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Hemp cigarettes: A Project for the company *Fábrica de Tabaco Micaelense, S.A*

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Master in Management

Supervisor:

PhD, José Pedro Meira Campino, Assistant Professor

ISCTE Business School

September, 2024



BUSINESS
SCHOOL

Department of Marketing, Strategy and Operations

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“The important thing is not to stop questioning. Curiosity has its own reason for existence.”
Albert Einstein

Resumo

O consumo de tabaco tem vindo a diminuir substancialmente em todo o mundo (e em Portugal), sobretudo por razões de saúde. A *Fábrica de Tabaco Micaelense (FTM)* reconhece estas questões emergentes e pretende contribuir positivamente através do desenvolvimento de novas práticas empresariais. Em consonância com esta visão, o objetivo geral desta tese é estabelecer com sucesso uma marca de cigarros de cânhamo sustentável, mais saudável e de qualidade superior, alcançando a inserção e a expansão nos mercados internacionais, respeitando os mais elevados padrões de qualidade.

Será desenvolvido um Projeto para a implementação de diferentes componentes no processo de produção de cigarros, nomeadamente o cânhamo, um tipo específico de canábis que tem uma porção insignificante de substância psicotrópica (0,3%) e tem várias vantagens para a saúde. Este é um projeto inovador para verificar a veracidade da sua implementação nesta empresa em específico, de modo a satisfazer as necessidades crescentes dos consumidores por este tipo de planta e, sobretudo, fornecer à empresa uma possível estratégia para sobreviver nesta indústria volátil do tabaco.

Palavras-Chave: Tabaco, Cannabis, Cânhamo Industrial, FTM, União Europeia, Estratégia

Classificação JEL: M11; M14; O31; O32; O33.

Abstract

Tobacco consumption has fallen substantially around the world (and in Portugal) mostly because of health-related reasons. *Fábrica de Tabaco Micaelense (FTM)* recognizes these emerging issues and aims to contribute positively by developing new business practices. In line with this vision, the general objective of this thesis is to successfully establish a sustainable, healthier, and premium hemp cigarette brand, achieving market penetration and expansion across international markets while adhering to the highest quality standards.

A Project will be developed for the implementation of different components in the production process of cigarettes, namely hemp, a specific type of cannabis that have an insignificant portion of the psychotropic substance (0,3%) and has various health advantages. This is an innovative project to see how this idea could be implemented in this specific company, to survive in this volatile industry of tobacco.

Keywords: Tobacco, Cannabis, Industrial Hemp, FTM, European Union, Strategy

JEL Classification: M11; M14; O31; O32; O33.

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List of Abbreviations

CAP – Common Agricultural Policy
CBC – Cannabichromene
CBD – Canabodiol
CBE – Cannabielsoin
CBG – Cannabigerol
CIEC – Código dos Impostos Especiais de Consumo
DGAV – Direção Regional de Alimentação e Veterinária
EMT – Empresa Madeirense Tabacos, S.A
FTM – Fábrica de Tabaco Micaelense, S.A
INE – Instituto Nacional de Estatística
JTI – Japan Tobacco International
NRT – Nicotine replacement Therapy
SNS – Serviço Nacional de Saúde
TPD – Tobacco Products Directive
THC – Tetrahydrocannabinol
SAI - Sociedade Atlântica de Investimentos, S.A.

1 Introduction

Over the years, tobacco consumption has fallen substantially around the world, and Portugal is no exception. A lot of people have made the decision to stop smoking or switch to non-traditional cigarettes because of the public's increased concern for their health and wellbeing.

Global Tobacco use has steadily declined throughout the years (Table 1 in Annex B) and the forecast is that, at least until 2028, the trend will continue. (Statista, 2023). According to INS (2019), in 2014 the percentage of the population from Continental Portugal aged over 15 who smoke was 19,9% of the population, while in 2019 that value decreased to 16,8%.

As the (traditional) tobacco is the main product produced by *Fábrica de Tabaco Micaelense (FTM)*, a change in strategy is necessary for its success and financial sustainability. FTM has sought to diversify outside its area of work by entering tourism-related businesses. Although this has resulted in a positive return for the company, steps need to be taken to preserve its essence as a tobacco factory, i.e., to diversify within its production process.

When looking for possible strategies that could be considered for the development of this project, there was an opportunity to attend, in 2023, an international conference about cannabis (*CannAzores 2023- Fórum Transatlântico de Cânhamo e Canábis*). This conference shed some light on the plant's several strains, stressing the importance of Industrial Hemp, based on scientific evidence expressed and defended by United Nations, European Union, World Health Organization, International Monetary Fund and World Bank. As we can read in the UN Industrial Hemp report "Industrial Hemp – or simple hemp – is the commonly used term for non-intoxicant plant varieties belonging to the so-called Cannabis L. genus. The international hemp sector defines industrial hemp as a Cannabis sativa L. plant which the concentration of the secondary compound tetrahydrocannabinol (THC) in the flowering tops and leaves is less than the regulated maximum level as established by authorities". (UN Industrial Hemp Report, 2022).

So, Hemp is a sub-species of cannabis (it belongs to the Cannabis sativa I type), which is known for having an insignificant percentage (up to 0.3%) of the psychotropic substance THC (tetrahydrocannabinol). In addition to THC, this species also has hundreds of other components, such as phytocannabinoids like "cannabichromene

(CBC), canabidiol (CBD), cannabielsoin (CBE), cannabigerol (CBG), etc. (Radwan et al., 2021).

In addition to cannabinoids, more than 400 non-cannabinoid constituents have been isolated from Cannabis Sativa L. plant and many other molecules so important to health. Besides this, Industrial Hemp has numerous benefits in various areas such as construction, textile, paper, food, beverages, cosmetics, biodiesel, supplements, sowing, packaging, insulation, animal bedding, personal care products, automobile and aviation industries, agriculture, hydroponics, soil regeneration, soil decontamination, water depollution, CO₂ absorption (UN Industrial Hemp Report, 2022).

The fact that individuals can enjoy countless health benefits (used in many cases as a tranquilizer, muscle relaxant, pain, and eczema controller) caught my attention, so my focus is developing a project for the implementation of hemp in the cigarette production process at FTM company.

Following the main objective of this project, I want to be able to propose a strong and concise differentiating strategy for the company, answering the question: How can a tobacco company overcome the obstacles of the industry (mostly being in decline), becoming a healthier and sustainable company?

To do this, a strategic project will be drawn with the development of an innovative product for this specific company. Through a theoretical study (literature review) and an empirical study (market analysis and interviews), there will be a medium/long-term strategic project.

To create a strategic project, it is crucial to carry out an external and internal analysis of the company. As a result, a SWOT analysis as well as analyses of the crucial success elements will be carried out. Furthermore, a VRIO analysis, a PESTEL study, Porter's Five Forces, Market, and competition analysis will also be given preference.

This project strategies will focus on penetrating these high-growth markets by offering a product that meets strict quality standards, appeals to health-conscious consumers, and complies with international regulations. It is considered FTM's long-standing experience and existing production capabilities to capitalize on FTM's already established logistics network and market expertise, to quickly scale hemp cigarette production and reach global markets efficiently. Furthermore, the company commitment to sustainability, coupled with its family business ethos, will resonate with consumers who value transparency and ethical production practices.

2 Literature Review

2.1 Modernization and Change Management

The business environment is always changing because of technology advancements and an even broader and consumer-driven market. Organizations that strive to survive are distinguished from those that flourish and generate value for customers and society by their agility and capacity for identifying business opportunities and constraints.

Portuguese companies are no exception, as they constantly struggle to stay relevant and competitive both nationally and globally. To ensure the longevity and expansion of organizations, modernization and efficient change management have become crucial components (Kotter, 2012).

Modernizing procedures, technology processes, and organizational mindsets are all part of business modernization. In a market that is continuously evolving, modern systems and cutting-edge technology provide greater operational efficiency, lower costs, better quality products and services, and the ability to satisfy customers. (Dias, Khanna, Paquette, Rohr, Seitz, Singla, Sood, Van Ouwerkerk, 2017).

According to Lock (2023), change management is the application of processes, methods, body of knowledge, skills, and experience to bring about the people side of change, thus optimizing the benefits of an initiative.

The early theories about organizational change management suggested that organizations couldn't upgrade if they were constantly changing, since people need routines to be effective. However, nowadays researchers concluded that it is vital to organizations that people can undergo continuous change, as it's a natural reaction to internal and environmental conditions. Too rarely change management debates involve discussion of the full life cycle incorporating strategy, design, implementation, use, and evolution, and yet these are part of a continuous process, and that's why companies still need to work on that department. (Clegg & Walsh, 2004).

Change movements are usually systemic, involving changes both in technical and social areas. However, in practice, most companies pay the most attention to new technologies, techniques, and tools, as opposed to the social (human and organizational) aspects of change. Those are often considered late in the process since companies are in a hurry to make those changes and don't consider their participation in the project. Another problem usually seen is that the project plan does not account for the resource

implications of those adjustments, leading those changes to be under-resourced and inadequately implemented. (Clegg & Walsh, 2004).

Effective change management is crucial to guarantee that the necessary transformations are implemented smoothly and successfully. For that, there's a need to overcome resistance to change and ensure employee acceptance and commitment. (Nohria, 2015). Furthermore, businesses must also work to facilitate the implementation of those such procedures, which may involve a range of organizational interventions according to internal and external company events. (Raineri, 2011). So, it is safe to say that change requires active management at all levels towards the goal of "turnaround". (Ufua, Osabohien, Imhonopi, & Ogbari, 2020).

Although this is an undeniably important area, there are various theories and models of change management, each with their own emphases and approaches. Authors may align more closely with a specific theory, influencing their view of the importance of certain aspects of Change Management. So, despite the development of different models throughout the years and the importance of modernization and change management, companies in Portugal (and in other countries) face challenges while implementing these processes. Common problems include insufficient resources, a restrictive organizational culture, and opposition to change (Burnes, 2004). To overcome it, it's imperative to perceive it as a process rather than an event, through investment in training and awareness programs, foster an organizational culture that values innovation and adaptation, and support clear and effective communication.

2.2 Tobacco Industry in Portugal

Tobacco was first introduced in Portugal (from Brazil) at the start of the 16th century, and a century later, the government started to pay particular attention because of its growing commercial significance and great profitability. Then, in 1736, King D. João V banned and monopolized the tobacco plant trade. After about a century, Portugal's tobacco businesses were liberalized, and 2 years later FTM was founded (1866). However, 40 years after that, there was a return of the monopoly of production and sale of tobacco. After efforts have been made, in 1975 the tobacco industry was nationalized again. Finally, in the early '20s, there was a law that banned smoking in public areas, and, more recently, in 2021, we saw a trend in the IQOS smokeless tobacco heating system. (ISCTE Executive Education, "More than you know", 2023).

In 2020, the manufacturing of cigarettes was one of only two industrial activities (alongside the production of pharmaceutical preparations and basic pharmaceutical products) that positively contributed to the sales and services offered by national industry during a particularly challenging year for the national (and global) economy because of the pandemics (INE, 2020).

Currently, this industry is responsible for the fifth most important production in terms of national industry sales, which accounts for around 15% of cigarettes sold throughout the European Union. It is represented in the nation by three business groups and four production units, which are dispersed across mainland Portugal and the Autonomous Regions of the Azores and Madeira. (ISCTE Executive Education, “More than you know”, 2023).

It's common sense to recognize the various diseases associated with prolonged tobacco consumption, from various cancers, such as lung cancer and cancer of the upper respiratory tract to diseases of the circulatory system. Besides that, according to SNS24 (2023), there is also a higher frequency of cardiovascular diseases in smokers. More generally, prolonged smoking reduces both the quality and length of life, and although there is no consensus, it is estimated that a smoker loses on average between 10 and 15 years of their life compared to a non-smoker (SNS24, 2023).

According to a guide drawn up by the SNS, there are already various aids and methods in the form of therapy, pills, patches, among others, for this purpose, and it is important to have medical or pharmaceutical monitoring, and there are even several Regional Administrations where you can access consultations to monitor the process. (SNS24, n.d). Some examples of treatment include nicotine replacement therapy (NRT), the use of tablets such as varenicline and bupropion. (SNS24, n.d).

So, the tobacco industry is a sector with a significant social and economic impact as a generator of wealth, job creator, net contributor to national exports and one of the pillars of the Portuguese manufacturing industry. To maintain Portugal's current relevance in this sector within the European context, it is imperative to guarantee the conditions required for the tobacco industry in Portugal to keep up with this transformation at a time when the sector is undergoing profound change, moving towards alternative solutions aimed at reducing the harmfulness of combustible products. (ISCTE Executive Education, “More than you know”, 2023).

2.2.1 Regulation

Governments and other institutions have been enforcing laws banning or restricting tobacco products almost since the beginning of tobacco use. These laws specify what constitutes a tobacco product, how it can be used or consumed, where it is permitted, and who can consume it. Among those organizations is the World Health Organization, which views tobacco product regulation (along with education and cessation programs) as an essential tactic to reduce the market for these goods and to enhance everyone's quality of life and the environment (WHO technical manual on tobacco tax policy and administration, 2021).

The European Union (EU) has proposed the Tobacco Products Directive (TPD) to regulate the manufacture, display, and sale of tobacco products within the EU. The TPD aims to “(...) *approximate the laws, regulations and administrative provisions of the Member States concerning maximum tar, nicotine and carbon monoxide yields of cigarettes and the warning regarding health and other information to appear on unit packets of tobacco products (...)*” i.e., to regulate the manufacture, display, and sale of tobacco products inside the EU. (European Parliament, 2001).

A revision to the Tobacco Products Directive (TPD) was officially debated in 2012, considering scientific market and international developments. At that time, new products had either entered or were about to enter the market, whose effect on public health was unknown and for which new regulations had to be put in place to assure their safety and quality. (European Parliament, 2014). The most relevant changes were the prohibition on defining flavors, the increase in the percentage of combined health warnings (text + image) on packaging (from 30–35%), the prohibition on all deceptive and promotional elements on tobacco products, and the regulation of novel tobacco products (European Parliament, 2014).

Analysis of the number of cases of smoking in Portugal made it necessary and urgent to require implementing the new European principles for tobacco regulation into national legislation, becoming effective on January 1, 2016 (Assembleia da República, 2015). This plan's general strategy is control, protection, offering help in curing the disease, education, and clarification about the associated risks, imposing a ban on tobacco advertising, promotion, and sponsorship and, finally, increasing taxation on tobacco products (SNS, 2023).

There was a second review, which was released on August 3, 2017 (Law No. 63/2017) in response to the question of how to expand the definition of smoking to include

the consumption of novel tobacco products that do not burn and produce aerosols, vapors, gases, or inhalable particles, as well as how to regulate these products regarding the "smoke" exposure they cause and how they are advertised and promoted. (Assembleia da República, 2017). The new laws, which amended the previous ones, went into effect on January 1, 2018 (Assembleia da República, 2017).

Portugal's most current tobacco product law was enacted with the intention of lessening the negative environmental effects of cigarette butts and other related items. This regulation went into effect on September 4, 2019 (Law No. 88/2019) and it forbids the tossing of cigars, cigarette butts, or any other tobacco product-containing cigarette to the ground in public areas. The law requires all commercial establishments, recreational establishments, and all other non-smoking buildings to own ashtrays and other equipment for the disposal of undifferentiated and selective waste produced by their customers in order to increase the law's effectiveness. (Assembleia da República, 2019).

Awareness of the risks associated with tobacco is also a constant through lectures on its harms, mainly aimed at younger audiences in schools. We can also see on some tobacco packaging a certain abrupt form of awareness-raising, since it is possible to see images of the diseases that can occur with prolonged consumption of these substances (PNPCT, 2019).

2.2.2 Taxation

The best strategies to lower and stop tobacco use is through pricing, restrictions on advertising and public smoking prohibitions. Higher taxes result in higher sale prices for these products, which encourages some users to cut back on their use. (PNPCT, 2019).

The Portuguese government's "Código dos Impostos Especiais de Consumo - CIECs" (Code of Excise Duties) governs the taxation of tobacco goods, as well as energy and petroleum products, alcohol, and drinks that have added sugar or other sweeteners, with the goal of condition the consumption of products that negatively impact the environment and public health. (Assembleia da República, 2023).

Tobacco goods, such as cigarettes, cigars, cigarillos, rolling tobacco and electronic cigarettes can be subject to excise taxes, sales taxes, value-added taxes, or a mix of them. A consumption tax that is collected as a proportion of the value added to a product at each step of its manufacturing is known as a value-added tax, or VAT. (European Commission, 2024).

Excise taxes are indirect taxes that are included into product prices and are collected when the introduction into consumption occurs, which happens before the final consumer sale. There are two different kinds of excise taxes: (1) A specific excise duty per unit of the product, for example, a fixed sum per cigarette, per pack, per weight of tobacco, etc. This kind of tax is simpler to implement (quantity is easier to assess than product value), and it provides a more stable income stream since it raises the price of all tobacco goods that are subject to it uniformly. (European Parliament, 2024); (2) An *ad valorem* excise duty calculated on the basis of retail selling price. Due to its percentage-based nature, its implementation might result in significant pricing disparities between items of various prices. (European Parliament, 2024).

The method that a nation or government choose to tax tobacco products varies greatly depending on its economic and social circumstances. Still, general criteria may be used given the amount of taxes that exist worldwide: Average retail price increases are often greater for specialized excise taxes than for *ad valorem* excise taxes. (the long-term goal should be to rely more on the former), all tobacco products should be given equivalent taxes (to avoid consumers switching to cheaper brands or products as a response to tax increases), excise taxes should account for 70% of the product's price when it is sold to the final consumer; and taxes should be raised on a regular basis to reflect inflation and consumer incomes (Council of the European Union, 2011; WHO technical manual on tobacco tax policy and administration, 2021).

In Portugal, the *ad valorem* component for conventional cigarettes is set at 1%, whereas tax on Tobacco applies to liquids for electronic cigarettes, even without nicotine included, is EUR 0.175/ml. (PWC, 2024).

In the autonomous Regions of Azores and Madeira, a reduced tobacco tax is applied, provided that the requirements mentioned in articles 105 and 105a of the CIECs. The main requirements are: (1) Tobacco must be produced in the regions; (2) Annual production must not exceed 500 tons per manufacturer (small-scale manufacturers); (3) Tobacco must be consumed in the regions are met. (European Commission, 2024).

In the specific case of the Autonomous Region of Azores, the value was 42% in 2023 (Fábrica de Tabaco Micaelense, 2023), remaining the same in 2024 (CIEC'S, 2024).

