START-UPS: CREATING YOUR BUSINESS PLAN AND HOW TO FINANCE IT

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A Project presented in partial fulfillment of the Requirements for the Degree of Master in Management

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October, 2016

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Abstract:

There is an increasing awareness of the need to be healthier. To create a more active lifestyle, it is important to adapt individual's training, diet and correct nutrition through correct sports supplements to the one's needs. Many people do not take supplements due to time constraints and high investment required to buy the available market product. To address this problem, our company (Maxx Supplements) offers individual doses of pre- and post-workout sports supplements available at the gym's vending machines. To the customer our product is user-friendly, opportune and time-saving. Furthermore, to achieve better acceptance from general public and penetrate the market, our product will be as cheap (1,5€) and as comfortable as possible. In this thesis, a business plan and financing method of the sport supplement was developed and described, while identifying its price, market segment, placement and distribution. Our product will be first financed by relatives and further supported by Business Angels that will not only help financially but also with expertise and network. We estimate to gather 211 522€ that will cover our first three months of production, which we expect to payback in the first year. From a project's perspective, it has a Net Present Value of 13 516 630€, an Internal Rate of Return of 220%, around 30% Return On Investment for the third to sixth year, a Return on Equity of 124% on the third year and 60%~70% for the remaining, a Growth Rate of near 60% for all years except the second (100%) and Positive Cash Flow of 199 150€ on the third year.

Keywords: business plan, financing methods, pre- and post-workout sports supplements, start-ups

Resumo:

Recentemente tem havido um aumento no reconhecimento da necessidade de ser mais saudável. De forma a ter um estilo de vida mais saudável, é importante adaptar o exercício físico, dieta e nutrição através de suplementos desportivos, tendo em conta os objectivos. Muitas pessoas descuram os suplementos devido à escassez de tempo e elevado investimento necessário para comprar um produto do mercado. De forma a combater este problema, a nossa empresa oferece doses individuais de suplementos desportivos de pré- e pós-treino nas máquinas automáticas do ginásio. No ponto de vista do consumidor, este produto é fácil de utilizar, oportuno e poupa tempo. De forma a obter uma melhor penetração do mercado, o produto vai ser vendido a 1,5€. Foi também desenvolvido um modelo de negócio. O nosso produto vai ser financiado por familiares e Investidores, que providenciarão, para além de dinheiro, conhecimentos. Preço, mercado alvo, localização e distribuição foram também identificados. Estimamos adquirir 211 522€ que iram financiar os primeiros 3 meses de produção, e que irão ser pagos aos Investidor no primeiro ano. Do ponto de vista do projecto, este tem um Valor Liquido Actual de 13 516 630€, uma Taxa Interna de Rentabilidade de 220%, cerca de 30% de Retorno no Investimento para o terceiro até ao sexto ano, um Retorno dos Capitais Próprios de 124% no terceiro ano e 60%~70% para os restantes anos, um Taxa de Crescimento de 60% para todos os anos, excepto o segundo (100%) e Cash Flows positivos de 199 150€ no terceiro ano.

Palavras-chave: modelo de negócio, métodos de financiamento, suplementos desportivos de pré- e pós-treino, start-ups

Acknowledgement

In order to develop this thesis, I had the honor to count with the below people:

PhD. João Rosário (ISCTE) for all the help regarding this thesis' content and critical reviews. Mr. Eduardo Ribeiro (Biogal) for the insight on the supplements market, and for the estimations on product costs. Will be our supplier if the project goes through. Ms. Sofia Ferrão (SGS) for all the provided information regarding health company's and health products warehouses certification. Brother and his girlfriend for providing their experience with thesis and articles. Pai e mãe por todo o apoio incondicional durante estes meses.

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I. Executive Summary

Within the global economy recession, there is a market that seems to be growing every year, which is the sport supplement market. Keeping in mind the attractiveness of this industry, the sports supplement market could be a good investment. Nowadays, there are a couple of major companies but none of those controls this $68 billion market. Every time a new brand gets into the sports supplement industry it has a possibility to achieve a great market share. This is possible because the new boomers (1983-2001) generation is extremely concerned with health issues and continuous demand for such products.

Current sport supplement products are similar in composition but different in flavor, solubility and content (*e.g.* whey 80% *vs* whey 100%). Overall, consumers are satisfied with the current available sport supplement products. However, the major drawback is the large product amount customers have to buy at online retailers to have a good price, and the fact that the already available products at the gyms are twice the price of our sports supplement. In this context, and considering consumers demand the best price-quality relation and ready to use doses, our goal is to provide a low cost individual dose of high quality sport supplements available at gyms.

We will fund ourselves through investors and Capital Supplies, by selling part of the business and later buy it back, in order to achieve our ultimate goal of selling the whole company (Maxx Supplements) to a bigger player. In order to reduce the initial risks and investment needed, a buy strategy will be applied. We will also handle the storage (with the help of the investor) and distribution ourselves at the first two years so we can reduce the costs.

In order to create the company (Maxx Supplements), there is a need to gather 211 522€ that we should pay back in the first year. This money will be used for production during the first 3 months.

We based our analysis on some market performance tools, such as Strengths, Weaknesses, Opportunities and Threats (SWOT) and Political, Economic, Social and Technological (PEST), as well as economic results, mainly Financing Sources, Working Capital, Costs of Goods Sold (COGS) among others, will be used to fundament our final decision, which will be explained further on.

II. Business Description

Our company will be called Maxx Supplements and will be created to fill the needs of supplement consumers in some sports, such as bodybuilding, football, among others. It is a microenterprise included in the food industry, in the sport supplements market.

We want to implement vending machines at the entrance of gyms. This strategy has two main advantages, (1) increase the proximity to the consumers, making them try our products and (2) provide a ready to use sport supplement to those who either forgot or want to try. Our vending machines will sell pre- and post-workout, which need to be taken within a specific time frame in order to improve athletic performance and get better results.

The pre-workout has to be taken 20-30 minutes before the exercise, in order to improve the athlete focus, blood flow and to decrease fatigue. This time period is the average each person takes before starting the workout after entering the gym. This supplement is composed by Beta-Alanine, L-Citrulline Malate, L-Arginine, Creatine CEE, Caffeine and Taurine.

Regarding the post-workout, for a maximization of the nutrients absorption, the supplement must be ingested within 15min after the workout. Thus, our product is perfect for costumers with busy schedules, being opportune and timesaving. This post-workout sport supplement contains Whey protein 80% (concentrate), Dextrose, Vitamin C and BCAA (in a proportion of 2 leucine, 1 isoleucine and 1 valine). In this context, our product will address the need of a zero effort and ready to use solution, even though it is not as cheap as the online competition in price/quantity ratio, but still cheaper than the already available vending machines at the gym. For instance, it is possible to buy at online retailers sport supplements but only at large scale, representing an investment risk for the costumer. Our product will be presented in individual doses that do not need much money and time commitment from the costumer and it costs half the price of the equivalent products on the market.

Maxx Supplements will handle the product distribution with its own vehicle, while our partners will perform the manufacture. During the first year, the products will be stored at the investor's warehouse, while we get our own warehouse in the second year. On the third year, we will acquire two more vehicles to transport the sport supplements and in the third/fourth year we will buyback the investor's equity.

II.I Business Model CANVAS

With this Business Model CANVAS, divided in 9 topics, we aim to detail our strategies in order to be more efficient in our business.

Segmentation – Our target segment are athletes from all different sports, that wish to improve their performance by the use of supplements. We will also try to gather non-supplements users through word-of-mouth, forums.

Value Proposition – Our value proposition is focused mainly on the convenience and the price. We are offering a service that is as convenient as the already available competition at the gym's vending machines, but at half price. Our product is user friendly, timesaving and very practical. Comparing our sports supplements with the online retailers, ours is much more convenient.

Distribution channels – Our distribution, as previously stated, will occur through vending machines being the most efficient way to reach our target segment. This way, we can establish contact with customers *in locu* (*e.g.* gym, sport center).

Customer Relationships – Maxx Supplements lacks customer direct relationships, since our product is sold through vending machines, there is no direct contact with end users. However, we plan on getting to know their opinion through the internet and social media (Snapchat, forums, Instagram and Facebook), as well as promotions, reviews and other activities.

Income Sources – Our income sources will be from the sale of supplements.

Key Resources – Pre- and post-workout sport supplement sold at vending machines will be our main resources. Our Human Resources (the 3 founding partners + the investor) are crucial in the strategy process of the development of Maxx Supplements. Our supplier will do the production, while we will handle the distribution.

Key Activities – The distribution and sale of our products. Production will not be part of our core activities.

Key Partners – Partnerships with exclusive producers, as well with the gyms that will subscribe to our services. Both of these have already been contacted, and waiting for our first batch. The designer will also be essential in building the brand as he will be responsible for the image and consequent public perception of our business.

Cost Structure – With the extensive use of outsourcing and with a value proposition based on low prices, we will be able to offer our product to consumers at the lowest price possible.

Below is a figure of our Business Model CANVAS:

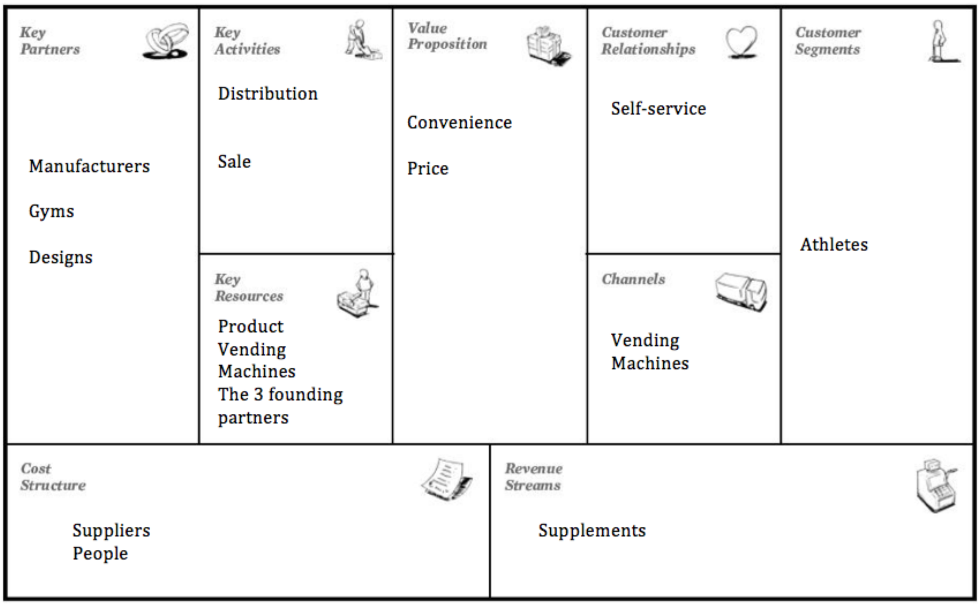

Figure 1- Business Model Distribution

II.II Product Viability Analysis

In this $68 billion market[1] there is a lot of competition but no one controls the market yet. Nowadays there is a growth in health care related issues, which can be correlated with the increasing gym subscriptions. Each person has their personal goal but all of them are results focused. With our pre- and post-workout sports supplements, we help our customers to achieve their goals faster. After rigorous research we found that there is around 2 000 daily athletes at each gym (at the bigger gyms, such as Virgin Active and Holmes Place), and the numbers tend to grow bigger each year, showing this market has a lot of potential. By the end of 2017 we will to be present in 3 gyms. Considering out of these 2 000 daily gym members, 10% will buy our product, we have 200 potential costumers per day (note that each one of them can buy both the pre- and post-workout). Taking into account each individual dose is sold at 1,50€, we expect a revenue close to 570 000€ per year. At smaller and cheaper gyms, the potential customers can go from 10% to 50%.

