



INSTITUTO  
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DE LISBOA

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**BUSINESS PLAN FOR ALCOHOLIC BEVERAGE: “CACHAÇA  
MUTUCA” – VIABILITY ANALYSIS FOR INVESTMENT IN  
DISTILLERY BUSINESS**

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Master in Business Administration

Supervisor:

PhD, Renato Jorge Lopes da Costa, Assistant Professor with  
Habilitation

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Co-Supervisor

PhD, João Manuel Afonso Geraldès, Invited Associate Professor  
ISCAL – Politécnico de Lisboa

July, 2024



BUSINESS  
SCHOOL

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Marketing, Operations and General Management Department

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## RESUMO

Cachaça é uma bebida alcoólica típica do Brasil, com suas raízes datando do começo da colonização brasileira pelos portugueses no começo do século 16 como consequência da introdução do plantio de cana de açúcar no Brasil. Não está claro como a descoberta da bebida foi feita, porém há uma clara relação da Cachaça com a escravização de africanos nas plantações de cana de açúcar. Embora o “Senhor de Engenho” (como eram chamados os proprietários de terra) tivessem o costume de beber Cachaça também, como era amplamente consumida pelos escravos, a sociedade brasileira tinha o costume de perceber a bebida com preconceito e designada para pobres e pretos (Starling, 2015).

Felizmente o preconceito de ser uma bebida alcoólica barata e popular que era consumida por pobres e pretos desapareceu. Nos últimos 30 anos, a produção e a tecnologia para produção da Cachaça cresceu no Brasil e levou a criação de uma legislação específica em 2001 para criar uma Indicação Geográfica (Presidência da República, 2006) que reconheça a Cachaça como um produto brasileiro, padronização e outras providências, tais como o “Vinho do Porto” da “Região Demarcada do Douro” em Portugal ou “Champagne” como vinho espumante produzido na região de Champagne na França.

Como consequência da popularização dentre toda sociedade, independente de riqueza ou etnia, a especialização do plantio de cana de açúcar e a produção de Cachaça e a legislação que protege Cachaça como um produto brasileiro, o Brasil experienciou um grande crescimento de produtores e de produção, diversificando de bebidas premium (com garrafas chegando a US\$180.000,00) a baratas (sendo que garrafas podem chegar a custar menos de US\$1,00). Os dados oficiais indicam que houve uma redução no número de produtores, porém há estimativas que mais que 85% do total de produtores não estão registrados no Ministério da Agricultura do Brasil.

De acordo com o “Anuário da Cachaça” lançado em 2021 pelo Ministério da Agricultura brasileiro (Ministério da Agricultura, Pecuária e Abastecimento, 2021), o Brasil tem capacidade produtiva de 1,2 bilhões de litros por ano, porém é esperado que se produza menos de 800 milhões de litros por ano. Deste total, menos de 1% é destinado a exportação, gerando um total de US\$13 milhões de um pouco menos de 7 milhões de litros exportador para mais de 60 países.

O presente projeto, em formato de plano de negócios focado na viabilidade financeira de investir na implementação de um pequeno negócio de família dedicado à produção de Cachaça em uma pequena fazenda em Mococa (uma pequena cidade no interior do estado de São Paulo na fronteira com Minas Gerais, estado conhecido por ter Cachaças de mais qualidade e marcas premium mais admiradas. A cidade tem um clima muito parecido com Minas Gerais, levando a um excelente clima/“*terroir*” para o plantio de cana de açúcar e, consequentemente, excelente Cachaça) para a produção de Cachaça premium.

Para tanto, os procedimentos utilizados nesta tese incluem a análise da viabilidade financeira da companhia, análise interna e externa da companhia através da SWOT e VRIO e dados econômicos do Brasil. Também será considerada a revisão da literatura e dados oficiais do governo brasileiro, associação de representantes de produtores e exportadores.

Finalmente, a viabilidade financeira será feita usando o Valor Presente Líquido, Taxa Interna de Retorno e o Período de Payback, ambos considerando o Valor Presente Líquido para determinar o sucesso de estabelecer a companhia ou não.

Palavras-Chave: Plano de Negócios; Cachaça de Alambique; Viabilidade Econômica e Financeira

### **Sistema de Classificação JEL:**

M - Business Administration and Business Economics; Marketing; Accounting

M1 – Business Administration

- M10 – General
- M19 - Other

## ABSTRACT

Cachaça is a typical Brazilian alcoholic beverage, with its roots dating from the beginning of its colonization by the Portuguese early in the 16<sup>th</sup> century as consequence of introduction of sugar cane plantation in Brazil. Isn't really clear how the discovery of the beverage was really made, however it is clear the relation of Cachaça with African slavery in sugar cane plantations. Even though the "Senhor de Engenho" (as land owners were called) use to drink Cachaça as well, as it was largely consumed by the slaves Brazilian society use to perceive the drink with prejudice as a beverage for poor or black people (Starling, 2015).

Fortunately, such prejudice of being a cheap and popular alcoholic beverage that was consumed by poor and blacks disappear. For the last 30 years the production and technology for the production of Cachaça rose in Brazil and led to the creation of specific legislation in 2001 to the creation of a Geographical Indication (Presidência da República, 2006) to recognize Cachaça as Brazilian product, standardization and other providences, such as "Vinho do Porto" if from "Região Demarcada do Douro" in Portugal or "Champagne" as a sparkling wine produced in the Champagne region of France.

As consequence of popularization amongst all society, independently of wealth or ethnicity, the specialization in sugar cane plantation and Cachaça producing, and the legislation that protects Cachaça as a Brazilian product, Brazil experienced a growth in producers and in production, which diversifies from premium beverage (as bottles can go up to US\$180,000.00) to cheap (as bottles can go down to less than US\$1.00). Official data indicate that there was a reduction of producers from 2018 to 2023, however, there is an estimation that more then 85% of the total are not enrolled in Brazilian Agriculture Ministry.

According to the "Anuário da Cachaça" released in 2021 by the Brazilian Agriculture Ministry (Ministério da Agricultura, Pecuária e Abastecimento, 2021), Brazil is capable of producing 1,2 billion of liters per year, however it is produced less than 800 million of liters per year. From this total, less than 1% is destined to exporting, resulting in a total of US\$13 million dollars from little more than 7 million liters exported to more than 60 countries.

The present project, in a business plan format, focusing on the financial viability to invest in the implementation of a small family business dedicated to the production of Cachaça in a small farm in Mococa (a small city in the countryside of São Paulo at the border of Minas Gerais, estate known to have the best quality and most admired premium brands. The city has a very similar climate of Minas Gerais, leading to great climate/”terroir” for sugar cane plantation and consequently great Cachaça) for the production of premium Cachaça.

For such, the procedures in this project include the financial viability analysis of the company, internal and external analysis of company thru SWOT and VRIO, economic data of Brazil. For such, we consider literature revision and official government data and associations that represent producers, exporters, and importers. The characterization of the Cachaça market in Brazil, and also the marketing mix components shall be brought in the project.

Finally, the financial viability will be done using Net Present Value, Internal Return Rate and the Payback Period, both considering the Net Present Value to determine the success of establishing the company or not.

Keywords: Business Plan; Alembic Cachaça; Economic and Financial Viability

**Classification System JEL:**

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## **1. Literature Review**

### **1.1. Entrepreneurship**

The concept of entrepreneurship is very wide and hard to establish a common concept for many authors. The etymology of entrepreneurship derives from two French words: *entre*, meaning ‘between’, and *prendre*, meaning ‘to take’. It was used to describe those that took risk between buyers and sellers or those who undertook the risk of starting a new venture. Academically, it was initiated in the sixteenth century, most likely by Richard Cantillon, who identified the willingness to bear the personal financial risk of a business venture as the defining characteristic of an entrepreneur (Sobel, s.d.).

One of the main difficulties in defining the concept of entrepreneurship comes from the different approach and background of those that try to define it. As it shall be defined by the main focus of the observer, as (Gartner, 1990) identified in his studies, if the observer associate entrepreneurship with innovation, then entrepreneurship will be perceived as innovation; if the observer associate entrepreneurship with value creation, then entrepreneurship will be perceived as value creation.

Such difficulties in defining are also described by other authors such as (Grebel, 2004) also presenting several definitions for the term as “entrepreneur is an innovator”; “entrepreneur is a decision maker”; “entrepreneur is a company owner”. For (R Duane Ireland, 2009) Ireland, Hitt and Sirmon (2003), entrepreneurship is a behavior which essence is identifying opportunities and putting useful ideas into practice.

Although the difficulties in defining the term, there are some common grounds regarding entrepreneurship. One of them is the identification and exploration of an opportunity. (Stam, 2009) refer to entrepreneurs as those that identify a market gap between business and consumers, whether by the introduction of new products, mainly associating entrepreneurship with innovation, or new practices in new contexts, mainly association with value creation. Whether innovative entrepreneurship or value creation entrepreneurship, the entrepreneur only identify the opportunity and take action to explore such opportunity.

The term became very popular over the last years due to technological entrepreneurship and the popular figures as Steve Jobs (Apple), Bill Gates (Microsoft), Elon Musk (SpaceX), and Jeff Bezos (Amazon), and can be even confused by some with technology business (such as innovation became almost synonymous with technology), but this simple association won't be enough. Independently its broader and vary definition for many author, it is undenied that most authors will define entrepreneurship as 'taking risk' to 'explore new ventures, business or practices', and undeniably 'take action'.

## **1.2. Business Plan**

A business plan is the first step to evaluate if entering a determined market is financially viable or not by a funder. According to (Colin Barrow, 2001), the construction of a business plan is "perhaps the most important step in launching any new venture or expanding an existing one". The importance of a business plan is also suggested by (Donald F. Kuratko, 2001) as "the business plan is the minimum document required by any financial source."

Most of funders are going to decide if investing or not in a business if it is they are first presented with a business plan. However, different funders have different criteria when deciding whether to invest or not, (Stark, 2004) are clear when defining that a business plan cannot be considered as a single sized document, which its construction must consider the needs of the funder that the business plan is seeking to convince. The main concern brought by them is that "the fundamental criticism of much of the literature on 'how to' write a business plan is that it adopts a 'one size fits all' approach".

Usually the literature on 'how to' write a business plan adopts the perspective of one type of audience, which is usually an equity investor. However, even more nowadays, to achieve a successful business plan the author must consider to whom its business plan is written to, as different goals must have different approach. The literature then should acknowledge other types of funders, such as bankers, angel investors, and even the business owner if the business plan is a proposition to expansion or even other possibilities as a possible franchise (Stark, 2004).

The founder of determined business usually has a good intuition on the basis of how to operate in determined markets and it should rely more on its intuition than in planning its business. However, the main three aspects of a development for a new venture or its expansion are: (i) product development, defined as the creation of the product or service that the venture will sell; (ii) venture organizing activity, which is defined as the activities to establish the organization that will provide the new product or service; and (iii) disbanding, which is defined as the cessation of efforts to develop the new venture. For such the business planning shall reduce the hazard of the new venture or expansion disbanding and enhances the business chances to strive (Shane, 2003).

### **1.3. Strategy**

The definition of strategy is very broad and has different definitions by several authors along the history (with one the first books to address the topic, Sun Tzu “The Art of War” was written more than 2,000 years ago), the single aspect that will appear every time in every definition is “competitive advantage” whether explicit or implicit described. This shall also apply for corporate strategy, which will be always created and applied to gather an advantage against the competition.

According to (Freire, 1997), strategy is based on the management of a company’s resources to create products or services offered to the market that should have a higher value than its competitors. In order to achieve success, the company must adopt a strategy that enables it to interconnect its actions, objectives and policies, gaining, then, a competitive advantage.