However, as mentioned above, even if this rate remains unchanged in the region, changes to the rates in mainland Portugal could lead to changes in the region's tax, as these rates serve as a basis for the fixation of the minimum excise duties, which is applied across all regions. (Confirmed by a member of the FTM 's Compliance office).

2.3 Industrial Hemp

Over 500 chemical entities make up the complex plant known as cannabis, of which over 60 are cannabinoid chemicals, some of which have contradictory effects. All products made from the cannabis sativa plant are referred to as "cannabis." (National Center for Complementary and Integrative Health, 2024). For thousands of years, people have been aware of the cannabis plant's therapeutic benefits. As far back as 2800 BC, this plant was used to treat a vast array of health problems and was listed in Emperor Shen Nung's pharmacopoeia. Numerous medical conditions, including as arthritis, depression, amenorrhea, inflammation, pain, anorexia, and asthma, were listed as being treated by cannabis in this literature. (European Monitoring Centre for Drugs and Drug Addiction, 2024).

According to (Healthline, 2024), the general term "cannabis" may refer to all products made from the cannabis sativa plant. Nevertheless, some researchers believe there are two more varieties of cannabis: cannabis Indica and Ruderalis.

Cannabis sativa is found in long, hot, dry climates, mostly Africa, Central America, Southeast Asia, and portions of Western Asia. While *indica* often has more THC than CBD, sativa cannabis frequently has higher THC dosages and lower CBD dosages. This type of cannabis is dioecious, i.e., there are separate male and female plants. Since the THC is largely concentrated around the flowering parts of the female plant, the leaves and male plants have less THC, while the stalks and seeds contain almost none. (Healthline, 2024.).

Cannabis Indica is indigenous to Afghanistan, India, Pakistan, and Turkey. The Hindu Kush mountains' frequently severe, arid, and erratic environment has forced the flora to adapt. Although the THC concentration in Indica strains isn't always lower, they frequently contain higher quantities of CBD. (Healthline, 2024).

There is also a third variety of cannabis, known as Cannabis Ruderalis. It's not commonly used, though, as it typically has no strong effects. Ruderalis plants are adapted to harsh climates found in Siberia, Russia, Eastern Europe, and the Himalayan areas of India. These plants grow swiftly, making them perfect for the limited sunshine, chilly temperatures seen in these areas. Although the concentration of CBD in this strain is usually higher than that of THC, it could not be sufficient to have any effects. (Healthline, 2024).

Moreover, a hybrid strain of cannabis may be created by fusing the sativa and indica varieties. Usually cultivated in greenhouses or on farms, hybrids are bred primarily for

their THC content, although each variety has a different ratio of the two cannabinoids. (Healthline, 2024).

Hemp was discovered by the Chinese 8500 years ago and spread throughout Asia, Egypt, and Europe between 1000 and 2000 BC. Hemp is the plant *Cannabis Sativa L.* and any part of that plant, including the seeds thereof and all derivatives, extracts, cannabinoids, isomers, acids, salts, and salts of isomers, whether growing or not, with a delta-9 tetrahydrocannabinol (delta-9-THC) concentration of not more than 0.3 percent on a dry weight basis. (Defining Hemp: A fact Sheet, 2019).

According to National Cancer Institute (2024), Hemp is an herb that comes from a variant of the *Cannabis sativa* plant and contains fiber, seeds, and oil used to make many different industrial and consumer products. Hemp and marijuana come from the same species, but the hemp variant contains very low levels of delta-9-THC (the main active chemical in marijuana that causes drug-like effects), which makes them have their own chemical and genetic makeup and are regulated, grown, and used in different ways.

Throughout history, hemp has been used by humans for a variety of purposes, including clothing, architectural constructions, rope making, and for health purposes, such as anxiety, stress, eczema, and muscle pain. According to the US Department of Agriculture, it is estimated that hemp has more than 25,000 uses, ranging from paper, textiles, food, cosmetics, construction, and bioplastics to energy (Kraenzel, 1998). Its diversification in diverse places can also be attributed to its farming properties, as hemp grows in most climates, improving weak soils with each harvest, and has a high growth rate. (Singh & Sardesai, 2016).

The association between the cannabis and hemp plants presents additional challenges, including the spread of false information and discrimination, and the difficulties of moving goods across heavily regulated markets (Gegax, 2020). Linked with that, there's the difficulty in obtaining credit and necessary production inputs (seeds, insecticides, and herbicides), as well as deficiency of crucial data for making decisions (Mark et al., 2020). That's why growing hemp was outlawed in Europe between 1971 and 1998, combined with the thought of the possibility of it being combined with marijuana, a psychoactive cannabis plant. (Eires, 2006).

The global production of industrial hemp has increased recently as a result of new laws about this activity, which has led to extremely optimistic market projections, and Portugal is seeing a rebirth in its cultivation (Pereira & Pacheco, 2021). In United States, the market was valued at USD 4.6 billion in 2019 and is expected to grow to USD 26.6

billion by 2025 (Business Wire, 2019). A large portion of this expectation stems from increased consumer demand for environmentally friendly products with a smaller carbon footprint. Additionally, because of the current climate crisis, sustainability is becoming a more public topic and a viable alternative to "conventional" products.

2.3.1 Legislation

Hemp, considering all its history and misinformation and essentially due to its link with Cannabis Sativa used as a narcotic, is subject to strong regulation, and in some regions, it is still considered an illegal practice (Martins, 2022). France is currently the main producer of certified hemp seeds, and it is illegal for hemp producers to reseed their seeds (Abreu, 2013).

Regulatory Decree No. 2/2020 of August 4 defines the rules for growing industrial hemp in Portugal. In terms of regulation, the National Authority for Medicines, and Health Products (*Infarmed*) is responsible for regulating production for medicinal purposes, and the Directorate-General for Food and Veterinary Products (*DGAV*) for regulating production for industrial purposes. To authorize the cultivation of hemp, the farmer must complete the *DGAV's* authorization application (Figure 1 in Annex A), subject to a fee of 50 euros.

Ordinance no. 14/2022 of January 5 introduces new changes to the practice of growing hemp, in which the *DGAV* establishes the following agronomic conditions for farmers: (1): It may only be grown outdoors, by sowing, transplanting plants is not allowed, and no stage of plant development may take place in greenhouses, shelters, or similar structures; (2): The minimum area allowed for the sum of the plots on a given farm is 0.5 hectares (ha); (3): The sowing density must be appropriate for the purpose, and may not be less than 30 kg of seed per hectare. (*DGAV, 2023*).

This new regulation will make it harder for small and medium-sized farmers to enter the hemp market, since obtaining a greater profit from a plantation with a reduced area will only be possible if it is destined for the production of hemp flowers, which, in addition, provides these same farmers with barriers regarding possible diversification in areas of production where greater investment is required, such as the production of seeds and fibers (Lusicanna, 2023).

Regarding European regulation, according to Article 189 of EU Regulation 1308/2013, all hemp imports are currently subject to an import license requirement, with

each EU country being able to apply more restrictive rules by EU treaties and international obligations (European Commission, 2024).

An increase in the maximum THC limit to 0,3% for industrial hemp production was approved on December 2, 2021, as a result of the new Common Agricultural Policy (CAP), adopted by the European Parliament, which will lead to an increase in the number of hemp varieties accepted in the European Union (EU) Catalog. However, this level only applies if farmers want to obtain funds for their crops and, in Europe, it is possible to grow hemp with a THC level above 0.3%, as long as it is authorized by national regulations, as it is already the case, for example, in Italy (0.6%) and the Czech Republic (1%). (European Commission, 2024).

2.4 FTM – Fábrica de Tabaco Micaelense

2.4.1 Presentation and History

Fábrica de Tabaco Micaelense, S.A (FTM) is a public limited company located at Rua José Bensaúde, nº 42 in Ponta Delgada, São Miguel. The share capital is 1,471,135 euros and consists of 294,227 ordinary shares. (*Fábrica de Tabaco Micaelense*, 2022).

FTM, the first tobacco factory to open in the Autonomous Region of the Azores, was founded on April 16, 1866, by José Jácome Correia, Clemente Joaquim da Costa, Abraão Bensaúde and José Bensaúde. In the early years, FTM focused on a variety of products, including cigarettes, cigars, chopped cigars, and snuff. (Dias, 2011).

On May 13, 1975, a decree-law nationalized the *Fábrica de Tabaco Micaelense*, and the state took over all its assets. On August 20, 1980, a new decree-law transferred it to the Autonomous Region of the Azores and the following year, FTM became a regional public company. The turbulent period during which FTM was under state management led to a new decree-law being published and, on May 9, 1995, the factory became a public limited company and was re-privatized. That year, the Region sold 80% of the capital it held in FTM to *SAI - Sociedade Atlântica de Investimentos, SGPS, S.A.*, which is considered a holding company for other ones. In 1996, the Region sold 10% of its stake, leaving FTM's capital distributed as follows: 80% belonging to SAI, 10% held by the Region in the form of a "golden share" until 2008, and the remaining 10% held by small shareholders, emigrants, and company workers. (*Fábrica de Tabaco Micaelense*, 2021).

In 2002, the company bought rights to cigar and cigarillo brands from *Tabaqueira* and in 2008, it established a contract to produce brands under license with Imperial

Tobacco. In 2013, it managed to also sign a contract with *Japan Tobacco International (JTI)* to produce under license.

The year 2009 was marked by the acquisition of *Tabacom, S.A.*, a company located in Madeira, which distributes tobacco and holds around 50% of the market.

In 2016, new anti-smoking legislation came into force, with the packaging of tobacco products now featuring images about the harmful effects of consuming these goods and raising health awareness.

The year 2017 was notable for the purchase of the *Azoriani* company, which owns the *Confort Inn hotel*, a three-star unit located in Ponta Delgada, and the redevelopment of five yellow houses next to the factory for local accommodation.

In 2019, the company *Carlos Soares de Mendonça & C.a, Lda.* was bought, whose activity is the wholesale tobacco trade, and FTM continued to adopt thoughtful management of resources, keeping the focus on the quality of the products it sells.

At the beginning of 2023, the company acquired a house on the same street as FTM, to convert it into a hostel, which was inaugurated by the end of the year.

As a medium-sized company, FTM's primary business activity is the production and sale of manufactured tobacco. More specifically, it produces and sells filtered and unfiltered cigarettes, cigars, and cigarillos. To this end, it has two production units, one to produce cigarettes and the other to produce cigars and cigarillos, as well as several warehouses for raw materials and finished products. (Dias., 2011).

When it comes to cigarettes, FTM's brands are *FM*, *Alto Mar*, *Danilos*, and *Play*. In cigars, it produces *D. Paco*, *Real Feytoria*, *Cogiva*, and *D. Pedro*. The brands of cigarillos with filters are *DK*, *Bairro*, and *Play Squizz*, and those without filters are *Pérolas*, *Carioca*, *Cogiva*, and *Real Feytoria*. (ISCTE Executive Education, “More than you know”, 2023).

In the process of producing tobacco, the main commodities used are tobacco, filters, paper, rolling paper, and packaging materials. These materials are supplied by *Tabaqueira* and the other brands for which it produces under license and by its suppliers for its brands. (Dias, F., 2011).

Through agreements with *Tabaqueira*, a subsidiary of *Philip Morris International*, FTM produces cigarette brands such as *SG*, *Marlboro*, *Chesterfield*, *L&M*, and *Português Vermelho*. The *John Player SP* and *John Player SP American Red* brands are manufactured for *Imperial Tobacco*. In partnership with *JTI* (Japan Tobacco

International), the *Camel* and *Winston* brands are produced. (ISCTE Executive Education, “More than you know”, 2023).

As a response to the growing demand for innovative tobacco products, namely heated tobacco, and electronic cigarettes, in 2018 FTM began exclusively distributing *Heets Sticks* to the Azores and Madeira markets. *Heets* are used in a device called *IQOS*, which heats the tobacco while preserving the original flavor. *IQOS* is an alternative to cigarettes that uses real, smokeless tobacco without tar, ash, or smoke. (IQOS, 2024).

2.4.2 Mission and Vision

FTM's mission is to supply tobacco products of excellent organoleptic quality and high perceived value for consumers, as stated in the company's Quality, Environment, and Safety Manual. The corporation ensures consumer loyalty and differentiates itself from competitors by emphasizing the quality of its products. (*Fábrica de Tabaco Micaelense*, 2011).

As a vision, FTM aims to be a responsible and logical business that mobilizes all its partners, suppliers, and workers to offer a product and service of unmatched quality to all its clients (*Fábrica de Tabaco Micaelense*, 2011).

2.4.3 Organizational Structure

FTM's organizational framework is characterized by a functional structure, based on the delegation of authority to the various departments and the definition of those responsible for each area of the organization (Cunha et al., 2004).

In January 2021, the company had ninety-eight employees, of which around fifty were assigned to the production area, and the rest were divided between the other departments. The organization chart, provided by the company is shown in Figure 2 (Annex A), and is subdivided into Directorates, Coordination, and Areas. The company's organizational structure was updated on January 1, 2021, and distinguishes three types of departments: the Administrative and Financial Department, the Production and Sales Department, and the Madeira Operations Department. . (*Fábrica de Tabaco Micaelense*, 2021).

The Board of Directors is responsible for representing the company and ensuring the management and control of all operations. Protecting the interests of shareholders, employees, customers, and other stakeholders throughout the organization's life cycle is

one of the most important tasks. They also approve the annual budget and the activity and financial plans.

The Administrative Department defines and cooperates with the Board of Directors in terms of human resources policy, considering the supply and stock policy and the production plan. Besides that, it carries out studies for decision-making, monitors all the contracts made, guarantees the maintenance of the company's brands, and draws up the annual budget and the periodic statement of results.

The main functions of the Accounting Department are to check accounts and to ensure that movements are correctly recorded. In line with that, it also prepares the financial statements and all the information needed for decision-making.

The Administrative and Compliance Department checks the company's trademark registrations and compliance with legislation, issuing periodic reports on compliance levels.

The Information Systems department is responsible for ensuring internal security and data protection, as well as supporting users and establishing coordination with all departments through computer data systems.

Logistics places orders and ensures the supply of tobacco and other materials. It also checks the quantities received, the quality of the goods and physically separates them according to the type of material, its validity, and purpose. One of the main tasks is to ensure the existence of a permanent inventory system through inventory control and warehouse management.

The Human Resources section implements personnel policies, ensuring that employment contracts are correctly applied and that there is a training plan. It also processes salaries, social security contributions, pension funds, and all associated taxation.

The Production and Sales Department defines the company's production policy, ensures that it is implemented and that the process of processing tobacco and other raw materials is carried out safely and productively. It also controls the distribution of both FTM and brands under license products, proposes policies for promotion and market penetration (both for own brands and brands produced under license), and determines, in the Azores and Madeira markets, the relative position of products and producers.

The Production department is subdivided into the cigarettes section and the cigars and cigarillos section. It is responsible for complying with production plans, organizing the various stages of production, and ensuring the maintenance of production equipment.

The Design and Development department is responsible for creating new products and making the necessary changes to existing ones, always making sure that it is according to the law.

Planning is responsible for drawing up production plans and supporting the logistics department in managing warehouse stocks. It is also important to elaborate documents to control production, raw materials, finished products, and stocks.

The Quality Control department checks the quality of products at the manufacturing stage, according to defined standards, as well as the quality of raw materials and products at reception and in the warehouses.

The Sales department collaborates in designing the company's image and products, establishes contact with customers, and promotes partnerships. It also organizes the creation of campaigns and events, as well as monitoring the evolution of sales.

Finally, the Madeira Operations Department ensures the implementation of the policies defined by the Board of Directors and the Departments, as well as the logistics and distribution of the FTM brands and those under license. (*Fábrica de Tabaco Micaelense*, 2021).

2.4.4 Competitive Position of the Company

Regarding this company, which operates in São Miguel, it competes in terms of production and marketing with *EMT- Empresa Madeirense Tabacos, S.A.*, owner of *Fábrica de Tabaco Estrela*.

Within the various tobacco products that EMT offers, we should highlight the *Além Mar*, *Boa Viagem*, and *Estrela* cigarettes, and the "Robusto" cigars (*A Fábrica "Sempre Manteve o Regionalismo Necessário e o Espírito Açoriano,"*, Correio dos Açores, 2023).

Since they are the only ones operating on this island, it's safe to say that they operate under a duopoly system. This system is characterized by the existence of two competitors who have significant power over the market (compared to a situation of perfect competition) and by many consumers. The product, in this case tobacco, is poorly differentiated and several barriers make it difficult for new companies to enter the industry, namely installation costs or government fees/charges.

On the other hand, when it comes to the tobacco industry itself, in Portugal, the brands *Tabaqueira*, *Imperial*, and *JTI* can be seen as competitors. Although they are FTM's partners, they are still associated with tobacco products, and the demand for these brand's products can influence FTM's brand.

3 Methodology

Prior to conducting a thorough examination of the company's internal resources and competencies, it is imperative to comprehend the wider context in which the organization functions. To evaluate Fábrica de Tabaco Micaelense's (FTM) prospective position in regard to current competitors in the hemp business, a competitive study was carried out. Based on information from official competitor websites and interviews with prominent industry figures including the president of *Confraria Internacional Cannabis Portugal* and the CEO of *Oaziz Extract Company* in Canada, this investigation offered a thorough picture of the state of the business. Concurrently, market research was conducted to investigate the wider industry patterns and competitive factors affecting the hemp industry. This first investigation laid the groundwork for a more thorough assessment of how FTM may set itself apart and create a long-term competitive advantage.

Drawing up a Project plan requires a methodological approach that includes both internal and external analysis of the organization. The VRIO and Value Chain tools were used for the internal analysis, both of which are well known for their usefulness in discovering and measuring the organization's resources and capabilities. Combined, these tools offer an overall view of the business's internal capabilities and operational effectiveness, which is crucial for pinpointing areas needing development and differentiating itself from competitors. The external analysis was conducted using PESTEL, Porter's 5 Forces, and SWOT, which are well-known methodologies for mapping the external environment's effect on the company's competitiveness. By integrating these two techniques, one can identify the macro environment's opportunities and threats as well as the level of competition and other variables that have a direct impact on the profitability of the industry. The selection of each tool was based on its unique capacity to yield insightful information as well as how effectively they performed in harmony to deliver an in-depth review of the organization from multiple viewpoints.

Jay Barney (1991) suggested VRIO (Value, Rarity, Imitability, Organization) as a resource analysis technique for assessing an organization's long-term competitive advantage. To apply this tool, primary data was gathered through in-depth interviews with key members of the company, which were semi-structured, allowing for both focused questions and a freer discussion of pertinent themes, as proposed by Brinkmann (2018). Secondary data was obtained from internal papers, financial reports, and the company's previous performance records.