From the investors' point of view, this project is a good investment, since we have narrowed the costs to the minimum to get the better margins. Our microenterprise will be composed by three staff members (with salary retention), with their cars, and storing everything at the investors' warehouse. The only expenses will be the advertisements, production costs, fuel and designers. We estimate that this will be a very fast growth project, giving us profit in 3 years' time.

Our vending machines will be strategically placed in the gym and there will be two types of products to choose from (pre- and post-workout). We chose these products since they sell much more frequently than others. We will rent vending machines from APL (Automáticos Portugueses Lda.) for 150€ each per month, and the gym will get 10% of our monthly sales. We have chosen the vending machine approach mainly due to the following five characteristics:

Fast – buying the product online takes at least one day to arrive after the order, while buying in the vending machine is instantaneous.

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[1] http://www.reportlinker.com/ci02037/Vitamin-and-Supplement.html

Convenient – consumers taking its own shaker (recipient used to prepare pre- and post-workouts supplements) to the gym may constitute an inconvenience for many people due to the space it takes. Our service eliminates that need.

No commitment – buying the product in bigger doses takes commitment that many times the consumer is not willing to take, due to the fact it may not like the flavor, the results, etc.

Time Saving – the time spent preparing the shakers is something that turns considerable on the long run, and while the machine is doing it, you can do something else.

Available – in case the athlete forgets the shaker or if it runs out of sport supplement, our vending machine is always available.

Thus, our vending machines can be a good choice to reduce the weight carried on a daily basis by the costumer. Moreover, we tried to produce a cheaper product, comparing with other vending machines, maintaining the high quality.

II.III Make or Buy Decision

When creating our brand, it is extremely important to get known in the market. Maxx Supplements wants to be dominant in this market, and in the long run be able to control every step of the chain value, from production until end customer.

In the beginning Maxx Supplements will buy the products from a partnered factory, since it does not have resources to build the factory and produce its own supplements. Each individual dose of pre-workout will cost us 0,82€, while post-workout will cost 1,12€ per dose. In some years' time, we want to invest in a new factory and start our own production, reducing product final costs.

III. Maxx Supplements Introduction

III.I Sector Analysis and Potential Market

In a study conducted by CNN in 2011, it was reported that in the U.S., half of the country's population took some kind of supplements, which may vary from Vitamins and Omega3 to supplements targeted to athletes.[2]

The global value of the supplement market is $68 billions according to a research from Euro monitor.

Forbes has stated the Nutritional Sports Supplement Industry as one of the fastest growing industries in the world. The same study also considered that the sport supplement industry has a huge potential, and shows no signs of slowing down. It is predicted to grow at 4% per year in the next 4 years, with major European players coming into play (study conducted by Euro monitor International)[3]. Moreover, in the past years the sport supplement market global annual growth presented double digits, being compared with the technology market of the late 1990's.

Despite the fact that there are some major players in the industry as is the case of Optimum Nutrition (ON) and Bio-Engineered Supplements and Nutrition (BSN) (both owned by Glanbia) and Muscle Pharm it would be wrong to say there is a "Monopoly" since there are several minor players in this market, that altogether control a big portion of the sports supplement industry. The company Muscle Pharm back in 2010, went from new company to conquer the global supplement market in few years through its strategy of communication on social media and its bet on Mixed Martial Arts (MMA) and Fighting based sports.

Omega3 supplements and Vitamins represent the majority of the market share being focus on masses and bought by women and families. However, pre- and post-workouts supplements are responsible for bigger revenues, as they are meant for athletes. These supplements popularity rose through the recent trend of MMA, Cross fit, Bodybuilding and healthier habits.

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[2] http://edition.cnn.com/2011/HEALTH/04/13/supplements.dietary/
[3] http://www.nutraingredients.com/Suppliers2/A-global-look-at-supplements-on-the-rise

III.II PEST Analysis

The potential and sustainability of Maxx Supplements was evaluated by PEST analysis.

Political Factors – The market where we are going to introduce our business has many regulation forms. Being our product dry, we can overcome some of the regulations. Also we have a significant advantage when compared to other brands as we contribute to the increase of national production.

Economic Factors – Given the fact the Portuguese economy is still in recess, this factor negatively impacts our business. However, we try to minimize this by providing a low cost sport supplement. Also, in recession scenarios, normally the prices of buy/produce products tend to be lower, which is what customers want.

Social Factors – Over the years, the need to improve health habits and image have been increasing. Our customers want to lose weight, increase their energy levels, stamina and strength. We believe our products will be essential to increase costumer self-esteem and achieve their goals.

Technological Factors – Our products will be produced with approved products at market level that are extracted from natural sources. Also the constant development of new machinery and extraction techniques will have an important role for the appearance of new products with better characteristics and more efficient. We hope to make use of this on our factory when we decide to build it.

III.III Market Segmentation

The supplements market we are inserted in, can be segmented in:

- Vitamins and minerals;
- Plant origin supplements;
- Sports Nutrition supplements;
- Meal replacement supplements and Specialty supplements.

The vitamins and minerals segment is the one that presents the biggest number of sales but is also the one where the customers are less loyal to the market. However, this is not the case of Sports Nutrition supplements, where customers are tremendously loyal to the market.

III.IV Target Segment

Our product focuses on people who take sports nutrition supplements. This is the segment we know more about and it has the most loyal customers in the global supplement market and it is the one with the biggest growth potential.

III.V Critical success factors in the market

The sports supplement market is ruled by different success factors. In the Maxx Supplements point of view, quality of the product, brand, word-of-mouth and internet are the most important in descending order. Below is a brief explanation for each of these factors:

Quality of the product - the quality of the product is essential for the customers to feel comfortable and trust us when buying any new product we decide to commercialize.

Brand – How customers perceive Maxx Supplements must be carefully studied. If we enter in the market as a brand with supplements too directed to bodybuilders, consumers might think this is the only type of customers that Maxx Supplements is trying to reach. The image we intend to transmit is of a company that is concerned about performance enhancing and healthier habits.

Word-of-Mouth and Internet – In the sport supplement sector it is extremely important that our customers are satisfied with our product and that they recommend it to friends and other potential customers.

III.VI Competition Analysis

The sport supplement industry began its dramatic increase 40 years ago, since then buying large quantities started to be the most profitable way to acquire such supplements (e.g. package with 1-5kg's of product for post-workout for example). Nowadays, the situation has changed and there is a new concept based on the notion that consumers demand smaller quantities (a single dose) near the environment where consumers will need it the most (the gym, the academy, the sports center, etc.). With this new concept (in Portugal since 2013) new brands have emerged, and some old brands have added this service to their portfolio. Nutristrada and Scitec are examples of old brands that have adopted a business plan similar to ours. These companies are present in some gyms in Portugal with their own products and vending machines, however their cost is still considered high for some customers. Nevertheless, in Portugal, the biggest companies have not yet adopted this approach, since it is expensive and demands countless resources to adapt their strategy to this new market need. Thus, we consider there is still a market gap we could take advantage of.

The question "Will the biggest companies ever adapt this new way of delivery or will they stick with the old approach?" remains.

The major current companies in the market are:

- Optimum Nutrition – bought 5 years ago by an Irish Group (Glanbia) for $300M. It has the bestselling whey protein powder in the world. (100% Whey Gold Standard – the basis of a good post-workout shake). [4]

[4] http://seekingalpha.com/article/2499795-glanbias-growth-will-receive-more-fuel-with-the-latest-acquisition?page=2

- BSN – bought 2 years ago by the same group that bought ON, for $144M. [5]
- MusclePharm – came into the picture in 2010 and quickly earned a huge market share with the growth of MMA (Mixed Martial Arts). It is now publicly listed with a market cap of around $28M. [6]
- Gold Nutrition – the biggest Portuguese supplement brand and increasingly the biggest threat for international well-established brands.

As previously stated, despite the fact that the above companies are our main competitors and still will divert many customers from our business, they do not satisfy the customer needs that we satisfy. These brands are not represented in Portugal (except Gold Nutrition); hence their selling price is inflated. When it comes to prices Maxx Supplements offers a lower retail price for a similar product, (An ON bar similar to what our post-workout offers costs about 2€ whereas ours only costs 1,5€). However, if these brands decide to adopt this service, with the market share that they already have, their market knowledge and their marketing budget they will constitute a serious threat. Gold Nutrition has not adopted this kind of strategy with their own machines or products in Portugal. We perceive our service, as a "question mark" in the BCG Matrix (Figure 2). It is located in a market with high growth with the chance to become a "star" product.

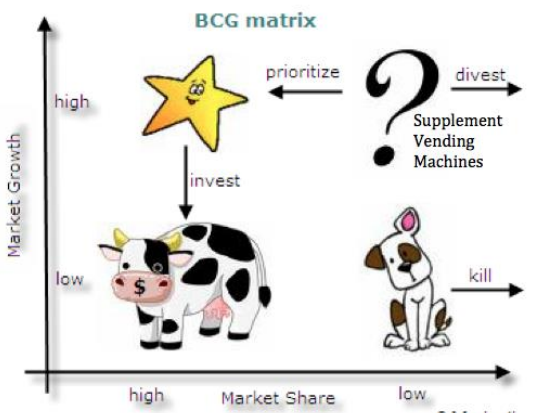


Figure 2- BCG Matrix representing our product. Our product is marked with a question mark, but has the potential to be a star

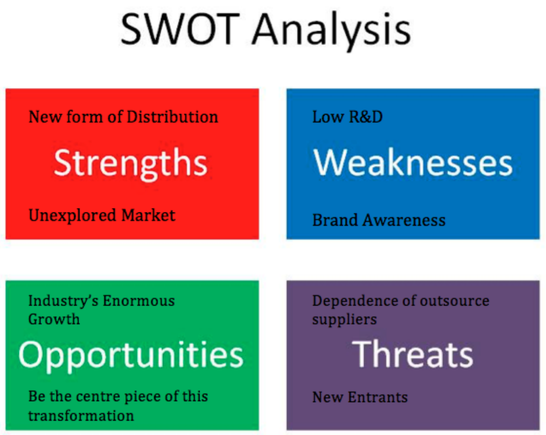


Figure 3- SWOT Analysis identifying the company's Strengths and Weaknesses, and the market's Opportunities and Threats

Concerning the SWOT analysis (Figure 3), as Strengths we have our strategic advantage of a new form of distributing the product to the end user and the relatively unexplored market of

[5] http://www.getbig.com/headlines/2011/01/19/bsn-sold-for-144-million-to-glanbia/
[6] https://finance.yahoo.com/quote/mslp?ltr=1

supplement vending machines in Portugal. However, our low budget for R&D to approach this new business constitutes a weakness and our low brand awareness is a weakness when compared to others well-established brands in the national market. The Industry's enormous growth could not be stressed enough as an opportunity and Maxx Supplements could be the center piece of this revolution in the supplement world in Portugal, as other brands have not taken advantage of this service to its fullest. Our dependence of outsource suppliers is a threat as they may not deliver items on time or the quality of the product may be altered in the course of time.