The strategy is a theory based on a set of assumptions and hypotheses about how the competition and also how the market will evolve and how such evolution can be exploited to earn better profits. The most accurate such assumptions and hypothesis will determine the most effective strategy to obtain competitive advantage, the fewer accurate the assumptions and hypothesis are, than the firm is probably facing a competitive disadvantage. Thus, the firm strategy is defined as its theory about how to gain competitive advantages (Hesterly, 2015).

Although agreeing that strategy applied to companies, or corporate strategy, seeks to obtain a competitive advantage against its competitors, (Porter, 1996) simplifies these definitions by presenting it as a way of doing thing differently from the competition to achieve such competitive advantage. The competitive advantage, however, will be achieved by analyzing the consumers' needs and what the consumer perceives as value, so the company delivers the best product and the easiest access to it by its consumers.

## **2. Cachaça**

### **2.1. Production Method**

In the early 15<sup>th</sup> century Portugal was provided with its first sugar cane seedings and soon establishes the first plantations in Madeira Island with quick expansion to Açores, Canárias, Cabo Verde and other locations. Thru this century the Portuguese gained experience in sugar cane plantation and consequently access to sugar, a luxurious commodity until then. With the discovery of Brazil, the Portuguese found an excellent place to grow sugar cane, as the tropical climate and fertile soil create great condition to sugar cane to grow. Portugal could put itself as one the world leader in sugar production.

Together with the sugar cane plantation knowledge, Portugal is also known for its wine tradition. The wine making tradition led them to create “bagaceira” by fermenting the grape skins left from the wine making process. It didn’t take much to discover the fermentation possibilities with sugar cane and Cachaça was created, becoming the first distilled beverage of the Americas. Following, this project shall make a quick overview on the Cachaça making process and the major differences between large scale production and the handcraft scale production that brings more quality and is also the objective of the business plan.

#### **2.1.1. Harvest**

Sugar cane is a vegetable that enjoy two distinct climate conditions: for the seeding period it is indicated a hot and humidity climate, and for the harvesting period it is indicated a cold and dry weather, increasing the sugar concentration in the vegetable.

For such, in Brazil the most indication period of seeding is between January and March and it is expected to harvest the mature vegetable in 18 months. The harvest season must be done during the dry season to increase sucrose concentration. After the harvesting the sugarcane can be stored for 3 days, but as this affects the final quality of the Cachaça, the sugar cane must be milled as soon as possible to preserve sucrose concentration and the natural fermentation quality of the vegetable (EMBRAPA - Empresa Brasileira de Pesquisa Agropecuária, 2022).

### **2.1.2. Milling**

After the harvesting the sugar cane is sent to milling for the extraction of the sugar cane juice. The harvested sugar cane must be sent to milling within 24 to 36 hours in order to avoid contamination and deterioration of the vegetable. The extraction of the juice is made by a mechanical milling that shredder the vegetable extracting the juice from the vegetable which will be filtered and decanted to be prepared with addition of nutrients for the fermentation tank (Oliveira, 2010).

To increase quality and effectiveness it is recommended to wash the harvested sugar cane before milling and to repeat the shredding of the sugar cane for several times.

### **2.1.3. Filtration and Decanting**

During the milling and shredding of the sugar cane recent harvested, the juice extracted from the vegetables usually contains some impurities as sand or dirty and other materials as small pieces of sugar cane (Oliveira, 2010). The juice then is filtered by passing thru a decantation process where these denser and solid impurities sink to the bottom of the container and the pure juice flows thru the superficies for the next container. This process usually involves 4 decanters in a row before being considered as good quality juice to be fermented.

### **2.1.4. Preparation of Juice**

The sugar concentration in the juice extracted from the milling process is expected to be between 18° and 22° Brix (the scale used to measure the sugar concentration in a solution) which is considered to be too high for the fermentation process, as such concentration lead to a slower and incomplete fermentation process and also interfere in the ferment multiplication.

As the ideal Brix for the Cachaça making is around 15° (Malta, 2006), after the juice extraction is important to dilute the juice with clean water to reach the expected 15° Brix.



If the sugar concentration of the juice is lower than 15° Brix, sugar can be added to the solution.

#### **2.1.5. Fermentation**

After the preparation of the juice to be with 15° Brix, the solution is sent to the fermentation tank where the sugar and other components are metabolized by yeast. After the metabolization of the sugar and other components the yeast produces ethanol, carbon dioxide and other components as acids and other alcohols (Malta, 2006). As imposed by Brazilian law, the fermentation tanks must be made with stainless steel or carbon steel that grants higher control over undesirable yeast and bacterium.

The fermentation process takes place by joining the extracted and prepared sugar cane juice with the yeast. As the yeast feeds on the sucrose of the juice, carbon dioxide and ethanol are released. In a handcrafted process, which is the porpoise of the present project, the fermentation of the juice takes between 12 to 24 hours when it can be perceived a cleared color of the juice, uniform bubbles and a fruity aroma. The end of the fermentation process can also be confirmed by analyzing the sugar concentration in the juice that must be equal to zero, temperature between 25-30°C (Oliveira, 2010).

By confirming the end of the fermentation process, the juice is transformed into sugar cane wine that must be submitted to the distillery as soon as possible to avoid the nurture of bacterium that can affect the quality of the Cachaça.

#### **2.1.6. Distillation**

According to Brazilian legislation, to be considered Cachaça the beverage shall have its alcoholic graduation between 38 and 48% (Presidência da República, 2006) and to achieve such alcohol content with the sugar cane wine it must pass thru a distillation process which shall boil the wine in a still where the liquid alcoholic content will become vapor faster than the other components present in the wine and then condensed by cooling.

As alcohol is more volatile than the other components present in the wine, it will become vapor faster and consequently shall pass by the condenser first, resulting in a high alcoholic concentration drink.

In handcraft process of production of Cachaça, which is the goal of the present business plan study, the alembic is commonly made with copper due to its capabilities to produce a higher sensorial quality to the beverage. However, the process of distillation in copper alembic may result in contamination of the final product by copper ions that can be harm to the human health. The Brazilian legislation accepts the maximum content of 5mg/L and some countries determine that the maximum content 2mg/L. It is very important for the producers that are willing to export their higher quality handcrafted beverage to observe such limit and take actions to maintain the level of copper ion in the product without affecting its final quality. Studies showed that an alembic made with stainless steel doesn't have the presence of such ion, but the sensorial quality of the beverage is significantly worse than the copper alembic.

The distillation of the wine shall result in three distinct parts: Head, Heart and Tail. The Head represents 5 to 10% of the total distilled liquid and is rich in methanol, a type of alcohol that is toxic to human body (Coutinho, 2003) and must be separated for later reuse as cleaning product or redistilled for future process of Cachaça making or transformed into ethanol for fuel use in Brazil, as ethanol is a fuel for combustion engine widely common there.

The Heart is the final Cachaça and represents around 85% of the total distilled liquid. In its fresh distilled form, it is not ready for final consumption yet, as its sensorial quality presents a high ardent and dry flavor, which makes imperious to rest it for a period of 3 to 6 months before bottling or it is stored in wooden barrels for aging between 1 to 3 years at least. During aging time in wooden barrels there is a loss of liquid due to evaporation.

The Tail is the final part of the distillation process, represents also 5 to 10% of the total distilled liquid. It is characterized by its lower alcohol content and strong odor and bitter taste. It must be also separated from the Heart, as its characteristics will impact the final quality of the Cachaça and can be used with the Head to be redistilled for future Cachaça production or ethanol production (Melo, et al., 2021).

### **2.1.7. Cachaça Storage**

As stated in the previously, after the distillation Cachaça is not yet ready for final consumption and must be stored for a minimum period of 3 months (Oliveira, 2010), during which chemical reactions make the beverage smoother and easier to drink. The storage must be done in containers which material doesn't affect the final taste, usually the container is made with wood or stainless steel, however wood containers tend to affect the final taste of the drink and should be used only for aging process. According to Brazilian legislation, it is forbidden to use plastic, iron or concrete containers for this storage period.

### **2.1.8. Cachaça Aging**

There are two types of Cachaça: Silver and Gold. The Silver is the Cachaça that went thru the process until the storage for the 3 to 6 months to make it smoother and easier to drink in containers that won't affect the taste of the drink and present a transparent aspect. For this porpoise, a wooden container will have a strong impact on the final product, so the storage is preferably made in stainless steel containers to maintain its quality.

The Gold is the Cachaça that went thru the process mentioned above, however instead of storage in containers that won't affect taste beyond smoothing, the Gold Cachaça must be stored in wooden barrels for a minimum period of 1 year, during which the color, odor and flavor of the drink will change drastically depending on the type of wood used to make the barrel. The most common wood barrel is made from European oak, however due to its higher cost it is becoming more common to use woods from Brazil.

Even though it isn't mandatory to age the Cachaça, due to its better quality it is highly recommended to age some of the final product from distillation to obtain a higher quality product, which will increase the value of the final product notwithstanding the loss due to evaporation (Barboza, Meneghin, Santos, Fonseca, & Faria, 2010).

### **2.1.9. Filtration and Bottling**

Finally, the last step for the Cachaça production is the filtering of the drink before bottling. The filtration objective is to eliminate unwanted particles present in the liquid such as yeast cell and other impurities from the aging process in wood barrels, and to guarantee that the final product will have a transparent (Silver) or translucent (Gold) appearance.

The filter used in this process must be more neutral possible, so it doesn't affect the final quality of the product. The use of charcoal, usually used as filter, is not indicated due to chemical reactions that will have a big impact on the final product and its quality (Oliveira, 2010).

After the Cachaça filtration, the product is ready to be bottled and labeled. The bottling must also perceive Brazilian legislation, so all the information needed in label are present, and also acquire the necessary tax stamps.

### **3. Brazilian Market Analysis**

#### **3.1. Political and Legal**

Brazil became independent from Portugal since 1822 and became a republic in 1889, ending a monarchy structure present since the independency. It is politically unstable since the implementation of the republic, as Brazil have been thru 2 dictatorial regimes within less than 100 years from the proclamation of republic. Since 1889 Brazil is democratic republic under the state of law, with the tripartite division of power: executive, legislative and judiciary. There are free federal elections each 4 years and municipality election each 4 years as well, although they run intersectional, which means elections each 2 years.

Brazil is a part of the Mercosul (Mercado Comum do Sul – south common market) agreement with Argentina, Paraguay, Uruguay and Venezuela (Venezuela is currently suspended since 2016 from the agreement due its dictatorship). However, even though Mercosul is a free trade and movement membership between its members, the agreement doesn't foresee any common currency between its members. Since 1994 Brazil adopts Real as its currency and its implementation was an economic measure to the Brazilian high inflation past. Real is a well-established currency compared to other Brazilian currencies, as Brazil had 6 different currencies (cruzeiro novo, cruzeiro, cruzado, cruzado novo, cruzeiro and cruzeiro real) between 1967 and 1994.

Due to its past as a Portuguese colony, Brazil is a Portuguese speaking country, one of the most speaking languages in the world due to Portuguese past in the great navigation and colonization. However, there is a slightly difference in the Portuguese from Brazil and Portugal, as Brazil had incorporated different languages to its Portuguese such as: natives' languages (Guarani and Tupinamba as two native languages spoken by natives that lived in Brazil before the arrival of the Portuguese) and Italian (due to massive Italian immigration in the beginning of the 1900's).

