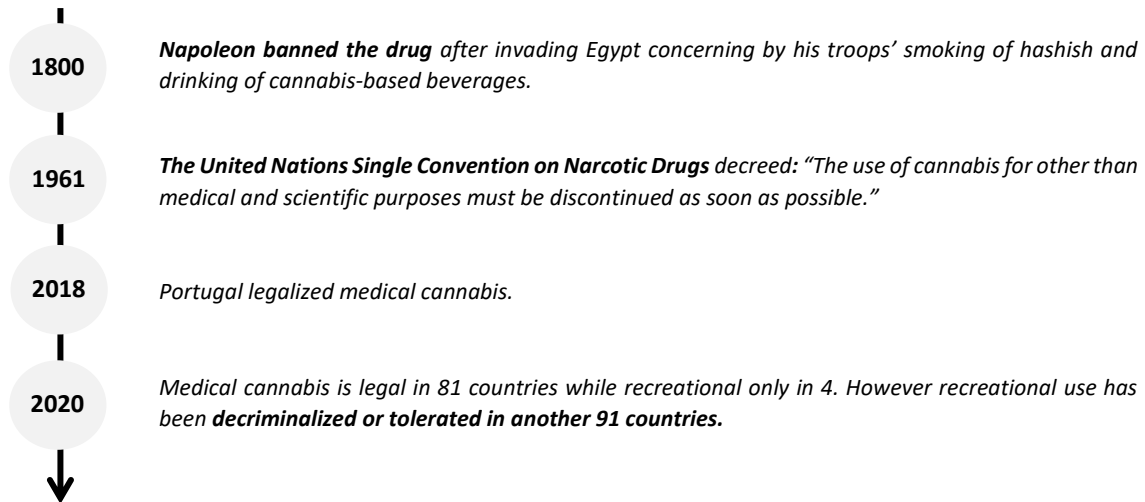


Figure 2 - Sales share of hemp forecast in the United States in 2022, by industrial product type:



Source: Statista

Figure 3 - Legality of cannabis timeline



Source: <https://docmj.com/2017/06/05/difference-medical-recreational-marijuana/>

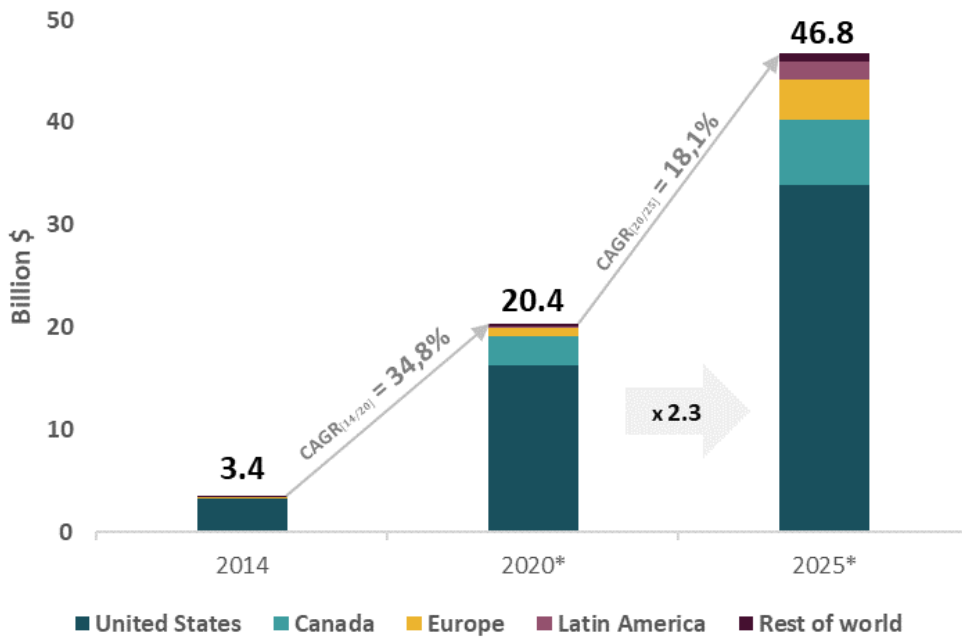
Figure 4 – Medical Cannabis origins:



The first records of marijuana being used medically come from China. As far back as 2737 BC, the pharmacologist and Emperor Shennong wrote a medical book that cited marijuana as a treatment for a variety of conditions, such as absent-mindedness, rheumatism, constipation and gout. Emperor Shennong carried out his research on himself to find out the medical value and use of hundreds of herbs.

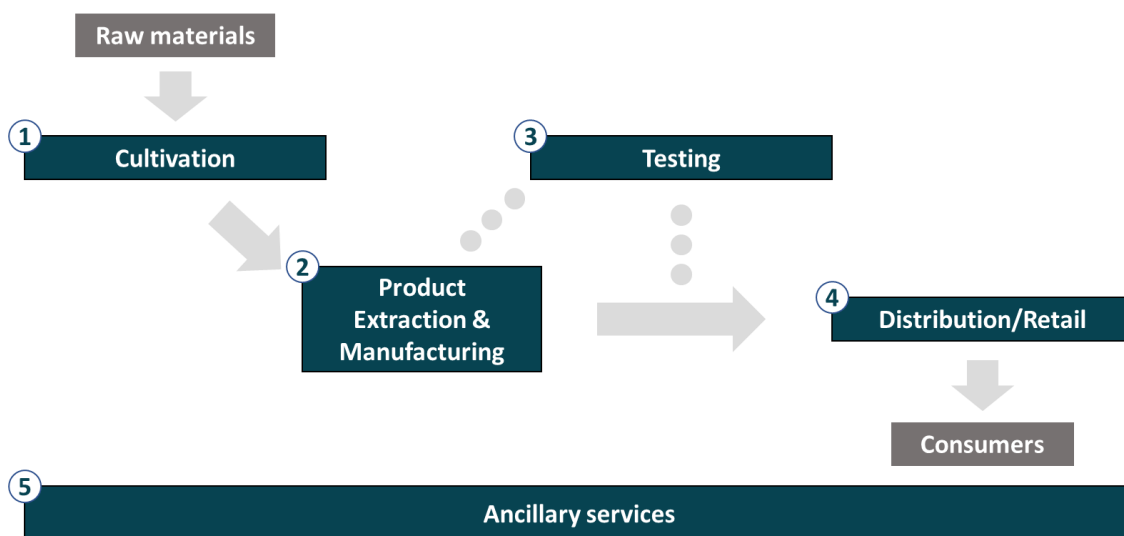
Source: <https://docmj.com/2017/06/05/difference-medical-recreational-marijuana/>

Figure 5 - Legal cannabis worldwide spending is forecast to double from 2020 to 2024



Source: Own Representation (BDSA 2020)

Figure 6 - Wiley's Cannabis industry value chain.



Source: Parker 2019

Figure 7 - Estimated number of cannabis business within the U.S. 2017.

Phase	Activity Type	Number of Businesses
Cultivation	Primary	2 500 - 3 500
Product Extraction & Manufacturing	Secondary	1600 - 2000
Testing	Tertiary	100 - 150
Distribution & Retail	Tertiary	3 300 - 4 300
Ancillary Services	Tertiary	13 000 - 18 000

Figure 8 - Michael Porter’s Determinants of National Advantage including chance and government, the complete system. (Vlados 2019)

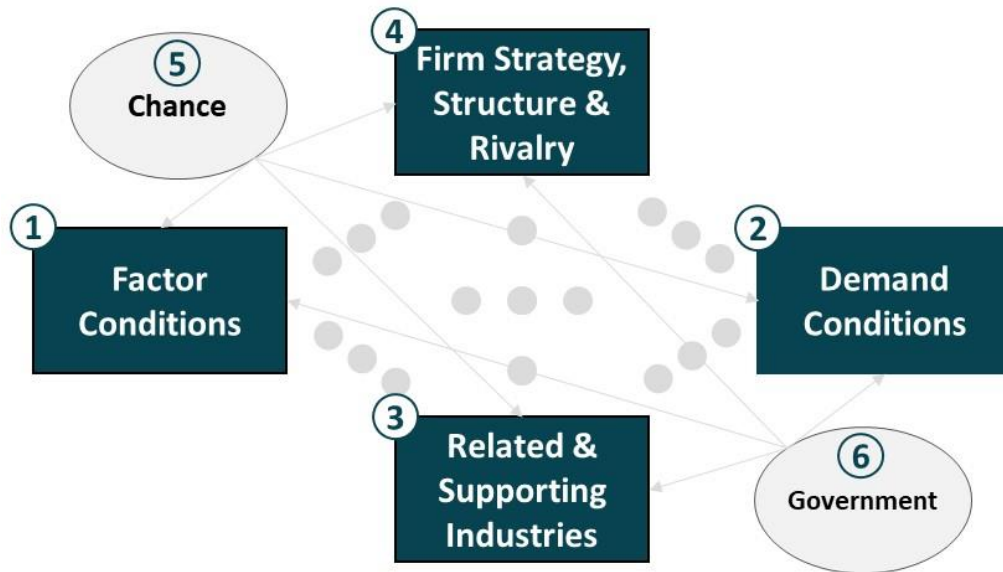


Figure 9 - Estimated hourly labour cost (Eurostat 2019).