Michael Porter's Value Chain (1985) divides a company's activities into core and supporting components, allowing us to determine where value is created to the product or service. In addition to the data collected during the interviews, the Value Chain was analyzed using information delivered by meetings in person with some of those responsible for the administrative sector, as well as documented internal procedures. These data sources enabled a thorough study of how each operation adds to the company's value proposition.

PESTEL (Political, Economic, Sociocultural, Technological, Ecological, and Legal) is a framework for understanding macro-environmental impacts on the enterprise, as advocated by Francis Aguilar (1967). This data was enhanced with information collected due to inquiries, particularly comments concerning market trends and the company's legal issues.

Porter's 5 Forces (1980) provide insight into a certain industry's level of competition, whereas SWOT (Strengths, Weaknesses, Opportunities, Threats) combines the results of internal and external investigations to provide an integrated strategic perspective of the company's market position. Since interviews provide the most comprehensive and current information of a company's competitive landscape, they were primarily utilized to apply these two models to FTM's reality.

The investigations conducted throughout the preparation of this project were mostly qualitative which, according to Yin (2018), get a more in-depth and contextualized knowledge of organizational processes, particularly in dynamic and complex situations.

In addition to the analyses conducted by the aforementioned tools, interviews were done with several of the company's workers (President of the Board of Directors, Financial Director, Commercial Director, Quality Control Manager, Production Manager, and Compliance Manager), which were chosen based on their knowledge and function within the organization. As a result, significant insights were provided, improving the validity of the outcomes and recommendations presented in this project. According to Brinkmann (2018), this method is crucial for gathering broad information on organizational practices, internal difficulties, and market perspectives.

4 Results

4.1 Market Analysis

The industry of hemp cigarettes, which is still in its early stages, is drawing more attention as consumer attitudes toward alternative wellness products shift. The market for hemp-based products, particularly CBD cigarettes, was estimated to be worth \$80 million globally in 2020. Until 2028, the market is expected to expand at a compound annual growth rate (CAGR) of 15% to 20%. This rate is indicative of the growing interest among ex-smokers and those curious about the possible health advantages of CBD in products that provide an alternative to regular cigarettes. (According to CEO of *Oaziz Extracts* Canada Company).

A primary driver of the hemp market's expansion is the growing demand for natural products and nicotine substitutes. Concerns over the health hazards of nicotine and tobacco are growing, and hemp provides a perceived safer substitute. Furthermore, the edible and smokable CBD product industry was estimated to be worth \$2.8 billion in the United States alone in 2020, which a sizeable percentage is made up of smoked goods like hemp cigarettes.

Growth is also fueled by the legalization of industrial hemp and the rising social acceptance of goods containing CBD in a number of nations. One significant example that has allowed for additional market expansion is the legalization of hemp in the US under the 2018 “Farm Bill”. The US is one of the largest hemp markets because of this. Canada also has a well-established industrial hemp industry, which exports large quantities of products to the global market. With almost 50% of the world's production, China is the leading producer of industrial hemp. The US, Europe, and other markets receive the majority of this hemp's exports. The Asian market is developing as a result of the development of processing facilities and specialization in producing hemp for various industrial uses, including textiles and cosmetics. Another expanding market is Europe, where hemp is mostly farmed for industrial and medicinal uses. Low-THC hemp is permitted for production under EU standards, facilitating intra-European trading. Leading hemp-growing nations include France and the Netherlands, and it is predicted that the need for sustainable hemp products will drive further growth throughout Europe.

Significant investments have been made in a number of the industry's businesses to increase their capacity for production and distribution. One of the top businesses in the hemp cigarette industry, Wild Hemp, raised over \$5 million in 2021 to grow its business,

which indicates that the market is expanding swiftly to satisfy the rising demand from consumers for tobacco substitutes.

Although the hemp market in Portugal is currently small, it has demonstrated a great deal of development potential, mostly due to the legalization of industrial hemp production for non-psychoactive uses. Because it takes use of both the market for natural products and wellness trends, the use of hemp to manufacture cigarettes offers an innovative possibility. Growing interest in wellness goods and tobacco substitutes, along with greater flexibility in regulations, may present big prospects for hemp cigarette manufacturers. Portugal may potentially serve as an open door for hemp exports to other EU nations (or internationally), where hemp is gaining acceptance.

4.2 Competitive Analysis

Understanding *Fábrica de Tabaco Micaelense's* position in the hemp cigarette market requires a thorough competitive analysis. The typical consumers of hemp cigarettes include ex-smokers (Those who are trying to give up traditional cigarettes, looking for an alternative that is less harmful), Wellness lovers (People who use hemp as part of a broader wellness regimen, to deal with stress or improve sleep quality) and natural product enthusiasts (Consumers who prefer organic and natural products and are interested in the possible therapeutic benefits of CBD). (According to *Confraria Internacional Cannabis Portugal*). However, each competitor can target an even more specific audience.

Given the success of established brands like Hempacco, Plain Jane, and Wild Hemp, it's critical to evaluate the primary advantages and disadvantages of these rivals, as well as their target market, pricing policies, and methods of distribution. This will enable FTM to create a unique selling point and guarantee a competitive launch into the market. In the table 2 (Annex B) are some information to consider, which were consulted in each company's official website.

□ Wild Hemp

Wild Hemp is a well-known brand that positions itself in the premium market area, selling hemp cigarettes for \$12.99 per pack of twenty. The company sells a wide variety of goods, including CBD oil, hemp flowers, and other items produced from CBD. Customers seeking a more comprehensive hemp experience than just smoking cigarettes are drawn to this variety of goods. (Wild Hemp, 2024)

The target market for Wild Hemp consists of luxurious shoppers and CBD lovers. These customers appreciate the products' excellent quality and stringent adherence to the law, which ensures that THC is absent, and allows the products to be sold in areas where THC is still controlled.

The brand's reach is increased by Wild Hemp's distribution strategy, which includes both physical storefronts and internet sales, particularly in the US. Being present in multiple distribution channels enables the business to reach a broader spectrum of customers, including those who choose e-commerce for its discretion and ease as well as those who prefer to shop in physical stores. (Wild Hemp, 2024)

□ **Plain Jane**

Plain Jane uses a more competitive price strategy, with hemp cigarettes costing \$10.75 every pack of twenty. The company is well-known for providing CBD flowers, in addition to hemp cigarettes, thereby broadening its product line slightly.

The majority of Plain Jane's target market consists of smokers and ex-smokers searching for a more cost-effective and covert substitute for conventional cigarettes. While premium companies like Wild Hemp highlight the luxury and experience of hemp, Plain Jane caters to customers who are cost-conscious yet still want high-quality hemp experiences.

Plain Jane is well-known for focusing mostly on online sales, which enables company to maintain affordable rates. In addition to saving operating expenses, the online sales approach provides customers with a discrete and practical experience. Dependence on the internet channel, however, may reduce the brand's visibility in areas where a physical presence is still necessary to connect with specific target audiences. (Plain Jane, 2024).

□ **Hempacco**

Hempacco is a top brand in the Canadian hemp cigarette market, with a competitive pricing of \$11.99 a pack of twenty. The brand distinguishes itself not just by selling hemp cigarettes, but also by offering an extensive range of hemp-derived products, such as hemp snacks, pet products, and health items. This type broadens the brand's appeal to a wide range of consumers, from those wishing to replace traditional tobacco to those interested in the broader advantages of hemp in other aspects of their lives.

Hempacco's target audience consists of environmentally conscious consumers who value items created responsibly and with low environmental impact. Furthermore, the brand appeals to smokers seeking an alternative to traditional tobacco while also providing a more natural and sustainable product.

Hempacco has a global distribution strategy that includes both traditional storefronts and e-commerce channels. This method provides flexibility and accessibility, allowing the brand to reach a diverse audience in both local and worldwide markets.

FTM should carefully consider these criteria while determining its market positioning when entering the hemp cigarette business. With local constraints, FTM may promote itself as an export-focused company, guaranteeing that its goods fit the demands of international markets where hemp cigarettes are already popular. The emphasis should be on promoting the quality of hemp cigarettes (like Wild Hemp) and the traceability of materials, even if the entire value chain is not initially present in the region. Focusing on diverse distribution channels (such as hempacco does) in international markets will be critical for early success, since it enables FTM to reach both consumers that prefer online shopping and in store. Besides that, it's crucial that FTM educate customers about the benefits of hemp while emphasizing its commitment to a sustainable future. This can increase brand loyalty and build a foundation of customers searching for a complete experience (as Hempacco does).

4.3 Strategic Analysis

4.3.1 Internal Analysis

VRIO

Valuable

A resource or capability is considered valuable for FTM if it allows it to exploit opportunities or negate threats emerging out of both the micro business and the macro environments. According to interviewer 2 in the attached interviews (Annex C), the company was able to develop this type of resources by the know-how gained over many years of activity. It is also known that the location of FTM works in its favor, i.e, it can benefit from regional tax incentives, allowing access to international markets. The company's history should also be acknowledged. With decades of experience, FTM has a

well-established brand associated with history and quality, making it simpler to enter new markets and increase consumer loyalty. (According to interviewer 2 and 4).

Rare

In the industry in which FTM works, a lot of rivals own considerable resources. Thus, valuable resources alone do not give a lasting competitive advantage. In order to compete in the industry, FTM needs rare resources. According to some employees that were interviewed, it's long experience in the sector gives the company a unique framework for providing services to various brands. Besides that, it is also highlighted the influence of the development of partnerships based on the adoption of values and practices shared with clients, high-quality inputs, and exclusive distribution channels that other firms may not have. It's also worth mentioning that FTM is one of the few firms that still uses traditional tobacco production processes, which is uncommon in the industry and appealing to a target consumer demographic that values authenticity. (According to interviewer 2).

Inimitable

A valuable and rare resource can provide a competitive advantage to FTM for a certain period of time, as all the competitors are going to try to imitate or replicate that resource. A sustained competitive advantage emerges if the resource is difficult to imitate by the competitors. As was previously mentioned, FTM is a brand associated with quality and tradition, which took years to achieve and cannot be easily imitated by new firms entering the market. Besides that, FTM has specialized employees who possess deep technical knowledge particular to the tobacco industry, making it difficult for competitors to acquire or develop this expertise internally. Finally, there's also the fact that this company has the ability to produce a wide range of product specifications in small or medium batches, with high levels of efficiency and quality, setting it apart from competitors, which is shown by the fact that FTM produces to 5 different markets and 6 industrial clients, including the 3 largest multinationals in the sector. (According to interviewer 2).

Organization

Even if FTM has all the valuable resources that are both rare and difficult to imitate, it won't automatically result into a sustainable competitive advantage. The key to build it is to have organizational capabilities, expertise, and structure to exploit the resources. As reported from interviewer 2 and 3, FTM has been successful and remains up-to-date due

to its high-performance human resources. There have been conception and development models that includes planning, market research, investment in equipment and human resources, training, promotion, and distribution that enables FTM to adapt to the market. That, along with the infrastructures which are part of the company's assets enables FTM to have a sustainable competitive advantage. According to interviewer 2, there's also another competitive advantage when it comes to the market where FTM operates. The firm has been able to raise awareness among policymakers and lawmakers about the significance of its activities, both economically and socially. FTM has been able to respond to legal eventualities arising from the EU as a consequence of rigorous management and continuous monitoring and updating of rules, something that some of their competitors haven't been able to achieve. (According to interviewer 2 and 3).

Value Chain

1. Primary Activities

□ Inbound Logistics

The inbound logistics for FTM is based on developing relationships with tobacco growers and suppliers to ensure a consistent and high-quality supply of the raw materials. Besides that, it is also considered the lead time and minimum order quantities. The material is transported by sea, by a contracted carrier, with the most commonly used incoterms being Free on Board (FOB), Cost Insurance and Freight (CIF) and Delivered at Place (DAP). (According to answers to question 1 in the interviews).

It is also extremely important how the tobacco is stored, and in the case of FTM, there are several quality control measures applied at the arrival of the warehouse according to the characteristics and suitability of tobacco leaves. Therefore, FTM has to carry out very rigorous inventory management, establishing ideal inventory levels that helps maintaining a consistent supply of raw materials without overstocking, which could lead to more costs and possible deterioration. (Confirmed by the company Logistics Manager).

□ Operations

Regarding operations, FTM prepares the tobacco leaves into suitable rations for cigarettes, cigars, and cigarillos. Additionally, quality control measures are followed throughout the whole manufacturing process (rolling, packing, packaging, etc.) to

guarantee product uniformity and compliance with the extremely stringent regulations governing the tobacco business. (Confirmed by the company).

Besides that, since the factory produces different types of tobacco products, it involves variety of automated and manual procedures, which requires skilled labor force and innovative technology. (Confirmed by the company).

□ **Outbound Logistics**

After the product is finished, it is securely stored in the FTM warehouses, according to the appropriate temperature, humidity, and other rules regarding its quality. It's also there that the inventory management is done, to ensure punctual shipments and reduce stockouts (at this point, according to FTM, they have 2 months' worth of safety stock). The finished packs are then sent to the center of the distribution companies, *CSM* and *Tabacom*, both belonging to FTM. (Confirmed by the company Logistics Manager).

□ **Marketing and Sales**

Publicity in the tobacco sector is relatively restricted, due to the fact that it is illegal to promote this type of product directly to the consumer, according to Law 37/2007 of August 14 - chapter 8 - article 16. However, there are other ways of advertising other than directly, which FTM has implemented over the years.

The vast majority of FTM's products are promoted by highlighting them at points of sale, which comes from the investment made in terms of design (packaging, colors, ...) and visibility of features displaced within the boundaries of what is allowed by law with information such as brand, price and origin inside the points of sale. (According to interviewers).

In order to guarantee the penetration of the products it manufactures in the market, FTM has adopted a strategy of verticalizing the business by incorporating wholesale distribution and the spread of VMs (vending machines) through which the products are made available to the consumer in an extensive sales network. (Confirmed by the company Marketing Manager).

In addition, one of the most important strategies applied is to make contracts that allow the company to sell its products during massive participation events, which allows for a high level of distribution and visibility. (According to interviewers).

One of the major publicity investments that FTM also makes is advertising through motor racing events, both in the context of the sporting event and on online broadcasting

channels, once there is specific legislation of the autonomous regions of Madeira and Azores allowing these activities, within certain limitations. (According to the regional legislative decree no. 11/2007/A- article no. 7, applied to the autonomous region of the Azores).

□ **Service**

According to the interviews, it was clear that FTM's activity is based on manufacturing and not on providing services directly to the customer. FTM's customers are not end consumers, but distributors and importers, so any possible complaints are made by the distribution companies. This is because any complaint by the end customer could be about damage outside the factory, i.e., at a later point in the supply chain.

As such, what could be considered a service provided by the company would be carrying out internal activities to control and guarantee the quality of the product when it is manufactured, as well as investigating the possible cause of any production defects that may be detected at the retail level. (Quality and Control Department). (According to the Quality and Control area FTM Manager).

2. Support Activities

□ **Firm Infrastructures**

In the case of FTM, issues such as general management, financial management, information management, legal management, quality management, and other company-specific circumstances are critical to decision-making and smooth operation.

As far as general management is concerned, FTM always strives to achieve its mission, considering its vision and values. As part of this, the company seeks to contribute to the growth of the community by offering products and services that are increasingly diversified, sustainable and of unquestionable prestige, assuming the centenary and visionary legacy of its founders. For good overall management, an annual plan and budget is drawn up, with periodic and monthly analysis, which can be adapted throughout the year depending on the company's performance. (Confirmed by CFO).

Financial management is carried out by monthly closes, analyzing all the items on the balance sheet and the income statement. These accounts are closed by a Certified Accountant and audited at least twice a year by a Chartered Accountant. The accounting criteria adopted comply with the law and the guidelines of the management board. The accounts are always analyzed in relation to the same period in the previous year and the

budget. Special emphasis is placed on analyzing the sales situation (in terms of quantity and value), raw material costs, personnel costs, external supplies and services and interest. Situations that deviate from what is usual or expected are identified and corrected, if and as possible. (Confirmed by CFO).

Regarding information management, FTM employs an integrated management system, with a particular emphasis on the management and traceability of raw materials utilized, ensuring that the path of a raw material from its extraction to its absorption into the finished product is known. In conformity with European requirements, the finished product is tracked all the way to the point of sale. Due to the industry's severe regulatory requirements, production is continuously regulated and there's extensive usage of dematerialization processes. Data is evaluated daily, weekly, monthly, quarterly, and biannually (depending on the scenario), and pertinent or contractual information is communicated with partners. The company has a data protection policy to comply with the GDPR (General Data Protection Regulation). Employees are subject to a confidentiality policy regarding the data they have access to, and there is a hierarchy of access to information (both in the system and physically), since even physical documents have dematerialized copies. So, the company's Information Systems department ensures the protection of data in computer systems, information security and the resumption of activities in the event of a disruption. (Confirmed by CFO).

For legal Management, the company has a Compliance Area which, together with the other areas of the company, and with internal and external advice (lawyer(s)), must ensure compliance with laws, rules, and regulations, including those relating to the protection of personal data, monitoring activities, and producing periodic reports on levels of compliance. As part of its internal control and assurance system, the company carries out audits that focus on regulatory compliance - including compliance with sector-specific regulations - data protection and (other) internal procedures. There is a Code of Conduct, which enshrines the company's commitment to being guided by high ethical and professional standards, in a way that promotes a corporate culture aligned with the best practices in the sector, and which is an instrument that includes the company's values, as well as its standards of conduct, to which all directors and employees are subject and assume as their own. This code aims to clarify for them the rules of conduct they must observe through their decisions, behavior, and attitudes, both in their relationships with each other and with representatives of the employer, as well as in the relationships they establish with third parties on behalf of the company, whether customers, suppliers, or

other business partners. There is also a Plan for the Prevention of Risks of Corruption and Related Offenses, which aims to prevent and combat acts that do not comply with current legislation, in particular those that may constitute the commission of crimes of corruption and related offenses. Risk assessment and management, embodied in a risk matrix, is a cross-cutting activity in this context, and is fundamental for preventing and mitigating the occurrence of these phenomena. (Confirmed by CFO).