Even though Brazilian political system is relatively stable since the democratization in 1985 and the implementation of the constitution in 1989, there is a major challenge in corruption schemes in all political levels. "Car Wash Operation" (Operação Lava-Jato) was the most recent corruption scandal involving Petrobras (Brazilian oil company

controlled by Brazilian state which holds 50,26% of its voting shares) and many political parties. From 2003 to 2016 Brazil was governed by the Workers Party (left wing party) until the impeachment of Dilma Rousseff. In 2018, due to the corruption scandals, a right wing political was elected as the Workers Party was facing a huge rejection. In 2022 the Workers Party using the persona of former president Luis Inácio Lula da Silva, one of the most popular Brazilian politician despite the innumerable corruption scandals occurred during his two mandates, and other several political parties made a coalition and won the election. In 2026 there will be federal elections again and there isn't a clear if Lula will have advantage to reelection, however it is important to remind that only Jair Bolsonaro (President during Covid-19 pandemic) was the only president that wasn't reelected in Brazil and, as the second most popular politician he has now his political rights suspended until 2030.

At last, despite Brazilian tripartite democracy, the executive power is the less powerful between the three as the legislative power holds unbalanced power against the executive, leading to what is called in Brazil as presidentialism of coalition.

The Brazilian legal system is civil law based, with its roots in the ancient Roma. This means that the law is primary source of justice and follow a hierarchy system of law: the federal constitution is the highest ranked law, followed by amendments of the constitution and complementary laws (dedicated to regulate points that are not explained enough in the constitution), followed by ordinary laws, and the last are the other legal norms validated by ordinary laws.

### **3.2. Economy**

According to Brazilian Institute of Applied Economic Research (Instituto de Pesquisa Econômica Aplicada - IPEA, 2024), a federal institute, in 2023 Brazil experience a growth of its Gross Domestic Product (GDP) of 2,9% following the rhythm of the previous year, and a inflation of 4,62% meaning a reduction in the inflation over 2022. Even if the numbers appear not so charming, it is better result of what was the market expectations in 2022 due to the election of Lula as President of the Republic, as

past experiences of the Workers Party governments expenditures were considered high enough to represent a fiscal issue. The growth experienced by Brazil in 2023 was made even with a expansion of the fiscal expenditures, presenting a primary deficit of 2,3% of Brazilian GDP.

The 2023 growth was mainly possible due to the first semester, which was measured in 2,1% (1,3% in the first trimester), leading to an accommodation of the economy in the second semester, representing a growth of only 0,8% even with the beginning of the reduction of the interest rate (from 13,65% in June/2023 to 11,65% in December/2023). The second semester of Brazilian economy in 2023 was quite stable. The growth in 2023 was mainly pushed by the agriculture, services and industry, which accumulate a growth of 15,1%, 2,4% and 1,6% respectively.

The high growth of agriculture in 2023 can be explained by some factors: expansion of cultivated area and increment of production lead to a record harvest of corn and soy. Adverse climate conditions of United States of America and Argentina, both major competition in the field (corn and soy), lead to a refraction in their offering, benefiting Brazilian producers to export their harvest in better conditions.

The industry growth was pushed mainly due to the extractive market in the oil, gas and iron ore activities (Petrobras and Vale as two major companies of extraction in Brazil). In 2023 Brazilian exports reach USD340 billion, the agriculture and the extractive industry growth in exportation represented 9% and 3,5%, respectively, however the exports of other parts of industry declined 2,3% representing a deindustrialization in Brazil that can possibly limit the growth of Brazilian economy in the future, as it tends to be an agricultural (usually representing 30% of Brazilian GDP) and services economy only.

Such deindustrialization can be also observed in the Gross Fixed Capital Formation with decrease of 3%, 0,2% and 2,2% in the first three trimesters of 2023 with a slightly recover in the fourth trimester of 0,9%. Even with the last trimester small growth, however, the total reduction is still a great threat to Brazilian industry, as in 2023 there was a 4,4% reduction in such index, indicating a reduction in Brazilian growth and/or an alarming deindustrialization.

Another interest factor of 2023 relies on the fact that the family consumption rose over the first three trimesters with a small decline of 0,2% in the last trimester. There are many reasons regarding the increase in the family consumption over 2023, but the most important are the (i) decrease in the unemployment rate; (ii) increase in the minimum wage; and (iii) decrease in family debts.

The projections for 2024 in Brazil are not the best as it can be seen over the fourth trimester of 2023. As seen above, the numbers show a tendency of deacceleration and a steadiness in family consumption and an acceleration of deindustrialization (which has been historically since the 1990's as the government protectionism for the national industry were withdrawn and the participation of industry in the GDP went from 36% in 1985 to 11% in 2021).

However, the unemployment rate has been on a decline since 2021 and reached its lowest since 2014, achieving 7,5% of unemployment. As Brazil is led by a left-wing populist party, Workers Party, there is a high possibility of increase in the minimum wage until 2026 which can lead to an increase in unemployment rate and in the inflation if the Brazilian GDP growth rate doesn't back up such increase in the minimum wage and populist policies.

The governmental decision of minimum wages (more specifically concerning that the localization that the present study is doing in São Paulo state meaning that the minimum wage is even higher) and other possible labor legislation are going to be a great force of external threats to be observed, even considering that there will be economical incentives for the Brazilian industry such as "Programa Nova Indústria" (New Industry Act).

Another aspect of Brazilian economical perspective is over the level of confidence of companies on Brazilian economy are in decline, which will reflect even more in the decrease in investments perspectives, whilst the level of confidence of consumers are rising, which will reflect in a higher family consumption but a higher rate of family debt (considering that Brazilian interest rates are high, the family debts in Brazil can become a problem in the future, as it have been already seen in the last 20 years in Brazil as result of policies adopted by the Workers Party for increase in credit offering for families that



led to an increase in family consumption and debt, but the high interest rates led to making families debt to increase exponentially over time).

### **3.3. Social**

Brazil is a continental country located in South America, considered the fifth largest country in the world in size and seventh largest population in the world with 203.080.756 inhabitants in 2022 (Instituto Brasileiro de Geografia e Estatística - IBGE, s.d.). It is the only Portuguese speaking country in the Americas and has border with nine countries, including French Guiana. Despite its populational growth thru the last century, it presents a possible decline in its populational growth.

As it is known, Brazil was a Portuguese colony from 1500 to 1822, which reflects in its Portuguese speaking language which incorporated some elements of the native languages of the natives that lived in Brazil before the arrival of the Portuguese. Due to the slavery trade, massified into industrial scale over 300 years, Brazil has also a widely black population with African roots, until the abolish of slavery in 1888 by the princess Isabel (backed by English decision of ending the slavery trade over the oceans, social movements of abolishment of slavery and other factors, Brazil was one of the last countries of the west to abolish slavery and also the country that received the most slaves in the Americas).

Due to the abolishment of slavery, Brazil became open to new immigrants arriving from Europe to work on the fields, being most of the immigrants in the arriving from Italy with destination to southeast and south of Brazil. The arrival of such immigrants was a great factor in Brazilian development in agriculture, as the immigrants brought new concepts of farming and mechanization. Over this period, between 1870 and 1920 the Italians represented around 40% of all immigrants arriving in Brazil.

After the Italian immigration, the Japanese became also a huge immigratory flow, also destinating to Southeast and South, mainly São Paulo and Paraná states. The period of Japanese immigration was between 1930 until the beginning of Second World War, in 1939.

There is also a German immigratory wave to Brazil, especially to the South region, where most of those immigrants arrived and stayed. The destination of these immigrants is due to similarities in the weather.

Brazil also received a great number of Arabic immigrants throughout the 20<sup>th</sup> century, most of them with destination to Southeast, mainly to São Paulo.

Over the last decade, Brazil have been receiving a major number of immigrants arriving from Venezuela, due to economic and political crisis due to dictatorship and major humanitarian issues, followed by Siria and Cuba (Ministério da Justiça e Segurança Pública, 2023). The North region of Brazil is receiving most of the immigrations, especially in Roraima and Amazonas states, as both states have borders with Venezuela.

From its over 200 million inhabitants, the southeast region is from far the most populated area, concentrating almost half of the population (84 million), only in São Paulo state concentrate more than 25% of the population (44 million). The capital of São Paulo stated, São Paulo, alone holds 12 million inhabitants and 22 million considering the metropolitan area (Big São Paulo). Minas Gerais is the second largest state in Brazil with 20 million inhabitants.

Since 1950, according to the (Instituto Brasileiro de Geografia e Estatística - IBGE, s.d.), since 1950 Brazilian population, following a world trend, went from a rural population to a urban population. Nowadays the urban population represents 90%, whereas in 1950 it was less then 40%.

Despite all challenges faced throughout the last century, due to the shift from rural to urban population, Brazil now have a 93% rate of alphabetization. It is still an alarming 7% of analphabets in Brazil, representing over 10 million people. Brazil faces a challenge regarding the higher education, with around 20% of its inhabitants having a degree in higher education. For the first time, over the half of the population with 25 years or more have completed at least the basic education.

Regarding age group, Brazil is facing a change in its composition, as there is a reduction in its pyramidal age base. Over the 20<sup>th</sup> century, Brazilian pyramidal age base was larger than all other age range, meaning that Brazil had great a child death rates as

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the top of the pyramidal age was way finer, however in 2022 census showed that its base is now finer than other age ranges. Most of the Brazilian population is between the ages of 20 to 44 years old with a decrease in age rates of 0 to 19, indicating that Brazil will face a possible populational decrease in the future.

Over the years Brazil was almost exclusively a catholic country, however over the past years there is a change in such religion aspect with the rise of African religions and Protestantism (this last becoming bigger and having more political influence). As the arrival of new immigrants arriving from the middle east, there is also opportunities for the growth of Islamic religion in Brazil. Both Protestantism and Islamic religious growth in Brazil shall have an important effect over this study, as both religion condemn alcohol consumption.

### **3.4. Technological**

As seen over Brazilian social analysis, since 1950 Brazil shifted from a majority rural country, known by its coffee exportation, towards an urban country. Such shift has many reasons to its occurrence, as it happened in majority of countries around the world, however it is also a consequence of Brazilian industrialization that occurred in the beginning of 20<sup>th</sup> century with implementation of rail roads to distribute the products arriving from farms to ports and then exporting it around the globe. During 1930s Brazilian industrialization came to its major “revolution”, leading to the creation of base industry such CSN (“Companhia Siderurgica Nacional” – National Steel Industry Company) and the arrival of car, truck and buses industries.

Due to entrance of the automotive industry, Brazil abandoned its rail industry maintaining most of its rail roads dedicated to product transportation and all its rail roads focusing on transporting primary products from agriculture and extraction to ports. As São Paulo grew from coffee exportation economy, the automotive industry was majorly implemented around it enjoying an economic growth and the distance from Santos port, which came to be one of the most important points of exportation and importation. After 1964, Brazil faced a military dictatorial government that impose a highly protectionism in Brazilian industry, which lead to a underdevelopment of its industries compared to the rest of world and a hyperinflation.

After 1985, with the end of the military government and democratic elections in 1988, the opening of Brazilian market, renewing its industrial complex with modern equipment that could then be imported, led to the beginning of Brazilian deindustrialization. This effect is felt until today, as shown above, in many sectors of economy except in extradition and agriculture.

As happened all around the world, the last revolution that happened in Brazil was the introduction of internet and digitalization of processes. Its adoption by Brazilian society was massive and changed not only how its private business function, but also its governmental procedures and services. During Covid-19 pandemic, the digitalization process in states with low acceptance was finally broke and now the entire nation can have access to governmental services using internet, even the poorest and more isolated states.

In terms of internet usage in Brazil, although considered a medium number, especially compared to developed countries, there is more than 80% of Brazilian houses with internet access and most of internet access is made by mobile devices. Over 90% of Brazilian business use internet and during the Covid-19 pandemic, over 70% made sales online. Such scenario is a fertile field for innovation and development of new technologies, especially in agriculture field, as the country is one of major player in many diverse agriculture fields, leading or being in top 5 producers by field, due to its diverse land characteristics, weather and size.