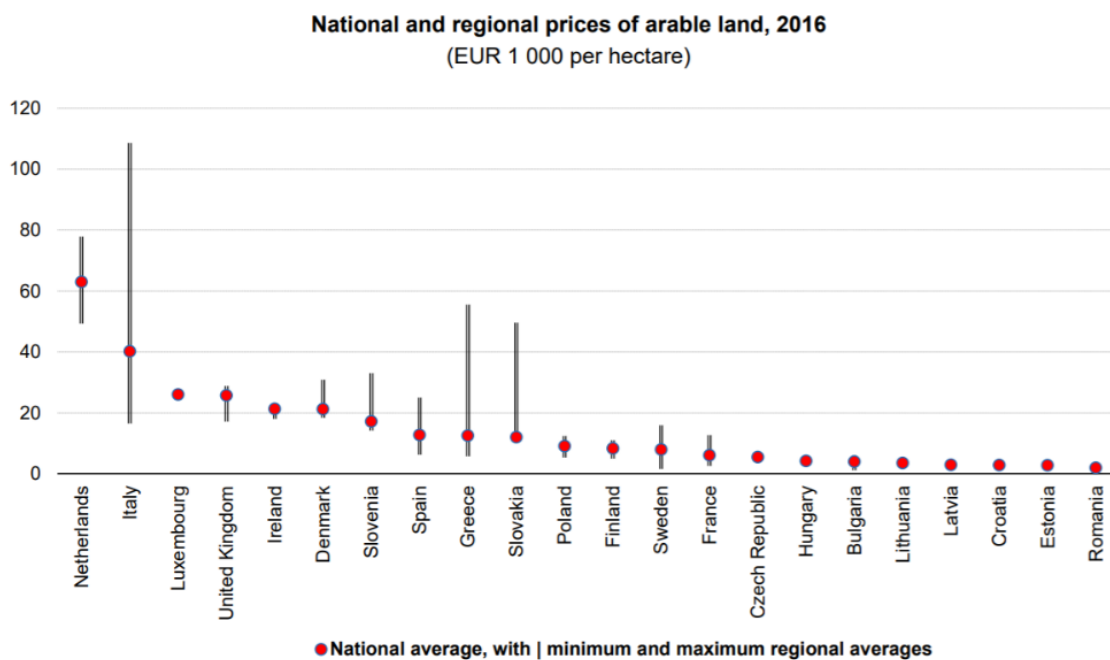


Figure 10 - Estimated hourly labour cost. (Eurostat 2019).

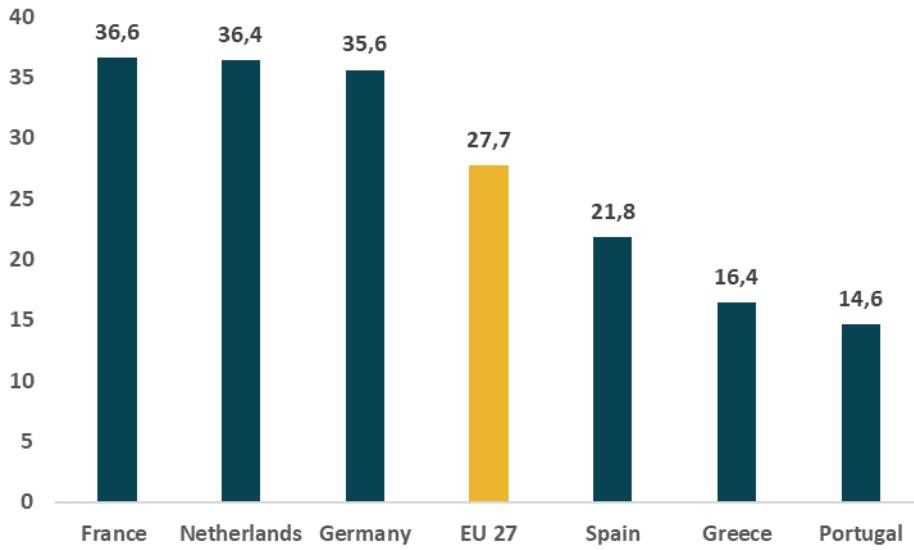
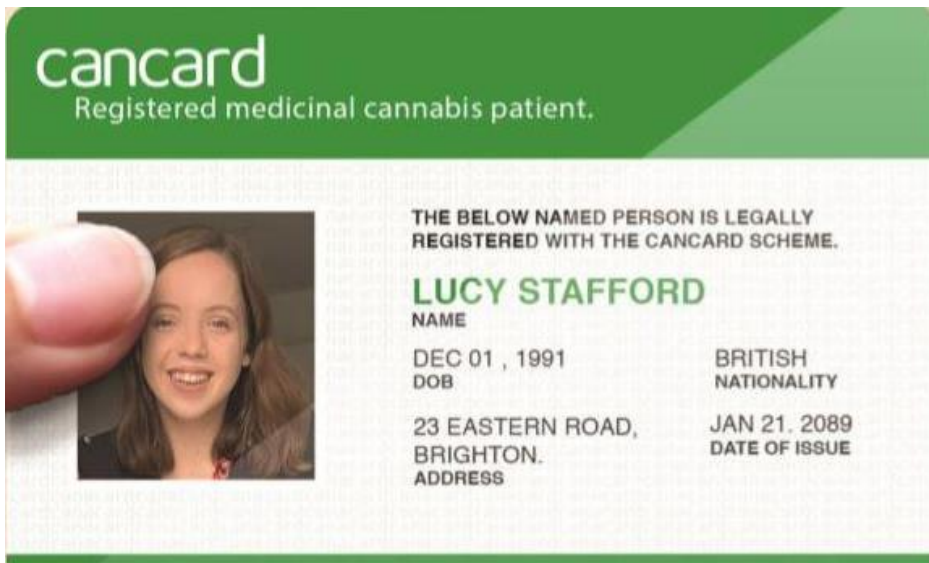


Figure 11 - *Cancard +* : Baked by Police. Design with doctors. Made for patients.



8.2 Interview guide

- 1. Presentation of the project guarantee of anonymity and consent to record.**
- 2. Background:**
 - 2.1. Can you please tell me the position that you hold in the company and at what stage is the company establishment?
- 3. Investigate Covid-19 impact:**
 - 3.1. What kind of challenges do you think that Covid-19 posed to the industry?
- 4. Regulator and Government:**
 - 4.1. Please describe license approval process;
 - 4.2. How would you classify your interactions with the regulator?
 - 4.3. How do you see legislation evolving?
- 5. Access conditions valued by producers:**
 - 5.1. Please tell me why you decided to enter this industry;
 - 5.2. What do you value in Portugal?
- 6. Demand conditions:**
 - 6.1. How do you feel about the competitive environment in Portugal?
 - 6.2. How do you see competition evolving?
- 7. Related and supporting industries:**
 - 7.1. What would you identify as the industry's most important supporting industries?
 - 7.2. Can you tell me your experiences with supporting industries?
 - 7.3. How do you think companies/your company will be able to deal with environmental responsibilities?
- 8. General activities:**
 - 8.1. What activities in the supply chain are you currently targeting and why?
 - 8.2. What markets do you consider attractive?
- 9. Extra information**

Lastly, is there any other thing that was not discussed in the interview that you would like to tell me?

8.3 Information of interview participants

Role of the interviewee	Duration
J- CEO of a pre-licensed company	35 minutes
L- CEO of a licensed producer	25 minutes
A- Co-founder of a license applicant	30 minutes
B- Co-founder of an Industrial hemp producer	30 minutes
S- CEO of a licensed producer- unrecorded	25 minutes
T- Founder of a license applicant	20 minutes

8.4 Examples of codes and associated quotes

Code	Quote
Positive	
Favorable conditions	“Portugal just really has the mix of climate, skilled labor, cheap land and access to the single market in Europe. (...) So, I do think Portugal is just the perfect position for a producing company.”
Cultivation attractiveness	“At the moment we will focus strictly on cultivation, but we will monitor the market and potentially adapt our activities”
Improvement on public opinion	“A esmagadora maioria da população adulta reconhece cada vez mais os benefícios da planta”
Environmental concerns	“Yes, in fact cultivation activities are not very environmentally friendly, but we have some solutions and I believe that there are efficient equipment that help to reduce the negative impacts on environment”
International reputation	“INFARMED has a very good international reputation, as well as the pharmaceutical industry”
Pandemic positive impact	“I would say that for Portugal, the virus certainly was kind of an accelerator, in sense, I do think now things will even happen quicker than everyone thinks.”
Market opportunity	“The European Market last year was 300 million euros, out of a potential 120 billion, so it’s like literally no market yet”
Negative	
Inefficient Processes	“It’s still a limited market, like it’s not yet so much widespread that medicinal cannabis gets prescribed, and actually there is not a single authorized strain in the market. And Tilray will be the first one after a two-year process almost”
Negative Stigma on Cannabis	“It is the result of the negative stigma on medical cannabis that still exists, and until it does, many things will be difficult.”
Inexistence of national research	“There’s also lack of scientific research. So maybe we could outsource international research.”
Barriers to entry	“I think INFARMED is watching the licensing and production capacity closely.”
Financing difficulties	“We had problems with multinational banks, which specifically refused to provide financing for cannabis businesses, because regulations are still not very clear.”
Lack of supporting services	“For example, if I need [agricultural systems] such as LEDs, hydroponic solution specific to cannabis production, I have to outsource them internationally, which is a big hassle.”