III.VII Competition Analysis – Relevant Market

Relevant market is the market where the process of competition takes place. It is determined through two different criteria (Potential competition/Geographical market, Demand-side and Supply-side substitution):

- Potential competition/Geographical market – it may become more expensive/impracticable to sell our product in different countries due to barriers to entrance or transportation costs. That may result in different companies taking advantage of this situation and consequently becoming competitors, however they will be from our industry, commercializing substitute goods.
- Demand-side and Supply-side substitution – demand/supply side substitution is the reaction consumers have based on prices fluctuations. We feel we should not be awfully concerned about this aspect of the business because there is not another product that substitutes both products we sell. At the most consumers will stop consuming ours, but we do not see that happening, since we offer really low prices.

IV. Macroeconomic Scenario

Since 2008, the Portuguese economy has been struggling due to the global economic crisis. Portugal was one of the most affected countries in Europe. Currently, its population and government have been dealing with the consequences of this financial breakdown. However, we have to adapt our project to the country where it will be implemented. The following indicators will support our entrance in the Portuguese business world.

Starting with Portugal's Gross Domestic Product (GDP), since 2009 GDP's values have been decreasing as figure 4 shows. Although it is a developed country, Portugal has the lowest GDP per capita in Western Europe and its population has one of the lowest incomes per capita among member states of the European Union. There is no sign of improvement of this conditions since GDP'S predicted growth is 1,5% for 2015 and 1,7% for 2016.

Regarding the Debt to GDP, this ratio has been increasing and it is expected to continue, as can be seen in figure 5.

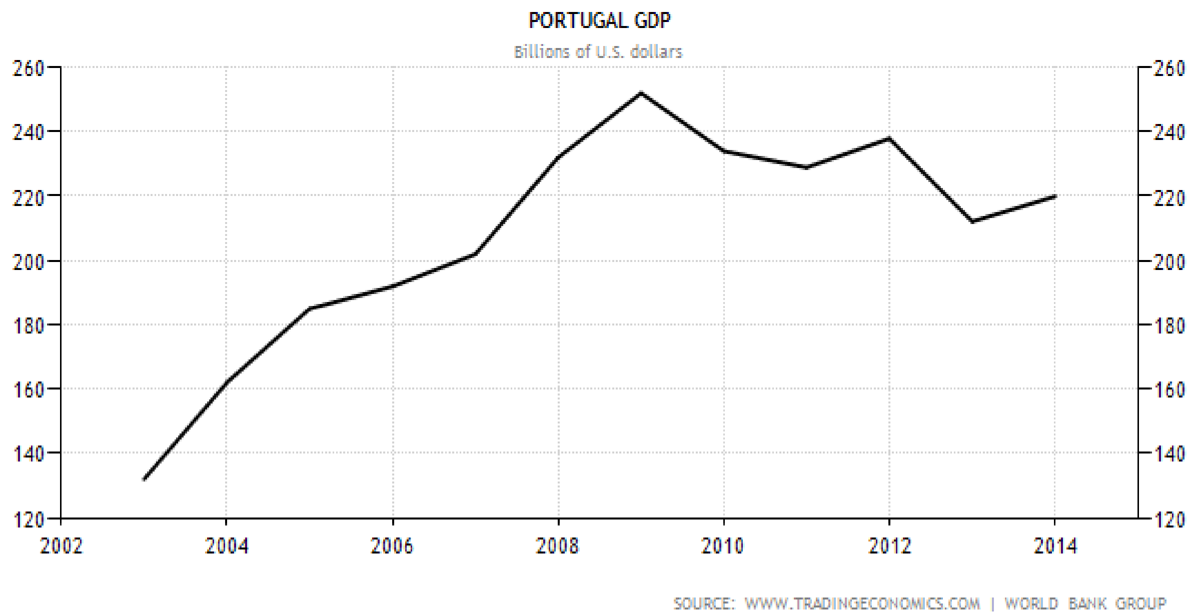


Figure 4 - Portugal GDP in Billions of U.S. Dollars from 2003 to 2014

Figure 6 - Portugal Government debt to GDP from 2004 to 2014

Other indicator that will affect our project is the inflation rate, which has been decreasing since 2011, as is shown in figure 6, and reached the point of deflation in 2014. The expected rates for the following years are 1% for 2015 and 1,1% for 2016. For our project we assumed a rate of 1% for 2016 and a constant rate of 1,1% for the following years.

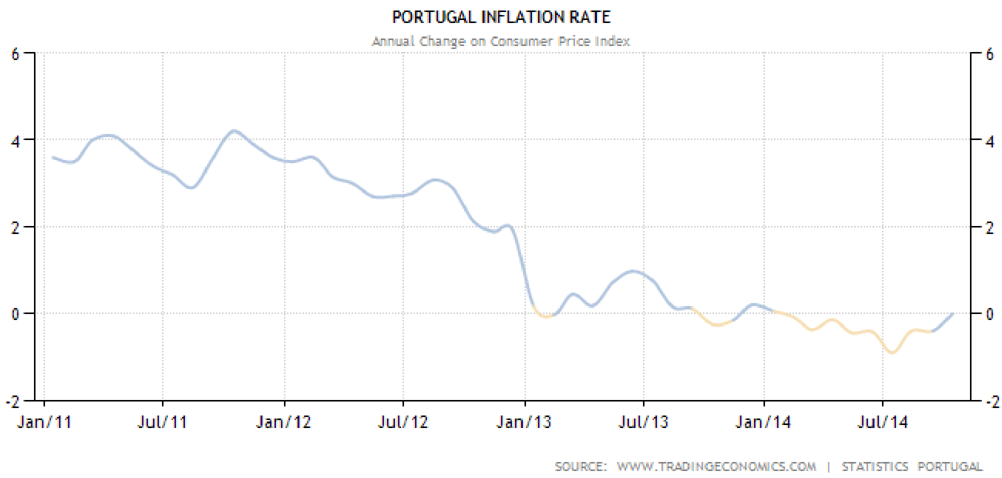


Figure 5 - Portugal inflation rate from January 2011 to July 2014

Regarding Portuguese taxes, both VAT and Income Tax are 23%. We assumed these as constants during the project years. However, since 2013 start-ups do not have to pay income tax for the first three years of activity[7].

[7] http://www.anje.pt/portal/anje-novas-empresas-nao-pagam-irc-durante-tres-anos

V. Project's Assumptions

Our project will start in 2017. In the first year we assume there will be three gyms selling our products, each gym an average of 2000 clients per day. Thus we estimate to sell on average, per gym, per day a total of 350 individual doses of pre- and post-workout product. Our total sales will be determined by the number of gyms we add each year, as figure 7 shows.

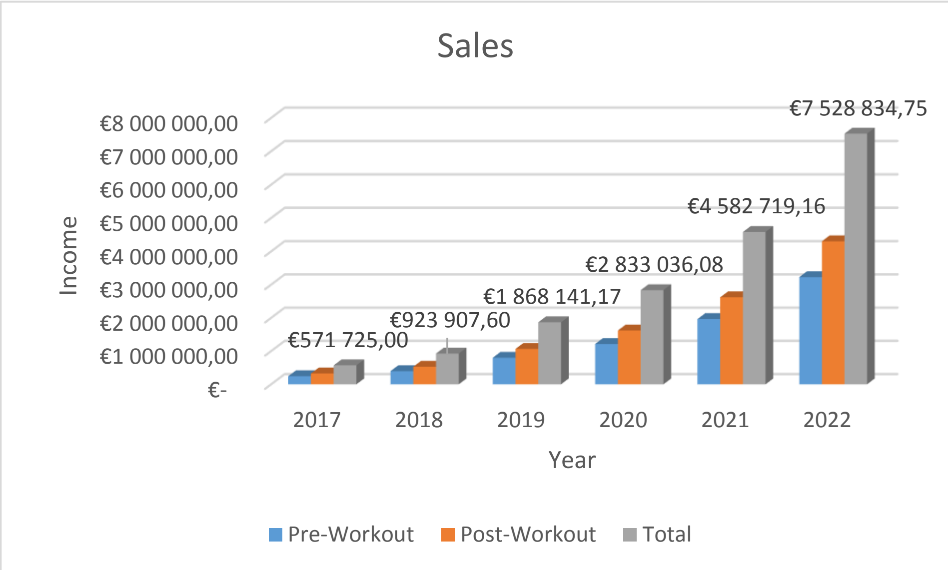


Figure 7 - Expected Sales of Maxx Supplements from 2017 to 2022 – Annual figures in terms of revenues in Euros

Regarding the price, in the first year it will be 1,50€. Both products will cost the same and over the years will be affected by the inflation rate. Our Gross Margin will be as shown in figure 8.

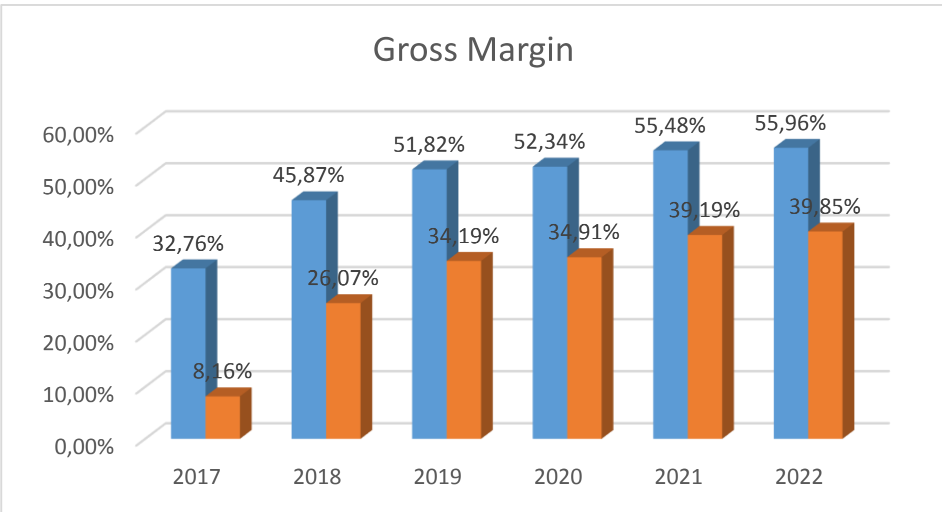


Figure 8 - Gross Margin of Maxx Supplements from 2017 to 2022

Concerning the annual costs, we will outsource our production in order to eliminate the need for investment in infrastructure and to access to skilled resources. Thus, Cost of Goods Sold (COGS) is linked to the outsourcing contract, as production (see Figure 9) of our products and is related to the gross margin. Figure 10 shows the COGS annual values.