As seen above, as the agriculture economy represents from 20 to 30% of Brazilian GPD and the nation have a high level of digitalization, the startup universe is highly dedicated to agriculture, or as called “agritechs”, with an annual growth of over 10% in terms of companies.

This is leading to highly efficiency of Brazilian agriculture, despite other economic areas as this study is dedicated to the implementation of a distillery in a farm owning a production of sugar-cane in its dependency. It is also important for the present study that the location is very close to a tech-hub in Campinas. However, the internet usage of the plan will have more impact in marketing and sales than plantation and production mainly due to its size, and as the company grows there will be more plantation and bigger alembic

which will definitely lead to the necessity of implementing new technologies for more efficiency in plantation and production.

Brazil is definitely inserted in the 21<sup>st</sup> century digital revolution and can be counted as one of the major players concerning the use of technology to improve efficiency in the fields. Although medium access to internet by its population, it has one of the biggest internet users and is considered the 5<sup>th</sup> largest internet consumption in the world. The variety of its population and size of country definitely bring new disruptive technologies with a high use in agriculture.

### **3.5. Cachaça Market**

Cachaça is a typical Brazilian product, as seen above, protected by Brazilian law as a geographic indication product. It is acknowledged by few countries so far and it is in the way to become acknowledge by European Union if the free trade treat between European Union and Mercosul is signed. In Brazil it is the second most consumed alcoholic beverage, only after beer.

The most recent data concerning the Cachaça market in Brazil is from 2022, reflecting 2021 numbers (Ministério da Agricultura, Pecuária e Abastecimento, 2021). It is important to note that such numbers are reflecting the Covid-19 pandemic crisis that forced a quarantine period, which several commercial establishments were forced to remain closed to avoid agglomeration leading to several establishments to close. The official number of Cachaça producers in 2021 was 936, meaning a 2% decrease from 2020.

The total capacity of production (in liters) of Cachaça is estimated around 1,2 billion liters per year, however the annual production is 800 million liters per year. From the total it is estimated that over 75% of the production is made by large scale production companies and less than 25% is made by small scale production, usually family farmers, known as the Alembic Cachaça.

The southeast region of Brazil concentrates more than 60% of the total producers with 620 establishments, being Minas Gerais the state that concentrate 353 establishments or more than 1/3 of the total official Cachaça producers. There are many reasons why

Minas Gerais has such high concentration of Cachaça producers, but it is also one of the best locations in Brazil for sugar cane plantation and it is definitely the place where Cachaça have more tradition. Although representing more than 60% of producers, from 2020 to 2021 there was a 5,5% decrease in the total, even with the increase of producers in São Paulo stated, which makes even more clear the importance of Minas Gerais in Brazilian Cachaça market.

As this business plan focus on a small farm in São Paulo stated that make border with Minas Gerais, the focus will remain in the two states. Minas Gerais not only have the highest number of producers, but it is also the state with the most density when comparing the number of inhabitants with number of Cachaça producing establishments having 60.315 inhabitants per establishment, whereas São Paulo figures only in 9<sup>th</sup> position having 319,515 inhabitants per establishment which is less than the national average of 226.452.

It is important to note, also, that the official number of producers doesn't reflect necessarily that exact number, as there are estimations of over 10.000 producers in Brazil, leading to a high informal competition.

In 2021 was registered 4.969 products nationwide, 91,8% of which are concentrated in southeast and south regions, and out of this total 810 had more than one product under its registry number. Due to Brazilian registration, if the beverage has different composition, commonly made due to different aging process with different wood, the product must have different registry number. Minas Gerais leads with 1.778 products, with more than 1.000 than the second which is São Paulo with 738. The average is 5,2 products per establishment.

The total brands registered in Brazil is 5.926, meaning the average of 1,26 brands per establishment in Minas Gerais and 1,22 brands per establishment in São Paulo, both with the highest number of brands.

The Cachaça market is estimated to be around R\$15 billion (or 2,5 billion euros considering 1/6 exchange ratio between Real and Euro) annually from its 800 million liters officially produced. The consumption of Cachaça is almost exclusively done in

Brazil, as is the second most consumed alcoholic beverage, and only a small fraction of the production is exported.

In terms of exportation, in 2022, according to the Brazilian Institute of Cachaça, Brazil (Cachaça, 2024) exported the total of 9,3 million liters, representing an increase of 29% in relation to 2021 (7.221.219 liters). The main destination of the exportation is Germany, Paraguay, USA, France and Portugal.

In terms of value, in 2022 the exports represented US\$20million, an increase of more than 50% in relation to 2021 (US\$13 million), representing a cost of US\$2,15 per liter. In this case however, the main buyers in terms of value are USA, Germany, Portugal, France and Italy. This shows that Paraguay although the second largest buyer, is often buying a cheaper product, often with less quality.

São Paulo is by far the state with the most exportation, representing 47,86% of the exportation, followed by Minas Gerais with 11,27%. This could imply that Cachaça from São Paulo is more appreciated by consumers outside Brazil, however it is important to notice that one of the largest producers of Cachaça is in Brazil with a production of 200 million liters per year (1/4 of national production officially). It is also important to note that the large-scale production of Cachaça implies a less quality beverage with less value.

### **3.6. Overall Analysis**

Brazilian economy faces a steady slow growth throughout the recent years and have had a good result in face of Covid-19 pandemic crisis by anticipating the growth of inflation and increasing basic interest in 2021. However, the numbers of the fourth trimester of 2023 show possible decrease in the activities of the country majorly due to external factors as the maintenance of USA interest rate in high standards for them, Russian-Ukraine war that impacted the oil prices, and internal factors as a maintenance of Brazilian public debt and deficit. It is also important to notice that the deindustrialization factor that can lead to federal programs to help increase investments in industry, which can be bring a great help in subsidized credit if needed.

Cachaça was widely taken as a “low class” beverage over several years, however since 1922 it became popular among all classes and the adoption of “caipirinha” as the nation drink made its prejudice almost disappear. The production of Cachaça in Brazil became more professional, and the quality of the drink only became better throughout the entire country. Minas and São Paulo stated are the greatest producers and exporters of the beverage, although São Paulo density in regarding the number of producers are much lower than Minas, opening possible opportunity to start a Cachaça business.

The exporting market is almost irrelevant, as 99% of Cachaça consumption is made only in Brazil. Despite the recent record achieved in 2022, the exportation of Cachaça is unbalanced since 2011, with many ups and downs in terms of number of destinations (reaching a steady number between 67 and 70 countries only from 2018 to now), volume exported and value.

As the present study objective is to implement the production in the northeast of São Paulo state, the density of producers per inhabitants indicates that there is room for entry, however as the study focus on a small-scale production indicate also the necessity of a higher quality product and a greater value perception by the consumer, as Cachaça from Minas Gerais is highly perceived as the one with better quality. Together with the loss of prejudice with the drink and a more higher-class consumers are now consuming the product, especially the “handcraft Cachaça” with much more intrinsic value. It is expected that the “handcraft Cachaça” to have higher participation in the market.

#### **4. Internal Analysis**

The internal analysis of a company or venture is one of the most important steps to the implementation of any kind of business as it defines its major qualities, competences and the allocation of resources. The internal analysis will also provide the best strategy definition as the company, established or not, shall identify its strengths and weaknesses and so explore its strengths and diminish the risks of its weaknesses to improve its competitive advantage over the competition.



There are many tools used to make the internal analysis, being Porter's Value Chain (Porter, Competitive Advantage, 1985) and VRIO model (Jay B. Barney, 2015).

#### **4.1. Porter's Value Chain**

Porter's Value Chain is a tool that allow managers to analyze its company from within, dividing its activities into two main categories: primary and support. Its objective is to maximize the company's margin by using or creating value to consumers with the better allocation of resources of the company and thus creating or maintaining its competitive advantage.

Porter divided the primary activities as those that are made to create a product, sell it to the customer and follow the post-sale process. It is divided into 5 major categories: Inbound Logistics, Operations, Outbound Logistics, Marketing and Sales, and Service. The support activities are those that must support the primary activities to achieve its targets, as previous stated, and are divided into 4 major categories: procurement, human-resources, technological development, and infrastructure. The connection of both activities shall create a margin (the difference between the cost of production and the selling price), which can also be translated into the value created by the company to the consumer.

For the porpoise of the present project, which is the implementation of a distillery in a small farm to produce Cachaça, the Porter's Value Chain can be described as follow:

Primary Activities:

**Inbound Logistics:** involve the reception of any product or service necessary to the implementation of the distillery, including the materials needed to the construction of the alembic and bottling, the copper alembic, barrels for Cachaça aging, seeds of sugar cane each 5 year (determined by the cycle of life of a sugar cane), wood, bottles and labels.

**Operations:** involve all the necessary operational work for producing Cachaça, involving plantation of sugar cane, maintenance, harvest, milling, preparing the sugar cane juice, fermentation, distilling, bottling and labeling.

**Outbound Logistics:** involve all the necessary activities of storing and distributing the final product, which in the present case refers to storage of Cachaça for resting (3 to 6 months) or aging (12 to 36 months) and the distribution of the final product for consumers, whether by its own forces (in restaurants, bars or distributors in the location of the farm and nearby cities) or by hiring logistical companies for distributing in more distant locations.

**Marketing and Sales:** involve the activities necessary for the promotion and divulgation of the product, more specifically the creation of value perception by the consumer which will involve necessarily the massive use of “gamification” in social media for better promotion of the brand as a quality and fun product, and also the sales force.

**Service:** involve the activities related to post-sales relationship with institutional customers, relationship with final end-users via digital platforms.

Support activities:

**Procurement:** involve the acquisition of inputs, or resources, for the company.

**Human Resources:** involve all activities involved in recruiting, hiring, training, developing, compensating and dismissing or laying off personnel.

**Technological Development:** involve the equipment, hardware, software, procedures and technical knowledge brought to the firm's transformation of inputs into final products.

**Infrastructure:** involve the company's needs in various parts together, it consists of functions or departments such as accounting, legal, finance, planning, quality assurance and general management.

As the present project involves the implementation of the distillery in a small farm with small-scale high-quality production in a family business, the most important activity shall be in marketing for promotion of brand, culture and value creation mainly using “gamification” marketing for social media. For sales force, the business shall also utilize the synergy of other businesses of the family related to restaurants and events. As a small-scale family business, the initial business shall also take advantage of ownership labor to concentrate most of support activities in the same person, drastically reducing the labor cost, boosting profit and reinvestment capabilities for further growth.

As a small firm the infrastructure activity will be deemed to be mostly outsourced, which can imply in higher costs of maintenance of the firm, even counting on legal expertise of family members.

The major margin gain to obtain over this value chain is the operation and marketing activities, as both are going to create more value to the consumer, as both activities are going to aim exclusively to quality. The product must have the highest quality, which can be perceived not only by consuming it, but by also winning contests of best Cachaça). The marketing will be also focusing on creating a relaxation and fun moments, focusing on the use of “gamification” methods in social media, participation on rodeo festivals sponsoring VIP areas, and creating caipirinha’s festivals in restaurants and bars.

## **4.2. VRIO Model**

The VRIO Model is a powerful tool for internal analysis of a company due to its capabilities of analyzing the company and the market segment on the same time to determine the competitive advantage of the company. It is an acronym for the initial letters of its 4 components: Value, Rarity, Imitability, and Organization.

Regarding to Value, the question to be made is that if the resources or capabilities add value to both consumers and company in order to allow the company to explore the resources and neutralize possible threats. If a company lacks value resources or capabilities, then it is in competitive disadvantage against competitors. In the present case, the company’s resources and capabilities are both value as there is opportunity to

focus on higher quality than its competitors and have capabilities to boost initial sales in other family businesses with great synergy to alcoholic consumption. As the company will be established in a small farm, there will be fewer initial costs and capability of production with fewer supplier dependency.