8.5 Interview guide

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 - 2.1. Can you please tell me the position that you hold in the company and at what stage is the company establishment?
3. **Investigate Covid-19 impact:**
 - 3.1. What kind of challenges do you think that Covid-19 posed to the industry?
4. **Regulator and Government:**
 - 4.1. Please describe license approval process;
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 - 4.3. How do you see legislation evolving?
5. **Access conditions valued by producers:**
 - 5.1. Please tell me why you decided to enter this industry;
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6. **Demand conditions:**
 - 6.1. How do you feel about the competitive environment in Portugal?
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7. **Related and supporting industries:**
 - 7.1. What would you identify as the industry's most important supporting industries?
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 - 7.3. How do you think companies/your company will be able to deal with environmental responsibilities?
8. **General activities:**
 - 8.1. What activities in the supply chain are you currently targeting and why?
 - 8.2. What markets do you consider attractive?
9. **Extra information**

Lastly, is there any other thing that was not discussed in the interview that you would like to tell me?

8.6 Full transcript of the interviews

4 Interview J

M:

Ok, so professor told me that you hold the license for Cannabis production.

J:

Indeed, yes.

M:

All right.

J:

So, for the preliminary license, we are still in the investment phase. And yes, we need to complete the facility and then we get a final audit from Infarmed. And at that point, we are fully licensed, but for now we have the preliminary licenses.

M:

Okay, all right. So, I've been investigating the industry and I will ask you some questions in order to try to prove some hypothesis or not. All right?

J:

Yes, sure.

M:

Okay, so, I wanted to start with the virus. So, what kind of challenges do you think that COVID-19 has posed to the industry?

J:

Well, are you talking about Portugal, specifically or globally for the industry?

M:

Well, I'm more focused in Portugal and then in the European Union. I'm not so focused in the global.

J:

Okay, well, like Portugal, as you know, it is still a limited market, like it's not yet so much widespread that medicinal cannabis gets prescribed, and actually there is not a single authorized strain in the market. And Tilray will be the first one. And will be the first one after two years process almost, to have their first registered strain that they can put on the Portuguese market. So, for Portugal, In my opinion, and I have been in touch with a lot of people and I often talk to Informed as well, I would say that the virus certainly was beneficial for the industry in that sense that I think a lot of people have recognized the economic benefits of a legalized and regulated industry. And the rumor is that Portugal is really looking into regulating recreational market here. That would be certainly great for us. As well, in that sense, I would say that for Portugal, the virus certainly was kind of an accelerator, in sense, I do think now things will even happen quicker than everyone thinks.

I was always more positive that we are heading in the recreational direction in Europe, like in the US, like in Canada, it's a step, CBD, it's medicinal, it's recreational. And I do think that that virus is actually accelerating that.

M:

All right, great. Through my investigation I have also understood that in different places, there's the two sides of the coin. So, in some places, it might actually accelerate the legislation process in the sense that it will come to compensate a bit for the economic damages of the virus, and in other places, it might have delayed some license approval processes.

J:

But when we actually, talked to Infarmed, they were always kind of pushing us because like we have been looking for the money for a while now. And they were, it seemed like they actually had more capacities, and they were really working because they couldn't travel in the summer. It seems, well, yeah, different people, different experiences, but yes.

M:

Alright. So regarding the license and the relationship with the regulator, how would you describe the license approval process?

J:

Well, we have a technical director, which we were lucky to find, and which actually did the whole licensing procedure for us. And so I'm not the licensing expert, I was just accompanying it. But I would say it's a comparatively really straightforward and very transparent process. So I think right now, if you want to get the license and you're serious about it, you have a team and you have the capacity to do so it. It was a fairly fair process. And like we could do it in house which was great, like they're right by now. A lot of professionals in Portugal that sell it, sell their services. And at first we thought we'd go with one of them. But that would have been 150,000 just to get the license. So we were really happy to be able to do this in house. And so yeah, I would say in Germany, where I'm originally from, I would have no chance of license. And here it was surprisingly simple.

M:

That's very good news!

J:

I don't tell everyone, there are already enough people coming! (Laughter)

M:

Sure! So why did you decide to come to Portugal or why you decide to apply for a license in Portugal?

J:

Well, in 2012 I studied in California. And well, at first that was my first touch to legal cannabis, it was the first time I saw that it was a legal business. So, I studied there, and it was not yet recreational in California, but medicinal. I studied business with a major in finance, and I wasn't happy with this. I did not see myself in suit and tie and banking. And where actually ended up for a while. But I did not intend to go to California. But I fell in love with the Canadian woman in California. So, after California, and moved to Canada, where I lived for four years, and I left before 2018. And so yeah, I actually came to Portugal the first time after that, but not even for cannabis. I didn't want to be in Germany and didn't want to go back to Canada. And I just thought, Oh, why not Portugal and I went to work for a bank in this boom, which was great. I fell in love with the country. And I thought this is much more my style than Canada and snow in winter. And but then I unfortunately realized how big the salary differences are here. So, for the first nine months, it was a training program in Portugal, and they paid me like 1000 bucks and paid my apartment. So, I thought it's fine, because I'm learning a lot. But after the nine months, they were saying Well, congratulations. Now you were full time employee and, and it was like 200 euros more of my paycheck and I have to pay my apartment myself. Then the same bank made me an offer in Germany for five times the money and I went back because of the money but I was never happy in Germany. So then again cannabis came into my mind and I realized that I want to be in Portugal but not want to be an employee. And yeah, so I thought like that's it now like a Portugal allows for the cultivation. I quit my job in the bank and applied for the MBA because I thought I don't know anyone in Portugal and it's going to be tough to get this started. So, I thought the MBA will be a good starting point. I think it was. Professor was one of our professors for the entrepreneurship class and in that entrepreneurship class I started developing the team and it was helpful for sure because Infarmed was like really open to us because we were students from the Lisbon MBA and so I think it really did

help unfortunately not yet with investors. But yeah, that's my story basically. And just for you more interesting would be by Portugal. I actually really did think even while I was doing the MBA, I might go back to Canada but no, I was in Portugal is not only because I like the location for cultivation, at least. Um, yeah, like Europe will be the biggest market like at one point at least. And yeah, once you go in Europe is most likely the best country because ideal climate and unfortunately on one side, but good for for companies on the other side, cheap labor comparatively, and land is available and kind of cheap comparatively. On the other hand, though, like Infarmed has a very good reputation and like, the producing pharmaceutical industry from Portugal has a good reputation. Which, like, there are other countries which might even be cheaper than Portugal, like Macedonia and Malta. But no one wants to buy from Macedonia or Malta because they don't have a credible relations. You don't know if you see a product ever if you order, there's so yeah, like Portugal really has the mix of climate, skilled labor available, cheap land and access to the single market in Europe, which the Canadians don't have. And right now, it's in Europe, the only real competitor is the Netherlands with Bedrocán I think you came across. And yeah, we like even us, we start with a relatively small size, but we have huge cost advantages towards someone like that for cancer, we could easily and offer our product with a similar quality, completely indoor, which we will start with. And we could just undercut the price of Bedrocán easily so I do think Portugal is just the perfect position for a producing company.

M:

Okay, so you are mostly targeting producing and exporting?

J:

For the moment, yes, while prices are at that level, and you can actually earn really good money with just cultivating yes. But we are a bit different than like anyone else in Portugal as we like. We don't take advantage of the good climate as I mentioned, we like build a fully indoor facility, just because I have close ties to the German buyers, and that's really what they are looking for. Like, there's a huge market over the counter. Like people that have prescriptions but use it recreationally. It's not patients. They are recreational users. And those ask for the high quality of THC above 22% and consistency and that you can only just guarantee in an indoor facility right now. So, we kind of jump into a niche even though we have the opportunity of outdoors which we'll add to it if needed. But right now we started with indoor yes, but certainly like at one point the prices would be very competitive and then we don't want to be only a cultivator. We are already looking into some vertical integration and especially in a legal recreational market. I personally think the opportunities are limitless.

M:

The growth of the industry once recreational legalization starts will start to takeoff.

J:

Yeah, exactly. Exactly. Until then, I think you can earn good money with just planting and that's let's be honest is what all of us believe in are good with it. Really like, like all of us in that founder team, yeah, we like the plant. And we actually all wanted to create something and like, that's what we have experienced in the team. And we don't have experience with extraction and anything else. So, like, I think for now, it's good for us to just do what we're good at, which is cultivating. And then with time, we will get together knowledge, we will see what the market really, really wants, or which verticals are more profitable. And as we are that early, I think we have time to experience a little bit in smaller markets like Luxembourg, for example, which could be a first recreational market where you have nothing to lose, you just put some products there and test them there because it's Luxembourg. And

then bigger markets come, if Germany ever gets you a recreational market, you already have recreational products in your portfolio.

M:

That will give you a first entrants advantage. So, as you said, there's a lot of people that want to enter in the market in Portugal, want to produce in Portugal. So how do you see competition evolving? Do you believe that Infarmed will give just too many licenses? And at one point, it will be just unsustainable?