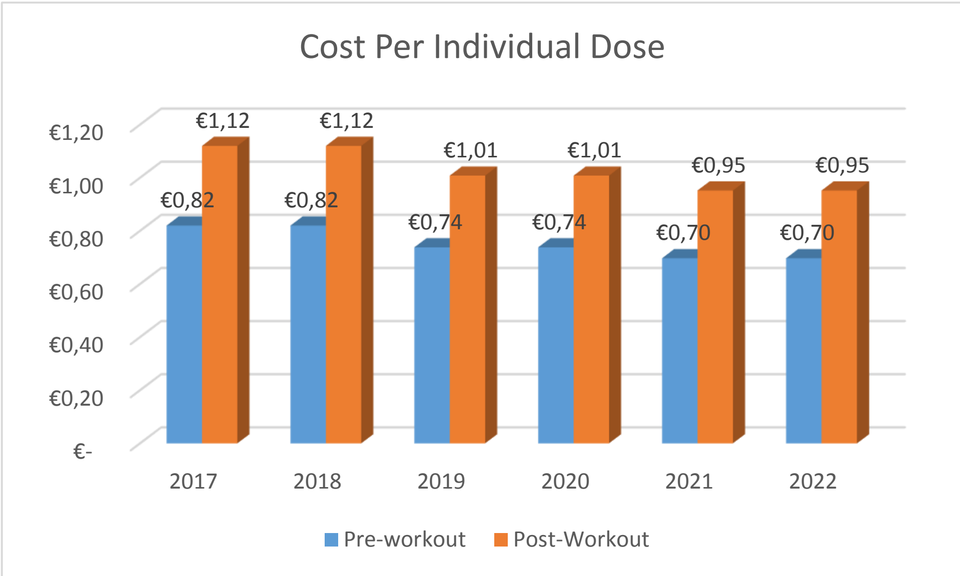


Figure 9 - Cost Per Individual Dose for Maxx Supplements from 2017 to 2022

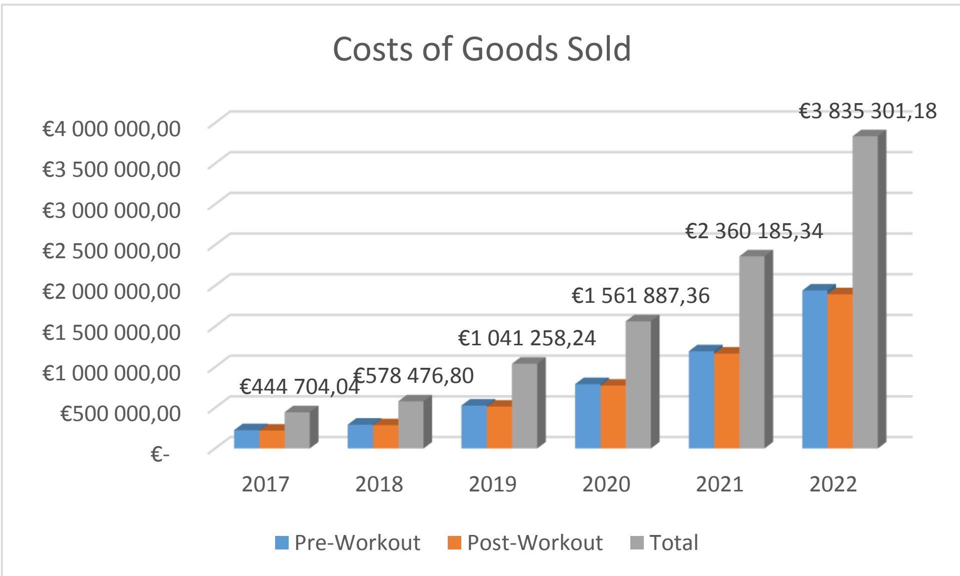


Figure 10 - Costs of Goods Sold for Maxx Supplements from 2017 to 2022

Besides COGS, we will have costs with External Supply Services (ESS) over the years, including the renting of the vending machines (150€ each + 10% of sales paid to each gym), marketing expenses (different types of communication) and starting in the second year of the project (2018), the cost of renting a warehouse (12 000€ per year) (until there, it will be supported by the investor). Other costs are the vehicle insurance (41,46€ per month) and starting in 2019 this value triples with acquisition of two more vehicles. Also the initial expenses for certifying the company's brand (246€) and its annual cost (123€). And, finally, the graphic designer (5 000€) and the legal fees. Some of these expenses are influenced by the project growth rate over the years, as marketing expenses, the legal fees and fuel. Figure 11 shows ESS annual values.

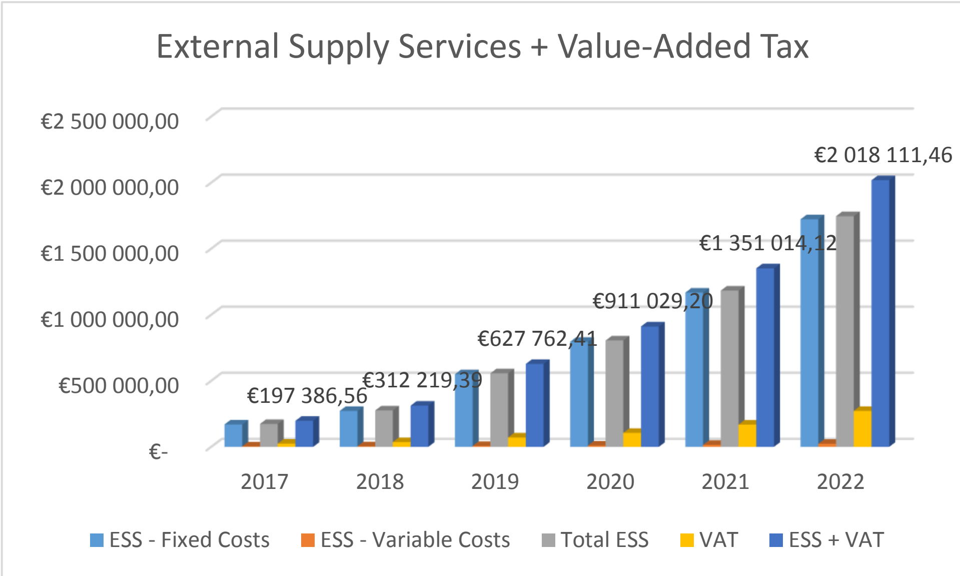


Figure 11 - External Supply Services + Value-Added Tax of Maxx Supplements from 2017 to 2022

Regarding investments, the initial needed is 25% Cost of Goods Sold, 25% of ESS, a vehicle to transport the products and the initial Working Capital. On Table 1 is shown the total value of the initial investment. Furthermore, in 2017 will be invested a value of 10 000€, representing two more vehicles for transportation of products.

Table 1 - Initial Investment of Maxx Supplements

Investment needed (1st year)	
Vehicle	4 000,00 €
25% COGS	136 746,49 €
Working Capital	21 428,88 €
25% ESS	49 346,64 €
Total Financing needs	211 522,02 €

VI. Financial Strategy

In order to create and start a company, the entrepreneur has to fund raise the needed capital to cover the future expenses. It can be done in many ways, but the most frequent is by investors and/or family, friends and "fools".

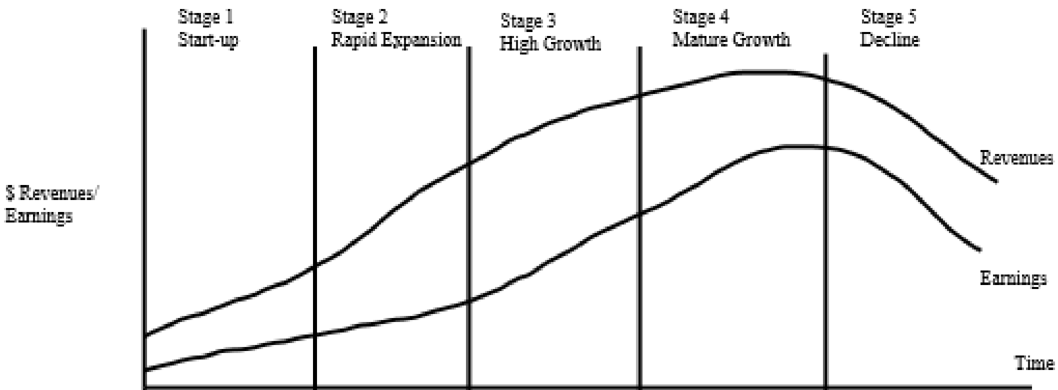
The most important step on fund raising is to gather money from family and friends, since "investors invest in people (…), their first integrity check on you as a person is whether your friends and family believe in you strongly (…). If they (your family and friends) will not do it, then why would I ("fool") as a stranger invest in you (Entrepreneurs)?"[8] Further to this, there are no interest taxes/fees with family and with friends. However, if the business does not succeed, as what happens with more than 75% of the start-ups in the first year, the relationship between the entrepreneur and its family gets deteriorated.

Every entrepreneur has to decide on the most efficient way to borrow money. Is it by issuing debt or equity? Nowadays asking for a bank loan, is not cheap, as there are large fees and taxes (up to 20% in some cases), and the borrower is obliged to pay back in 5 years. Furthermore, banks lend small quantities (100 000€ maximum), and only lend money. When borrowing from a bank, there are less fees to pay in case the company is not profitable, however, when compared to the investor, bank loan is not an attractive proposal. The investor will provide the necessary capital to start the business, will also give more time to pay-back (sometimes the entrepreneur only does it after the business gets pre-determined revenues), and on top of all, it is smart money. This means besides the capital, investors offer their expertise, their know-how, their experience and network. This is the best deal to get when trying to start a company and this is why Business Angels and Venture Capitalists (both investors) are so important in entrepreneurship. The most important aspect is the fact that with investors, the capital comes in the form of money and knowledge. Since more than ¾ of the start-ups fail in the first year, it is crucial the entrepreneur gets all the help needed and all the network he can possibly get. When it comes to paying, for banks it does not matter if the company has profits or not, or if it is even still active, as long as someone pays it, whereas investors will try their best to keep the business healthy. Investors too are investing in it, they expect to get their money back, and if possible

[8] - http://www.forbes.com/sites/martinzwilling/2011/12/19/early-stage-startups-need-friends-family-and-fools/

with profits. In order to do this, the entrepreneur has to sell part of the company, part of the idea, part of the project he really wants to start. However, this is considered as a good deal, since 50% of something is always better than 100% of nothing.