Regarding Rarity, the question to be made is over the scarcity of the product and how many competitors are in the market. If the market is flooded with such product or have many producers, then the rarity of the product produced by the company is lower and thus there will be no competitive advantage. As saw earlier only in São Paulo state the density of Cachaça producers per inhabitants are below the national average and as 80% of the total Cachaça production is done by large-scale low-quality combined with the better perception of Cachaça by the Brazilian market makes the high-quality Cachaça a scarcity product with great opportunities of growth.

Regarding Imitability, the question to be made is that if is difficult for other companies to imitate the resources or capabilities of a company and even regarding to a possible higher entry barrier to such market. For such, in the present case although can be seen as easy to imitate, as there is a small-scale high-quality production, the production process will be focused on higher quality from the bottling to the Cachaça itself, ending with a high innovative “gamification” marketing campaign, creating difficulties for the competition imitate the product. It will also rely on a history of more than 100 years of family property, which takes time to be achieved.

At last, regarding Organization, the question to be made is that if the company's organization allow to exploit such value resources and capabilities, the rarity of its products and the difficult to imitate it. If the organization fail to exploit such advantages, then it is on a unexploited competitive advantage, however if the organization is capable of taking advantage of such resources, rarity and inimitability it will enjoy a sustainable competitive advantage. In the present case, as it is begging as a small-scale production of a family business, it can exploit the possibility of one person doing several obligations, working more than the legislation limit and save money in labor costs to improve reinvestments for further growth.

## **5. Competitive Analysis**

### **5.1. Porter's Five Competitive Forces**

In order to create the best strategy for the company to strive in the market, it is essential to analyze the competitive of such market not only by one single force that acts. Competition is important but isn't the only force acting in a market due to actions of many stakeholders within. Michael Porter (Porter, The Five Competitive Forces That Shape Strategy, 1979) came with the Five Forces that influence any market where a company is working or intend to work. As stated by Porter, "the essence of strategy formulation is coping with competition", however "intense competition in an industry is neither coincidence nor bad luck".

Porter then analyze the five forces that acts in an industry, which will be analyzed following, that are: Threat of Entry, Bargaining Power of Customers, Bargaining Power of Suppliers, Threat of Substitute Products or Services, and Jockeying for Position Among Current Competitors.

The table with all the forces values can be found in the attachment.

#### **5.1.1. Threat of Entry**

The threat of entry refers to the difficulties imposed by the market for new entrants to start to compete against established companies in such market. If there are almost no difficulties for any company to start doing business in such market, then there will be certainly more competition, whereas if there is major entry barrier, then is expected to be less competition in such market due to difficulties imposed by the market. Porter lists six major sources of barriers:

Economies of scale – such barrier determine that new entrants must either begin its business already in large scale or either accept that there will be a cost disadvantage for them.

Product differentiation – such barrier is related to identification by the customer with any established brand, leading new entrants to spend heavily in to make the loyal customer to change for the new brand.

Capital requirement – such barrier is imposed by the nature of the market itself that require large amounts of capital for the initial investment needed to start the business, meaning high costs in fixed and variable costs.

Cost disadvantages independent of size – such barrier imposes that early entries manage to get cost advantages that aren't available for any new entrants due to higher costs required as effect of assets purchased preinflation prices, government subsidies, favorable location etc.

Access to distribution channels – such barrier imposes the difficulty of distributing the new product, as the older competitors many times have already locked the distribution channels by exclusivity or securing better prices that many times new entrants are forced to create new distribution channels which may took time and more investments.

Government policy – such barrier is imposed by third party of the market, which is the government itself. This means that more regulated markets often will be more difficult to enter such market as there is many legal requirements to be set before starting the operations.

The entry barrier for Cachaça production isn't high, however considering the cost of land and knowledge for plantation it can make many competitors give up the idea of doing business with Cachaça and focusing on other types of drinks. This can be easily seen as the national production of Cachaça is only 20% made by alembic as the other 80% are done by big-scale low-quality.

There are some barriers of entrance as experience, federal incentives and high bureaucracy from governmental agencies to start the operation of the business due to firefighters and sanitary demands. However, the legal constitution of a company was simplified over last years and the access to suppliers are a high threat. The necessity of capital to start the business is a medium threat. Overall this is a medium to high force (3,28 on a scale of 1 to 5).

### **5.1.2. Bargaining Power of Customers**

Depending on the market that the business is settled, customers often have power over the companies to impose new levels of higher quality and lower prices and put competition against each other in a way to reduce the profit of the entire market. Often this bargaining power when buyers are concentrated or purchased in large volumes, when products are undifferentiated, and when there are many competitors in the market reducing the profit margin that players can operate.

Analyzing the Cachaça market alone the customer has a high bargaining power, as there are many competitors in the market and little differentiation in the product. However, in the premium Cachaça market, the bargaining power is reduced, as the large volume of acquisitions is lower, and the products are often differentiated. It is important to stated, however, that as the market grows, the bargaining power of the buyer will also grow, and the company must address this future issue in its strategy.

The bargaining power of customers are medium as there are plenty of consumers (as Cachaça is the second most consumed alcoholic beverage in Brazil) and there are fewer products with similar quality and price even considering that the consumers demands are high. However, consumers have many sources of suppliers, giving them a high number of brands to choose from. Overall the bargaining power is considered medium (3 on a scale of 1 to 5).

### **5.1.3. Bargaining Power of Suppliers**

Similarly to buyers, suppliers can also have a bargaining power in the market by raising prices or reducing quality of its supplies, squeezing profitability out of an industry (similar when many competitors reduce their margin to please customers). The power to suppliers is quite the opposite of the buyers bargaining power, as the suppliers bargaining power are related to when it is dominated by few companies that offers determined supply, when it is not obliged to contend with other products for sale to the industry (or there is no substitute for such supply), when it poses a credible threat of integrating

forward into the market, when there is a high cost of changing the supplier, and when the market is not an important customer of the suppliers group.

In the present case it is important to established that the bargaining power of suppliers is not really high due to: many suppliers of copper alembic and high number of bottle and label supplier. As the supply for the implementation of the distillery in the farm is basically reduced to bottle and label, the high number of suppliers makes it a low threat for the business.

As there are many suppliers, making it cheap to change suppliers without losing quality and the level of procurement is considerably low the bargaining power of suppliers is low to medium. The only big threat for the company is that there aren't many buyers on the sector, giving the suppliers a little bit of power. Overall is low to medium power (2 on a scale of 1 to 5).

#### **5.1.4. Threat of Substitute Products or Services**

Substitute products or services are a threat to existing players of the market as they can impose a significant limit to the potential profits that the market can offer. This means that the market must improve its quality or differentiate it somehow (as via marketing) to become more attractive to customers and offer a better trade-off in order to maintain the profit margin that the market can offer. Such threat is usually higher when there is lower costs to the customer to acquire the substitute or if the quality offered by the substitute is equivalent or higher at the same cost of lower.

In the present case, although there are many substitute products, notably vodka, whisky and gin, the Cachaça market in Brazil is very safe. Cachaça is second most consumed alcoholic drink in Brazil, losing only to beer, and considering only distilled beverages, Cachaça leads by far, imposing no threat of any substitute distilled beverage.

The threat of substitute products is considered medium to high, as there are plenty of alcoholic beverages that the consumer can choose. However, considering that Cachaça is the second most consumed alcoholic beverage consumed in Brazil and the most



consumed considering only distilled beverages, as the product to be offered has a superior quality and lower price than competition, Overall it is considered medium to high due to the existence of substitute products, but the product to be offered have all conditions to surpass such threat (3 on a scale of 1 to 5).

#### **5.1.5. Jockeying for Position**

The last aspect of Porter's Five Forces is the jockeying for position, or the competitive rivalry, which takes place for reasons such as: numerous competitors of equal size and power, slow growth of the market, lack of differentiation or switching costs, high fixed costs, high cost of exit the market, and rivals are diverse in strategy, origins and "personalities". The competitive rivalry between companies in the same market often uses strategies as price competition, product introduction and advertising duels.

For the Cachaça market, there are two or three major players that duel between for most of the market. However, these players sell cheap and low quality that cannot be differentiated between themselves if not by the brand itself. For the alembic Cachaça that is the focus of the present business plan, the product itself is already a high-quality product that imposes a differentiation from the large-scale production.

The rivalry in Cachaça market is quite fierce due to the high quantity of competitors and the high demand for the product. The high profitability of the sector, low exit barrier and the low cost of change for the consumer makes it the highest force in this analysis, as all the lowest value was 3. Overall this force is considered high (4 on a scale of 1 to 5).

#### **5.2. SWOT Analysis**

After analyzing the internal capabilities and the competitive analyze of the market, there is a need to make a combination of both factors. The internal capabilities and resources shall give the company the ability to better understand its possibilities from

within and the competition analysis shall give the company the ability to better understand the market, its suppliers and customers, and their competitors.

The main tool that allows the combination of both factor is the SWOT analysis, where the company can then asses their major competencies and how to explore it in the market. SWOT is an acronym for Strength, Weakness, Opportunities and Threats. The Strength and Weakness are both internal factors of the company. The Opportunities and Threats are both external factors that can affect the company. The SWOT analysis of the company to be implemented is then:

#### Strengths

- Financial independent
- High quality production
- Ideal localization for sugar cane plantation
- Family business workers can accumulate functions and work more hours
- Sinergy with other family business

#### Weakness

- New brand
- Small scale production
- High production costs
- Lack of distribution channels
- Cost of marketing

#### Opportunities

- Rapid growth
- Federal incentives for industry, as low-cost credit
- Explore family businesses to increase sales
- Many rodeo festivals within 50km from production to explore as marketing
- If Brazilian reais continue to undervalue, exports can be very attractive

#### Threats

- High number of competitors
- Newer generations are reducing alcohol consumption
- Consumers can search for cheaper products with less quality
- Increase in taxation
- Increase in interest rates

## **6. Formulation of Strategy**

As the internal and external analysis are made and combined in the SWOT analysis, there is a necessity of formulating the strategy that is going to be adopted in order to get the business in place. The strategy shall be composed of the positioning of the company in face of its competitors, the establishment of its mission, vision and value, and at last the objectives to be achieved in short and long term.

### **6.1. Positioning the Company**

According to Porter (Porter, Competitive Advantage, 1985) there are three generic strategies that companies can adopt to outperform their competition in the market: Overall Cost Leadership, Differentiation, and Focus.

As overall cost leadership is not the objective of the present project, with the implementation of an Alembic Cachaça, known to be a higher quality drink than the normal Cachaça, this positioning cannot be adopted.

Differentiation strategy is the one that differentiate the product, or the service offered by the company to customers, who will perceive the product or service to be unique or better than the competitors. It can take many forms as: design or brand image, technology, features, customer service, dealer network, or other dimensions. Ideally the product or service shall be differentiated in many dimensions and not only in a single one. Although costs are not to be ignored by this strategy, its reduction isn't the major focus of the company. The market share of the company will also become a trade-off, as the prices offered to the market are higher than its competitors, usually means a lower stake in the market share that shall be compensated with higher margin.

The Focus strategy is focusing on a particular buyer group, segment of the product line, or geographic market. By focusing on a determined group or geographic market, the company can either achieve the cost leadership or differentiation strategy, or both. Such strategy determine that the company shall be able to serve the determined market offering

better price or better value to the narrower market than its competitors that are more broadly and industrywide.

As stated, 80% of the Cachaça market is set to large-scale low-quality products that serves the entire Brazilian market. Not only this makes the quality to be lower, the costs of entry in such market as set to be huge not only for production and the distribution in a continental country.