J:

I do think Infarmed is watching the licensing closely, or at least the production capacity closely as like we know that firsthand. They do. I don't know what their quota is. But at a certain production output, they match this somehow with predictions of demand in the European market. And if this is reached, they will limit the licenses and so not very yet, especially if you consider that the European market last year was at 300 million size of potential 120 billion. So, it's like, it's literally no market yet. And so, we're like very far away, I think. And plus, so far, no one intends to build an indoor facility here. So, in that sense, we will have a niche. And if we would go outdoors with a small, small field, and then I would be more worried because obviously then we have to compete with Canadian money and huge, huge, like multiple hectare montages. And but, yeah, I think Infarmed actually looks at this they will not they will not allow for an unreasonable oversupply. I hope they've learned from Canada, where they're all now sitting on their oversupply. Yeah. So, I do hope that in Canada was a good example of how not to do it. I mean, they were the first so they had to make mistakes. But yeah, I do think and the output volume is in watched closely and will be limited once it's reached. And so far, none of the others has started indoors. So, I'm so relaxed regarding that.

J:

I like that. Okay, so I see that you had so far some problems with the with the financing, can you talk me through that? What have been mostly your problems? Is it because the banks won't provide financing?

M:

No, well, actually, like we it's always tough, and none of us has a track record of funding money, founding a company of that size. So, we didn't expected to be easy. And certainly, in that sense for us. Specifically, the pandemic wasn't helping. Like, we had a lot of people very eager to do so and with the money to just do it. But then the pandemic came, and everyone was a bit like " Well, I have to think twice before put money" and at least we still look for 1.5 million, which is not a lot of money in that industry, but it's a lot of money, especially in Portugal, and I've thought I can just find it in Germany, but I've had to experience that. In general, people don't really like to invest abroad if they don't have someone first there on the ground basically. So, there was always a reluctance of people to just write a check to Portugal without knowing the team without having a track record. And so then in a Portugal, yes, like you could find it here as well and we still hope so but 1.5 million here is a bit less easy for the people. And yeah, I'm not a great salesman. I think the biggest problem is that none of us is a great salesperson. And that's exactly what we should do right now and just knock on all the doors. And we're all very focused on one and spend a lot of time in the past. Like, we're very focused on one investor and then spend months back and forward. And at the end, there might have been a no, but then yeah, then we had to restart everything, but we learning in the process. I was a bit too optimistic. But I don't think in any particular problems, each time we gather all, we improve. And that's why I do still believe

in it. But yes, the pandemic has, has made people definitely more reluctant to put their money just plainly anyway. So, in that sense for us, but in specific it wasn't great. The pandemic, like we literally we started raising money in March. So, you can imagine in March, no one in March, no one knew what's going to happen. So everyone was like "not the right time". And then we started with 4 million with a bigger size, actually, at the beginning. And yeah, formally, and I think with none of us having a track record. In exiting a company, I think it was too much. So we downsized a little bit. And at the end, 1.5 million, is what we need, and it doesn't go smaller. And banks would most likely not necessarily give us a venture loan for cannabis. But we most likely will get a million from the bank as a mortgage. Unfortunately, it's been two months that they have it on the table and we every time we ask this as well and in their head office and still not know decision, but it looks good. It looks good. So yeah, I don't I don't, I don't know. Like banks just more work very slow. And it still wouldn't be enough we would still need some investors so it's not easy. My co-founders are Portuguese, but they're not really a number of people in business people. So, I'm the one doing all that and doesn't help that I'm not Portuguese. So yeah, I'm dealing with the Portuguese bank, and it's new for me everything and for sure I made mistakes as well. And well...

M:

Well but you're learning in the process. So, one last thing that I wanted to ask you is actually found it interesting that your company on LinkedIn says "sustainably grown Premium cannabis flowers". And I wanted to ask you, how do you think that the industry will cope with environmental responsibilities? Given that the production itself is quite a resource intensive activity? Is a bit more specific to the production itself.

J:

Yeah, yeah. Well, I am not sure how the industry will develop. But for us, no other industry would actually ask for environmental responsibility. As you would most likely agree, consumers they're more environmentally oriented, I would say at least. And so I think actually, it would be even in terms of our financials, it would be very wise for us to have a clean footprint. And that's what we're looking at. We're going indoors, we consume relatively a lot of electricity. And so we are already in talks with partnerships with solar panel providers, so that would allow us to 100% source our energy from renewables and actually at the same time allows us to save money compared to the EDP price. And so yeah, in that sense, like for us, I think it's very important especially as we are targeting the end consumer at one point and want a great brand, and I think being sustainable, and being a green cannabis provider and not in the sense of green, just weed. And I think is is very important and branding at one point, you've mentioned it earlier the competition, I think at one point it will be fierce the competition and branding is key. And I do think for now and in the future customers will identify a lot with socially and environmentally responsible producer. So for us, it's very important, actually the other MBA co-founder, Rita Melo is her name. She's was my original only co-founder. She was an environmental consultant for the past eight years and studied geographic engineering and sort of like she actually is the chief Sustainability Officer. Yeah, we didn't think about a better position, but like, yeah, her job is to make us to make our footprint neutral and fulfill our duty to the environment. So yes, it is very important factor.

M:

That's amazing. I believe that in the long term, you'll get a lot from that.

J:

I do think so as well. But like I said, makes a lot of sense economically speaking. Again, by now, you can save money with renewables and yeah, I think even when you just look at the bottom line that has a positive impact.

M:

Absolutely amazing.

J:

Yes, definitely!

5 Interview L

M:

Para dar um bocadinho de contexto o meu projeto é inserido no contexto de tese para o mestrado de Gestão na Nova de Economia, Lisboa. E o objetivo em primeiro lugar é traçar um ponto de situação para a indústria, onde é que nos encontramos, que estamos a desenvolver é principalmente tentar perceber de que forma é que nos podemos desenvolver de forma a atingir uma competitividade internacional como país. Ou seja, termos uma presença no mercado europeu muito forte. E queria começar exatamente pelo assunto do ano que é obviamente o Covid-19 e perguntar que tipo de impacto considera que teve na indústria.

L:

Acho que principalmente foi quase um bloqueio de tudo que é órgão regulador, entidades públicas. Na indústria em si não estou a reparar em grande impacto. Ou seja, estamos a falar da indústria da cannabis medicinal, estou a reparar algum constrangimento por parte de compradores e eventuais investidores em avançar com ações concretas, mas principalmente na estagnação dos serviços públicos ou semipúblicos, isso para mim é o que me preocupa mais, incluindo também o setor bancário, que basicamente está a funcionar a 30%. Eu sou sincero estou muito ansioso para ver como é que serão transpostas as legislações da União Europeia e Nacionais dadas as recentes resoluções das Nações Unidas relativamente à passagem da cannabis para fora do uso de substâncias psicotrópicas. “maquiavélico”. É complicadíssimo, é moroso. À boa maneira portuguesa e da UE, superburocrático e não vejo necessidade disto.

Eu conheço relativamente bem este setor e obviamente conheço também outros setores altamente regulamentados. Não concordo de maneira nenhuma com a sobre regulamentação dos mercados. Acho que os mercados devem estar um bocadinho livres para decidir se faz parte da estratégia. Não concordo com a proibição da cannabis para uso recreacional. Numa última análise e sem querer alargar muito até acho que tudo o que seja substâncias psicotrópicas deveria ser relativamente liberalizada.

Teríamos pelo menos uma diminuição do tráfico ilícito e teríamos também uma plataforma ou um cenário regulamentar muito mais claro. No que respeita concretamente ao processo de implementação da cannabis medicinal em Portugal. Só há um adjetivo que eu posso colocar que é “maquiavélico”. É complicadíssimo, é moroso. À boa maneira portuguesa e da UE, superburocrático e não vejo necessidade disto. Mas a banca deveria ter uma posição muito clara de facilitar a vida aos agricultores e concretamente aos produtores de cannabis.

M:

É um facto que falta por em funcionamento vários sistemas que facilitem todo desenvolvimento da indústria. Ainda há aqui alguma lentidão. Um processo muito pouco eficiente e nisto eu queria-lhe perguntar porque é que decidiu entrar nesta indústria e que fatores valoriza em Portugal.

L:

Como é que decidimos avançar para esta indústria, olhe sou eu e um sócio. Neste momento somos os dois sócios principais, temos uma camada de grupo de investidores por trás de nós, mas só que lá está com toda esta questão do covid estão a aguardar a altura ideal para se deslocar a Portugal para poderem analisar in local o que é que está a acontecer. Surgiu esta ideia porque tanto eu como o meu sócio utilizávamos nessa altura óleo de cannabis para as nossas várias maleitas. Ele a ver com problemas de coluna e artrose e essas coisas todas e eu com problemas ligados a uma situação cancerígena e que felizmente foi ultrapassado. Eu tive 12 anos a viver em Moçambique e o meu socio é sul africano. Regressei já com o objetivo de montar a Canniberia. Começámos a avançar no processo, não foi digamos uma decisão tomada com base em fatores específicos. Obviamente que todos nós conhecemos as vantagens do mercado português nomeadamente uma mão de obra altamente qualificada nem sequer vou pela parte dos salários baixos que eu não acredito nessa escolha de salários baixos.

Obviamente que todos nós conhecemos as vantagens do mercado português nomeadamente uma mão de obra altamente qualificada e nem sequer vou pela parte dos salários baixos que eu não acredito nessa escolha de salários baixos.