When it comes to Quality Management, Guidelines are established with the various brand owners for which the company produces, for the quality of the end product (from a visual and physical point of view) and the production process. Compliance with these guidelines is checked by analyses in a specific internal office and by analyses in accredited national and international laboratories. There are also frequent internal audits (as part of the internal control and guarantee system) and external audits (partners, brand owners). Over the years, the company has positioned itself with the highest quality standards, which is recognized by all the international brand owners, and is often the best evaluated in terms of TPM (third party manufacturer). It's also important to refer that the company has already been certified in the areas of quality management system (ISO 9001: 2008), Environmental Management System (ISO 14000 standard), and occupational health and safety management system (OHSAS 18000), although they are very generic certifications in nature (so to be more in debt in the sector, FTM have been practicing the so-called international control and guarantee system, which includes processes and procedures for all areas, along with the specific guidelines of the international brand owners, with better results and better perception by the sector's international partners). (Confirmed by CFO).

Finally, when it comes to the specific aspects to have in consideration about FTM that affect its operation, they are the geographical location, technology and Innovation, and community relations. The geographical location has both advantages (exclusivity and appeal to tourism) and disadvantages (logistical and transportation costs). The contextual costs are high, associated with an outermost region of Europe, but the company operates with a tax reduction in accordance with the European Directive, which mitigates these costs. For Technology and Innovation, considering FTM is a small producer in a sector where technology has very high costs, an effort is made to reconcile the production efficiency / cost aspects. As far as products are concerned, the company has managed to be present in very relevant and innovative markets/niches, such as filter cigarillos or filter products with capsules. When it comes to Community Relations, there are limitations in

the law. However, whenever its possible, FTM tries to be involved with the community, with activities such as motorsports, community festivities, support for IPSS and support (for example in terms of health or finances) employees' immediate families, trying to look after them.

Human Resources

As far as FTM's selection process is concerned, this is managed according to the need for employees. After the vacancy has been advertised, people are selected after a rigorous selection process through several interviews. (Confirmed by the company HR Manager).

Regarding career management at FTM, it has evolved according to the company agreement document that was drawn up with the Regional Directorate for Professional Qualification and Employment. This progression is made horizontally or automatically, depending on the position the employee holds in the company, and the individual's performance is also crucial to their progression. In order to enhance the individual employee's progress, the company also provides annual training in various areas, if they wish to attend it. In terms of benefits, FTM offers health insurance to all of its employees, as well as a pension fund, which conditions are also set out in the aforementioned document. (Confirmed by the company HR Manager).

Technology Development

When it comes to the technology development, FTM applies a traceability system (required by EU), using QR scanners placed on each packet of tobacco, box, crate, and pallet, in order to monitor the product to the minute. In addition, it can also be considered the production process management software, visionsoft, used to help as monitoring aid. (Confirmed by the company).

Procurement

Procurement and relations with suppliers are made through direct contact with logistics, so there are no intermediaries. (Confirmed by the company).

4.3.2 External Analysis

Porter's Five Forces

□ Threat of new entrants

The strict rules that businesses must abide by are one of the main obstacles to entrance in the tobacco sector. Companies are forced to comply with rising levies and prohibitions in order to continue operating, which necessitates large expenditures for product development, infrastructures, machinery, technical staff, production, and distribution. This can be a significant barrier for potential newcomers seeking to enter the market. (According to answer from interviewer 6 to question 6).

Another big barrier to entrance is the degree of brand loyalty and Reputation. FTM already has 158 years and its brands (*FM, Alto Mar, Danilos, and Play*), and especially brands from its partnerships (*SG, Marlboro, Chesterfield, L&M, Português Vermelho, Camel and Winston*) are well-known and devoted to consumers on a regional level (Azores and Madeira). This usually represents a huge obstacle for new competitors trying to break into the market, since it requires a large - time and money - consuming investments in product marketing and promotion. (According to answer from interviewer 3 to question 6).

Furthermore, securing distribution channels, such as partnerships with retailers and access to a wide range of markets, is critical to success in the tobacco industry. Established companies like FTM have well-established distribution networks and a good border management that are challenging for new entrants to replicate. Linked to that is the fact that FTM has verticalized its business, from production to Retail distribution, which also makes difficult for third parties to enter. (According to answers from interviewers 2 and 3 to question 6).

Overall, the threat of new entrants in the tobacco industry, including FTM's market, is relatively low due to the hefty regulations, entry barriers, brand recognition and overall expenditure. (According to the interviewers).

□ Bargaining Power of Suppliers

In the tobacco industry there are only a few dominant tobacco farmers, making it challenging for companies like FTM to identify alternative options. Since tobacco is so scarce in the market, suppliers have a lot of negotiating leverage. However, companies in the industry, such as FTM, often establish long-term contracts with their suppliers, and

once they are made, risk is mitigated, and volume is guaranteed. (According to answer from interviewer 3 to question 7).

Tobacco is also a highly controlled substance, meaning that manufacturing and distribution of tobacco products are restricted. This strengthens their negotiating position and further reduces the number of potential suppliers. (Confirmed by the company).

Nevertheless, FTM have been trying to implement strategies to reduce the bargaining power of suppliers. The company has been negotiating with a wide range of suppliers in order to guarantee the best prices, lead times and lowest MOQs. Besides that, FTM have been implementing periodic price negotiation processes and market consultations in order to be on the lookout for new possible deals. (According to answers from interviewers 3 and 6 to question 7).

Overall, while the bargaining power of suppliers is moderate to high, FTM has managed to mitigate this threat through effective negotiation and continuous market consultation.

□ **Bargaining Power of Buyers**

Customers (Buyers) have a lot of negotiating power in the tobacco business. This is due to the fact that consumers have easy access to a large range of brands and can, without any cost, move to a rival if they are unhappy with their current provider.

The strong brand loyalty of FTM's target audience may somewhat counterbalance the consumers' negotiating power. However, this brand loyalty mostly refers to the brands under license, while FTM's own brands may have a slightly more volatile audience, leading to brand loyalty not being as strong in these cases. Still, FTM has fierce rivalry from other tobacco firms vying for the same loyal customer base. (Confirmed by the company).

Additionally, tobacco products consumption has decreased as a result of tobacco restrictions and public awareness efforts against smoking and tobacco products, which shows that buyers have strong bargain power as consumer preferences shift toward other alternatives. (Confirmed by the company).

Overall, the bargaining power of customers in FTM's industry is significant due to the ease of switching brands and declining demand for tobacco products. FTM must continue to focus on building and maintaining brand loyalty and improving the customer experience to maintain its position in the highly competitive tobacco industry. (Confirmed by the company).

□ **Threat of Substitutes**

For FTM, the risk of substitution—in which customers go to other products with superior value propositions—is high, as it might have an effect on its market share and financial success. Growing public knowledge of the dangers of smoking is one of the main factors contributing to the threat of replacement for FTM. As more consumers become informed, more decide to convert to alternatives such as e-cigarettes, nicotine patches, or gums. (Confirmed by the company).

Another factor that collaborates to this threat is the younger consumers' changing tastes. Although smoking has been linked to elderly people, younger persons are increasingly using vaping, cannabis, and other products as substitute goods. Also, the smoking cessation aids has gained importance, such as nicotine replacement therapies, pharmaceuticals, and behavioral interventions. So, this shift in consumer tastes across generations may lessen the market for traditional tobacco products, while boosting the competition for FTM. (Confirmed by the company).

To counter this trend, the company has adopted innovation as a strategy to maintain market share for its own brands, with products that have no competition in the markets where it operates. Also, FTM has partnered with clients to distribute their products, including new tobacco products, which the company cannot produce but has exclusive market rights to market through its distribution network, ensuring their products reach consumers. (According to answer from interviewer 3 to question 8).

In conclusion, FTM faces a significant challenge from the threat of substitution in its pursuit of market growth and profitability. To overcome regulatory obstacles and adapt to changing customer preferences, the company must continue innovating and adapting its business plan.

□ **Intensity of competitive rivalry**

In the case of the cigarette industry, the intensity of competition is decisively shaped by the high threat of substitute products. This industry is characterized by solid brand competition, with continuous innovation, especially as companies seek to adapt to changing consumer preferences and regulatory environments. Working on that area would contribute to heightened rivalry. It is also worth noting that there is inconsistency and volatility in companies' decisions. That is, an increase in tobacco tax is not immediately accompanied by an increase in the companies' RSP (Retail Sale Price), nor is it possible to define a pattern of action by the players in the market when RSP's increase.

Therefore, each company can decide when it wants to change its RSP's according to its strategy, and this ends up influencing the prices that are presented to the customer. (Confirmed by the company).

In conclusion, although FTM has a strong local presence, the competitive rivalry still affects its business. The company must employ effective marketing, innovation, and regulatory compliance strategies to maintain and enhance its competitive position. Monitoring and responding to industry dynamics are essential as the tobacco landscape evolves. It is imperative to take into consideration the growing demand for hemp products, especially in the wellness and alternative smoking markets (Confirmed by the company).

In summary, FTM's competitive environment can be effectively analyzed using Porter's Five Force Model, which is essential to build an effective and success strategy. The company needs to keep ahead of its competitors and guarantee its long-term viability in light of the fierce competition among the tobacco firms, the negotiating power of suppliers, the bargaining power of buyers, the threat of replacements, and the danger of new entrants. One of the biggest challenges for FTM is how to overcome the increasing popularity of e-cigarettes, which poses a significant threat to the traditional cigarette market. Furthermore, the business has to keep up positive contacts with its suppliers and customers while being aware of any prospective changes to laws and the state of the economy. (Confirmed by the company).

PESTEL Analysis

Political

- **Anti-smoking Initiatives:** For example, the National Program for the Prevention and Control of Smoking of the Directorate-General for Health.
- **Government Regulations:** In Portugal there is a strict regulation on tobacco advertising, packaging, and sales. The fact that it is a volatile market emphasizes the instability of these regulations, which can affect the company's strategy and performance.
- **Taxation Policies:** Adjustments in tobacco taxes and fees have a big effect on prices and consumption trends. They could also vary for different types of tobacco products, such as cigarillos and cigars.

- **Political Stability:** The corporation can confront uncertainty if tobacco laws or policies change because of changes in government leadership or unstable political environments.
- **International trade agreements:** Trade agreements have the potential to affect a company's supply chain and market access for several product categories, including the import and export of tobacco products.

Economic

- **Interest rates:** Variations in interest rates can impact the cost of borrowing for the company, which can influence the investment and expansion plans.
- **Tourism:** Azores travel and tourism sector contributes significantly to the Regional' economy. The increase/decrease in the number of tourists and spending patterns can impact sales of tobacco products, particularly at duty-free shops and tourist destinations.
- **Inflation rates:** High inflation rates can lower consumers' purchasing power, potentially leading to a decline in demand (especially for premium tobacco products).
- **Consumer spending patterns:** While periods of economic prosperity may result in higher expenditure, economic downturns may cause consumers to spend less on tobacco products.
- **Price elasticity:** Consumer's price sensitivity varies for cigarettes, cigarillos and cigars, affecting how demand reacts to price and taxation.
- **Income inequality:** Different income levels in this region can have an impact on consumption habits. Those with lower incomes are more likely to spend a bigger percentage of their income on tobacco products.

Social

- **Cultural customs:** As tobacco use has long been a part of certain communities, cultural customs and practices may have an impact on tobacco usage patterns.
- **Peer Pressure:** Social networks and peer pressure can impact smoking initiation and cessation behaviors, particularly among younger people.

- **Healthcare system:** Portugal's healthcare system's accessibility has an impact on public health policies when it comes to tobacco control, smoking cessation programs, and access to treatment for problems caused by smoking.
- **Education levels:** Higher education levels are often associated with increased health awareness and lower smoking rates. Changes in education policies or attainment levels may affect tobacco consumption trends.
- **Health Awareness:** Public health campaigns and programs that educate people about the risks associated with smoking have an influence on social attitudes and behaviors related to tobacco use.

Technological

- **Manufacturing automation:** Automation in manufacturing may boost productivity, lower labor costs, and increase quality control in operations.
- **Tobacco products innovation:** The evolution of technology in the tobacco industry, such as taste variants and packaging design influence consumer preferences and market trends, creating opportunities and challenges for this sector.
- **Data analysis:** Through the use of Big Data, FTM could gain insights into consumer behavior, preferences, and market trends. This would enable the company to implement better strategies and have more targeted products.
- **Supply Chain Management:** With the Ukraine War and the Middle Eastern conflicts, the supply chain suffered greatly both in terms of quantities of raw materials and delays in delivery times. Technological innovations in supply chain management, such as blockchain technology, can improve transparency, traceability, and efficiency in sourcing and distribution processes.

Environmental

- **Packaging waste Management:** There are environmental concerns in the tobacco industry about the packaging waste. There's a need for sustainable solutions, for instance, reusable containers or packaging made of biodegradable materials.
- **CO2 Emissions:** Nowadays, company's emissions of greenhouse gases from production and transportation are closely examined, and the tobacco industry is

no exceptions. FTM, throughout the years, has been developing a sustainability report, setting carbon reduction strategies that are in line with legal obligations and the goals of environmental sustainability. As expressed annually in its report, the company is committed to the European Union's Macro-Objectives and the United Nations' Sustainable Development Goals. Every year, the company lists the actions it has drawn up, the actions to be drawn up and the monitoring (KPIs) in the three ESG areas (Environment, Social and Governance). Those actions fall under the 17 United Nations Sustainable Development Goals: gender equality (SDG 5), clean water and sanitation (SDG 6), renewable and affordable energy (SDG 7), decent work and economic growth (SDG 8), sustainable production and consumption (SDG 12), and protecting marine life (SDG 14). (*Fábrica de Tabaco Micaelense*, 2011).

- **Biodiversity Conservation:** Tobacco cultivation can have an adverse effect on ecosystem health, calling for the implementation of land management and environmental conservation strategies.

Legal

- **Packaging Laws:** Portugal is one of the numerous countries that has a strict legislation when it comes to tobacco products. They must be packaged strictly identically, without printing or layout faults, and must bear clearly visible health warnings on them;
- **Age Restrictions:** In order to avoid underage access to tobacco products and to comply with youth protection regulations, legal restrictions on sales to minors and age verification procedures are crucial;
- **Advertising Limitations:** The company's marketing attempts are restricted by laws regarding tobacco advertising, sponsorship, and promotion;
- **Intellectual Property Rights:** Trademark and intellectual property protection is essential to a business's competitiveness and brand image, requiring conformation with both domestic and international trademark regulation

SWOT

Strengths	Weaknesses
<ul style="list-style-type: none"> <input type="checkbox"/> Technical and technological capacity; <input type="checkbox"/> Portfolio of high-quality products; <input type="checkbox"/> Extensive distribution network; <input type="checkbox"/> Strong market presence and significant control; <input type="checkbox"/> Operating in different geographical markets; <input type="checkbox"/> Diversified business portfolio. 	<ul style="list-style-type: none"> <input type="checkbox"/> Old equipment and buildings that requires expensive and frequent maintenance; <input type="checkbox"/> Low durability of raw materials and finished products and transportation by sea; <input type="checkbox"/> Strong opposition to the decisions and policies of business partners (TBQ/JTI/IMP); <input type="checkbox"/> Dependence and limits on suppliers
Opportunities	Threats
<ul style="list-style-type: none"> <input type="checkbox"/> Increased demand in the Azores and Madeira markets due to tourist activity; <input type="checkbox"/> Exploitation of established international brands; <input type="checkbox"/> Expansion into national and European markets, with own brands and brands under license <input type="checkbox"/> New types of tobacco products 	<ul style="list-style-type: none"> <input type="checkbox"/> Strong competition in foreign markets; <input type="checkbox"/> Existence and intensification of a restrictive environment for tobacco consumption; <input type="checkbox"/> Restrictions on positive publicity; <input type="checkbox"/> Extension of the ban on smoking in certain public places; <input type="checkbox"/> Increasing protection of citizens' exposure to smoke <input type="checkbox"/> Problems in supply chains

Strengths

In terms of the company's strengths, it can be stated that, in comparison to its regional rivals, it possesses a highly developed technical and technological capability that enables it to stay competitive in the tobacco industry.

The company's ability to establish a strong brand and stable customer connections is largely attributed to the excellent caliber of its products. Due of the company's strong competitive position, this is closely related to the point of "strong market presence and significant control."

Furthermore, FTM has an extensive distribution network that ensures its presence across the Azores and Madeira archipelago, mostly through the distribution businesses Tabacom (Madeira) and CSM (Azores).

Finally, the fact that FTM acquired *Azoriani* in 2017 allowed it to obtain a more diversified portfolio of businesses, in this case specifically for the tourism sector. This is also a strength for the company since it ends up having several areas to focus on other than just the tobacco brand. (Confirmed by the Company).

□ **Weaknesses**

With regard to weaknesses, the 4 main ones were identified. Firstly, the old equipment and buildings, which indicates a need for frequent and expensive maintenance for the company.

Second, the brittleness of both finished products and raw resources. Unfortunately, the majority of businesses in this industry are affected by this issue, which lowers profitability by causing losses and waste. The fact that FTM is situated on an island highlights this flaw even more.

Thirdly, the strong opposition to the decisions and policies of business partners. As previously mentioned, FTM has partnerships with FMI, JTI, and IT which represent a large volume of business for FTM, which can be seen as a weakness in the sense that the company depends on the existing contractual and strategic relationship with its partner.

The last point is supplier limits and dependence. This industry has a limited number of raw material suppliers, which also implies some degree of contractual dependency. (Confirmed by the Company).

□ **Opportunities**

Regarding prospects, the firm stands to gain from heightened demand resulting from the significant visitor influx in the Azores and Madeira regions.

Additionally, the business may boost its reputation and market visibility by taking use of well-known worldwide brands.

Furthermore, license-based, and FTM-owned brand development into national and European markets will provide additional revenue streams and significantly diversify the company's holdings.

Lastly, there's always the chance to develop new tobacco product lines that will appeal to new consumer segments and grow market share. (Confirmed by the Company).

□ Threats

One of the dangers is the intense rivalry seen in international markets, which can lead to a decline in market share and pressure on profit margins.

Furthermore, there exists a stringent atmosphere around tobacco usage, which inevitably hampers sales. In connection with the constraints, positive advertising is also subject to restrictions, which makes it challenging to draw in new clients and hold onto current ones. In connection with the topic of limits, there has been an expansion of the proscription against smoking in public areas and anti-smoking laws, which may further diminish the market for this kind of product. (Confirmed by the Company).

4.3.3 Project Viability

The initiative to introduce hemp cigarettes has a high chance of success, given the commercial opportunities and operational and legal challenges. The market for hemp-derived products is growing, as people look for less dangerous alternatives to regular tobacco, such as hemp cigarettes. This element, together with the growing campaign to increase awareness about the dangers of smoking, positions FTM well to capture a portion of this expanding market.