Considering that the location of the business will be set in a small farm in the countryside of São Paulo, in the border with Minas Gerais which sets it to be a great location for sugar cane plantation and thus creating a high quality product, the distillery to be established shall be in the scale that support the plantation limit by the small farm. The distillery shall, then, be small at the beginning, leading the company to adopt the Focus strategy combined with differentiation, as the initial production will aim to provide Cachaça to the local market and as the company grows and bigger distillery shall be implemented the focus will be to attend bigger markets in São Paulo state (São Paulo, Campinas, Ribeirão Preto). The Differentiation combination will be set with higher quality of the product (by selecting only the best part of the “heart”) and thru marketing campaigns to improve the perception of the brand.

## **6.2. Mission, Vision and Values**

The strategy of any company won't be complete without the definition of its mission that it is settled by the founders to reach an objective (Drucker, 1994). The mission imposed by founders or managers must be clear enough that not only the workers can understand it, but also the customers can easily understand what the company's mission is by doing what they do. It is a part of what defines the company, however besides being clear enough for any person to understand it, it must also be concise. The mission of the company to be established is to deliver the best of what Brazilian tradition has to offer, providing more quality to fun and relaxing times.

The vision is what any company aspire for the future and what shall be its position regarding society. It shall set a guidance for all parts of the company, including founders,

managers, work force etc. of what the company will become in the future. The vision of the company to be established is to become the reference for alembic Cachaça quality standards and to be synonym of fun and relaxation.

The values of a company is the most important cultural aspect of any company, as it will set the moral and ethical standards that the company will act and also how all the relationships that will be established both inside and outside of the company will be conducted. The values to be adopted in the company to be established will be: ethic and integrity, quality above all, tradition, dedication and passion for what we do.

### **6.3. Company's Objectives**

In order to achieve the mission, vision and values, the company must establish well define objectives in all variants: long, mid and long term. In this sense the mid- and long-term objectives can be defined as the “big-goals” and the short-term objectives can be defined as SMART objectives as it is acronym for Specific, Measurable, Achievable, Results oriented and Time-bound.

The big goals set for the company shall be:

- Achieve the condition as high-quality standard for Cachaça
- Sell 1.000.000 bottles of Cachaça per year
- Be easily identified as a fun and relaxed brand
- Deeply connected to Brazilian traditions
- To be able to export part of production
- Diversify production to create a tropical fruits liquor and create a low-cost brand to utilize head and tail of production

The SMART goals shall be:

- Win first prize in national Cachaça contest

- Popularize the brand by using gamification marketing campaign to social media
- Establish to be known as the best Cachaça in the state of São Paulo
- Beggin relationship with great restaurants and bars in São Paulo
- Establish partnership with local producers of synergy products as meat (barbecue), beer and other cultural aspects as country music (very related to Cachaça)

#### **6.4. Marketing Mix**

After defining all the scopes of the strategy and objectives to be adopted by the company, the definition of the marketing mix will be the definition of the actions to be implemented. The composition of the marketing mix is known as the 4Ps, which are defined by Product, Price, Place, and Promotion (McCarthy, 1960). It is important to have a very well definition of how the company will behave in order to attend the necessity of the customers ensuring that the product can almost “sell itself”.

##### **6.4.1. Product**

The product is what will be delivered to the customer, whether physical or not. Whatever the format of the product is, according to McCarthy (McCarthy, 1960), its objective is to satisfy the customer by its consumption or by its acquisition. It is the vehicle that will, then, deliver the value for the customer.

The product to be offered by the company is Cachaça, as defined by Brazilian law. There will be two categories of Cachaça: Silver and Gold. As Silver Cachaça is not aged in wood barrels and demand less time to be ready to be sold, it has less value in the market and cheaper price. However, even though its smaller price, it is the most consumed format of Cachaça and its quality will affect the quality of Gold Cachaça and it is typically used for the preparation of caipirinhas and other cocktails.

The company will, then, focus on creating the highest quality Silver Cachaça to enter the market with a high-quality basic product so it can add more value to the Gold Cachaça.

The aged Cachaça is aged in wood barrels, which affect its flavor and color, and is perceived by the market as more valuable. The company will have two distinct Gold Cachaça, one aged in French oak barrels, as it is known to deliver a higher quality taste, and the other will be done with Amburana (Brazilian wood) barrels, which shall be the most valued by the company as in its values are the connection with Brazilian traditions.

As the company is established, there will be reinvestments to utilize the head and tail of production to create cheap products and a development of tropical fruit liquor using Cachaça, although these products will demand the expansion of production to be set in.

#### **6.4.2. Price**

The price of the product is one of the most important aspects of the contact between the company and the customer, as the perception of value will also determine the success the company. If is too low, the perception of value will be of a product that has low quality standards and delivers almost no value to the customer, and, on the other hand, if is too high the customer will perceive it as high quality but there will be limited customers that will be willing to make the purchase. If a high price product doesn't deliver the expected value, then it won't achieve the necessary sales to cover the costs of production making the company to suffer losses and making it to fail to achieve its objectives.

The formulation of price must observe the costs of production, the perceived value by customers and the price of competition. If the product is not sold to the end-user by the company, there is also a need to implement the margin of the distributors, which will affect the price range.

As the company begins, the price will be set by the cost of production plus the expected margin for the company and there will be research of prices that competition makes to define the final price for the end-user.

#### **6.4.3. Place**

The place is the location where the products shall meet the customers. It will affect the capacity of the company to supply the demand whether by its own logistics or by the distribution channels capabilities.

The location of the company will be in Mococa, in the northeast of São Paulo state, and its supply capabilities in the beginning of the venture won't be high enough to supply the entire state. Due to this fact, the main place to attend will be the city of Mococa and a distance radius of 50km, including some cities in Minas Gerais, as Mococa located in the border of the state.

As one of the objectives is to be known as one of the best Cachaça in São Paulo state, the company will have to make efforts to achieve selling points in the capital São Paulo, which shall be made by restaurants and bars, although this operation will be more linked with promotion rather than place.

#### **6.4.4. Promotion**

Promotion is how the company will create life to its product and brand. This aspect of the marketing mix is one of the most important, as this will be one of the main ways to create value to the consumer. Cachaça is already the second most consumed alcoholic beverage in Brazil, so it is a valuable product and very well appreciated by Brazilian consumers. To make the brand and the product gain a greater value than the competition the promotion will make it known by the public and to become even more wanted.

The first tool to be used will be the most traditional mouth-to-mouth promotion to be made in the city of Mococa and the 50km distance radius. The second tool will be the use of stock to promote "caipirinha" (a typical Brazilian cocktail with fruits and Cachaça) festivals in restaurants and bars. Finally, the use of social media marketing campaigns



that shall use the “gamification” method to create the notion of a fun and relaxed brand and try to make the games to become “viral”.

As Brazilian tradition is one of the values of the company, it must also promote it via the sponsorship in rodeo festivals VIP areas. Such festivals are typical of the region and are intimacy related with the consumption of Cachaça as tradition.

## **7. Company Structure**

As begins as a small family business, the company structure will not be any big and complex. The company will be implemented in Mococa, a small city in the northeast of São Paulo state, and its operations shall take place in a small farm that belongs to the same family over a century and historically was dedicated to the plantation of Arabic coffee until recent years when the coffee was removed to cattle breeding. The farm has enough place to sugar cane plantation to explore the Cachaça business.

The labor force needed for the operation of the company will have five roles: distiller, chemical technician (as required by law), seller, administrative auxiliar and an assistant. All the costs related to the payroll will be settled in the next chapter, however the practical payroll can become lower considering that as a family business, some roles can be managed by the same person (as seller and administrative auxiliar) and such person can take longer work hours than the imposed by the labor legislation even if it won't be considered in the present project.

The material equipment needed to implement the distillery include the cooper alembic, milling machine, inox decanter for the sugar cane juice, inox decanter for preparation of the juice for fermentation, fermentation tank, centrifugal pump, inox tubes and connections, storage tank, wooden barrels, standardization tank, inox filler, inox bottle washer, sealer, bottle drainer, cooper filter, mineral water filter and lockers. It is important to address that the farm already counts with some equipment as tractor to help the plantation and harvest of the sugar cane.

For administrative purpose, the company shall buy a portable computer and two cell phones (one for seller and one to remain in the company for any contact necessity), and the necessity of a pick-up truck to distribute the production for the distribution channel or to deliver directly to the end-users.

Finalizing, the accountant and legal issues shall be outsourced to local service suppliers when needed. The legal issues can also be taken care of by family members that have legal background, in the extent of having fewer costs.

## **8. Financial Viability**

The financial viability of the project, the present study shall consider all the costs necessary to make the proper implementation of an alembic and adapt the proposed structure to Brazilian legislation. We shall consider also the sales forecast and costs involved in production and distribution to make three scenarios divided into pessimistic, realistic and optimistic.

The results gathered from sales forecast and costs involved in production, distribution and sales will provide the necessary financial support to determine the Net Present Value (NPV), the Internal Return Rate and the Payback of the investment.

As the project shall be implemented in Brazil, the currency will be in Brazilian Reais, Brazilian official currency since 1994.

### **8.1. Assumptions**

For the financial analysis is important to take into consideration factors that shall influence the results:

- Expected minimum wage increase of 7% per year (expected as a populism measure of the present president)
- Tax rate according to Brazilian legislation (Simples Nacional) for small companies that includes federal, state and municipal tax which varies according to revenue from R\$180.000,00 to R\$4.800.000,00 (Presidência da República do Brasil, 2006)
- Inflation rate of 5% per year (inflation.eu, s.d.)
- Interest rate of 10,5% (Banco Central do Brasil, s.d.)

## 8.2. Initial Investment

As previously mentioned, for the implementation of the distillery it will be necessary to make investments in equipment to produce, store, age the beverage and bottle. This will be the initial investment in equipment for production.

Table 1: Equipment Investment

Equipment	Quantity	Unity Cost	Total Cost
<b>Production</b>			
Milling Machine	1	R\$12.000,00	R\$12.000,00
Inox Decanter	1	R\$3.000,00	R\$3.000,00
Inox Decanter 500L	1	R\$3.500,00	R\$3.500,00
Fermentation Tank 1.000L	4	R\$6.000,00	R\$24.000,00
Centrifugal Pump 2cv	4	R\$2.500,00	R\$10.000,00
Inox Tubes and Connections	1	R\$6.000,00	R\$6.000,00
Copper Alembic 1.500L	1	R\$30.000,00	R\$30.000,00
<b>Storage and Aging</b>			
Inox Storage Tank 10.000L	4	R\$6.000,00	R\$24.000,00
Wood Barrels 200L	60	R\$1.500,00	R\$90.000,00
<b>Bottling</b>			
Standardization Tank 1.000L	1	R\$6.000,00	R\$6.000,00
Inox Manual Filler – 6 Fillers	1	R\$8.000,00	R\$8.000,00
Inox Bottle Sealer – 2 Sealers	1	R\$2.000,00	R\$2.000,00
Sealer	1	R\$2.000,00	R\$2.000,00
Bottle Drainer	1	R\$1.500,00	R\$1.500,00
Copper Filter	2	R\$300,00	R\$300,00
Water Filter	1	R\$600,00	R\$600,00
Lockers	1	R\$5.000,00	R\$5.000,00
<b>Administrative Equipment</b>			
Car	1	R\$70.000,00	R\$70.000,00
Computer	1	R\$3.000,00	R\$3.000,00
<b>Total</b>			<b>R\$300.900,00</b>

Source: elaborated by the author

Despite the farm is already established as a company for legal issues, there is not yet any sort of legalization of alcoholic producer, as it was a coffee farm producer until recent years and now there is no farming activities as the land is now leased for third party to cattle breeding. Therefore, there will be costs related to adaptation of the farm by laws to predicting such activity and other kinds of necessary permits as required by law from a very range of authorities as firefighter, sanitary, municipality and Agriculture Ministry. It will also be necessary to build a storage facility to storage the production and to acquire the necessary work uniform and the individual protection equipment (IPE) for each

worker. Finally, for each worker that is hired, there is a necessity of making the proper medical examination as well.