Se uma pessoa quer ter profissionais competentes terá que os pagar convenientemente, ter um Master Grower com um ano ou dois de experiência e com uma licenciatura de botânica e estar a pagar o ordenado mínimo é perfeitamente insultuoso, não é assim que a indústria se vai desenvolver.

É também a facilidade de adquirir propriedade rural conforme referiu muitíssimo embora os preços neste momento estejam completamente inflacionados. Nós estamos em Moura, Baixo Alentejo margem esquerda do Guadiana, sempre esquecida a margem esquerda do Guadiana, e aqui os preços da terra são perfeitamente irrealistas devido ao fenómeno dos super intensivos, seja olival ou amendoal. Pois então com a extensão da rede da barragem do Alqueva para esta zona onde estamos a chegar a valores acima dos 30 mil euros por hectare, o que é perfeitamente irrealista. A nossa cultura não vai ser feita em aberto, vamos fazer totalmente indoor através de sistemas proprietários de hidroponia. Portanto não nos preocupa muito o custo da terra, a terra é própria, a propriedade é minha, portanto a empresa será usufruidora dessa propriedade. O que nos assusta muito no mercado ou na situação concreta de Portugal é aqueles fatores que eu já referi, é a burocracia extrema, é a inércia do regulador. Às vezes até me parece que há uma preferência por atores no mercado que são obviamente preferidas as grandes corporações e as pequenas empresas são muitas vezes ignoradas.

M:

A procura no mercado doméstico. Toda esta mobilização de procura e as vendas no mercado doméstico são bastante afetadas por essa burocracia. Até à data praticamente não há a registar quaisquer vendas de cannabis medicinal no país, à exceção da CBD.

L:

E só há um produto que está neste momento no mercado, o Sativex. E eu falo com médicos amigos informalmente e pergunto “então, mas já receitaste Cannabis Medicinal?”, “Não que isso é uma confusão e ninguém sabem bem se isso é abrangido pelo SNS ou não, e parece que há requisitos em termos burocráticos para o receituário de cannabis medicinal”. Ou seja neste momento os produtores

nacionais estão todos voltados a fornecer um mercado fora de portas, ou na União Europeia ou internacional.

M:

Permita-me a pergunta, mas quais são os mercados alvo da sua empresa?

L:

A Alemanha, Dinamarca, Israel e pouco mais. São os mercados mais dinâmicos. Embora a Alemanha seja um pau de dois bicos porque fornecer para a Alemanha sempre sinal que está sujeito ao preço que fora estabelecido pelos os organismos públicos alemães no que respeita à matéria prima.

M:

E disse que em quase todas as empresas estão focadas no mercado estrangeiro. E quais são os objetivos da sua empresa, no ponto de vista das atividades que pretende desenvolver?

L:

Os planos a longo prazo passam obviamente pela extração. Neste momento vamos focar-nos na parte do cultivo e venda da flor seca. O nosso plano dita que a partir de 2023 comecemos toda a extração. Depende muito do evoluir do mercado, agora fazer a distribuição não queremos entrar nessa área é muito complicado. Há muitos atores em jogo e não sei se queremos ou não, mas lá está isto uma empresa tem que ser dinâmica ao ponto de alterar as suas estratégias quando necessário e nós não somos radicais ou fundamentalistas relativamente a isso, se vemos que há uma oportunidade de negócio em começar a fazer a distribuição obviamente a iremos considerar.

M:

Por fim quero questionar acerca das indústrias acessórias, ou seja, nos Estados Unidos as empresas têm bastante dificuldade em financiamento devido ao contexto em que a indústria é inserida, queria perguntar que indústrias acessórias considera mais importantes e se teve problemas no sentido do financiamento.

L:

Bem, resumindo a uma resposta a indústria mais importante é a banca. Sim absolutamente [tivemos problemas], tivemos grandes bancos nacionais que são parte de cadeias internacionais que nos disseram que não pretendiam que é um setor que não está muito claro. Isto é um bocadinho o resultado do estigma que ainda há sobre a cannabis medicinal. Aqui na zona nós basicamente somos conhecidos como os produtores da droga. Esse estigma enquanto não desaparecer vai dificultar muita coisa. Os bancos continuam com sua magnífica postura de “damos um chouriço se nos derem uma vara de dez porcos”, ou seja, basicamente não cumprem a sua função de dinamizar o setor agrícola industrial, ou seja, é apenas uma máquina de ganhar dinheiro e sem contrapartidas não há qualquer possibilidade de investimento. Obviamente que isto abre portas aos investidores particulares, ao business angels, aos venture capital, capitalistas e coisas do género. Mas a banca deveria ter uma posição muito clara e facilitar a vida aos agricultores e concretamente aos produtores de Cannabis medicinal.

M:

Porque também é uma oportunidade para a banca em si, participar numa indústria que vai crescer imenso.

L:

Pois, exatamente, e que gera centenas de milhões de euros. Não tenhamos a menor dúvida, agora é postura tradicionalista da banca é que não é nada agradável. Mas no entanto obviamente que se tiver um projeto aprovado pelo Portugal 2020 ou PDR ou uma coisa qualquer todos os bancos andam atrás de si porque querem aquela fatia, é dinheiro garantido. Eles nem sequer se têm que preocupar com garantias, que são dadas pelas sociedades de garantia mútua. Ao fim e ao cabo a banca não quer fazer negócios no sentido da palavra, quer apenas que o seu dinheiro esteja sempre salvaguardado e que não haja qualquer risco e que tudo corra bem com aquele financiamento. Acho também que não têm técnicos à altura. Vejo também a falta de conhecimento do mercado, vejo principalmente a nível das produtividades e das taxas de lucro brutas que se conseguem no mercado. Também não têm noção dos custos inerentes à produção, que são enormes, principalmente ao nível da energia elétrica. Deveria haver um sistema em que grandes consumidores industriais tivessem possibilidade de ter tarifas mais atrativas. Para ter uma ideia para as nossas necessidades de energia nós temos que recorrer a um parque fotovoltaico. Fomos nós que implementamos e que nos custou muito dinheiro. Trabalhar com energia da rede é incomportável.

Por outro lado, tenho que congratular o município de Moura que deu o total apoio desde o início, na implementação deste projeto. Considera que realmente é um projeto importante para o concelho, não vamos criar centenas de postos de trabalho, mas vamos criar 14 ou 16 postos de trabalho altamente especializados. Tudo aponta que iremos empregar pessoal vindo das universidades de Évora e de Beja, ou seja estamos a incentivar um bocadinho o regresso ao interior e a desenvolver esta economia municipal que estagnou completamente e que está a sofrer de desertificação e abandono.

M:

Concordo com tudo, gostaria de perguntar se considera que existe alguma coisa importante que não tenha sido aqui falado.

L:

Sim, uma clarificação ou uma reformulação da legislação relativa à cannabis medicinal, porque não acho correto que Portugal esteja a ser utilizado como uma plataforma para, chamemos, lavagem de flor proveniente de países que normalmente não apresentam conformidade com GMP. Está a acontecer, há empresas grandes, muito grandes que estão a comprar flor não certificado GMP. Há países principalmente da América Latina que fazem entrar em Portugal, não acrescenta qualquer valor a este produto que é pura e simplesmente para o exportar para a Europa já com uma certificação GMP. Eu não sei como é que certificação é feita, o produto não é modificado em nada apenas mudada a embalagem, e é exportado como produto GMP.

Por outro lado, gostava de ver o processo de licenciamento muito mais simplificado e gostava de ver também um regulador com uma maior capacidade de resposta às empresas que desejam atuar nesta área.

M:

E pede-se uma maior capacidade de dinamismo no geral por parte do Infarmed, há que aumentar a educação em todos os níveis da sociedade. Para já não está a ser realizado ainda, falamos de médicos, educação para o que é que estes medicamentos podem tratar ou não podem tratar e na população no geral existe aquele estigma gigante. E cabe ao Infarmed educar, ao fim ao cabo.

L:

Concordo plenamente consigo.

M:

Agradeço desde já a sua disponibilidade.

L:

Pronto então muito obrigado, e também pela oportunidade e esteja à vontade de escrever questões suplementares, basta contactar e eu com todo o gosto respondo.

Muito obrigado e boa sorte para o seu trabalho.

6 Interview A

M:

Para tentar dar um bocadinho de contexto meu projeto está inserido na tese de mestrado em gestão na Nova SBE. A ideia é traçar um ponto de situação em como é que se encontra a indústria, o que estamos a fazer para desenvolvê-la e como é que se está a desenvolver e de que forma é que podemos conduzir esse desenvolvimento para atingirmos uma competitividade internacional forte com Portugal como um todo. Especialmente na União Europeia. E tenho conversado com vários produtores, várias pessoas ligadas à indústria de forma a entender exatamente o ponto de situação da indústria e é isso que vamos fazer aqui agora. Queria começar, sem dúvida pelo assunto do ano que é o COVID-19 e perguntar que tipo de impactos considera que teve na indústria.

A:

Na indústria particular de cannabis medicinal?

M:

Sim.