FTM is well-positioned to capitalize on development potential in both the domestic, European, and international markets, given hemp's growing acceptability and legalization in various countries. This opens the door to new markets, resulting in increased income and brand recognition.

In this project, there's a forecast of a 25% increase in yearly sales over the following five years, with a target of reaching a 15% net margin by the third year. These results indicate a good financial return, consistent with the anticipated increase in demand for hemp-based products.

Despite having an experienced crew, the transfer to new machines designed exclusively for the production of hemp cigarettes necessitates further training and substantial investments. These investments might put a strain on cash flow in the short term, thus it is critical that the rise in sales occurs as predicted in order to offset the early costs.

Furthermore, reliance on raw material suppliers and regulatory issues poses risks. The worldwide hemp sector is quickly expanding, with significant corporations already established in areas with more favorable rules. To compete effectively, FTM must

differentiate itself via quality, innovation, and branding. Increasing smoking laws in public areas may potentially have an impact on long-term demand.

In conclusion, FTM's hemp cigarette concept is feasible, but it requires precise strategic execution. The hemp business provides considerable revenue prospects, but it also brings regulatory and operational issues that must be addressed proactively, at least in first years of operation.

5 Project Objectives

Using the previously conducted analyses, it is feasible to establish short-, medium-, and long-term strategic objectives in a much more forceful manner, allowing the organization to capitalize on its strengths, minimize weaknesses, seize opportunities, and prepare for possible threats. Every approach employed was critical to the establishment of these objectives, and the project's implementation was designed to correspond with these strategic goals, ensuring that each choice is supported by the facts and insights gleaned from the methodical analysis.

According to Peter F. Drucker (1954), companies must align their short-term, mid-term, and long-term objectives, making sure those are clear and strategic objectives to drive corporate decisions.

5.1 Short-terms objectives (0-1 year)

5.1.1 Product Development and Launch

- Successfully transition from FTM's current business operations to the production of hemp cigarettes, ensuring product development aligns with the highest quality standards.
- Develop a distinct brand identity for the product that highlights FTM's commitment to sustainability, family values, and premium quality.
- Complete all necessary regulatory approvals and certifications to ensure compliance with local and international laws for hemp products. (According to *Confraria Internacional Cannabis Portugal*)

5.1.2 Market Penetration

- Establish distribution channels in key domestic markets as a foundation for international expansion.
- Secure partnerships with international distributors in Europe, North America, and Asia to begin exporting our hemp cigarettes.
- Achieve initial sales targets (100 000 packs) in the first six months of operation. (Forecast value by *Confraria Internacional Cannabis Portugal*)

5.2 Mid-term Objectives (1-3 years)

5.2.1 Expansion and Scaling

- Increase production capacity to meet growing demand by investing in advanced machinery and expanding our manufacturing facilities. (Peter Drucker, 1954)
- Expand our product line to include different flavors, blends, and packaging options to cater to diverse consumer preferences. (Michael E. Porter, 1985)
- Penetrate additional international markets, with a focus on countries where the demand for hemp products is rapidly growing. (Richard Rumelt, 2011)

5.2.2 Brand Building and Marketing

- Establish FTM as a leading Global Brand in the hemp cigarette industry, recognized for quality, sustainability, and innovation. (David Aaker, 1996)
- Launch targeted marketing campaigns to build brand awareness and educate consumers about the benefits of hemp cigarettes, particularly focusing on health-conscious demographics. (Philip Kotler, 2005)

5.3 Long-term Objectives (3-5 years)

5.3.1 Market Leadership

- Become a market leader in the hemp cigarette industry, with a significant market share in both domestic and international markets. (John Elkington, 1998)
- Continue to innovate by exploring new product opportunities within the hemp and CBD industry, such as infused products or other smokable alternatives. (John Elkington, 1998)
- Maintain a strong commitment to sustainability by continuously improving our production processes and exploring eco-friendly packaging solution. (John Elkington, 1998)

5.3.2 Financial Goals

- Achieve revenue growth of 25% annually over the next 5 years, with profitability reaching (e.g 15% net margin) by year 3. (Forecast value by *Confraria Internacional Cannabis Portugal*)
- Reinvest profits into R&D, marketing, and expansion efforts to sustain long-term growth and adaptability in changing market. (David Aaker, 1996)

- Establish a solid financial foundation that supports ongoing innovation, expansion, and contributions to the community and environment. (Peter Drucker, 1954)

In conclusion, these objectives will guide FTM's journey as the transition into the hemp cigarette market occurs, ensuring that the company not only achieve its business mission and vision, but also contribute positively to the industry and society.

6 Implementation

In order to develop this new Project that aims to switch from conventional tobacco cigarettes to Hemp ones, a number of crucial areas need to be addressed, based on local, national, and international regulations, to ensure a smooth transition and successful acceptance. The Gantt chart provided in Table 3 (Annex B) outlines the 17-month implementation schedule, which begins in January 2025 and ends in June 2026. It depicts the main phases of the project, their interdependence, and the timeframe for completing each task.

□ Market Research and Competitive Analysis

The initial phase, which runs from January to April 2025, focuses on Market Research and Competitive Analysis operations. These actions are critical in determining the market potential and strategic position of hemp cigarettes. To proceed to the next step of product development, the competitive analysis must be completed first.

□ Product Development

In this phase, FTM will work with teams responsible to develop hemp cigarette formulations that appeal to final products and targets. This may include testing different strains of hemp for flavor, smoothness, and other desirable qualities. This activity is crucial since it directly affects the Supplier Evaluation and Requirements, which will be completed between May and July 2025.

When it comes to the cigarette production, the amount of CBD flowers and leaves used in each hemp cigarette can vary depending on the size of the cigarette and the density of the material. However, a common amount used in hemp cigarettes, according to *Confraria Internacional Cannabis Portugal*, is between 0,5 grams and 1 gram of CBD flowers and/or rich CBD leaves. So, there's a need to take the cigarette size (standard hemp cigarettes typically range from 70mm to 84mm in length, similar to conventional tobacco cigarettes), the CBD concentration (The amount of CBD per cigarette depends on the concentration of CBD in the flowers and leaves used, which can vary significantly depending on the strain and cultivation process), and the Blend (Some cigarettes may mix flowers and leaves to balance the flavor, smoke intensity, and overall experience) into consideration.

Furthermore, the price per kilogram of hemp flowers can vary widely depending on factors such as quality of the flowers, CBD content, whether the product is organic, and the region of purchase. Below is a general overview of current price ranges provided by *Confraria Internacional Cannabis Portugal*.

Firstly, the Low-quality/Industrial Grade, where the price range is between €150 and €300. These have lower CBD content, less stringent cultivation practices (potentially more stems and seeds) and are often used for extraction or industrial purposes rather than direct consumer products.

Secondly, the Mid-Quality has a range of €300-€800 per kilogram, with moderate CBD content, reasonably well-cultivated (with better trimming and fewer stems/seeds), and suitable for both extraction and smoking products.

Finally, the High-Quality/Premium Grade, with a price range between €800 and €2,500 (or more). These are characterized by having high CBD content (10% - 20%+), are organically grown, carefully trimmed (with minimal seeds or stems) and are often used for premium smoking products or high-end CBD extractions.

So, there are factors that influence the price per kilogram of hemp flowers, such as CBD content (Higher CBD concentrations generally command higher prices), Organic Certifications (Organic and pesticide-free products typically cost more), Terpene Profile (Strains with unique or desirable terpene profiles might be priced higher due to their enhanced flavor and scent), Market Demand (Prices can fluctuate based on supply and demand dynamics in different regions), Mass Purchasing (Buying in larger quantities reduces the price per kilogram to a certain extent – Economies of Scale). Besides that, there's also potential regional variations. According to *Confraria Internacional Cannabis Portugal*, in USA and Canada the prices are normally higher due to the stringent quality standards and regulations. In Europe, the prices may be lower but vary on the country and quality of product. In Asia and Other Regions, prices can be lower as well, but quality may also vary significantly. In order to obtain the ideal pricing, FTM can contact suppliers directly or check online marketplaces specializing in hemp products, as prices can change frequently based on market conditions.

In the process of producing hemp cigarettes, other procedures need to be done, like selecting and preparing the hemp. The hemp should be properly dried and cured to enhance the flavor and smoke quality. Moreover, the hemp flowers or leaves must be grinded into small pieces using an herb grinder, making it easier to pack the hemp into the rolling paper.

Concerning the paper, it will be considered the use of high-quality rolling papers, preferably organic to avoid adding artificial flavors to the smoke.

Similar to the process used to produce tobacco cigarettes, there are guidelines that must be followed when creating and storing hemp cigarettes: Homogeneous distribution of hemp (Place an adequate and evenly amount of ground hemp onto the rolling paper), rolling (carefully and gently pressing the hemp to make the cigarette firm), packing (pack the hemp more tightly into the cigarette to ensure it's well packed) and storage (store the rolled cigarettes in a dry, light-protected place, preferably in an airtight container, to keep them fresh).

□ **Supplier Evaluation and Requirements**

Regarding suppliers, according to *Confraria Internacional Cannabis Portugal*, industrial hemp cultivation, authorized by DGAV, is currently taking place in the Azores on three different islands: São Miguel, Terceira, and Pico. In 2024, there are 6 producers managing a total of 3 hectares. The results from these initial experimental harvests will be used as the base raw material for FTM's first hemp cigarette trials. With many more farmers anticipated to become interested in growing hemp next year, FTM will have more access to local raw materials, ideally enough to meet the needs of the business.

This strategy is essential since FTM seeks to support the local economy while advancing soil regeneration in the Azores, diversifying crop types, assisting in CO2 sequestration, and enhancing the standard of living for our communities—all in line with the UN's Report on Hemp (2023).

If local production is insufficient to meet demand, FTM can source from the national market, specifically from the organized hemp fiber production in Alentejo, which supplies Hemp blocks. With the appropriate DGAV authorization, FTM will purchase CBD rich flowers and leaves from national producers. If not feasible, the company can always seek suppliers from other European countries like Spain, France, Italy, Poland, Czech Republic, Ukraine, and other major hemp markets.

With all local, national, or international suppliers, FTM must ensure that hemp sourcing is sustainable, with a focus on organic farming practices and minimal environmental impact.

□ **Cost Estimation**

Cost estimation is a vital stage in the project since it entails determining all of the expenses related with the development and launch of hemp cigarettes, which is forecasted to last 2 months (July and August 2024). These costs can be classified into numerous categories (Raw Materials, Production Costs, Distribution and Logistics Costs, Marketing and Positioning Costs, Licensing, and Regulatory Costs, etc.).

□ **Revenue Forecasts**

Revenue forecasting is intimately tied to expense estimates. To effectively anticipate revenue, the organization must consider numerous factors, such as setting the Sales Pricing, Market Size Estimation, Sales Volume, Distribution Channels, Profit Margins, etc.).

Regarding the Sales Pricing, it's important to set a competitive price, that covers costs while generating a profit margin. The profit margin will be impacted by the amount of hemp that can be produced at a reasonable cost, as well as the price consumers are willing to pay. Hemp goods tend to be more expensive due to their nature, but the price must also be modified to meet market demands.

In terms of Market Size Estimation, the market research will give really good insights about its demand in different markets and the future prospects.

Sales volume is projected based on market size and product positioning, with variables such as marketing campaigns, target audience approval, and distribution channels' reach.

The selection of sales channels will also have a direct impact on revenue. Profit margins and revenues may differ depending on whether the product is sold online, through distributors, or in physical locations. Forming strategic alliances with distributors of natural products or tobacco products can boost sales and expedite market penetration.

□ **Financial Risk Analysis**

This step will take place between September and October 2025, seeks to evaluate the main risks that can affect the project's viability. Those could be Market Risks (Shifting Regulations, variations in Demand, Increasing Competition), Operational Risks (Production Capacity, Supplier Issues, Machinery installation and operation), Financial Risks (Currency Volatility, Changes in Interest Rate, Cash-Flow issues), Launch Risks (Ineffective Marketing Campaigns or not launching the product successfully).

□ **Financial Tracking Method**

During the Project Implementation, it is important that the company applies tools that allows them to evaluate the progress of it in every parameter. The Selection Process is relatively fast, with a forecast of 1 month.

For Performance Metrics, FTM could set up customer satisfaction, market penetration, revenue growth, and regulatory compliance as key performance indicators (KPIs) to track the success of the transformation. (According to *Confraria Internacional Cannabis Portugal*).

FTM could also set up a continuous improvement process to regularly assess the implementation and make necessary adjustments based on market feedback and performance data. (According to *Confraria Internacional Cannabis Portugal*)

□ **Target Audience, Brand and Positioning**

In order to implement this project, the Marketing/Sales team will have to be readjusted. Employees must be equipped with all the knowledge and tools to effectively promote hemp cigarettes and address any consumer questions or concerns. For that, there's a need to draw a Marketing Plan, where the target audience will be defined, as well as the brand and position.

The Target Audience have to be identified in order to successfully pursue the best fit of Marketing tools. Regarding the brand, there's a need to develop a comprehensive rebranding strategy to position hemp cigarettes as a healthier and more sustainable alternative to tobacco. This may involve changes to packaging, logos, and brand messaging. Also, FTM could educate their consumers throughout campaigns that illustrate the benefits of hemp cigarettes over tobacco. Since it has a lot of brainstorming, graphic design, adjustments, and approvals to deal with, this phase will last 2 months on the Gantt Chart.

□ **Distribution and Sales Channels**

Defining distribution and sales channels is critical for ensuring that Fábrica de Tabaco Micaelense's hemp cigarettes reach their intended markets efficiently. The company can choose between direct distribution methods, such as e-commerce, which gives it more control over profit margins and client relationships, and indirect distribution channels, such as wholesalers and retailers, which provide greater market scale.

Giving the complexity of this, the forecasts is that it will take 2 months to finish (in this case, from August to October 2025).

Furthermore, taking into consideration exports to other markets, it will be necessary to form international logistics alliances and maybe construct local distribution centers to improve delivery and save costs. Another important element is to diversify sales channels, combining traditional places of sale with online platforms to reduce risks and increase market presence. (According to *Confraria Internacional Cannabis Portugal*).

□ **Campaign Development**

The creation of a marketing campaign is critical to launching hemp cigarettes into the market. The campaign should focus on educating consumers about the product's benefits, positioning the brand as innovative and sustainable, and driving demand.

To ensure the campaign's success, FTM must identify clear goals, create relevant content, and select the appropriate communication channels. The campaign will be complemented by performance analytics to measure its impact and engagement, with a total period of 2 months in the Gantt Chart.

□ **Technology Needs and Machinery**

From November 2025, the project's focus switches to technical and operational challenges, with the Identification of Technology Needs beginning in November and lasting until December of the same year. This task will be followed by the acquisition and installation of machinery, which is anticipated to end by the end of January 2026. FTM always has to consider the compliance with regulatory Standards (Safety, Quality Control, and hygiene), and make sure to have a Maintenance Plan.

□ **Workforce Training**

The organizational/operational strategy is one of the most important in the process, considering that it requires a lot of team effort for a transition of this scale to be possible.

It will be necessary to reorganize almost every department within FTM, particularly the operational department. The team will need to participate in a two-month training session covering all of the intrinsic machinery and the numerous components of the product. It is crucial to make sure that all members of the team understand and adhere to the company's policies and procedures, particularly with regard to using the machinery and meeting safety and quality requirements.

□ **Machinery and Product Testing**

The Machinery Testing phase, which follows installation and training, will take place in March 2026. This is crucial to guarantee that all the equipment is operating as intended before beginning trial production. After that, the Product Testing begins, where the workforce can make a trial to check the quality of the product before its launch. This is the perfect time to make amends in the product, for example, choosing between using filters made from cardboard or natural fibers to prevent inhaling small particles.

□ **Launch Plan and Start of Experimental Production**

Finally, by May 2026, the Launch Plan will be finalized, leading up to the projected Start of Experimental Production. The final stage represents the change from product development to the actual application of the product on the market.

6.1 Cost Map

The costs for producing hemp cigarettes can vary widely depending on factor such as the scale of production, location, equipment choices, and whether its manufactured in-house or outsource. In the table 4 (Annex B) are some potential costs to consider, which were provided by *Confraria Internacional Cannabis Portugal*, based on international consultancy.

1. Legal and Regulatory Costs

To begin with, the company needs both national and international licenses to process the industrial hemp and sell it, which cost €5,000. Attention must also be paid to the legal costs involved, namely consulting lawyers for regulatory compliance, trademarking, contracts, and other legal needs, which are around €2,000. This brings the total of this category to €7,000.

2. Product Development

As far as the development of the product itself is concerned, there is a great need to invest in R&D as it is an innovative product and new to the market. The cost of developing the product, including sourcing hemp, testing different blends, and conducting quality assurance is €5,000. The costs for testing THC levels, contaminants and ensuring the product meets all legal standards are €2,000, making a total of €7,000 in product development.

3. Manufacturing and Production

To start the manufacturing process, the initial inventory will cost €10,000, which represents the cost of purchasing high-quality hemp in bulk, which may vary depending on organic certification and sourcing location.

As for equipment, rolling machines cost €10,000 (it can be more, depending on capacity and level of automation), shredding machines €2,000, packaging machines €5,000 and packaging materials €5,000 (cost of rolling papers, filters, and packaging boxes, especially if ecological or customized options are used).

In addition, there are Facility rental/Lease costs of around €2,000 per month (vary according to location and size) and utilities that can be from €1,000 and €3,000 for electricity, water, and other utilities for running the production facility. (In the Cost Map it was considered the average value). All these costs considered results in a total of €35,500.

As far as the production process is concerned, hemp cigarettes have to be processed on a specific machine, different from the machine used to produce traditional cigarettes, due to the particular characteristics of this plant. In this regard, after some research and contact with companies, KORBER Technologies GmbH provided a document with information about the machines it has available. When contacting the company, it was also pointed out that, given FTM's size, characteristics and budget, the “Cantos” machine would be the most suitable. This is because the TFM would have a relatively low production capacity for the company's turnover, and the Nanho-H would be more suited to a higher industrial level than the FTM. As such, this machine would cost 1,200,000€ (while the TFM costs 400,000€ and the Nanho-H 2,400,000€). (Korber). According to table 5, it is clear that this machine would have an average performance, producing between 150 and 200 cigarettes per minute, and that it would be advisable to have two suitably qualified workers to run the entire machine cycle.

4. Marketing and Sales

Regarding Marketing and Sales, there's the cost for Brand Design, which is €5,000 (costs for logo design, packaging design and brand development) and Website development (with the cost of around €2,000).