To further elaborate on this debt (bank loan) vs equity (investor), below on Figure 12 we compare the debt equity trade off across the life cycle of the company:



	Stage 1 Start-up	Stage 2 Rapid Expansion	Stage 3 High Growth	Stage 4 Mature Growth	Stage 5 Decline
Tax Benefits	Zero, if losing money	Low, as earnings are limited	Increase, with earnings	High	High, but declining
Added Disceipline of Debt	Low, as owners run the firm	Low. Even if public, firm is closely held.	Increasing, as managers own less of firm	High. Managers are separated from owners	Declining, as firm does not take many new investments
Bamkruptcy Cost	Very high. Firm has no or negative earnings.	Very high. Earnings are low and volatile	High. Earnings are increasing but still volatile	Declining, as earnings from existing assets increase.	Low, but increases as existing projects end.
Agency Costs	Very high, as firm has almost no assets	High. New investments are difficult to monitor	High. Lots of new investments and unstable risk.	Declining, as assets in place become a larger portion of firm.	Low. Firm takes few new investments
Need for Flexibility	Very high, as firm looks for ways to establish itself	High. Expansion needs are large and unpredicatble	High. Expansion needs remain unpredictable	Low. Firm has low and more predictable investment needs.	Non-existent. Firm has no new investment needs.
Net Trade Off	Costs exceed benefits Minimal debt	Costs still likely to exceed benefits. Mostly equity	Debt starts yielding net benefits to the firm	Debt becomes a more attractive option.	Debt will provide benefits.

Figure 12 - Debt Equity Trade off across the Life Cycle of the company – Source Damodaran, A., Finding the right financing mix: the capital structure decision, Stern School of Business pg 36

Elaborating more about the Business Angels and Venture Capitalists, who are they, and why should the entrepreneur trust them with part of its business? They have worked in the management/wealth business and made their career with investments, so they know if the project is doable. Investors are willing to share their knowledge with the new breed of entrepreneurs, and they have the money to start and to keep the company running. Business Angels and Venture Capitalists are quite different. As per Mason C.M., and Harrison, R.T., Business Angels and Venture Capitalists are defined as “an individual, acting alone or in a formal or informal syndicate, who invests their own money directly in an unquoted business in which there is no family connection and who, after making the investments, takes an active involvement in the business, for example, as an advisor or member of the board of directors."[9].

Investors more than likely started their career as inexperienced entrepreneurs, therefore they know exactly what entrepreneurs should and should not do when they start their company. Investors learned how to manage their business, sometimes they failed but learned from it, and now they wish to help others to achieve success. Investors invest their own capital, take risks, invest locally and in non-quoted companies.

What motivates investors to fund new companies? First of all, investors like to take chances, and take risks, and these projects are risky for sure. The uncertainty and the willingness to learn and improve are really important when deciding to invest. Can be also seen as a way to check their skills: "Am I able to pick this project and make it successful, in a world constantly changing, and with gigantic companies trying to put me down?" This is the daily basis of entrepreneurship. Investors went through this process over and over, sometimes they won, sometimes they failed, but they never quitted. That is why investors want to invest in other projects. They know their help makes a huge different in the outcome of a start-up. The fact that investors can contribute with their experience and contacts is extremely gratifying.

As Stephanie Macht said "Although two thirds of Business Angels said that gaining return on investment was important to them, more than half said that the enjoyment of supporting the entrepreneur through their knowledge, skills and network of contacts was a strong motivation for investment."[10] Or as per Ramadani "the chance to add value (to their wealth and to the company they are investing in), while helping entrepreneurs in setting up their own business, contributing with their knowledge and experience"[11], or as per Bob Bosman "I want to earn more. In the new small enterprises, I see opportunities that provide me with good profit. But, also the entrepreneur has benefits from this. When starting a business, it is necessary to go over many difficulties, to negotiate with different people. It is hard for him. I have already gone through that and I can help him with this."[12].

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[9] On article Developing time series data on the size and scope of the uk business angel market, page 8, draft 2008
[10] On article Business angels offer more than money, http://www.growingbusiness.co.uk 2007
[11] On article Business angels, who they really are?, page 8, draft 2008
[12] On article Business angels, who they really are?, page 8, draft 2008

If investors are able to transmit their knowledge and experience, the project itself stops being so risky, and in fact, it is easier to transform it into a profitable company. Berry Moltz, a famous Business Angel and cofounder of the organization Prairie Angels, says: “During the past, as an entrepreneur, I have achieved great success, but I have also had failures during my work. Now I want to transfer my experience to the others, to help people not to make the mistakes I have made. I have failed sometimes, and I do not want others to fail, too. Now I want to try myself as a counselor of young entrepreneurs in order to help them make their dream come true.” [13].

Since most of the Business Angels and Venture Capitalists characteristics have been explained, we will talk about investment timings. Usually, Business Angels invest in four phases, which are the seed stage, start-up stage, early stage and later stage. On the seed stage, the project is still an idea or concept and needs to be developed. On the start-up stage, this idea is already developed into a stage where it allows commercialization preparations. On the early stage, productions and distribution starts. On the later stage, the company represent has a high growth and has the possibility to become famous on the market.[14]

Going further into the financing discussion, we present now an extremely valuable question - “How much is the company worth? And how did you get that value?”

Evaluating a new company is a very tricky process. First of all, being this a relatively new company, there is zero to none information about costs, revenues, and those who have profits, might have gotten them through financing rounds, instead of sales. Because of this, the most used methods to estimate cash flows, growth rates and discount rates are taken apart, since the results would not have been real. In order to get a more precise evaluation, we estimate discount rates for private capital and adjust the value today for the possible future.

Start-ups are major players on the market, representing 95 percent of all U.S. companies. Not only, but these companies also contribute to economic dynamism by injecting competition into markets[15]. They are most of the times innovative, and are willing to change and adapt to the environmental changes, economy challenges and client’s behavior, while older companies are

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[13] On article Business angels, who they really are?, page 9, draft 2008
[14] On article Business angels, who they really are?, page 9, draft 2008
[15] http://www.kauffman.org/what-we-do/resources/entrepreneurship-policy-digest/the-importance-of-young-firms-for-economic-growth

not, since they have a more complex structure, and it would be costlier to change and adapt to face these changes.

The standard approach to valuing companies' existing assets is to use the current financial statements of the company and its history to estimate the cash flows from these assets and to attach a value to them. Since Maxx Supplements has no history and is low on assets, this method should be avoided. Also, there are no revenues, so no growth assets.

Regarding the terminal value, it represents all cash flows of the future plus its maturity value. This is extremely useful when the entrepreneur is determining what will happen in the future, since he is anticipating the value of an asset, and what it represents today. However, since start-ups to not have any history and little to no information to base one, it is extremely difficult to determine, and, most of the times, its results are 90% or 100% or even higher of its value.

Damodaran identified that some limitations of the start-ups evaluation are the likelihood, timing and the characteristics of stable growth[16].

Nevertheless, the value of the aggregate equity of the company can be computed after the entrepreneur estimates the cash flow, discount rate and present value. In the case all equity claims are equivalent, dividing the total amount per the number of equity claims, the entrepreneur gets the value of each of them. This tends to happen most of the time on publicly traded companies, but since this is not a publicly traded companies, how do private companies compute their equity value?

In fact, some of these companies have non-standardized equity claims. This means first they raise equity from private investors, and that the terms to issue new equity can be different on each round. Second, equity claims on cash flows and control rights can have differences, with some claimholders getting preferential rights over others. Third, equity investors often demand and receive rights protecting their interests in each round. The fact companies use different equity claims makes so that the entrepreneur has to calculate both the preferential cash flow, control claims and the protective rights built into some equity claims and not into others in

[16] On article Valuing young, start-up and growth companies: estimation issues and valuation challenges, page 9-10, draft May 2009

order to allocate the value of equity. And this is how the entrepreneur estimates the value of a company based on the discounted cash flow method as advised by Damodaran[17].

There are still other methods, such as relative valuation. In fact, if the entrepreneur compares its company with another similar company on the market, he can achieve this relative valuation. However, it is not easy, since there are many decisive factors around this, such as the below, as per Damodaran[18]:

- What does the entrepreneur scales value to? In order to make a comparison, the details need to be in the same unit/format/measure. Since most of the start-ups generate loss in the early stages, we cannot use Earnings before interest, taxes depreciation and amortization (EBITDA), nor price earning ratios. Even if they have revenues, that could mean they have gotten the investment, but not started the business yet.
- Who to compare to? We could use other young companies, but, they will for sure have the same problems we have regarding their value.
- What is the best proxy for risk? Many of them are market based. Thus, beta or standard deviation of equity returns are often used as measures of equity, but these measures cannot be computed (as explained previously).
- How do you control for survival? Young companies have high failure rates, therefore the entrepreneur should expect the relative value to increase with its likelihood of survival. However, putting this intuitive principle into practice is not easy to do.

It is extremely difficult to evaluate a company with no history, zero sales and inconsistent revenues (mostly because this “revenues” is 90% of the time related to investments), private with little to no assets. In order to estimate the company value, the Venture Capital approach was applied. This approach is based on estimations of the expected earnings or revenues in a near future, which is described in detail below, as suggested by Damodaran[19]:

- Step 1: The entrepreneur begins by estimating the expected earnings or revenues in a future year (two to five years). Usually it is when the investor plans to sell the business or take it to public.

[17] On article Valuing young, start-up and growth companies: estimation issues and valuation challenges, page 11, draft May 2009

[18] On article Valuing young, start-up and growth companies: estimation issues and valuation challenges, page 12-13, draft May 2009

[19] On article Valuing youngs, start-up and growth companies: estimation issues and valuation challenges, page 14-17, draft May 2009

- Step 2: The computed value at the end of the forecast period is obtained when we multiply the expected earnings in the future by the multiple of earnings (PE ratio) that publicly traded companies in the sector trade at, or, Market Value per Share divided by Earning per Share. So, we have:
    - **Equity Value at the end of forecast horizon = Expected Earnings (year x)*forecasted PE ratio (I)**

  The entrepreneur can also use another formula which multiplies the revenues at the end of the forecast period by the revenue multiple at which publicly traded companies trade at to arrive at an estimate of the value of the entire business (as opposed to just equity). Thus we have:
    - **Enterprise value at end of forecast period = Expected Revenues (year x)*forecasted Enterprise Value/Sales (II)**

This last formula is used by companies that will only be profitable in later years, since it is based on estimations of when the company is profitable.

- Step 3: The estimated value at the end of the forecast period is discounted back at a target rate of return, usually high enough to obtain both the perceived risk in the business and the likelihood the company will not survive. Since the latter is high, investors required rates of return tend to be much higher than the discount rates we see used with publicly traded companies. As per below:
    - **Equity Value today = Equity Value at the end of forecast horizon/(1+Target rate of return)^{y} (y is the year of the end of forecast) (III)**
    - For start-ups the usual Target Rate of return is 50-70%
    - Rate decreases as company gets older since the chance of failure gets lower.
    - In this case, since it is a market niche (selling only supplements at the gym), there was no public start-up to compare to.
- Step 4: Investors receive a proportion of the business in return depending on the capital they bring to the company. To estimate the percentage the investor receives, we add the new capital brought in to the estimated value from step 3 (also called pre-money value) to arrive at the post money valuation of the company, as per below:
    - **Post money valuation = Pre money valuation (step 3) + New capital infusion (IV)**

- Therefore, the proportion of equity the Venture Capitalist is entitled to is computed by dividing the capital infusion by the post-money valuation
  - **Proportion of equity to new capital provider = New capital provided/Post money valuation. (V)**

This should be the way to evaluate Maxx Supplements. It seems to be the most reliable and trustworthy method so far, in our opinion, since we can compute all the necessary values, which does not occur with the other evaluation methods. However, even the Venture Capital approach has its flaws. It rewards a more aggressive business plan, where the company will try to sell as much as possible, since it focuses on sales and revenues. While the entrepreneur will try to defend its numbers (based on sales), investors will try to refute it (based on profits, for example). The best way to solve this, is by finding a value in-between. Getting back to the adding the new capital infusion to the pre-money value, the way it works is that this money should stay in Maxx Supplements to be used to fund future investments, but if some of the new capital is used to cash out, the portion that is removed from Maxx Supplements should not be added back to get the post-money value.