A:

Eu penso que atrasou tudo o que seja processo a nível de por exemplo regulamentar porque as equipas estiveram alocadas propriamente a tudo o que estava relacionado com o Coronavírus, até no Infarmed, sobretudo ao nível das máscaras, de todo o enquadramento regulamentar que de facto tiveram que transpor. E penso que provavelmente terá atrasado alguns processos de licenciamento, mas também por exemplo ao nível das empresas. Falo da minha experiência pessoal, por exemplo nós tínhamos algumas visitas agendadas para a América e também para a Holanda que não puderam realizar ao nível de processos de desenvolvimento, seja a nível da robotização, seja ao nível da agricultura vertical para tentarmos verem em pleno ou em terreno funcionamento e congressos que também foram cancelados. Parece que não, mas na cannabis medicinais congressos são muito importantes para impactar um bocadinho a indústria e as autoridades reguladoras da Europa e o facto de não se terem podido realizar também teve um impacto claro. Acima de tudo ao nível também da relação entre as empresas. No nosso caso atrasou processos seja a distribuição do produto seja ao nível de equipamentos. Acho que foi sobretudo o principal impacto a nível europeu e mundial.

M:

E falou-me dos processos em relação a isso queria perguntar como é que considera que foi o processo de aprovação. E como classificaria as interações com o regulador.

A:

Olhe, eu estagiei no Infarmed e estive uma temporada no Infarmed e por isso só tenho bem a dizer da nossa autoridade reguladora enquanto farmacêutica, mas nós submetemos o nosso projeto há pouquíssimo tempo. Por isso ainda não temos uma interação muito forte com a Infarmed porque estamos a aguardar a avaliação da documentação. Mas eu penso que a partir do

momento em que os processos são bem instruídos e todas as documentações que são realmente importantes são submetidas, penso que a autoridade só tem a ganhar com a interação entre empresas e só facilita o processo. Mas do que contactámos estamos efetivamente contentes com o resultado obtido e com a resposta às nossas questões.

M:

E de que forma é que vê a legislação a evoluir, tanto em Portugal como na União Europeia?

A:

A legislação evoluiu, a praticidade da legislação não. Ou seja, de facto nós temos uma legislação cá em Portugal, mas não temos produto ou seja o que nos acontece é, e eu estou presente num grupo de farmácias, e o que acontece é de fato que as pessoas querem comprar sobretudo óleos e o enquadramento regulamentar ainda não o permite, isto é, existem pedidos de autorização de colocação no mercado mas neste momento não existe produto, não sei se é falha regulamentar, ou se as entidades não estão a colocar os processos em conveniência porque também há falta de evidência científica como a conhecemos verdadeiramente ao nível químico. Mas não sei se através de outros métodos se poderia por exemplo pegar em estudos que estão feitos na Alemanha e transpor para Portugal. Haver uma espécie de reconhecimento mútuo como acontece nos medicamentos, para que de facto pudesse haver óleos no mercado. Porque o que acontece neste momento é que as pessoas que precisam vão comprar a entidades duvidosas em que não há rastreabilidade destes produtos. Penso que um grande passo é ver no fundo o enquadramento regulamentar que o permita e que permita que de facto esteja disponível este produto. Acho que acima de tudo tem de haver uma maior educação científica de todos os intervenientes, desde médicos, desde farmacêuticos, desde a indústria farmacêutica propriamente dita para que de facto seja possível e viável a acessibilidade a estes produtos, que têm eficácia terapêutica demonstrada.

M:

Claro, e podendo aproveitar processos já de outros países como disse, seria um passo muito importante e que agilizaria bastante e que criaria aqui uma eficiência muito maior. Porque é que decidiu entrar nesta indústria?

A:

Sou farmacêutica, trabalhei e continuo a trabalhar em farmácia comunitária, mas esse nunca foi o meu objetivo principal, eu queria indústria por um cariz pessoal, a minha mãe necessitou de óleo de CBD e foi muito difícil de arranjar na altura. Um dos meus sócios também estava interessado neste mercado e no fundo nós queríamos trazer mais transparência através de parcerias com entidades que de facto queiram intervir no mercado de forma clara, de forma objetiva e no fundo queríamos aumentar a acessibilidade desse tipo de produtos e daí estarmos presentes em várias setores da cannabis medicinal e queremos fazer a diferença no mercado [nacional] e não que isso gerou tamanha notícia no sentido de não haver apenas multinacionais que entram no mercado português investem milhões e depois exportam a totalidade do produto. Ou seja, os pacientes portugueses ficam sem acesso, mas ter no fundo uma empresa portuguesa formada por farmacêuticos que de fato querem ter um papel ativo na saúde do doente e no fundo fazer a diferença e não ser só uma empresa que exporta, claro que vamos exportar numa primeira fase, mas também vamos estar presentes por exemplo na educação dos farmacêuticos. Vamos criar uma espécie de uma plataforma online para intervenção nesse sentido e também para ajudar no fundo a ter um melhor enquadramento regulamentar nesse sentido.

M:

Muitas vezes o objetivo é puramente aproveitar-se de um mercado que existe no momento e vocês estão a dar um passo além ao criar por si um mercado com esta educação. E que fatores é que valorizam em Portugal eu que fazem do país um país perfeito para entrar nesta indústria?

A:

Nós achamos que Portugal pode e é a porta de entrada para a Europa. O Infarmed é muito bem cotado internacionalmente e podemos também abrir portas no sentido de também ter um enquadramento regulamentar diferente e ter esse reconhecimento, e acima de tudo também Portugal é reconhecido

pela qualidade de produção, seja na indústria farmacêutica, seja a nível de outras indústrias. Temos uma mão-de-obra extremamente qualificada cá em Portugal e acho que temos muito uma cultura de desbravar novos caminhos. E pelo que nós estamos a perceber de fato Portugal pode ser a porta de entrada também para a Europa e para tentar um bocadinho anular os estigmas que podem existir aqui.

M:

Creio que ainda não falámos aqui do mercado doméstico. Neste momento existe apenas um medicamento aprovado, o Sativex, e queria perguntar que futuro é que vê para o mercado nacional em si, se considera que eventualmente o mercado doméstico será suficientemente forte para nos tornar forte internacionalmente, digamos assim.

A:

Eu penso que sim, mas apenas se houver educação. Porque se não houver educação da comunidade médica, mas também farmacêutica, mas sobretudo a comunidade médica porque existem várias indicações terapêuticas que podem ser tratadas e infelizmente cuja incidência é alta, se houver essa educação e desmistificação por exemplo poderemos ter um mercado muito forte ao nível da neurologia e da psiquiatria ou mesmo da oncologia que já é de fato um mercado forte mas nós não temos acesso a valores porque de fato é um mercado paralelo e neste momento se houvesse padronização, se houvesse um produto de facto de elevada rastreabilidade no mercado português e se os médicos de facto tivessem essa formação que é um produto que é realmente seguro, que é eficaz e cumpre todos os padrões de qualidade, teríamos um mercado muito forte sem dúvida. Ao nível dos óleos, tinturas e extratos, não ao nível de medicamentos, mas sobretudo de alguns extratos.

M:

Temos um exemplo da sua mãe que por exemplo está ligada de certa forma e tem mais conhecimento em relação a isto, mas por outro lado temos a situação oposta por exemplo a minha mãe tem fibromialgia mas devido ao estímulo, devido ao contexto em que está inserida e obviamente considera a Cannabis como uma droga e de certa forma poderá potencialmente estar a perder alguma qualidade de vida por não haver informação, por não haver mais educação neste sentido.

A:

Há muitos médicos que eu tenho conhecimento e muitos na Universidade de Coimbra e no Porto que de fato prescrevem e têm evidência científica e depois não há acesso porque não podem ir a uma farmácia comprar, e é isso que nós queremos mudar.

M:

E como é que vê a competição evoluir em Portugal? Ou seja, a maioria das empresas estão focadas na produção e exportação, mas como é que considera que é um paradigma competitivo em Portugal neste momento?

A:

Aqui em Portugal nota-se imenso que tudo o que seja que esteja relacionado com Cannabis medicinal é muito tabu. As próprias empresas não fazem qualquer tipo de informação e não há muita partilha. Também é uma coisa que vamos mudar com a criação de uma associação e de um plano, como uma bioindústria cá em Portugal. No fundo há mercado para todos e há diferentes tipos de empresas que podem ter sucesso em diferentes tipos de mercado. E de facto acho que há essa competitividade, mas no fundo essa competitividade espalha-se numa total confidencialidade da informação e eu percebo que isso aconteça, mas também percebo que se as empresas não formarem no fundo uma parceria no sentido de também colaborar com as autoridades reguladoras se calhar também no acesso não vai ser tão facilitado quanto isso. E poderá ser o caminho a criação de associações de cultivo, de produtores, que no fundo ajudem um bocadinho a moldar o mercado em Portugal e a fazer pressão para que haja uma maior acessibilidade.

M:

Concordo plenamente que há mercado para todos se desenvolvido por todos. Se nos pudermos juntar todos especialmente dado que estas empresas que estão na indústria são pioneiras e estão a moldar o desenvolvimento da indústria.

E estamos quase a terminar, mas antes disso queria perguntar que indústrias acessórias é que considera que são mais importantes, ou seja, eu já percebi que está mais ligada à parte de medicamentos porque é o seu background, mas eu estou um bocadinho mais ligado ao ramo empresarial e desenvolvimento empresarial. Aquilo que tenho observado é que, no que respeita a indústrias acessórias maioritariamente a banca, é que a banca está reticente em dar financiamento. Nesse sentido queria perguntar por sua experiência própria, que indústrias acessórias considera mais importantes para o desenvolvimento da indústria da Cannabis e que problemas poderá já ter tido com algumas destas indústrias acessórias como por exemplo a banca.