Besides that, there's also Marketing Campaigns with the initial cost of €5,000 for digital marketing (SEO, social media, E-mail Marketing), influencer partnerships and

advertising. There's also a budget for events of €4,000, which makes a total of around €14,000 for Marketing.

5. Operational Costs

With regard to operating costs, there's a need for hiring key staff such as qualified production workers (or training the existing ones) and quality control personnel. For that, *Confraria Internacinal de Cannabis Portugal* considered a value of €50,000 worth of salaries per year, €5,000 for Employee Benefits (for instance, health insurance and retirement plans) and 2,000 annually insurance for business liability, product liability and property insurance.

6. Other Costs

Finally, there's other miscellaneous Costs. These are Contingency funds (€10,000) set aside for unexpected costs or delays, and other administrative costs, such as office supplies (€1,000), giving the other costs a total of €11,000.

The total amount may differ based on certain conditions, such as whether FTM decides to quickly boost production, where our activities are located, as well as how much marketing we do. Costs can be controlled by starting small and increasing as demand rises.

7 Future Prospects

The cultivation of hemp has enormous potential for growth in the future, particularly when it comes to FTM's complete value chain production. At the moment, legislative limitations on the movement of hemp flower—a necessary component in the manufacturing of cigarettes—present a barrier to the value chain's complete development.

In order to try to determine what the costs of planting would be, a small study was carried out on rustic land in the São Miguel Island, as well as the cost and yield of production per hectare. The costs and yields provided for hemp were in terms of fiber production (Table 6 and 7) and seed production (Table 8 and 9) (values from studies in Continental Portugal).

□ Land for planting

According to INE (2024), there are three types of land: urban, rustic, and mixed. Theoretically, rustic land is land that cannot be developed, i.e., land on which there can be no construction. This would therefore be the ideal type of land for planting hemp.

However, through a study carried out in conjunction with a real estate agency in the region, it was possible to identify not only the areas of the island most suitable/richest for growing this plant, but also to gather some data on the average prices applied there. The average price per m² is between €9 and €13 per m². As for the best locations, they have fertile, flat land at low altitudes: Arrifes Milk Basin (11.8€/m²), São Vicente Ferreira (10€/m²) and Fajã de Cima (11.5€/m²). (Values compiled in May 2024).

□ Fiber Production

In order to produce 1 hectare of industrial hemp, more specifically for the production of fibers, it is necessary to carry out various procedures before reaching the final product. In particular, the land needs to be prepared, fertilized, and harrowed. According to studies carried out by CANNAPRO PORTUGAL, these initial steps would cost €295. It is also important to note that the growing time for industrial hemp is approximately 4 months. (According to CannaPro Portugal).

Afterwards, the seeds are sown in rows (€60/h) and mulched (€0.95/h), with seeds costing €7 per 50 kgs. Finally, the fiber is harvested, at a cost of €60 and lasting 1 hour. There are also other costs associated with this process, such as turning the straw (€50/h), baling (€5/35 bales), watering (€0.31/4000m³) and energy (€0.31/200Kw). Taking into

account all the variants mentioned, the total cost per hectare, according to studies carried out in mainland Portugal, is €1247/ha.

With regard to the yield per hectare, the table 2 shows that it is possible to produce 7 tons per hectare at a market price of 300€/ha, giving a total revenue of 2100€. Considering the costs previously analyzed, and with the total revenue figures, the average profit per hectare is 853 euros.

□ **Seed production**

Similarly, an analysis can be made of the costs and revenues of producing industrial hemp seed. The process of preparing the land, fertilizing, harrowing, sowing, and mulching is completely similar to that of fiber production, both in terms of costs and time spent. However, seed costs are higher in this case, since with the same €7 that was spent to produce 50kgs of fiber, in this case it is only possible to produce 30kgs.

In addition, the seed harvesting process also differs from fiber production. While fiber is harvested with a simple mower, seed production is harvested with a threshing machine, at a cost of €80 per hour. In this case, packaging is done by wrapping, requiring 3 hours at a cost of €25/h. Irrigation and energy costs for seed production are €125 and €62 respectively. As a result, seed production has a total cost of €1002/ha, compared to €1247/ha for fiber production.

As far as yields per hectare are concerned, with this production method it is possible to produce 1 ton per hectare, with a market price of €3000/ha. Taking these figures into account, it would be possible to achieve an average profit of 1998€/ha.

8 Conclusions

This project seeks to bring *Fábrica de Tabaco Micaelense* (FTM) into line with global consumer trends toward healthy living by introducing an innovative and sustainable product. The gradual drop in traditional tobacco uses and the growing interest in natural and healthier alternatives, like CBD, led directly to the creation of hemp cigarettes. With so many industrial and medicinal applications, hemp offers FTM a great chance to diversify its business while keeping its core focus as a tobacco producer.

This thesis's primary research question is: "How can a tobacco factory overcome the obstacles of the (declining) industry and transform itself into a healthier and more sustainable company?". The answer to this question lies in the strategic diversification of FTM production, betting on an innovative product like hemp cigarettes, that offer a healthier alternative to traditional tobacco. FTM can profit from the increasing customer knowledge of the advantages of CBD by capitalizing on the demand for natural and hemp-based products.

The introduction of hemp cigarettes in FTM not only responds to worldwide trends in healthy consumption, but also demonstrates the importance of modernization and effective change management inside an organization. As stated in the literature study, firms that succeed in dynamic contexts are those that can respond swiftly to market possibilities and difficulties. In the case of FTM, modernization entails both the implementation of new technology and processes, as well as the organizational transformation required to address internal resistance to innovation. By strategically adopting these changes, the company will be able to not only diversify its portfolio, but also assure a seamless and successful transition, boosting its capacity to compete in a global market that is more concerned with sustainability and health.

It was possible to determine the company possibilities and difficulties in relation to its entry into the hemp industry thanks to FTM internal and external analysis, which was conducted with an application of instruments such as Porters five forces, PESTEL, and SWOT analysis. A competitive and market analysis were also carried out to further complete the analysis of what it would be like if this company entered this branch.

As far as the project's limitations are concerned, the biggest one has to do with legislation. As mentioned above, the production of Industrial hemp is legal in Portugal under certain conditions imposed by *DGAV* (*Direção Regional de Alimentação e*

Veterinária), the governmental department that provides Licenses for producers and farmers.

One of the regulations with the most significant impact on our business is the prohibition of using CBD flowers and rich leaves in cannabinoids. In Portugal, these parts of the hemp plant cannot be processed or sold in CBD forms. They are only authorized for use in biomass for other industrial purposes. Since hemp cigarettes are made from CBD flowers and those specific leaves, this poses a major obstacle to producing them for the domestic market. With this in mind, we can say that the current legislation is not favorable, making hemp businesses more challenging in Portugal compared to legal production in other countries. However, this is an obstacle that FTM can successfully overcome. Today seems to be a viable solution for FTM to produce for international markets where CBD products are regulated and authorized, such as Canada, over 25 USA states, Malta, Luxemburg, Germany, South Africa, and others.

Apart from the regulatory concerns, there's also important to consider the expenses associated mostly with machinery. The equipment needed to produce hemp cigarettes requires a larger initial investment than that required to produce regular tobacco. Nevertheless, the fact that FTM already has a skilled staff in the cigarette production industry, gives it a competitive edge and lessens the impact of the costs. Employees' prior experience in the industry will ease the transfer, even though training will be required to run the new machinery. Besides that, the aforementioned resistance to change can also be seen as a limitation, in addition to the prejudice still associated with this plant.

Furthermore, since the economic benefits of hemp have only recently begun to be explored in Portugal – where very little and highly restricted information is available, including in the Autonomous Region of the Azores – we believe it is a significant challenge for us to conceptualize and implement such an innovative project, moved by the idea that global hemp market is experiencing exponential growth, due to increased awareness of the benefits of CBD and a broader shift towards natural, plant-based products.

Moreover, as a competitive advantage, FTM emphasis on sustainability and upholding the moral principles of the family business ought to be emphasized. By implementing a clear and well-defined plan, FTM can effectively expand its reach into global markets and secure a substantial portion of this expanding industry, while simultaneously leveraging its current infrastructure and expertise.

No doubt that, as countries around the world loosen regulations on hemp and cannabis-related products, there is a significant opportunity to capture market share in the emerging hemp cigarette industry. Given the increasing demand for hemp-based products in international markets, FTM plans to position itself as a leading exporter of premium hemp cigarettes.

Overall, this study shows that it is possible to turn around an industry in decline, in this case the tobacco industry, and even better that it's an innovation that is eco and health conscious. By staying up to date with shifting consumer preferences, as well as beneficial regulatory prospects overseas, FTM can become a market leader in the hemp cigarette industry and support the long-term expansion and viability of the business.

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10 Annexes

10.1 Annex A: Figures




PEDIDO DE AUTORIZAÇÃO DE CULTIVO DA PLANTA DA CANÁBIS PARA FINS INDUSTRIAIS

Nome do(a) agricultor(a): _____

Número de identificação fiscal (NIF): _____ Telefone/Email: _____

Endereço: _____

Denominação e Morada da exploração agrícola: _____

Morada completa e localização geográfica por coordenadas das instalações onde o produto é armazenado: _____

Variedade	Número do(s) lote(s) da semente	Número de série das etiquetas	Número e peso unitário das embalagens	Nº. de parcelário(s)	Área (ha)	Semente (kg/ha)	Data provável da sementeira	Data estimada de colheita	Produtos a obter*

Data e assinatura legível do(a) agricultor(a): _____

Decisão da DGAV:

*assinalar: fibra, sementes para uso alimentar ou para alimentos para animais ou experimentação para essas finalidades
Janeiro_2022

Figure 1: Request for authorization to produce industrial hemp

Source: DGAV, 2022

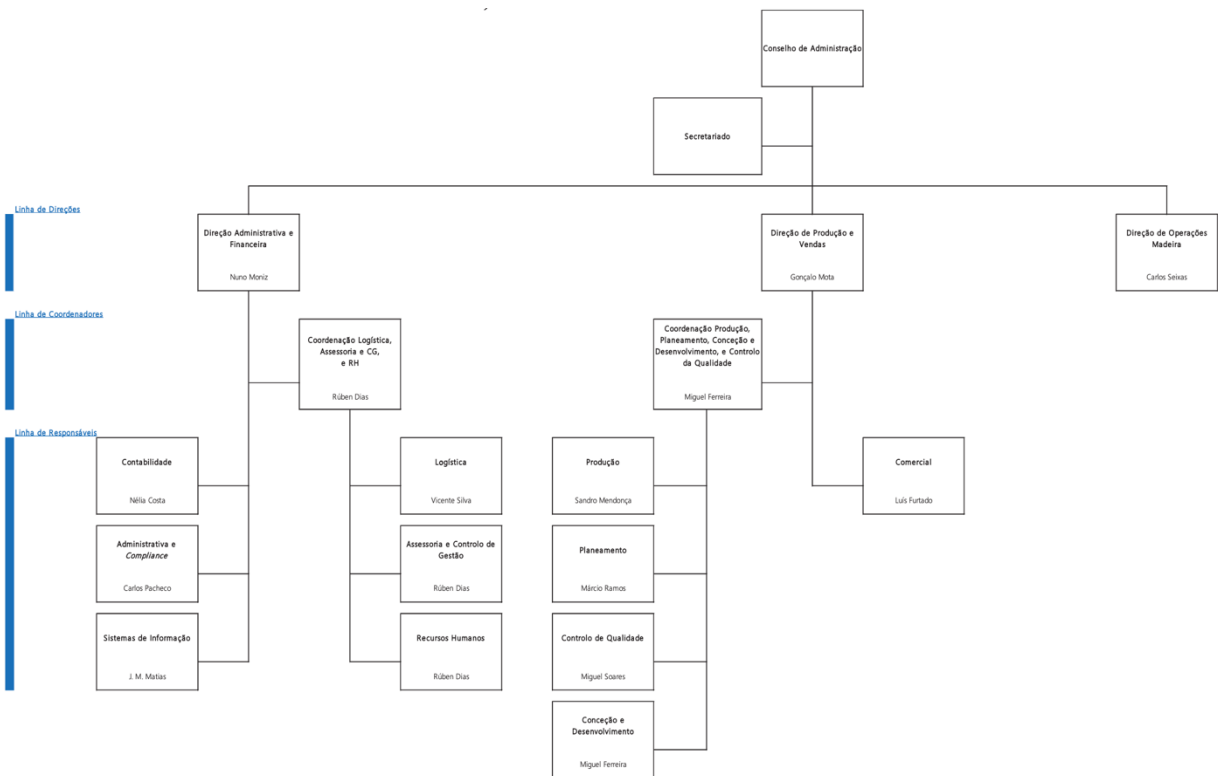
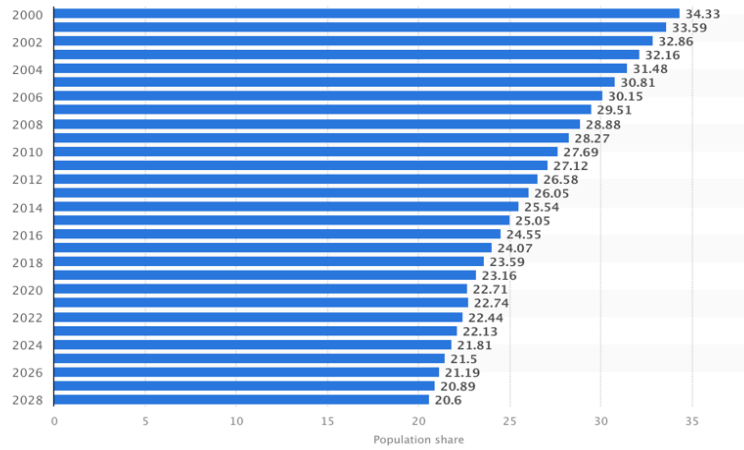


Figure 2: Organic Structure of FTM

Source: *Fábrica de Tabaco Micaelense*, 2021

10.2 Annex B: Tables

Table 1: Prevalence of smoking worldwide from 2000 to 2028



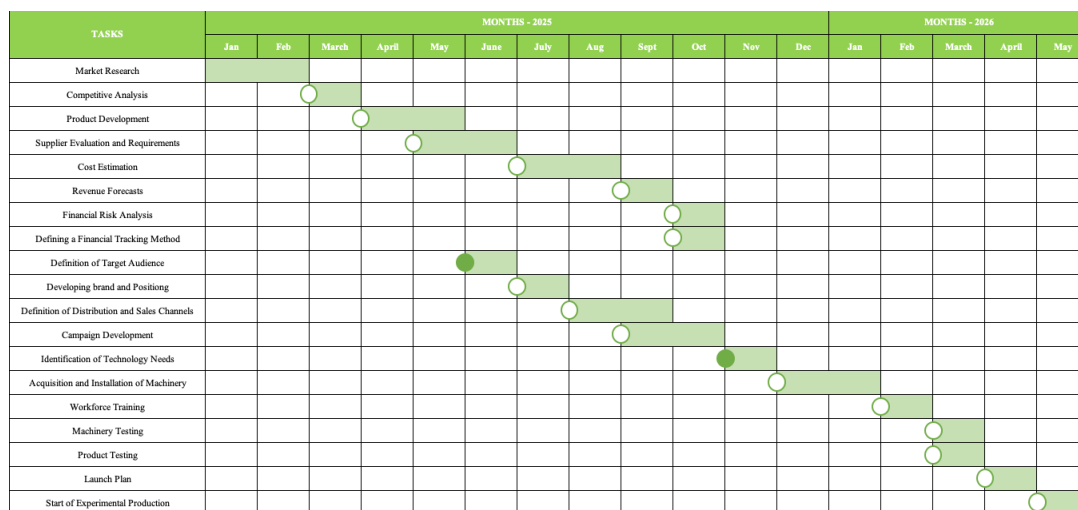
Source: Statista, 2023

Table 2: Competitive Analysis

Criteria	Wild Hemp	Plain Jane	Hempacco
Price (Pack of 20)	12.99\$	10.75\$	11.99\$
Market Position	Brand established in the USA, focused on hemp cigarettes	Company focused on hemp and CBD products	Leading Canadian hemp cigarette company
Products	Hemp cigarettes, CBD oil, and others	Hemp cigarettes and CBD flowers	Hemp cigarettes, hemp snacks, and others
Target	Premium costumers and CBD Lovers	smokers/ex-smokers who want a cheaper and discreet option	Smokers/ex-smokers, Sustainability-conscious consumers
Distribution Channels	E-commerce and USA physical stores	Focus on online sales	Global distribution, both online and in store

Source: Adapted from Company's Websites, 2024

Table 3: Gantt Chart



Source: Own elaboration

Table 4: Cost Map

Category	Description	One Time Costs	Fixed Cost	Variable Costs	TOTAL
Legal and Regulatory	Licencing and Permits	5 000,00 €			5 000,00 €
	Legal Fees	2 000,00 €			2 000,00 €
Product Development	R&D		5 000,00 €		5 000,00 €
	Testing and Compliance	2 000,00 €			2 000,00 €
Manufacturing and Production	Raw Material			10 000,00 €	10 000,00 €
	Rolling Machines		10 000,00 €		10 000,00 €
	Grinding Machines		2 000,00 €		2 000,00 €
	Packaging Machines		5 000,00 €		5 000,00 €
	Korber Machine	1 200 000,00 €			1 200 000,00 €
	Packaging Materials			5 000,00 €	5 000,00 €
	Facility Rental (Monthly)			2 000,00 €	2 000,00 €
	Utilities			1 500,00 €	1 500,00 €
Marketing and Sales	Branding and Design	5 000,00 €			5 000,00 €
	Websitre Development	2 000,00 €			2 000,00 €
	Marketing Campaings (Initial)		5 000,00 €		5 000,00 €
	Events		4 000,00 €		4 000,00 €
Operational Costs	Salaries (Annual)		50 000,00 €		50 000,00 €
	Employee Benefits		5 000,00 €		5 000,00 €
	Training		1 500,00 €		1 500,00 €
	Insurance		2 000,00 €		2 000,00 €
Other Costs	Extras			10 000,00 €	10 000,00 €
TOTAL		1 216 000,00 €	91 500,00 €	26 500,00 €	1 334 000,00 €

Source: Adapted from information provided by *Confraria Internacional Cannabis Portugal, 2024*