Table 2: Legalization Costs

Legalization Costs	Quantity	Unit Cost	Total Cost
<b>Governmental Costs</b>			
Board of Trade	1	R\$300,00	R\$300,00
Firefighter Permit	1	R\$120,00	R\$120,00
Firefighter Project (construction)	1	R\$3.000,00	R\$3.000,00
Operation Permit	1	R\$200,00	R\$200,00
Sanitary Permit	1	R\$300,00	R\$300,00
Sanitary Project (construction)	1	R\$3.000,00	R\$3.000,00
Agriculture Ministry	1	R\$300,00	R\$300,00
		Total	R\$7.220,00
<b>Storage Facility Construction</b>			
Storage Facility	1	R\$20.000,00	R\$20.000,00
		Total	R\$20.000,00
<b>Uniform and IPE</b>			
Uniform	5	R\$250,00	R\$1.250,00
IPE	5	R\$50,00	R\$250,00
		Total	R\$1.500,00
<b>Medical Examination</b>			
Exam	5	R\$350,00	R\$1.750,00
		Total	R\$1.750,00
<b>Total</b>			<b>R\$30.470,00</b>

Source: elaborated by the author

The initial investment for the establishment of the company totalizes R\$331.370,00 plus the necessary investment for the plantation of sugar cane that adds R\$50.000,00. Following the initial investment for the establishment of the company and the plantation, more money will be needed as working capital for the first year of production that will require one distiller (R\$41.000,00) and production costs (R\$71.845,00).

As the initial investment shall covers different types of costs and the company won't have a revenue stream for its first year, the initial investment of the project will be established as R\$500.000,00 to cover all expenses and maintain an extra reserve for any unpredicted cost and future marketing costs.

### 8.3. Annual Cost of Production

For the estimated cost of production of pure Cachaça (i.e. before the beverage is ready for consumption and not bottled), we shall take into consideration that the month workload is 22 days for the period of 7 months (between April and November) due to the sugar cane cycle. The alembic is capable of producing 150 liters of Cachaça per day in a 22-day month period for 7 months.

The fixed and variable costs will be considered to remain a steady price, as the annual production is estimated to be 23.000 liters per year.

Table 3: Annual Production Cost

Annual Production Cost				
	Lifespan	Quantity	Unit Cost	Total Cost
<b>Production Direct Costs</b>				
Tractor Fuel	1	1	R\$12.000,00	R\$12.000,00
Electricity	1	1	R\$1.000,00	R\$1.000,00
Firewood	1	1	R\$5.000,00	R\$5.000,00
Ferment	1	1	R\$2.000,00	R\$2.000,00
			Total	R\$20.000,00
<b>Sugar Cane Plantation Direct Costs</b>				
Manure	1	1	R\$20.000,00	R\$20.000,00
Gear	5	1	R\$1.000,00	R\$200,00
Seeding	5	1	R\$15.000,00	R\$3.000,00
Plantation (work force)	5	1	R\$3.000,00	R\$600,00
Soil Preparation	5	1	R\$3.000,00	R\$600,00
			Total	R\$24.400,00
<b>Maintenance Indirect Costs</b>				
Alembic	1	1	R\$1.000,00	R\$1.000,00
Production Plant	1	1	R\$3.000,00	R\$3.000,00
Charcoal Filter	2.000L	17	R\$60,00	R\$1.020,00
Charcoal Filter	5.000L	7	R\$60,00	R\$420,00
Microparticle Filter	5.000L	7	R\$30,00	R\$210,00
Copper Filter	10.000L	4	R\$75,00	R\$300,00
Tractor	1	1	R\$1.000,00	R\$1.000,00
			Total	R\$6.950,00
<b>Depreciation Costs</b>				
Milling Machine	10	1	R\$12.000,00	R\$1.200,00
Inox Decanter	20	1	R\$3.000,00	R\$150,00
Inox Decanter	20	1	R\$3.500,00	R\$175,00
Fermentation Tank 1.000L	20	4	R\$6.000,00	R\$1.200,00
Centrifugal Pump 2cv	5	4	R\$2.500,00	R\$2.000,00
Inox Tubes and Connections	20	1	R\$6.000,00	R\$300,00

Copper Alembic 1.500L	10	1	R\$30.000,00	R\$3.000,00
Inox Storage Tank 10.000L	20	4	R\$6.000,00	R\$1.200,00
Wood Barrels 200L	10	60	R\$1.500,00	R\$9.000,00
Standardization Tank 1.000L	20	1	R\$6.000,00	R\$300,00
Inox Manual Filler – 6 Fillers	10	1	R\$8.000,00	R\$800,00
Inox Bottle Sealer – 2 Sealers	10	1	R\$2.000,00	R\$200,00
Sealer	10	1	R\$2.000,00	R\$200,00
Bottle Drainer	10	1	R\$1.500,00	R\$150,00
Copper Filter	10	2	R\$300,00	R\$60,00
Water Filter	10	1	R\$600,00	R\$60,00
Lockers	10	1	R\$5.000,00	R\$500,00
			Total	R\$20.495,00
Total Annual Cost				R\$71.845,00

Source: elaborated by the author

#### 8.4. Labor Cost

As previously indicated, the company will have the necessity of five employees be able to work which will be composed of: one distiller, one chemical technician (as required by law), one seller, one administrative auxiliar and one assistant. At the exception of the chemical technician, all the workers shall be paid a minimum wage.

The monthly payroll shall be:

Table 4: Expected Company Payroll

Job Title and Labor Cost	Quantity	Salary
Distiller	1	R\$1.550,00
Chemical Technician	1	R\$2.495,00
Seller	1	R\$1.550,00
Administrative Auxiliar	1	R\$1.550,00
Assistant	1	R\$1.550,00
Labor Cost/Social Charge (33%)		R\$2.869,35
Monthly Cost		R\$11.564,35
Annual Cost		R\$138.772,20

Source: elaborated by the author

As stated above, for the first year (2025), as the company is preparing to enter the market, only the Distiller shall be employed as the company will only be able to produce Cachaça from April until November and the Silver Cachaça must rest for 6 months to be

able to bottle and sell, the first batch can only be ready in October. All of the other crew members will be hired after such period and the minimum wage value increases (7%) shall be considered when predicting the financial statements.

### 8.5. Administrative Costs

The administrative costs will be related to sales force, excluding the seller salary, and outsourced services as accounting services to be provided by an accounting firm. It will be also part of the administrative costs the necessary equipment to run the office as computer software license and two cell phones (one for the seller and one for the company contact).

Table 5: Annual Administrative Costs

Annual Administrative Cost	Quantity	Salary
Software License	1	R\$500,00
Cell Phone	1	R\$1.500,00
Accounting Services	1	R\$15.000,00
Car Fuel	1	R\$15.000,00
Car Maintenance	1	R\$10.000,00
Total		R\$42.000,00

Source: elaborated by the author

### 8.6. Fixed Costs

Considering that the production will remain steady of 23.000 liters of Cachaça per year, the estimated cost of production and administrative costs will be considered as fixed costs. It will also include the cost of labor to calculate the fixed costs of the company.

Table 6: Fixed Costs

Fixed Costs	
Labor Costs	R\$138.772,20
Production Costs	R\$71.845,00
Administrative Costs	R\$42.000,00
Total	R\$ 252.617,20

Source: elaborated by the author



Given the total fixed costs of the company to produce 23.000 liters of Cachaça, we shall, then, calculate the cost production of a liter to estipulate the unitary cost of production by dividing the total cost per the total product.

Table 7: Production Cost Per Liter

Unitary Costs	
Fixed Costs	R\$252.617,20
Annual Production	23.000
Unitary Cost	R\$10,98

Source: elaborated by the author

## 8.7. Final Costs

However, although the unitary cost of production estimated, the product is not yet ready for sale and consumption due to the fact that the Silver Cachaça must rest for at least 6 months before is ready to bottle and sale. The Gold Cachaça must be aged for at least 18 months in wooden barrels so it get the flavor and the color of a good Cachaça.

To do it so, the project established 4 resting tanks with capability of 10.000 liters so it can assure that the total production can be rested for the 6 months period and also 60 wooden barrels with capability of 200 liters each for the aging process making it able to age 12.000 liters.

Due to this fact there is a need to calculate the future value of the product that remain rested for both periods. Regarding the Gold Cachaça, beyond the future value of the 18 months, there is a need to even calculate a loss of 20% due to alcohol evaporation and absorption of the beverage by the wood and then add to the cost of production. The future value calculation will take into account an interest rate of 10,5% per year.

Table 8: Future Value of Each Liter of Silver Cachaça

Cachaça Silver Future Value	
Silver Cachaça Unit Value	R\$10,98
Annual Interest Rate	10,5%
Period	6 Months
Cachaça Silver Future Cost	R\$11,57

Source: elaborated by the author

Table 9: Future Value of Each Liter of Gold Cachaça

<b>Cachaça Gold Future Value</b>	
Gold Cachaça Unit Value	R\$10,98
Aging Loss	20%
Annual Interest Rate	10,5%
Period	18 Months
<b>Cachaça Gold Future Cost</b>	<b>R\$15,42</b>

Source: elaborated by the author

Finally, after the period of resting and aging, the company will be able to bottle the beverage. To do it so, the company will then choose a 750ml bottle for the Silver Cachaça and a 500ml bottle for the Gold Cachaça.

Table 10: Silver Cachaça Bottle Cost

<b>Cachaça Silver Total Cost</b>	
Cachaça Silver Unit Value – 750ml per unit	R\$8,68
Bottle 750ml	R\$3,00
Label	R\$1,00
Thread	R\$0,50
Sealer	R\$0,10
<b>Cachaça Silver Final Cost</b>	<b>R\$13,28</b>

Source: elaborated by the author

Table 11: Gold Cachaça Bottle Cost

<b>Cachaça Gold Total Cost</b>	
Cachaça Gold Unit Value – 500ml per unit	R\$7,71
Bottle 500ml	R\$3,00
Label	R\$1,00
Thread	R\$0,50
Sealer	R\$0,10
<b>Cachaça Gold Final Cost</b>	<b>R\$12,31</b>

Source: elaborated by the author

## 8.8. Final Price and Production

Finally, as all unitary costs are established, we shall then establish the final price and the operational margin. In order to get comparison with the best ranked Silver and Gold Cachaça, the project used the top 10 Silver and Gold ranked by Cúpula da Cachaça in the latest raking 2020. The top ranked Silver Cachaça are priced between R\$50 and R\$70, The top ranked Gold Cachaça are priced between R\$150 and R\$300, although such high

price, the project recognizes that those are much more special edition with blended flavors.

In order to take closer competitors price range, we analyze the price range of Cachaça da Tulha, which is made in the same city. Its Silver Cachaça costs R\$62 and the Gold R\$81 at major distribution centers.

As the company will be starting up, the final price of the Silver Cachaça will be established as R\$35,00 and the Gold Cachaça R\$40,00 to guarantee better price than the competitors and get almost 65% margin with Silver and almost 70% margin with Gold Cachaça.

As the labor costs increases (7% annually), the price will also increase to reach closer to the competition. In order to maintain the margins above, the prices will be raised up until R\$50,00 for the Silver and R\$70,00 for the Gold, following the previous raises:

Table 12: Expected Price Range

Year	2026	2027	2028	2029	2030
Silver	R\$35,00	R\$40,00	R\$45,00	R\$50,00	R\$50,00
Gold	R\$40,00	R\$50,00	R\$60,00	R\$60,00	R\$70,00

Source: elaborated by the author

For the total production, taking into account aging period of both types, the company will make 80% of its production to be Silver and 20% Gold.