A:

Acho que em termos de indústrias acessórias falamos sobretudo de infraestruturas e equipamentos. Aqui neste caso que é uma grande lacuna no mercado cá em Portugal. Por exemplo há de facto empresas que até é nossa intenção no fundo trabalhar e estar em estreita cooperação com o tecido empresarial português, mas por exemplo, no nosso caso específico, se precisar de racks, um sistema de hidroponia adaptado a Cannabis medicinal, não há experiência em Portugal nesse sentido, e o que está a acontecer são empresas estrangeiras estão a dar um bocadinho o apoio e estão no fundo a providenciar informação científica e conhecimento para que de facto as empresas possam entrar neste mercado. Por exemplo empresas de luzes de luminárias, leds, ainda estão um bocadinho aquém do que é o mercado no fundo Americano, sobretudo, e não conseguem de facto competir com o know how que estas empresas estrangeiras podem trazer para Portugal. E depois é um problema muito grave porque se reparar tudo o que é equipamentos tem de ver dos estados unidos para Portugal. Ou seja, tudo o que é custos de envio são extremamente elevados e se nós conseguirmos ter empresas e indústrias acessórias que conseguissem no fundo providenciar soluções que sejam integradas em cada projeto. De facto, conseguiríamos trazer muitos benefícios para as indústrias cá em Portugal. E quando falo racks, falo de rega, falo de luzes de iluminação, falo de sistemas de climatização, falo de processamentos, sistemas de extração, equipamentos para extração, ou seja, mesmo construção em área de estufas é uma coisa que em Portugal ainda falta muito esse apoio a essas indústrias de apoio para a construção de uma instalação deste sentido, e daí a certeza também financeira que isso provoca.

M:

De facto, é uma indústria interessante, e temos a oportunidade de com a fundamentação de uma indústria forte base, criar todas as outras indústrias como diz a agricultura tecnológica, tudo o que está a ser desenvolvido, podemos ter uma base forte em Portugal.

A:

Mesmo a nível de software por exemplo, não existe essa realidade, seja a nível de robotização, por exemplo, uma solução adaptada para transporte de plantas por exemplo. Existem muitas oportunidades para novas indústrias crescerem e surgirem e adaptarem-se para esta indústria cá em Portugal.

M:

E do ponto de vista das responsabilidades ambientais, quando fazemos referência a cultivos indoor existe aqui uma relevante pegada ambiental. E de que forma é que vê a a sua empresa amenizar essa pegada ambiental. Quais são suas opiniões?

A:

Sim, de facto é uma pegada gigante, sobretudo por causa da iluminação e dos consumos. Nós temos duas ou três soluções. A primeira todo o telhado sendo um edifício indoor vai possuir painéis solares. Depois vamos ter um sistema de recolha de água por condensação, que nos vai permitir reaproveitar água, e o facto de haver um software de rastreabilidade, o facto de haver um cultivo extremamente controlado, e haver um programa de cultivo otimizado, vai diminuir ao máximo tudo o que seja perdas. Nós vamos também usar cultivo sem solo, pelo que não temos essa pegada. Tudo o que for otimizado vai minimizar a pegada ecológica. Mas tudo o que seja processo vai diminuir a perda e nós estamos também a tentar otimizar todos os processos nesse sentido ou seja ter menor impacto seja a nível de resíduos seja ao nível da água seja ao nível de propagação de clones, terão menor impacto possível.

M:

Acredito que poderão dar uma boa vantagem competitiva à empresa. Da minha parte já fiz todas as perguntas, mas quero perguntar se considera que houve alguma coisa que considere relevante e não tenha sido dito.

A:

Eu acho que o mais importante é já tocámos nesse assunto várias vezes, é que a indústria vai ser moldada pela educação, pela transparência pela informação científica validada, rigorosa e desmistificada, e acima de tudo a indústria vai ser moldada por uma educação aos médicos e farmacêuticos mesmo que da própria entidade reguladora e de todos os intervenientes e envolvidos, seja cadeias de distribuição, seja em farmácias, seja na exportação. No fundo é esse o futuro e no fundo haver uma transparência e haver de facto informação validada que não é o caso neste momento, e aumentar a acessibilidade. Acima de tudo o paciente é que precisa e que é que não está a ter acesso e acho que o mercado português só se vai desenvolver a partir do momento em que houver acessibilidade. Isso passa por educação e transparência.

M:

Acho que acho que é tudo, muito obrigado por esta conversa, foi muito interessante em geral.

A:

Mais alguma questão? Percebo por vezes a dificuldade de contactar empresas ou pessoas que não dão qualquer ajuda e às vezes é preciso esse input.

M:

É interessante ver a maneira de pensar e acho que tem uma base muito bem pensada para a indústria que pode desenvolver aqui, e horizontes muito alargados e que é muito importante.

7 Interview B

M:

Para lhe dar algum contexto acerca do meu projeto, é inserido na tese de mestrado em Gestão na Nova SBE e o objetivo é traçar o ponto de situação da indústria da Cannabis em Portugal, entender o que é que está a ser feito e de que forma é que podemos desenvolvê-la e com isso torná-la competitiva internacionalmente como Portugal como um todo. E nesse sentido gostaria de começar por perguntar quais é que acha que são os principais impactos do COVID-19 na indústria este ano.

B:

Antes de mais seria importante clarificar a minha posição na indústria em Portugal e também em Angola, eu tenho-me dedicado em Portugal acima de tudo ao cânhamo industrial, ou seja, da cannabis para fins industriais. No que toca à Cannabis medicinal, tenho colaborado e feito alguma consultoria. Isto só para o poder situar. Sobre o impacto da pandemia na indústria, bom, do lado positivo e ainda no final da semana passada a Forbes veio lançar mais um artigo a indicar um novo estudo que vem mostrar que o CBD pode reduzir a inflamação em pacientes de COVID-19, então mais uma vez a indústria a beneficiar da pandemia porque no ponto de vista medicinal ou até mesmo no ponto de vista da alimentação providenciada pelo cânhamo no que toca à prevenção, temos cada vez mais consumidores a assumirem como medicina ou como alimento suplementar, conseguem encontrar benefícios na planta. Há cada vez mais sobretudo no consumidor a ideia de que a cannabis dividida por partes traz muitos benefícios. Creio que o COVID-19 veio ajudar ainda mais a trazer informação e a acabar com a desinformação que a maioria da sociedade associava à planta e aos usos da planta. Este eu creio que é o primeiro impacto positivo da pandemia no que toca à indústria da cannabis. Negativamente, até agora o impacto negativo que tenho notado na indústria medicinal em Portugal é com a questão dos lay-offs e alguns despedimentos.

M:

Procedendo, portanto a sua presença empresarial em Portugal é na indústria do cânhamo.

B:

Sim, estou ligado a vários projetos, no entanto este anos não consegui produzir como estava planeado em termos de investimento e por causa da pandemia, foi aqui outra área de investimentos que foram anulados, por causa da insegurança económica gerada pela pandemia.

M:

Nesse sentido queria-lhe perguntar como é que foi o processo de aprovação, e como é que o classificaria.

B:

Como sabe em 2018 o Parlamento Português aprovou a legalização da Cannabis medicinal e a mesma lei em vigor a partir de janeiro de 2019. A partir daí a Direcção-Geral de Alimentação e Veterinária passou a recusar cumprir a parte dos procedimentos de cultivo de cânhamo que lhes competia, que até ao último agosto não era nada mais nada menos do que inspecionar o saco de sementes de cânhamo industrial para verificar que se tratava de variedades certificadas, menos de 0,2%. Ora a seguir à legalização do parlamento passaram a recusar dar seguimento às necessidades do cultivo, porque até aqui não havia uma autorização de facto, esta realidade, até agosto não tínhamos uma autorização de cultivo. Tínhamos de comunicar com as autoridades, com a direcção regional, com o Ministério da Agricultura, que estávamos a cultivar cânhamo e informar qual era a variedade, e toda uma série de informações relativamente ao local de cultivo e à empresa.