Table 5: Machinery Costs - Korber Enterprise

Name	MACHINES - KORBER		
	Tube Filling Machine (TFM)	Cantos	Nanho-H
Required Material	Pre-Manufactured filter tubes	Cigarette paper/ filter paper/ filter/ glue	
Filler Material	From pure flowers to shredded hemp/cannabis	From pure flowers to shredded hemp/cannabis blends and reconstituted hemp paper	
Required Infrastructure	Normal household environment	Normal household environment	Industrial environment
Footprint	1.25m2	< 10m2	36.84m2
Output in pre-rolls per minute	80	150-200	1000-2000
Diameter flexibility	Medium	Medium	Low
Flexibility in product design: Total length, filter lenght	High	High	Medium
Lid end closing	Open & folding	Open	Open - densend end
Cleaning effort (for all types of material)	Low	Low-medium	Medium
Number of operators required	1	1 or 2	1 or 2
Required skill level for operators	Low	Medium	High
Investment	\$	\$\$	\$\$\$
Production costs savings per pre-roll compared to a manual process: \$\$\$*	\$ per pre-roll*	\$ per pre-roll*	\$ per pre-roll*

Source: *KORBER, 2023*

Table 6: Cultivation account 1 hectare of industrial hemp for Fiber Production

Operations/Production factors	Hours/ Quantity	Unit Value	Total/ha
Land preparation - Grading	1,5h	50 €	75,00 €
Land preparation - Chisel	1,5h	60 €	90,00 €
Top dressing - 6-10-20	100kg	0,80 €	80,00 €
Harrowing	1h	50 €	50,00 €
Sowing - Row seeder	1h	60 €	60,00 €
Top dressing - 36N	100kg	0,95 €	95,00 €
Seed cost	50kg	7 €	350,00 €
Harvesting/cutting with simple mower	1h	60 €	60,00 €
Turning straw on the ground	1h	50 €	50,00 €
Baling	35 fardos	5 €	175,00 €
Watering	4.000 m ³	0,025 €	100,00 €
Energy	200Kw	0,31 €	62,00 €
Total costs per hectare			1 247,00 €

Source: *CANNAPRO Portugal, 2023*

Table 7: Yield per hectare for Fiber Production

Yield per hectare - Hemp straw	
Average yield of hemp straw	7 t/ha
Market price of hemp straw	300 €
Total Revenue	2 100 €
Total Costs	1 247 €
Average profit per hectare	853 €

Source: *CANNAPRO Portugal, 2023*

Table 8: Cultivation account 1 hectare of industrial hemp for Seed Production

Operações/ Fatores de produção	Hours/ Quantity	Unit Value	Total/ha
Land preparation - Grading	1,5h	50 €	75,00 €
Land preparation - Chisel	1,5h	60 €	90,00 €
Top dressing - 6-10-20	100kg	0,80 €	80,00 €
Harrowing	1h	50 €	50,00 €
Sowing - Row seeder	1h	60 €	60,00 €
Top dressing - 36N	100kg	0,95 €	95,00 €
Seed cost	30kg	7 €	210,00 €
Harvesting with a thresher	1h	80 €	80,00 €
Packing	3	25 €	75,00 €
Watering	5.000 m ³	0,025 €	125,00 €
Energy	200Kw	0,31 €	62,00 €
Total costs per hectare			1 002,00 €

Source: *CANNAPRO Portugal, 2023*

Table 9: Yield per hectare of industrial hemp for Seed Production

Yield per hectare - Hemp seed	
Average yield of hemp straw /ha	1 t/ha
Market price of hemp straw / t	3 000 €
Total revenue per hectare	3 000 €
Total costs per hectare	1 002 €
Average profit per hectare	1 998 €

Source: *CANNAPRO Portugal, 2023*

10.3 Annex C: Interviews to FTM workers

Interviewee 1:

Age: 45

Sex: Male

Qualifications: Baccalaureate

Time of service in the company: 23 years

Position in the company: Secondary Manager

Question 1: What are the criteria for choosing suppliers (tobacco, packaging, filters, etc.) for FTM?

A: Quality, price, transportation.

Question 2: How is the raw material sent from the supplier to FTM?

A: Mostly by sea.

Question 3: As you know, there are restrictions on advertising and marketing in the tobacco industry. To what extent is FTM able, under these restrictions, to maintain its marketing activity for the company and its products?

A: Did not answered.

Question 4: Do you think that FTM has VRIO resources/capacities? If so, which ones and why?

A: Did not answered.

Question 5: Do you think FTM has a lot of competition?

A: Yes.

Question 6: What aspects do you believe could give FTM an advantage over new companies entering the market?

A: Flexibility and innovation.

Question 7: In the tobacco industry, it is well known that suppliers have strong bargaining power. What has FTM done to counteract this?

A: Negotiate with suppliers and search the market for the best options

Question 8: In today's world of choice, it's well known that consumers often switch from one product to another. How do you see the strategy adopted by FTM to deal with the presence of substitute products in this industry?

A: Trying to adapt our products to our customers' needs and expectations.

Question 9: What do you think is the future of the tobacco business?

A: Very uncertain.

Question 10: What is FTM's business strategy for the coming years?

A: Finding business partners in the European market.

Question 11: Do you know hemp and its benefits?

A: Yes.

Question 12: What do you think of the prejudice that still exists in this area?

A: Lack of knowledge.

Question 13: Are you a smoker or ex-smoker?

A: Yes.

Question 14: If so, would you smoke a hemp cigarette?

A: Yes.

Question 15: Would you recommend a hemp cigarette to other people?

A: Yes.

Question 16: Do you think that using hemp in cigarettes would bring added value to the population and to the company? If so, to what extent?

A: For the population, having a product with guaranteed quality and medicinal benefits. For the country, the tax aspect would be an added value. For the company, it would be one more product to add to its portfolio.

Question 17: What are your expectations of this innovation?

A: Much depends on the will to legislate in their favor.

Question 18: What resources would be needed to implement this project?

A: These are specific machines that produce this product, and they come from the same manufacturers. Changes to the facilities with the expansion of certain areas and labor.

Question 19: How will FTM have to adapt to this innovation? What changes will be necessary?

A: Acquisition of machinery and expansion of the production area.

Question 20: Do you think FTM is ready to take on this challenge?

A: It is prepared in technical terms and in terms of the specifics of this product. But it will only be able to think seriously about the project if the legislation changes.

Question 21: What impact will the implementation of the project have on FTM?

A: Increased portfolio of FTM brands. Possibility of exporting to European countries with the legislation in force.

Question 22: What impact will the implementation of the project have on your department?

A: It will be one more production line to watch out for and one more product to take into account with stricter controls.

Interviewee 2:

Age: 48

Sex: Male

Qualifications: Master's degree

Time of service in the company: 25 years

Position in the company: Administrator

Question 1: What are the criteria for choosing suppliers (tobacco, packaging, filters, etc.) for FTM?

A: desired quality, price (including transport and insurance), minimum batch, delivery deadline.

Question 2: How is the raw material sent from the supplier to FTM?

A: via contracted carrier, the most common incoterms being FOB, CIF and DAP.

Question 3: As you know, there are restrictions on advertising and marketing in the tobacco industry. To what extent is FTM able, under these restrictions, to maintain its marketing activity for the company and its products?

A: Mk to the customer is forbidden, so you can only work at wholesale and POS level.

Question 4: Do you think that FTM has VRIO resources/capacities? If so, which ones and why?

A: It has been in business for 158 years. The question of value is being raised across the board in the industry, due to a change in consumer perception of the product and increased legal restrictions.

Question 5: Do you think FTM has a lot of competition?

A: Yes.

Question 6: What aspects do you believe could give FTM an advantage over new companies entering the market?

A: High barriers to entry (legal, financial, machinery, technical, personnel); difficulties in managing customs, banking, and technical personnel.

Question 7: In the tobacco industry, it is well known that suppliers have strong bargaining power. What has FTM done to counteract this?

A: Negotiate.

Question 8: In today's world of choice, it's well known that consumers often switch from one product to another. How do you see the strategy adopted by FTM to deal with the presence of substitute products in this industry?

A: Monitor the evolution of the consumer's sensory perception and market trends, including price.

Question 9: What do you think is the future of the tobacco business?

A: The emergence of several new products, with a tendency to create more niches. Complex legal framework.

Question 10: What is FTM's business strategy for the coming years?

A: Maintain production and distribution for large companies. Produce their own brands. Occupy niches in the traditional market. Participate in the distribution of various products.

Question 11: Do you know hemp and its benefits?

A: Yes.

Question 12: What do you think of the prejudice that still exists in this area?

A: I have no opinion.

Question 13: Are you a smoker or ex-smoker?

A: Yes.

Question 14: If so, would you smoke a hemp cigarette?

A: Maybe.

Question 15: Would you recommend a hemp cigarette to other people?

A: Maybe.

Question 16: Do you think that using hemp in cigarettes would bring added value to the population and to the company? If so, to what extent?

A: It's not certain. The industrial process for hemp is similar to that for cigarettes, but there are many differences - air conditioning in the facilities, production in a cold environment, adapted machines, other raw materials needed, segregation of new production from tobacco. What's more, because of the general perception of hemp, production could jeopardize all the value associated with cigarette production and the relationship with the players for whom we produce under license.

Question 17: What are your expectations of this innovation?

A: I have no expectations. It will depend on the evolution of the legal framework and any change in perceptions on the subject.

Question 18: What resources would be needed to implement this project?

A: It is complex and would require the creation of an autonomous process/factory from the existing one - air conditioning of the facilities, production in a cold environment, adapted machinery, other necessary raw materials, segregation of new production from tobacco.

Question 19: How will FTM have to adapt to this innovation? What changes will be necessary?

A: Same as before.

Question 20: Do you think FTM is ready to take on this challenge?

A: At the moment, I don't think this is an issue. If it gets there, it will create the conditions to be fit.

Question 21: What impact will the implementation of the project have on FTM?

A: Large and in several dimensions - consumer perception, facilities, staff, financial resources.

Question 22: What impact will the implementation of the project have on your department?

A: Same as before.

Interviewee 3:

Age: 46

Sex: Male

Qualifications: Pre-Bologna Bachelor's Degree

Time of service in the company: 20 years

Position in the company: Administrator

Question 1: What are the criteria for choosing suppliers (tobacco, packaging, filters, etc.) for FTM?

A: Quality, price, lead time, minimum order quantities

Question 2: How is the raw material sent from the supplier to FTM?

A: Collection by freight forwarder contracted by FTM

Question 3: As you know, there are restrictions on advertising and marketing in the tobacco industry. To what extent is FTM able, under these restrictions, to maintain its marketing activity for the company and its products?

A: Promotion is essentially carried out through product visibility at points of sale, by guaranteeing distribution, whether OTC or VM, through supply and/or visibility

contracts, as well as renting space at POS. Advertising at motor racing events, by broadcasting a specific brand or brands, both in the context of the sporting event and on online broadcasting channels. Guaranteed distribution and visibility through contracts with mass event organizations.

Question 4: Do you think that FTM has VRIO resources/capacities? If so, which ones and why?

A: FTM has VRIO resources and capacities, in that it has been innovating in terms of product categories, often presenting itself as a pioneer in this field. To do this, it uses conception and development models that include idealization, conception, planning, validation, market research, investment in equipment and human resources, training, promotion, and distribution. At the moment, FTM sells 3 categories of products that no other competitor is able to do.

On the other hand, FTM is positioned in the global Contract Manufacturers market with two essential competitive advantages. The ability to produce a wide range of product specifications in small or medium batches, with high levels of efficiency and quality, setting it apart from its competitors due to these differentiating aspects, which is why the company currently produces for 5 different markets, 6 industrial clients, including the 3 largest multinationals in the sector.

Finally, FTM operates in markets with special tax regimes, which gives it a second competitive advantage. The company has been able to make policymakers and legislators aware of the importance of its activity, both in economic and social terms.

FTM has been able to adapt to the legal contingencies emanating from the EU, as a result of rigorous management and constant monitoring and updating of regulations.

Question 5: Do you think FTM has a lot of competition?

A: Yes.

Question 6: What aspects do you believe could give FTM an advantage over new companies entering the market?

A: Competitive advantage associated with the Azores tax regime. Barriers to market entry, as the current players control distribution. The company's level of engagement with customers and the authorities is difficult for new players to overcome. FTM has verticalized its business, from production to retail distribution. This factor guarantees a competitive advantage that makes it difficult for third parties to enter.

Question 7: In the tobacco industry, it is well known that suppliers have strong bargaining power. What has FTM done to counteract this?

A: As a small company in the tobacco sector, FTM has little room to negotiate with suppliers, as it doesn't have the scale to condition them. In order to overcome this limitation, FTM necessarily has to negotiate with a wide range of suppliers in order to guarantee the best prices, lead times and lowest MOQs.

As a contract manufacturer, FTM is freed from these constraints, since it is the customers who supply the raw materials, and this option guarantees the profitability of the business, mitigating risk and ensuring volume.

Question 8: In today's world of choice, it's well known that consumers often switch from one product to another. How do you see the strategy adopted by FTM to deal with the presence of substitute products in this industry?

A: FTM has adopted innovation as a strategy to maintain market share for its own brands, with products that have no competition in the markets where it operates. On the other hand, FTM has teamed up with its customers, who, in addition to Contract Manufacturing, use the company to distribute their products, including new tobacco products, which the company is not able to produce, but which it has exclusive rights to market, thanks to its distribution network, which any operator will inevitably have to use in order to guarantee that its products reach the consumer.

Question 9: What do you think is the future of the tobacco business?

A: The future of the tobacco business will inevitably involve consumption solutions that reduce the risk to consumers' health.

Question 10: What is FTM's business strategy for the coming years?

A: It's not possible to list an entire management strategy in so few lines. Nonetheless, I can say that FTM's strategy is based on two fundamental pillars. The first is to occupy the consumption niches for conventional tobacco products, both in the current markets where it operates, but also in others for which there will be a shortage of producers, as they have moved on to other types of substitute products, and on the other hand to expand its Contract Manufacturing capacity to more markets and more customers. FTM will have to expand and improve its distribution capacity for tobaccos and other products, with a long-term perspective, improving its digital management tools and investing in training its human resources.

All of this activity is based on a premise to which FTM will have to actively contribute if it is to be perpetuated. This is the exceptional tax regime granted under a Community directive for the regions of Madeira and the Azores. Maintaining this regulation is essential for the survival of the tobacco industry in these autonomous regions.

Given the new trends in the consumption of cigarette substitutes, FTM must find ways to position itself in these circuits, whether through distribution or production, necessarily in businesses based on partnerships with leading entities.

It's easy to see that legal, regulatory and fiscal contingencies and constraints can make the difference between the existence or extinction of the tobacco business. Over the last 20 years, the European Union has put enormous pressure on the governments of the Member States to implement measures to reduce tobacco consumption. In this context, it is important to find alternatives in other sectors that can contribute to FTM's profitability and sustainability. To this end, the company has already invested in the tourist industry and is evaluating valid investment options in this and other areas.

Question 11: Do you know hemp and its benefits?

A: Yes.

Question 12: What do you think of the prejudice that still exists in this area?

A: For this answer, I'll give two points of view. The personal and the professional. From a professional point of view, what really matters, more than prejudices, is the legal framework in the markets in which FTM could operate as a producer of cigarettes or other products using cannabis as a raw material. At the moment, this possible activity is absolutely forbidden to FTM, as Portuguese legislation strictly prevents it. On the other hand, other European markets, which FTM could somehow access, still have very restrictive legal frameworks in this area. This being the case, it is not likely that FTM will be able to operate in this line of business in the near future.

From a personal point of view, I know that hemp has numerous properties, including anti-inflammatory, analgesic, relaxing and anti-depressant, among others, especially in presentations rich in CBD and with THC levels of less than 0.2%. These products have become increasingly popular among people with chronic illnesses, and their effects are both beneficial and notorious. Despite these qualities and potential, there are still legal and social obstacles to their mass marketing, as well as the opinion of large swathes of the population against their use and mass distribution, due to their association with drug use and addiction.

Question 13: Are you a smoker or ex-smoker?

A: No.

Question 14: If so, would you smoke a hemp cigarette?

A:

Question 15: Would you recommend a hemp cigarette to other people?

A: Yes.

Question 16: Do you think that using hemp in cigarettes would bring added value to the population and to the company? If so, to what extent?

A: A hemp cigarette, if there were a legal framework for its production and marketing, would be an alternative option to conventional cigarettes, with commercial potential. It could, however, be an obstacle for FTM insofar as it bases its activity on partnerships with the most important multinational operators in the tobacco sector, which attach great importance to the corporate image they want to convey. FTM is considered a benchmark of good practice and credibility in this sector. If FTM enters this line of business, there is an objective risk of jeopardizing contracts with these multinationals.

On the other hand, production requires a series of investments that can only be amortized in a mass market, something that is not expected to happen in the near future.

Question 17: What are your expectations of this innovation?

A: Taking into account the legal framework, the above-mentioned objections and the behavior of the market, which has not been positive in the last two years, I believe that this innovation will not take place in the near future.

Question 18: What resources would be needed to implement this project?

A: It would be necessary, if there were a legal framework, which there isn't, to have a completely separate sector from cigarette production, with intense refrigeration (the maximum temperature for operation and storage is 15°C), a dedicated Maker, a dedicated Packer, specific warehouses, an autonomous distribution network, human resources for production and sales.

Question 19: How will FTM have to adapt to this innovation? What changes will be necessary?

A: I don't expect FTM to adopt this innovation in the near future due to the constraints mentioned above.

Question 20: Do you think FTM is ready to take on this challenge?

A: I believe that FTM is not currently in a position to consider this business option for the reasons already listed.

Question 21: What impact will the implementation of the project have on FTM?

A: In view of the answers above, there is no point in answering this question.

Question 22: What impact will the implementation of the project have on your department?

A: In view of the answers above, there is no point in answering this question.

Interviewee 4:

Age: 37

Sex: Male

Qualifications: Master's Degree

Time of service in the company: 8 years

Position in the company: Production Coordinator, Planning, Quality Control, Design and Development, Information Systems

Question 1: What are the criteria for choosing suppliers (tobacco, packaging, filters, etc.) for FTM?

A: Proximity, quality, price.

Question 2: How is the raw material sent from the supplier to FTM?

A: Boat, in container.

Question 3: As you know, there are restrictions on advertising and marketing in the tobacco industry. To what extent is FTM able, under these restrictions, to maintain its marketing activity for the company and its products?

A: Did not answered.

Question 4: Do you think that FTM has VRIO resources/capacities? If so, which ones and why?

A: Did not answered.

Question 5: Do you think FTM has a lot of competition?

A: Yes.

Question 6: What aspects do you believe could give FTM an advantage over new companies entering the market?

A: Their 158 years

Question 7: In the tobacco industry, it is well known that suppliers have strong bargaining power. What has FTM done to counteract this?