Regarding the specificities of Business Angels, and according to a sample analysis by Andrew Wong [20], with a sample of 143 companies, average age of 24,5 months, founded between 1998 and 2000 (most of them) we have the following:

- 99 of 143 are pre-revenue companies;
- The average age of first funding is 10,5 months;
- Most of the companies are funded entirely by angels (total of 157 rounds).

With the below table, we represent the follow up on investments:

[20] On article Angel Finance: The Other Venture Capital, page 9-12, draft January 2002

Table 2 - Follow up on Investments – Source Wong, A., Angel Finance: the other venture capital, 2002:50

Panel A: Number of Follow On Investments

	All Rounds	Angel Only Rounds	VC investment
No follow-on	64	18	46
Follow-on	42	27	15

Panel B: Follow On Percentage	Mean	Median
Percentage of Investors from Previous Rounds	40.25%	25%

Table 2 shows us around 40% of Business Angels follow up on their investments. We can assume these are going as expected, while the rest is either self-sustainable, or has moved to a Venture Capitalist investment. Either way, it means the business is going good and profitable.

The most frequent way of protection from expropriation used by Business Angels is done with contractual provisions. Andrew Wong tells us that common equity is the most prevalent security, used in 34% of all rounds and 39,5% of angel-only rounds[21]. This suits better to smaller investments, while larger investments use preferred or convertible preferred securities. Equity may be used more often by Business Angels because of the higher costs of writing a complex security with a small investment outweigh the benefits (costlier to implement).

The company founders will not receive any salary. This was a tough decision to make, but we believe it is the most correct one we could make. We will use this money to reinvest in Maxx Supplements, thus, reducing the costs on the first year. After, we will start to receive a normal wage as Maxx Supplements becomes profitable. We could only achieve this with the help of our families that will support us throughout these years.

As we go through the project life cycle, we get into the timeline where the investor will want to get is money back (called buy-out). Here he has three options:

- Take Maxx Supplements public with an Initial Public Offering (IPO) of stock;
- Take Maxx Supplements to a level where it will be taken over by a larger organization;
- Sell his part of Maxx Supplements to the entrepreneur.

[21] On article Angel Finance: The Other Venture Capital, page 19, draft January 2002

Our ultimate goal for Maxx Supplements is to sell it in the future to some other market player, after elevating Maxx Supplements to a certain market share. We want Maxx Supplements to succeed and to leave his mark on the history before selling it to a bigger company. This process will take time, effort and much money, but this project has everything needed to succeed. We expect this to happen in 7 to 10 years' time, where Maxx Supplements has already had 3 to 6 years profitable and has gained a solid reputation, as well as sales history, which will be used to evaluate the Maxx Supplements' net worth.

Regarding the investor exit strategy, what was decided is after 6 years, his shares are going to be bought with the company's' own profits. Figure 13 shows the Expected Accumulated Cash Flow of Maxx Supplements:

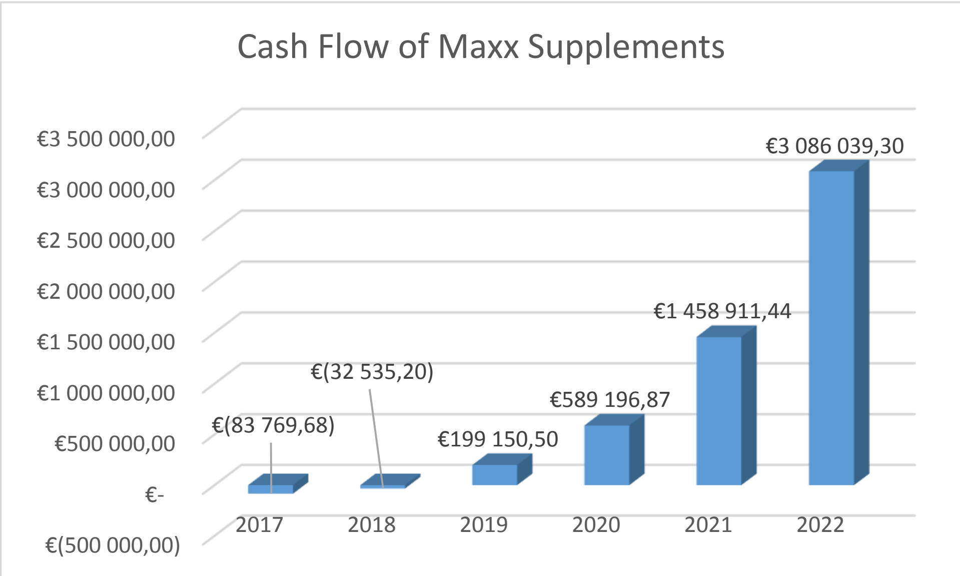

Figure 13 - Cash Flow of Maxx Supplements from 2017 to 2022

Buying back the investor's equity seems to be the best option, since we can keep the majority of the company and when the time comes, sell it to a major player. According to David Teten, a renowned Business Angel and Partner of ff Venture Capital, one of the best performing seed- and early-stage venture capital firms in the U.S that has invested in more than 80 companies since 2008, the Business Angel usually exits after 1 or 2 years with profit[22]. Therefore, he also gets his share of the profits on the third and fourth year and after, he gets his investment back. To further elaborate on this, we can rely on the figure 14 below:

[22] https://www.pehub.com/2015/06/vc-perspective-how-long-before-angel-investors-and-vcs-exit/

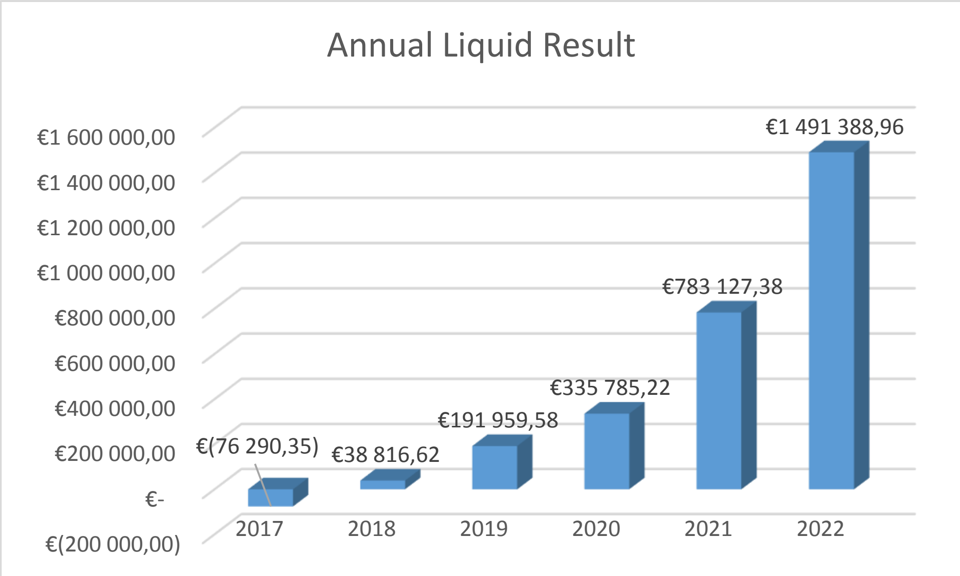

Figure 14 - Annual Liquid Result of Maxx Supplements from 2017 to 2022

As we can see on the above figure, Maxx Supplements turns profitable after the second year, and on the forth is where the investor is planning to buy-out his share of the company. We expect a company growth rate of 62% on 2021 (comparing with 2020) and 64% for 2022 (comparing with 2021). Even though these are great news, we still think Maxx Supplements has even more potential, and that is why we will not sell it at this time.

VI.I Maxx Supplements Financial Strategy

We decided to fund Maxx Supplements with capital supplies (18 000€), which represent the total value of personnel expenses minus the retentions. The remaining was funded through Business Angels (193 522,02€) in exchange of 18,52% of Maxx Supplements' equity.

Our main goal was to leverage Maxx Supplements in a balanced way. We found the best way to do it was through abdicating our wages on the first year. By doing this we are using this money on Maxx Supplements, and when Maxx Supplements finally has the financial capacity to repay us it will. This happens in order for us as entrepreneurs to avoid being financially overloaded in the short-term.

As to the Business Angels' investment, we decided salary retention would be the most suitable way to finance our remaining capital needs. By financing ourselves with a Business Angel, we will reduce our risk as entrepreneurs as we have the backup of a more experienced entrepreneur with years as a top manager and in the business; instead of investing 100 000€ of our own money, we will use another funding source.

Similar supplement businesses usually use the same strategy as us to fund themselves, however instead of using capital supplies they fall on family, friends and fools' loans and sometimes crowd funding. We decided despite crowd funding is turning into a trendy way of funding, it did not reach its potential in the national supplement brands. Eventually in the future, these supplement brands tend to rely on Business Angels and later on venture capital. In our country we do not see this happening due to the business volume not being big enough.

Now, why did we choose Business Angels over Venture Capitalists? Well, below is a table 3 briefly compares Family, Friends and Fools (FFF), Business Angels (BA) and Venture Capitalists (VC):

Table 3 - Family, Friends and Fools vs Business Angels vs Venture Capitalists

	Capital Invested	Entry Timming	Risk Mitigation/Control
FFF	Up to 50 000€	Day one	Nothing
BA	Up to 1 000 000€	First year	Common Equity, Part of the company sold to others
VC	From 1 000 000€	First year or when the BA leaves	Board Controls, Staged capital infusions, Contractual clauses

We opted by the Business Angels alternative, because, as per table 3, they offer not only money (which in this case falls in the category of “up to 1 000 000€”), but also expertise. In fact, both Business Angels and Venture Capitalists offer it, so why did we chose Business Angels? Business angels most of the time work closer to the entrepreneur, providing him with a more specialized and personalized support, which creates a better relationship between both, and this works really well in start-ups since we (entrepreneurs) need all the help we can find. Since we are talking about a small start-up, there is no need for a board, or committee, thus reducing the costs on staff. Business Angels require equity has a pay-off, as opposing to Venture Capitalists, which ask for board control, contractual clauses and, as a way of risk mitigation, staged capital infusions. In this project, we negotiated with the Business Angel in order to stage the investment as well, since it gives us more ambition to achieve our goals.