Bastava fazer as comunicações, então para responder à pergunta do Miguel, este ano no que toca aos cultivos onde estive envolvido, nós fizemos as comunicações, embora não tivéssemos um parecer da DGAV. A desculpa para deixarem de cumprir a sua parte no processo do cânhamo é a legalização da cannabis medicinal, que tudo passa a ser tratado com o Infarmed. Ora naturalmente isso não faz qualquer sentido, a novidade aqui na legislação portuguesa é a cannabis medicinal. O cânhamo industrial já era legislado, regulado e certificado pela União Europeia, e se não fosse a Lei Europeia tecnicamente não seria possível produzir cânhamo em Portugal. No entanto a lei estava articulada com a União Europeia, não houve nenhuma suspensão dos decretos que permitiam o cultivo. Nenhuma houve nenhuma nota oficial, a vir de facto confirmar estas informações que a DGAV ia enviando por e-mail a quem perguntava que era, basicamente, que já não seria nada com eles, mas sim com o Infarmed. Milhares de e-mails foram recebidos pelo Infarmed que imediatamente começou a responder “Caríssimos, Cannabis com menos de 0,2% THC é cânhamo industrial e não compete ao Infarmed”. E a partir daí começou o jogo do empurra. A única autoridade de medicamento que o Infarmed tem a ver com alguma atividade agrícola ou é a cannabis medicinal ou com a produção de ópio, que já era legal muito antes da cannabis medicinal, mas é uma questão de regulamentar o processo para garantir que aquele produto agrícola vai sair daquela empresa como sendo um produto farmacêutico. É isto, o Infarmed nunca teve nada a ver com cânhamo industrial e só quando nós, o grupo de produtores, fizemos uma queixa ao provedor de Justiça porque não tínhamos resposta nem de um lado nem de outro como é que ia temporada de 2019, é que o Infarmed nos recebeu e basicamente só confirmou o que tinha dito em centenas de e-mails que é “Cannabis com menos de 0,2% de THC não é com o Infarmed”. Entretanto entrou os media, estes meios de comunicação em volta da Cannabis e do uso medicinal, começaram a disseminar a informação de que o processo está suspenso, e que não se podia cultivar cânhamo até sair uma nova portaria. Ora foram praticamente dois anos e meio à espera de uma portaria que viesse clarificar as diferenças que sempre estiveram claras. Esse artigo é que veio finalmente reparar as águas, mas infelizmente vem mais uma vez denotar uma tendência de desinformação plausível. Porque de facto o novo regulamento prevê a reprodução de fibras e sementes, aquilo que sempre esteve previsto, mas, no entanto, não vem reconhecer diretamente na lei o terceiro propósito de exploração que é basicamente a produção de canabinoides ou mais especificamente na produção de CBD e produto para biomassa. Mais uma vez temos uma tendência desinformativa que nos vem demonstrar que o estado parece um dos primeiros interessados em não informar corretamente. Indirectamente, não na portaria, mas depois nos novos procedimentos que a DGAV finalmente veio lançar no seu site, a DGAV veio reconhecer que há ali qualquer coisa além da fibra e da semente, mas não falou diretamente nem em biomassa, nem CBD. Nos procedimentos vêm que nós produtores agora vamos ter que ter um caderno de campo, um registo de rastreabilidade do que é que fazemos a tudo aquilo

que não é a fibra nem a semente. Ora isto é claramente uma menção indireta à produção de CBD que é altamente rentável.

M:

Em infraestruturas e sistemas estão a criar toda uma ineficiência que está a prejudicar fortemente a indústria.

B:

Exatamente, nós já temos as lacunas de estarmos numa indústria embrionária e obrigatoriamente os produtores estão a responder àquele que tem maior procura, que é o CBD. Ao mesmo tempo têm que produzir nesse sentido porque não há unidade de processamento de cânhamo industrial em Portugal, não havendo unidade de processamento de cânhamo industrial é incomportável estar a produzir fibra ou semente, não podendo fazer a transformação da propriedade primária em fibra, ou o processamento da semente seja para vender inteira ou já descascada. O Estado não tem interesse em investir no processamento.

Não havendo nenhuma restrição ao aproveitamento da planta inteira, e como fiz noutros anos, vou meter no meu formulário de produtor “produção para flores” porque como o Miguel sabe há mercado para a flor, durante décadas nós pensámos que fumar cânhamo só dá dores de cabeça e afinal traz uma série de enormes benefícios em o efeito indesejado do THC. O cânhamo está a ganhar porque finalmente nós podemos fornecer cannabis aos consumidores sem o efeito psicotrópico.

A maioria das pessoas por força de 85 anos de proibicionismo não quer nada com THC, vai demorar até atingirmos uma normalização do que é o consumo de THC. No entanto estamos a testemunhar uma aceleração dessa normalização por via do CBD. As sociedades onde o consumo do CBD está a ser normalizado são sociedades onde o debate público à volta do THC, é um debate sem medos, sem receios, sem pé atrás. São sociedades em que de facto se está a reconhecer todas as partes da planta, inclusive do THC. Mas os benefícios que os potenciais consumidores têm, são o catalisador para um debate mais amplo, aberto e informativo.

É complicado fazer um esforço enorme e informativo da realidade do cânhamo, do CBD, a separação entre o uso industrial, recreativo e medicinal e depois vem os media causar um retrocesso. Numa altura em que a sociedade finalmente tem o debate público sobre o universo da planta e as suas finalidades e oportunidades, quando finalmente atingimos isto a informação está a produzir uma carga desinformativa muito grande.

M:

É como diz, a informação é toda muito contraditória e muito complicado de entender. Há muita falta de clarificação sobre o que é a cannabis medicinal, o que é o hemp, o que é CBD, todas as divisões têm tido alguma dificuldade em entender o universo do cânhamo.

B:

Mas quero afirmar e deixar muito claro aqui, se fizera uma retrospectiva dos média desde que se começou o tema da cannabis medicinal, desde que se começa pela primeira vez a surgir na imprensa portuguesa a menção ao CBD, nunca, muito dificilmente até hoje encontramos algum momento informativo seja ele escrito, seja audiovisual, a imprensa portuguesa e definir claramente a realidade do fenómeno do CBD. A primeira coisa que temos que ter em conta é que mais de 97% do CBD a circular neste momento no planeta Terra é derivado de cânhamo industrial. Não é CBD de Cannabis medicinal ou extraída destes novos híbridos da cannabis medicinal. É daí que acho que vem, creio, esta tendência desinformativa, porque eu acho que naturalmente há um interesse gigantesco das farmacêuticas em que o CBD seja vendido como um medicamento e não propriamente como sendo um suplemento alimentar disponível a toda a gente. Há já uma fórmula de CBD medicinal a circular nos Estados Unidos e na Europa pela GW Pharma que é o Epidiolex. Foram desenvolvidos para conter mais CBD e muito menos THC, mais uma vez com recurso ao cânhamo porque o traço genético de produção de CBD está nas variedades de cânhamo, então há que cruzar as variedades de CBD mais fracas possível com o cânhamo para vir obter então estas novas variedades de CBD. Eu não sei se já falei aqui na grande diferença entre tratar uma doença e preveni-la, a Cannabis medicinal neste momento está para tratar doentes, o cânhamo está para todo o resto sobretudo na prevenção. Então não é difícil de compreender como a sociedade onde o CBD é consumido como

alimento é uma sociedade onde a esmagadora maioria dos consumidores estão a evitar virem a tornar-se pacientes. Isso inclui evitar virem a tornar-se pacientes de Cannabis Medicinal.

A realidade é tão simples quanto esta, se a mesma molécula ocorre originalmente no cânhamo e por força da hibridagem também ocorre na cannabis medicinal, bom nós sabemos que o custo de produção do cânhamo é extremamente baixo comparativamente ao medicinal. O Epidiolex nos Estados Unidos e aqui na Europa deve rondar próximo dos 32 mil euros por ano, estamos a falar de cerca de 10% de concentração. Nós encontramos 20% à venda de cânhamo, ou seja, o dobro da biodisponibilidade do CBD. Isto é ridículo do ponto de vista de quem está do lado medicinal.

Há uma tentativa desenfreada de refrear ou de abrandar o desenvolvimento da indústria do cânhamo, é o fato da polinização cruzada. Ora nós sabemos que as quantias de média e alta densidade do cânhamo, é virtualmente impossível livrarmo-nos completamente de todas as plantas macho. Então a atmosfera vai libertar este pólen e estudos confirmados até agora temos num raio entre 5 a 12 quilómetros, a possibilidade deste pólen vir fertilizar outras plantas da mesma espécie.

Estas flores de cannabis medicinal que valem milhões só valem milhões enquanto estas flores se mantiverem virgens, ou seja, isto significa não serem polinizadas, se elas forem polinizadas vão-se desenvolver menos e o ponto ideal químico da molécula alvo vai começar a baixar. Isso significa perda de rentabilidade. Então digamos que há também uma tendência de o lobby dificultar o avanço dos cultivos de cânhamo para também minimizar os danos que possam causar estas indústrias do medicinal. Este é outro argumento para termos chegado a este ponto de situação.

M:

A situação que me relatou é mesmo muito elucidativa para compreender de que forma é que isso poderá afetar o crescimento da indústria da Cannabis em Portugal.

B:

Só uma nota final, tem havido uma perseguição enorme a todas estas lojas novas que estão a abrir de venda de produto de cânhamo, e mais especificamente à venda de flor como um artigo técnico ou de colecionismo, estamos a falar de lojistas a serem presos por 24 ou 48 horas, estamos a falar de pessoas a terem processos em tribunal como narcotraficantes quando não o são, e estamos a falar de produto que depois nunca é devolvido ou quando é devolvido já está impróprio para a comercialização. Está a ser formada uma associação de retalhistas de produtos de cânhamo que estão também a colaborar connosco, os produtores, para conseguirmos digamos trazer o assunto à baila na praça pública porque é ridículo num país tão avançado estarmos a abrir processos em tribunal de narcotráfico. A melhor associação que neste momento tem trabalhado no sentido do cânhamo é sem dúvida a Cannacasa. Mas esta associação de retalhistas, de lojistas, que vendem cânhamo e flor de cânhamo, é uma nova associação que está a ser formada ainda.