A: Did not answered.

Question 8: In today's world of choice, it's well known that consumers often switch from one product to another. How do you see the strategy adopted by FTM to deal with the presence of substitute products in this industry?

A: Did not answered.

Question 9: What do you think is the future of the tobacco business?

A: Non-combustion products

Question 10: What is FTM's business strategy for the coming years?

A: I have no information

Question 11: Do you know hemp and its benefits?

A: Yes.

Question 12: What do you think of the prejudice that still exists in this area?

A: It seems to me that it's getting better, but as it's a small medium there's still some prejudice.

Question 13: Are you a smoker or ex-smoker?

A: No.

Question 14: If so, would you smoke a hemp cigarette?

A:

Question 15: Would you recommend a hemp cigarette to other people?

A: Yes.

Question 16: Do you think that using hemp in cigarettes would bring added value to the population and to the company? If so, to what extent?

A: It could be a differentiating factor since there is no product of this type on the market.

Question 17: What are your expectations of this innovation?

A: Lows. Portuguese legislation is highly bureaucratic and unclear, which makes it difficult to invest in new businesses.

Question 18: What resources would be needed to implement this project?

A: Machinery and raw materials.

Question 19: How will FTM have to adapt to this innovation? What changes will be necessary?

A: First you need to find out legally if this solution is possible in Portugal. Then you need to find suppliers of raw materials, preferably local ones. Lastly, you need to invest in machinery, branding and a marketing plan.

Question 20: Do you think FTM is ready to take on this challenge?

A: No.

Question 21: What impact will the implementation of the project have on FTM?

A: It could be a competitive advantage.

Question 22: What impact will the implementation of the project have on your department?

A: Big, because the operational and technical part is all down to me.

Interviewee 5:

Age: 68

Sex: Male

Qualifications: PhD

Time of service in the company: 25 years

Position in the company: chairman of the board of directors

Question 1: What are the criteria for choosing suppliers (tobacco, packaging, filters, etc.) for FTM?

A: Solid suppliers of quality products at competitive prices.

Question 2: How is the raw material sent from the supplier to FTM?

A: By purchase order and delivery to designated logistics operator

Question 3: As you know, there are restrictions on advertising and marketing in the tobacco industry. To what extent is FTM able, under these restrictions, to maintain its marketing activity for the company and its products?

A: Marketing is carried out within legal restrictions, at the point of sale and at exceptional events such as motor racing events.

Question 4: Do you think that FTM has VRIO resources/capacities? If so, which ones and why?

A: FTM generates value through the tax framework for tobacco products and through its long experience in the sector, which gives it a unique framework for providing services to various brands. Over the years, it has also drawn up partnerships based on the adoption of values and practices shared with clients. The organization remains up-to-date and based on high-performance human resources.

Question 5: Do you think FTM has a lot of competition?

A: Yes, certainly.

Question 6: What aspects do you believe could give FTM an advantage over new companies entering the market?

A: There are high entry costs and a legal framework that is highly regulated and difficult to comply with.

Question 7: In the tobacco industry, it is well known that suppliers have strong bargaining power. What has FTM done to counteract this?

A: It diversifies the options for suppliers of the various materials it uses and regularly renegotiates conditions.

Question 8: In today's world of choice, it's well known that consumers often switch from one product to another. How do you see the strategy adopted by FTM to deal with the presence of substitute products in this industry?

A: FTM is above all a service company, which it does with great care in the quality of its services. To deal with the competition in products, FTM is committed to the quality it gives them and to a competitive price positioning.

Question 9: What do you think is the future of the tobacco business?

A: The tobacco business has been diversifying into new ways of experiencing nicotine inhalation through non-burning processes. The market will evolve into a mix of traditional products with burning and new products without burning - heated tobacco. The market will thus become more diversified in the way tobacco is consumed.

Question 10: What is FTM's business strategy for the coming years?

A: FTM continues to produce traditional cigarettes and cigarillos, aware that the market is changing and offering products based on new technologies that the company is following.

Question 11: Do you know hemp and its benefits?

A: Yes.

Question 12: What do you think of the prejudice that still exists in this area?

A: It is a prejudice and a legal framework that regulates its use taking into account the main risks of consuming the product.

Question 13: Are you a smoker or ex-smoker?

A: No.

Question 14: If so, would you smoke a hemp cigarette?

A: No.

Question 15: Would you recommend a hemp cigarette to other people?

A: No.

Question 16: Do you think that using hemp in cigarettes would bring added value to the population and to the company? If so, to what extent?

A: Not at the moment and within the current social and legal framework.

Question 17: What are your expectations of this innovation?

A: It's still a very uncertain area, particularly in the context of limitations on the consumption of substances through burning.

Question 18: What resources would be needed to implement this project?

A: A few million euros of investment in buildings, equipment and knowledge accumulation.

Question 19: How will FTM have to adapt to this innovation? What changes will be necessary?

A: FTM is following the evolution of this potential market, whose innovation is limited to the manufacture of equipment for the construction of "cigarettes" with different materials and the processes for their manufacture.

Question 20: Do you think FTM is ready to take on this challenge?

A: This challenge has legal and social implications with high reputational risks that must be avoided.

Question 21: What impact will the implementation of the project have on FTM?

A: It can be marginally good, or it can be very negative if it has an inadequate legal or social framework.

Question 22: What impact will the implementation of the project have on your department?

A: Not applicable.

Interviewee 6:

Age: 32

Sex: Male

Qualifications: Postgraduate

Time of service in the company: 9 years

Position in the company: Responsible for Administration and Compliance

Question 1: What are the criteria for choosing suppliers (tobacco, packaging, filters, etc.) for FTM?

A: Price/quality ratio; payment terms; delivery times.

Question 2: How is the raw material sent from the supplier to FTM?

A: Shipping (costs and logistics) may be carried out by the supplier, with FTM only receiving the product accordingly, or it may be carried out by FTM, in this case using an external logistics operator.

Question 3: As you know, there are restrictions on advertising and marketing in the tobacco industry. To what extent is FTM able, under these restrictions, to maintain its marketing activity for the company and its products?

A: Through the packaging (brand, colors), the quality of the product and the presence of the product on the market (maximizing the points of sale where the products are present).

Question 4: Do you think that FTM has VRIO resources/capacities? If so, which ones and why?

A: Yes, in the Value component, justified by the know-how gained over many years of activity.

Question 5: Do you think FTM has a lot of competition?

A: Yes.

Question 6: What aspects do you believe could give FTM an advantage over new companies entering the market?

A: Experience, infrastructure, installed capacity and market positioning.

Question 7: In the tobacco industry, it is well known that suppliers have strong bargaining power. What has FTM done to counteract this?

A: Periodic price negotiation processes and market consultations.

Question 8: In today's world of choice, it's well known that consumers often switch from one product to another. How do you see the strategy adopted by FTM to deal with the presence of substitute products in this industry?

A: The strategy seems appropriate to me, given the immediate impossibility of manufacturing substitute products: to guarantee their exclusive distribution in the Azores and Madeira markets.

Question 9: What do you think is the future of the tobacco business?

A: Smokeless products will have a larger market share than conventional products. The latter will have a much higher price tag due to the increased tax burden, turning this segment into a niche market accessible only to consumers with medium/high income levels.

Question 10: What is FTM's business strategy for the coming years?

A: Maintaining production partnerships under license and diversifying into the tourism sector.

Question 11: Do you know hemp and its benefits?

A: Yes.

Question 12: What do you think of the prejudice that still exists in this area?

A: Hemp is still associated with the concept of drugs, and it seems to me that this idea will only be deconstructed by the younger generations and by legislation.

Question 13: Are you a smoker or ex-smoker?

A: No.

Question 14: If so, would you smoke a hemp cigarette?

A:

Question 15: Would you recommend a hemp cigarette to other people?

A: Maybe.

Question 16: Do you think that using hemp in cigarettes would bring added value to the population and to the company? If so, to what extent?

A: Yes, it could represent an interesting niche market.

Question 17: What are your expectations of this innovation?

A: This innovation will always depend on establishing a consistent legal framework, so that there is no doubt about the legality of producing and consuming hemp-based products. This legal certainty could help define the market potential of these products.

Question 18: What resources would be needed to implement this project?

A: Occasionally raw materials (mix prepared by an international supplier) and machinery.

Question 19: How will FTM have to adapt to this innovation? What changes will be necessary?

A: The company's adaptation will always be based on the legal framework that will be established. The production process should not differ too much from the cigarette production process.

Question 20: Do you think FTM is ready to take on this challenge?

A: With investment and legislative certainty, yes.

Question 21: What impact will the implementation of the project have on FTM?

A: In addition to the financial impact needed to cover the additional resources (machinery, labor), this project could have an impact on increasing turnover and, consequently, the company's results, if interesting margins can be obtained on these products.

Question 22: What impact will the implementation of the project have on your department?

A: As this is a project with an almost non-existent and unstable legal framework, I assume a high impact on my department (Compliance).

10.4 Annex D: Interview to Dr. Graça Castanho

Startup Costs

The startup costs for producing hemp cigarettes can vary widely depending on factors such as the scale of production, location, equipment choices, and whether you choose to manufacture in-house or outsource. Below we present a set of potential costs that we need to consider. These estimated costs were provided by *Confraria Internacional Cannabis Portugal*, based on international consultancy.

1. Legal and Regulatory Costs

- Licensing and Permits: €5,000 (This includes international and national licenses for hemp processing and sale).
- Legal Fees: €2,000 (Costs associated with consulting lawyers for regulatory compliance, trademarking, contracts, and other legal needs).

2. Product Development

- Research and Development: €5,000 (Costs for developing the product, including sourcing hemp, testing different blends, and conducting quality assurance).
- Testing and Compliance: €2,000 (Costs for testing THC levels, contaminants, and ensuring the product meets all legal standards).

3. Manufacturing and Production

- Hemp Raw Material: €10,000 - initial inventory- (Cost of purchasing high-quality hemp in bulk, which may vary depending on organic certification and sourcing location).
- Equipment:
 - Rolling Machines: €10,000 (it can be more depending on capacity and automation level)
 - Grinding Machines: €2,000
 - Packaging Machines: €5,000
- Packaging Materials: €5,000 (Cost for rolling papers, filters, and packaging boxes, especially if using eco-friendly or custom-designed options).
- Facility Rental/Lease: €2,000 per month (Rent for a manufacturing facility or warehouse. This can vary significantly based on location and facility size).

- Utilities: €1,000 - €3,000 per month (Electricity, water, and other utilities for running the production facility).

4. Marketing and Sales

- Branding and Design: €5,000 (Costs for logo design, packaging design, and brand development).

- Website Development: €2,000 (Costs for creating an e-commerce website with payment processing capabilities)

- Marketing Campaigns: €5,000 (initial) - Budget for digital marketing (SEO, social media, email marketing), influencer partnerships, and advertising.

-Trade Shows and Events: €4,000 (Costs for attending industry events, including booth setup, travel, and promotional materials).

5. Operational Costs

- Staffing (Salaries: €50,000 annually)

- Costs for hiring key staff such as production workers, a sales team, a marketing manager, and quality control personnel (Employee Benefits: €5,000 annually)

- Health insurance, retirement plans, and other benefits.

-Insurance: (€2,000 annually for Business liability, product liability, and property insurance).

6. Miscellaneous Costs

-Contingency Fund: €10,000 (Set aside for unexpected costs or delays).

-Office Supplies and Administrative Costs: €1,000 (Basic office setup, supplies, and software).

The total amount can vary depending on specific circumstances, such as whether FTM chooses to scale up production quickly, the location of our operations, and the extent of our marketing efforts. Starting small and scaling up as demand increases can help manage these costs.

Implementation

In order to develop this new project that aims to switch from conventional tobacco cigarettes to hemp ones, several key areas need be addressed, based on local, national and international regulations, to ensure a smooth transition and successful adoption.

1. Supply Chain and Sourcing

Regarding suppliers, we recall that, according to Confraria Internacional Cannabis Portugal, industrial hemp cultivation, authorized by DGAV, is currently taking place in the Azores on three different islands: São Miguel, Terceira, and Pico. In 2024, there are six producers managing a total of 3 hectares. The results from these initial experimental harvests will be used as the base raw material for FTM's first hemp cigarette trials.

Next year, with the expected expansion of hemp cultivation by many new farmers interested in this crop, FTM will have access to a larger supply of local raw materials, hopefully sufficient to meet the company needs.

This strategy is very important because FTM, following the UN's 2023 report on hemp, aims to support the local economy while promoting soil regeneration in the Azores, diversifying crops, contributing to CO₂ sequestration, and improving the quality of life for our communities.

If local production is insufficient to meet demand, FTM will source from the national market, specifically from the organized hemp fiber production in Alentejo, which supplies Cãhmo hemp blocks factory. With the appropriate DGAV authorization, we will purchase CBD-rich flowers and leaves from national producers. If this is not feasible, we will seek suppliers from other European countries such as Spain, France, Italy, Poland, Czech Republic, Ukraine, and others major hemp markets.

With all local, national, or international suppliers we will develop contracts to ensure consistent supply and favorable terms. Also, we need to ensure that hemp sourcing is sustainable, with a focus on organic farming practices and minimal environmental impact.

2. Product Development and Manufacturing

Before the manufacturing stage, FTM will work with teams responsible to develop hemp cigarette formulations that appeal to final products and targets. This may include testing different strains of hemp for flavor, smoothness, and other desirable qualities. Under consideration is also the adaptation of existing manufacturing processes to accommodate hemp instead of tobacco. This may include changes in machinery, handling, and

processing techniques to ensure that each batch of hemp cigarettes meets safety and consistency standards.

3. Hemp Cigarettes Production

The amount of CBD flowers and leaves used in each hemp cigarette can vary depending on the size of the cigarette and the density of the material. However, a common amount used in hemp cigarettes is between 0.5 grams and 1 gram of CBD flowers and/or rich CBD leaves. Decisions need to be taken concerning:

- Cigarette Size: Standard hemp cigarettes typically range from 70mm to 84mm in length, similar to conventional tobacco cigarettes.
- CBD Concentration: The amount of CBD per cigarette depends on the concentration of CBD in the flowers and leaves used. This can vary significantly depending on the strain and cultivation process.
- Blend: Some cigarettes may mix flowers and leaves to balance flavor, smoke intensity, and overall experience.

The price per kilogram of hemp flowers can vary widely depending on factors such as the quality of the flowers, CBD content, whether the product is organic, and the region of purchase. Below is a general overview of current price ranges provided by Confraria Internacional Cannabis Portugal:

1. Low-Quality/Industrial Grade:

- Price Range: €150 - €300 per kilogram
- Characteristics: Lower CBD content, less stringent cultivation practices, potentially more stems and seeds. Often used for extraction or industrial purposes rather than direct consumer products

2. Mid-Quality:

- Price Range: €300 - €800 per kilogram
- Characteristics: Moderate CBD content, reasonably well-cultivated with better trimming and fewer stems/seeds. Suitable for both extraction and smoking products.

3. High-Quality/Premium Grade:

- Price Range: €800 - €2,500+ per kilogram
- Characteristics: High CBD content (10% - 20%+), organically grown, carefully trimmed, with minimal seeds or stems. These flowers are often used for premium smoking products or high-end CBD extractions.

Factors Influencing Price:

- CBD Content: Higher CBD concentrations generally command higher prices.
- Organic Certification: Organic and pesticide-free products typically cost more.
- Terpene Profile: Strains with unique or desirable terpene profiles might be priced higher due to their enhanced flavor and aroma.
- Market Demand: Prices can fluctuate based on supply and demand dynamics in different regions.
- Bulk Purchasing: Buying in larger quantities usually reduces the price per kilogram.

Regional Variations:

- United States and Canada: Generally higher prices due to stringent quality standards and regulations.
- Europe: Prices may be slightly lower but vary depending on the country and quality of the product.
- Asia and Other Regions: Prices can be lower, but quality may also vary significantly.

In order to obtain the best pricing, FTM will contact suppliers directly or check online marketplaces specializing in hemp products, as prices can change frequently based on market conditions. The price per kilogram of hemp flowers can vary widely depending on factors such as the quality of the flowers, CBD content, whether the product is organic, and the region of purchase.

In the process of producing Hemp cigarettes, other procedures need to be taken, like selecting and preparing the hemp. FTM will use hemp flowers or leaves that contain CBD but have low THC levels (less than 0.3%, according to regulations in most countries). The hemp should be properly dried and cured to enhance flavor and Smoke quality. Also hemp flowers or leaves must be grinded into small pieces using a herb grinder. This makes it easier to pack the hemp into the rolling paper.

Concerning the paper, it will be taken into consideration the use of high-quality rolling papers, preferably organic, to avoid adding artificial flavors to the smoke. After testing, experts will choose between using filters made from cardboard or natural fibers to prevent inhaling small particles. Like the production of tobacco cigarettes, the process of producing and storing hemp cigarettes must follow these procedures:

-Distribution of Hemp: Place an adequate amount of ground hemp onto the rolling paper. Make sure the hemp is evenly distributed.

-Rolling: Carefully roll the paper, gently pressing the hemp to make the cigarette firm. Once rolled, lick the edge of the paper to seal the cigarette.

-Packing: If needed, use a tool to pack the hemp more tightly into the cigarette to ensure it is well-packed.

-Storage: Store the rolled cigarettes in a dry, light-protected place, preferably in an airtight container, to keep them fresh.

4. Marketing and Branding

-Rebranding Strategy: Develop a comprehensive rebranding strategy to position hemp cigarettes as a healthier and more sustainable alternative to tobacco. This may involve changes to packaging, logos, and brand messaging.

-Consumer Education: Launch campaigns to educate consumers on the benefits of hemp cigarettes over tobacco, such as reduced health risks and environmental impact.

-Target Market Identification: Identify and segment the target market, which may include current smokers looking to quit, health-conscious consumers, or environmentally aware individuals.

5. Distribution Channels

- Retail Partnerships: Establish partnerships with retailers who align with the brand's values, such as health food stores, eco-friendly shops, and specialty tobacco retailers.

-Online Sales Strategy: Develop an online sales platform to reach a broader audience, with considerations for secure payment processing, shipping logistics, and customer support.

-Logistics and Supply Chain Management: Optimize logistics to ensure efficient distribution of hemp cigarettes to retailers and direct consumers, considering warehousing, transportation, and inventory management.

7. Training and Employee Development

-Staff Training: Provide training for employees on the new product, emphasizing the differences between hemp and tobacco, and the benefits of the switch. -Sales Team Preparation: Equip the sales team with the knowledge and tools to effectively promote hemp cigarettes and address any consumer questions or concerns.