Table 13: Total Production per Year

Final Production per year	Storage	Liter	Bottles
Cachaça Silver (80%)	Inox tank	18.400L	24.533
Gold Cachaça (20%) – 20% loss	Wooden Barrels	4.600L	7.360

Source: elaborated by the author

## 8.9. Sales Forecast

For the sales forecast, the study shall consider three scenarios: pessimist, realist and optimistic. In order to estimate the scenarios, the project calculated the Break Even Point

(BEP) and from there we applied a small percentage of profit, considering the possibility of a profitable project.

Table 14: Break Even Point

Break Even Point	BEP Sales	% of Production
Cachaça Silver (80%)	9.305	38%
Gold Cachaça (20%)	1.825	25%

Source: elaborated by the author

The pessimist scenario, then, will consider a sales performance of 50% of production, the realistic will consider a sales performance of 70% of production, and the optimistic will consider a sales performance of 99% of production (as part of production shall always be reserved for marketing campaigns).

For the sales forecast, 2024 and 2025 will be zero, as it was considered above, so the first patch Silver Cachaça will be ready for sale only in 2026. The Gold Cachaça will only be available to sell from July 2026, therefore in 2026 the Gold sales will be half of the other years.

Table 15: Sales Forecast

Sales Forecast					
Scenario/Year	2026	2027	2028	2029	2030
Pessimist	R\$502.875,00	R\$674.600,00	R\$772.725,00	R\$834.050,00	R\$870.850,00
Realist	R\$704.025,00	R\$944.440,00	R\$1.081.815,00	R\$1.167.670,00	R\$1.219.190,00
Optimistic	R\$995.692,50	R\$1.335.708,00	R\$1.529.995,50	R\$1.651.419,00	R\$1.724.283,00

Source: elaborated by the author

## 8.10. Financial Statements

For the Financial Statements prevision, the present study shall take into account the realist sales forecast as a prevision of revenue that the company can make.

Table 16: Financial Statements

Financial Statements
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	2026	2027	2028	2029	2030
Sales Revenue	R\$704.025,00	R\$944.440,00	R\$1.081.815,00	R\$1.167.670,00	R\$1.219.190,00
Sales Returns and Allowances	R\$0	R\$0	R\$0	R\$0	R\$0
Net Sales Revenue	R\$704.025,00	R\$944.440,00	R\$1.081.815,00	R\$1.167.670,00	R\$1.219.190,00
Tax	-R\$70.402,50	-R\$105.777,28	-R\$121.163,28	-R\$130.779,04	-R\$136.549,28
Operational Costs	-R\$71.845,00	-R\$71.845,00	-R\$71.845,00	-R\$71.845,00	-R\$71.845,00
Labor Cost	-R\$158.880,06	-R\$170.001,67	-R\$181.901,78	-R\$194.634,91	-R\$208.259,35
Administrative Costs	-R\$42.000,00	-R\$42.000,00	-R\$42.000,00	-R\$42.000,00	-R\$42.000,00
Net Profit	R\$360.897,44	R\$421.968,49	R\$664.904,94	R\$728.411,05	R\$760.536,37

Source: elaborated by the author

### 8.11. Cash Flow Statements

Given the initial investment and the financial statements arising from the realistic sales forecast, is possible to create the expected cash flow statements. After establishing the cash flow statements, the project will, then, establish the Net Present Value (NPV)

Table 17: Cash Flow Statements

#### Cash Flow Statement

	2024	2025	2026	2027	2028	2029	2030
Total Revenue			R\$704.025,00	R\$944.440,00	R\$1.081.815,00	R\$1.167.670,00	R\$1.219.190,00
Tax			-R\$70.402,50	-R\$105.777,28	-R\$121.163,28	-R\$130.779,04	-R\$136.549,28
Net Revenue			R\$633.622,50	R\$838.662,72	R\$960.651,72	R\$1.036.890,96	R\$1.082.640,72
Operational Costs		-R\$71.845,00	-R\$71.845,00	-R\$71.845,00	-R\$71.845,00	-R\$71.845,00	-R\$71.845,00
Labor Cost		-R\$40.000,00	-R\$158.880,06	-R\$170.001,67	-R\$181.901,78	-R\$194.634,91	-R\$208.259,35
Administrative Costs		-	-R\$42.000,00	-R\$42.000,00	-R\$42.000,00	-R\$42.000,00	-R\$42.000,00
Operational Profit		-R\$111.845,00	R\$360.897,44	R\$554.816,05	R\$664.904,94	R\$728.411,05	R\$760.536,37
Interest Expense		R\$0	R\$0	R\$0	R\$0	R\$0	R\$0
Net Profit		-R\$111.845,00	R\$360.897,44	R\$554.816,05	R\$664.904,94	R\$728.411,05	R\$760.536,37
Investment	-R\$381.900,00	R\$0	R\$0	R\$0	R\$0	R\$0	R\$0
Cash Flow	-R\$381.900,00	-R\$111.845,00	R\$360.897,44	R\$554.816,05	R\$664.904,94	R\$728.411,05	R\$760.536,37
Balance	-R\$381.900,00	-R\$493.745,00	-R\$132.847,56	R\$421.968,49	R\$1.086.873,43	R\$1.815.284,48	R\$2.575.820,84

Source: elaborated by the author

Table 18: Cash Flow Statement - NPV

Cash Flow Statement - NPV

	2024	2025	2026	2027	2028	2029	2030
Cash Flow	-R\$381.900,00	-R\$111.845,00	R\$360.897,44	R\$554.816,05	R\$664.904,94	R\$728.411,05	R\$760.536,37
Cash Flow - NVP	-R\$381.900,00	-R\$101.217,19	R\$295.569,24	R\$411.208,60	R\$445.974,93	R\$442.145,43	R\$417.778,72
Balance – NVP	-R\$381.900,00	-R\$483.117,19	-R\$187.547,95	R\$223.660,65	R\$669.635,57	R\$1.111.781,00	R\$1.529.559,72

Source: elaborated by the author

## 8.12. Project Evaluation

For the evaluation of the project, first we need to find the actual hurdle rate expected from possible investor, which was gained by combining the given interest and inflation rates above plus 8% of return. The total hurdle rate is up to 23,5%.

Table 19: Project Evaluation

Project Evaluation	Pessimist	Realist	Optimist
NPV	R\$247.859,45	R\$1.529.559,72	R\$2.766.345,24
IRR – NPV	26%	49%	74%
Payback - NPV	5,23	2,29	1,27

Source: elaborated by the author

## 9. Conclusion

The present project is set to evaluate the viability of implementing a distillery to produce Cachaça in a small farm. As shown, the Cachaça market in Brazil is in constant growth and for the past years it developed more quality to its production methods, especially regarding the alembic Cachaça. The importance of Cachaça to Brazilian culture culminated in the development of a legislation to recognize it as a typical Brazilian product and standardization of best practices of production and quality.

Over the past decade it went from a low value product target for lower classes only to become a widespread product consumed by all country, which can be easily perceived as it has products that range from R\$2,59 (€0,40) for 500ml bottle up to US\$180.000,00, or over R\$1.000.000,00, for a single bottle.

Such evolution of Cachaça is also easily perceived as it is the second most consumed alcoholic beverage in Brazil, losing only to beer. This means that not only there is market to exploit, but also that there will be a fierce competition in the market with many great competitors meaning that only product quality is certainty of entrepreneurial failure, as is long known that only having a great product is not the guarantee of success.

To implement the project, it is very important to establish also a very aggressive marketing campaign throughout the target market (50km distance radius within Mococa) not only to make the new brand acknowledged by potential consumers, but also the establish a high value to the product and a deep connection with them. As this is a small-scale production (roughly 30.000 bottles per year) it is important to wisely select the distribution channels and manage to implement the beverage in selected restaurants and bars in the market area and in reference cities as São Paulo, Campinas and Ribeirão Preto in a way to ensure that more value is added to the product.

For the financial viability of the project, as the company will be newborn, the sales provision was done by first establishing the Break Even Point to determine the pessimist scenario, which was calculated to be a little above the BEP and giving a expected sales of 50% of production. The realist scenario is where the company is expected to achieve sales of 70% of total production. The optimistic scenario is where the company is

expected to achieve sales of 99% of production. The financial viability was done in a 7-year period due to the first 2 years of investment and 5 year of revenue.

The project also considered the hurdle rate of 23,5% mainly due to high interest rate in Brazil (10,5% per year), which is one of the highest real interest rates of the world. Such interest rate is one of Brazilian major competitor against entrepreneurial project, as investors usually prefer to invest in treasury bonds, typically consider the safest financial investment to be made with high returns compared to other global economies. The projection for Brazilian interest rates is not good as it came from a decrease in last year (from 13,75% to 10,5%) but the last update maintained the actual interest rate suggesting the possibility of increasing.

Excluding the pessimist scenario which is a “no go” for the project as the risk is too high against being so little beyond the hurdle rate that is very secure. The realist and optimist scenarios were proven to be high successful against the hurdle, given the IRR – NPV of 49% and 74% respectively, and the Payback – NPV of 2,29 and 1,27 years respectively.

Finally, although a hard field to work, as it is highly competitive, it can be also very profitable. The entrepreneur that choses to adventure in the field need to guarantee not only a great product, but also a great communication and a set of vision and values that have a highly positive effect on the final consumer.



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## ATTACHMENTS

## ATTACHMENT A

Porter's Five Forces		Very Low	Low	Medium	High	Very High	
Threat of Entry	Low	1	2	3	4	5	High
Constitution of new companies producing Cachaça	Low				X		High
Experience of new entrants	Low		X				High
Access to suppliers	Low					X	High
Capital necessity to start business	Low			X			High
Federal incentives to start new business	Low		X				High
Easiness to start a new Cachaça company	Low		X				High
Necessity to bring high quality product or new concepts by new entrants	Low					X	High
<b>Value of Force</b>	<b>Low</b>			<b>3,28</b>			<b>High</b>
Bargaining Power of Customers	Low	1	2	3	4	5	High
High number of consumers	Low	X					High
Product offered is differentiated	Low		X				High
Price offered is high	Low			X			High
High number of brands gives consumers a choice possibility	Low					X	High
Consumers demands are higher	Low			X			High
Profit margins are high	Low		X				High
Cost of change is low	Low					X	High
<b>Value of Force</b>	<b>Low</b>			<b>3,00</b>			<b>High</b>
Bargainig Power of Suppliers	Low	1	2	3	4	5	High
High number of suppliers	Low	X					High
Low cost of change of supplier	Low	X					High
Procurement volume is high	Low	X					High
Cachaça sector has big buyers	Low				X		High
High quantity of suppliers and substitute products	Low		X				High
Risk of shortage by suppliers	Low			X			High
<b>Value of Force</b>	<b>Low</b>		<b>2</b>				<b>High</b>
Threat of Substitute Products or Services	Low	1	2	3	4	5	High
Existence of substitute products						X	
Product quality differentiate itself from others	Low		X				High
Cost-performance ratio is worse than the competitors	Low		X				High
<b>Value of Force</b>	<b>Low</b>			<b>3</b>			<b>High</b>
Jockeying for Position	Low	1	2	3	4	5	High
High number of competitors	Low					X	High
Cachaça market growth over last years	Low			X			High
High profitability	Low				X		High
New companies in the sector	Low			X			High
High demand for Cachaça	Low					X	High
Exit barrier is low	Low			X			High
Low cost of change for the consumer	Low					X	High
Cost-performance ratio is better than the competitors	Low				X		High
<b>Value of Force</b>	<b>Low</b>				<b>4</b>		<b>High</b>

Source: Elaborated by the author