We requested help from a Business Angel at the start-up stage, since all the previous work had been done already, and was later presented and approved by him.

As per the previous chapter VI of this thesis, we will explain below, how much money we needed from our investors, and how much of the company we needed to sell to get it:

So, bearing in mind two big companies working in this market, we got the following:

- Muscle Pharm with Enterprise Value to Sales of 0,2[23]
- Glanbia with Enterprise Value to Sales of 2,05[24]

The medium Enterprise Value to Sales, in this case, is **(0,2+2,05)/2 = 1,125 (VI)**

In this case, we will compute our value in 5 years, and since our revenues are 7 528 835€, we multiply it by 1,125, and thus achieving 8 469 939,38€.

Since we do not have any debt and with a target rate of return of 50% (agreed with the investor) our value today is = **8 469 939,38/(1+0,5)^5 = 1 115 382,96€ (VII)**

This means our Post Money Valuation is **1 115 382,96€ + 253 522,02€ (which is the capital infusion) = 1 368 904,98€ (VIII)**

Therefore, the investor will have **253 522,02/1 368 904,98€ = 18,52% (IX)** of the company.

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[23] http://www.marketwatch.com/investing/stock/mslp/profile
[24] http://www.marketwatch.com/investing/Stock/GLAPF/profile

We decided to get from the Business Angels around 250 000€ in 3 rounds, and every time we reach our goal within the deadline, we get another round of financing. This keeps us motivated to get the best results out of this business.

The first round will be used to finance our first 4 months. The rest of the year will be financed by our own cash flows (revenues and salary retention). The second and third round will be used to stabilize the cash flow and for the warehouse investment, as well as two other vehicles. All in all, the funding rounds will as per below:

- 211 522,02 € in the first year
- 30 000 € in the second year
- 30 000 € in the third year

If we are able to sell a total of 381 150 units (pre-+ post-workout) on the first year, we will get 30 000€ at the start of the second year. This money will be used to pay for the warehouse, and to cover some of our illiquidity. Following the same purpose, if we sell 609 840 units on the second year (with the addition of two gyms), we will get another round of 30 000€, which will be used to buy two more vehicles and pay for everything associated with them.

VII. Economic and Financial Viability

VII.I Financial Indicators

In our second year in business we expect to have a growth rate of 62% followed by a growth rate of 102% in the third year. In order for this to be achieved we will have to grow from 3 gyms in the first year to 5 and 10 gyms in the second and third years respectively. We find this estimate to be really modest, since dozens of gyms have opened in Lisbon in the past few years and the supplement trend is increasing.

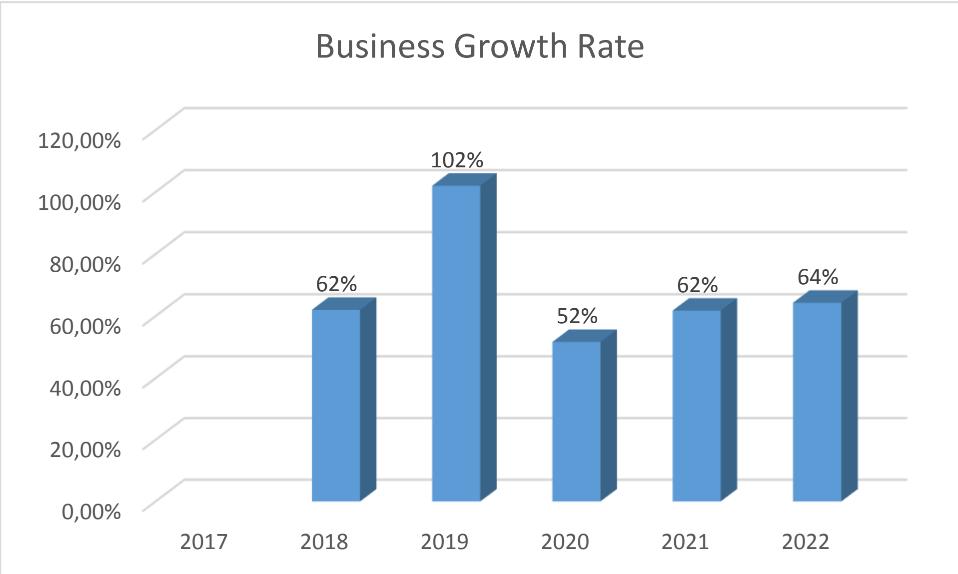

Figure 15 - Business Growth Rate of Maxx Supplements from 2018 to 2022

Regarding the Return On Investment, it is in the second year that it becomes positive, thus the project should only be undertaken if we have access to the second year projections. Before this, the costs of the project exceeded its gains, therefore the project is only viable from the second year and on.

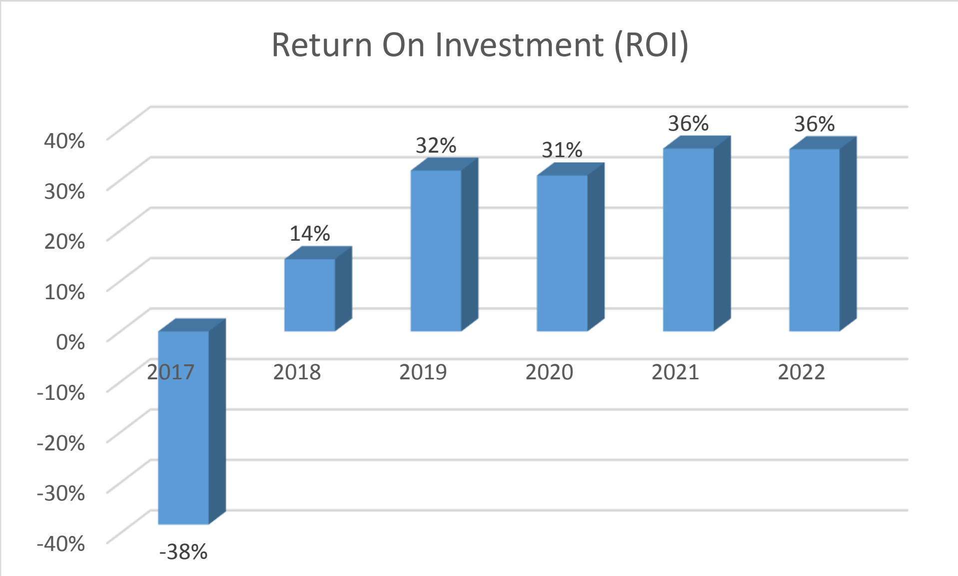

Figure 16 - Return on Investment (ROI) of Maxx Supplements from 2017 to 2018

Regarding Return on Equity (ROE), we present positive values in every year, except the second. This means the company generates high profits with the money we raised at the beginning. We exhibit high ROE values in every year, given that a ROE of 10% is considered high in a company. Nevertheless, being Maxx Supplements a start-up these values are expected to be higher, since high growth companies expect a higher ROE.

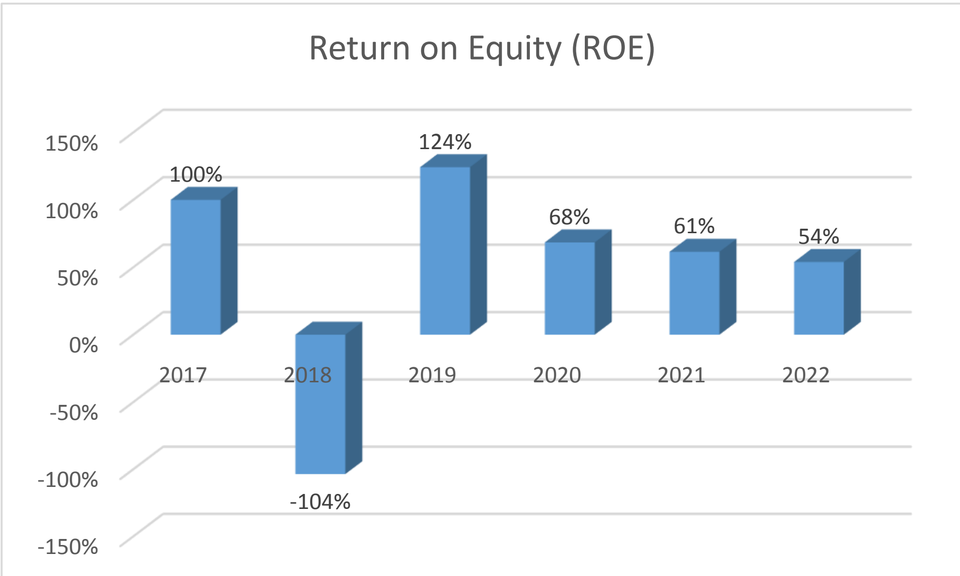

Figure 17 - – Return On Equity (ROE) of Maxx Supplements from 2017 to 2022

Our Financial Autonomy presents negative values in the first 2 years of the project, changing to positive the next 4 years. This means that the part of assets financed by equity does not exist since our Equity is negative. This happens due to the fact that we used capital supplies to fund our company and did not add any equity in year 0, because we committed not to take anything from the company in year 0. Equity starts being positive when net income is big enough to understate negative net income from previous years. This can be seen on figure 18:

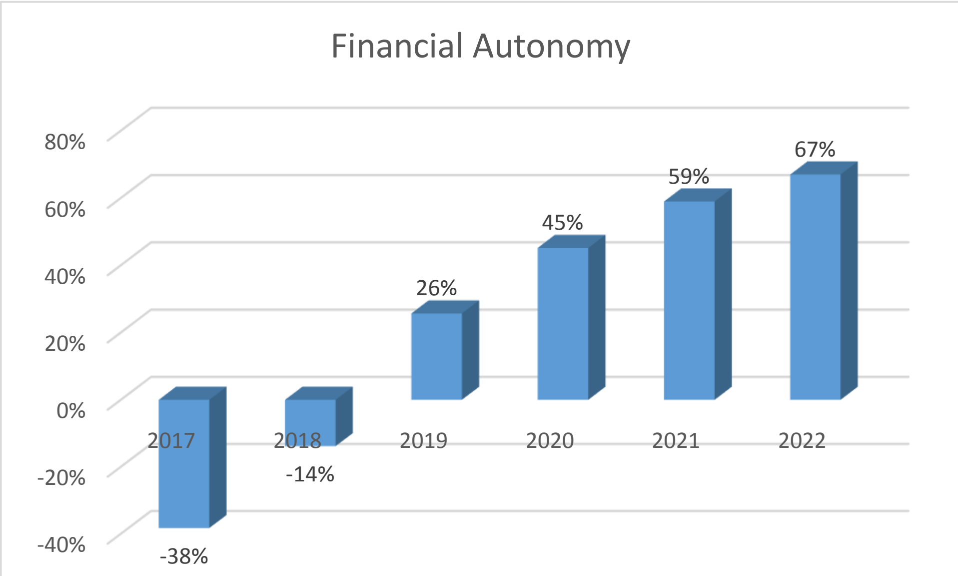

Figure 18 - Financial Autonomy of Maxx Supplements from 2017 to 2022

Concerning our Financial Leverage ratio, it is reasonable. We present a value of approximately 100%, which means we are financially stable and do not need to worry about bankruptcy. This also means we are using the borrowed money in full, which can be seen on figure 19:

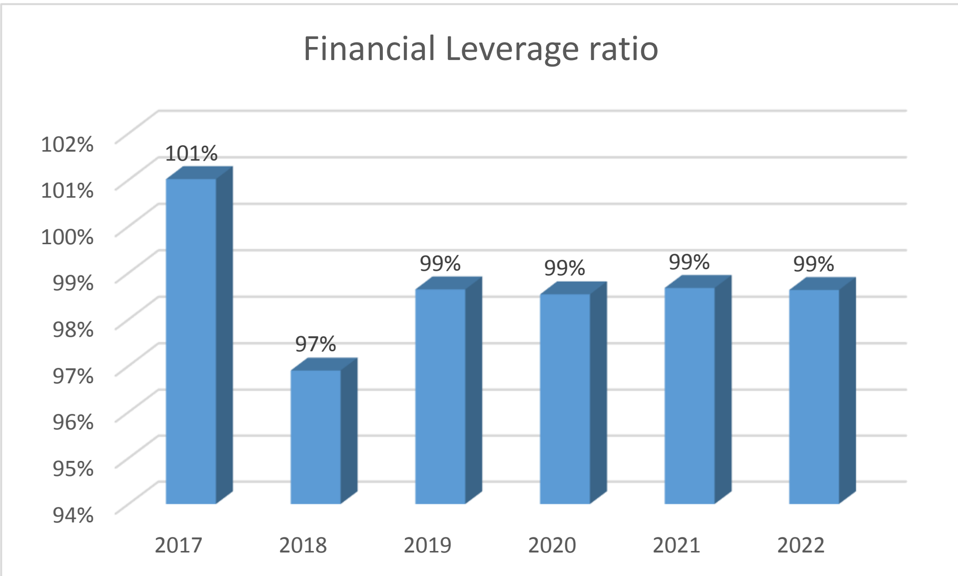

Figure 19 - Financial Leverage ratio of Maxx Supplements from 2017 to 2022

VII.II Evaluation

Start-ups evaluation is a delicate subject since most of them have little or no revenues, no history, dependent on private capital, based on owner saving and private equity, and because of that, the usual method used to estimate cash flows, growth rate and discount rates either do not work or yields unrealistic numbers. The fact that start-ups are risky and unreliable, where most them do not survive and go bankrupt, is considered in the valuation, therefore, all the following numbers are just estimations. The difference between these estimations and other companies' estimations (companies with background) is that they have something to base their numbers on, and in this case, it is just base on market numbers and not company's performance.

Since Maxx Supplements has 0 sales and 0 assets, all these numbers are based on assumptions, and we based on the following parameters:

Table 4 - Financial Assumptions of Maxx Supplements

Interest rate of risk-free assets - Rf	0,80%
Market risk premium - (Rm-Rf)* ou p°	10,00%
Beta similar companies	100,00%
Growth rate of cash flows in perpetuity	0,03

Concerning the Free Cash Flow of Equity on the first year, we have a negative value. This is due to the fact that on the first year, we will not have any profit, as happens with most of the companies. However, on the second year, we have 51 234,48€ that can be paid to the equity shareholders after all expenses, reinvestment and debt repayment. These values are present on the next page (figure 20).

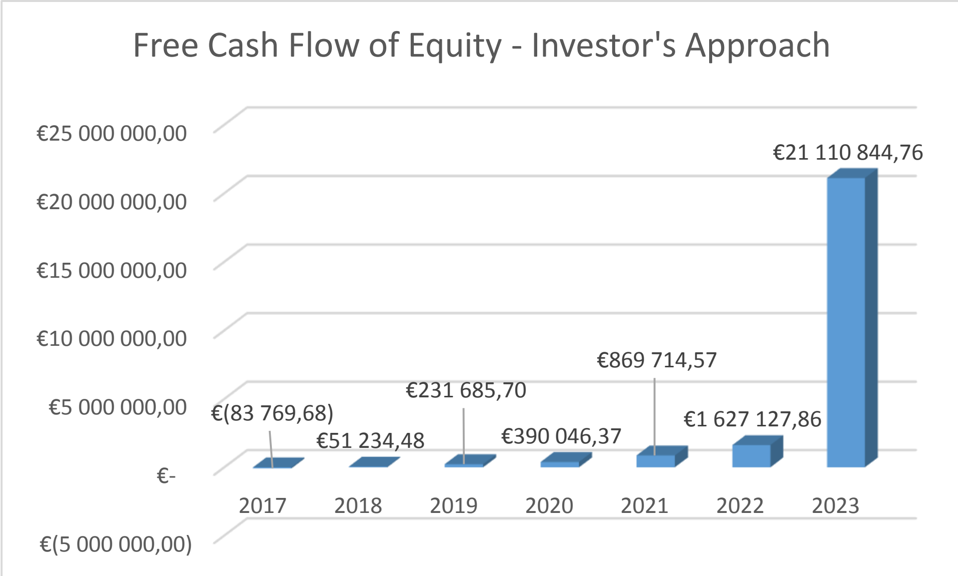

Figure 20 - Free Cash Flow of Equity of Maxx Supplements from 2017 to 2023– Investor's Approach

Regarding the Net Present Value (NPV), its value is 13 320 902,61€. This means our project is profitable and will influence the investing decision.

About the Internal Rate of Return (IRR), in our case there is no possible IRR. Because inflows always outweigh outflows, thus there are no negative net cash flows.

Regarding the Payback Period, we will be able to get our initial investment back in the first year. That is a terrific indicator that our project has a really high rate of return.

In the first year the net amount of cash that is generated for the company is negative, and becomes positive in the second year, which is encouraging, since this is our crucial year. This can be further discussed on the next page (figure 21).

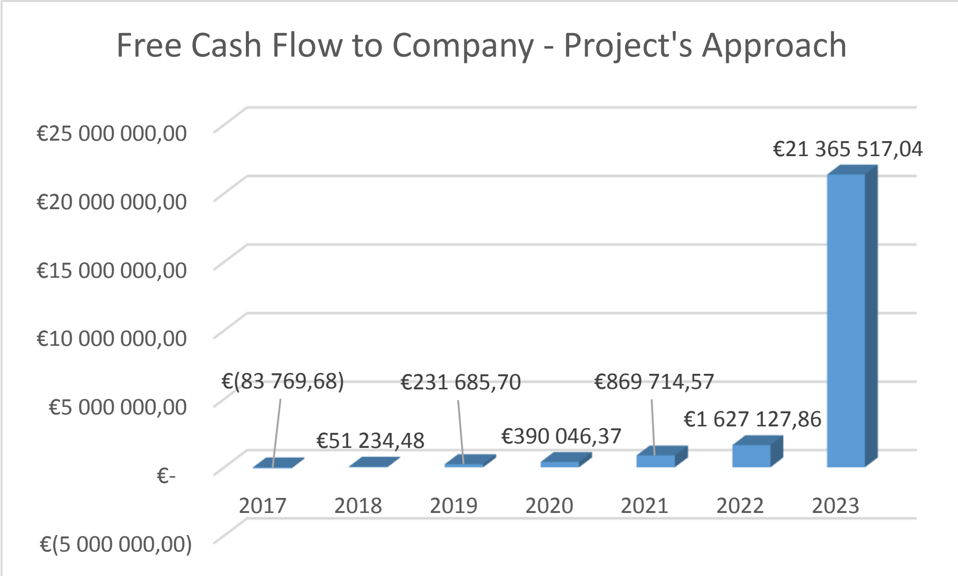

Figure 21 - Free Cash Flow to Maxx Supplements from 2017 to 2023 – Project's Approach.

The weighted average cost of capital of Maxx Supplements stays at 11% throughout the years, which is a good sign for our company, because it means a low risk and an increase on the Maxx Supplements' valuation.

The value of the whole project today (NPV) from Maxx Supplements' point of view is equal to 13 516 630,16€.

The Internal Rate of Return (IRR) from Maxx Supplements' approach is 220%, which means our project has a consistent return to investors.

VII.III Sensitivity Analysis

In order to analyze the variation of our estimations, we tested the impact of 50% and 10% variation of the quantity sold on business volume, Internal Rate of Return (IRR), Return on Investment (ROI) and Return on Equity (ROE) of Maxx Supplements.

When the impact of 50% variation of the quantity sold is simulated we can observe that, as in the other scenarios the Internal Rate of Return (IRR) is Non-Existent, as per explained on the chapter VII.II. The Return on Investment (ROI) decreases dramatically in the -50% scenario and increases in almost the same proportion in the +50% scenario. Finally, the Return on Equity (ROE) increases in both scenarios.

When simulation the 10% variation, the Internal Rate of Return (IRR) decreases in the -10% scenario and increases slightly in the +10% scenario. Regarding the Return on Investment (ROI), it decreases marginally in the -10% scenario and increases in the +10% scenario. About the Return on Equity (ROE), it increases in both scenarios, but much more in the +10% variation.

Starting with the 50% Variation, on figure 22 and figure 23:

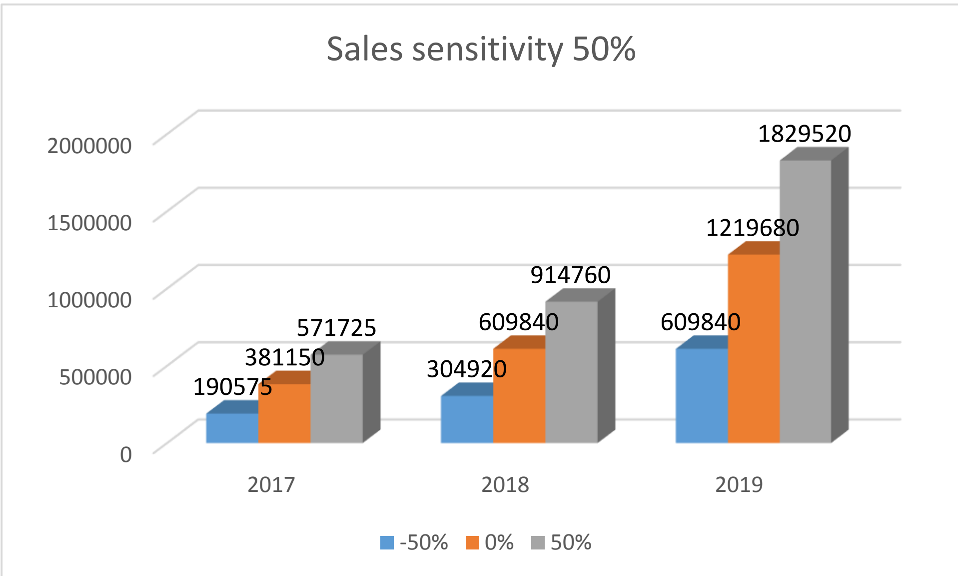

Figure 22 - Sales sensitivity 50% of Maxx Supplements from 2017 to 2019

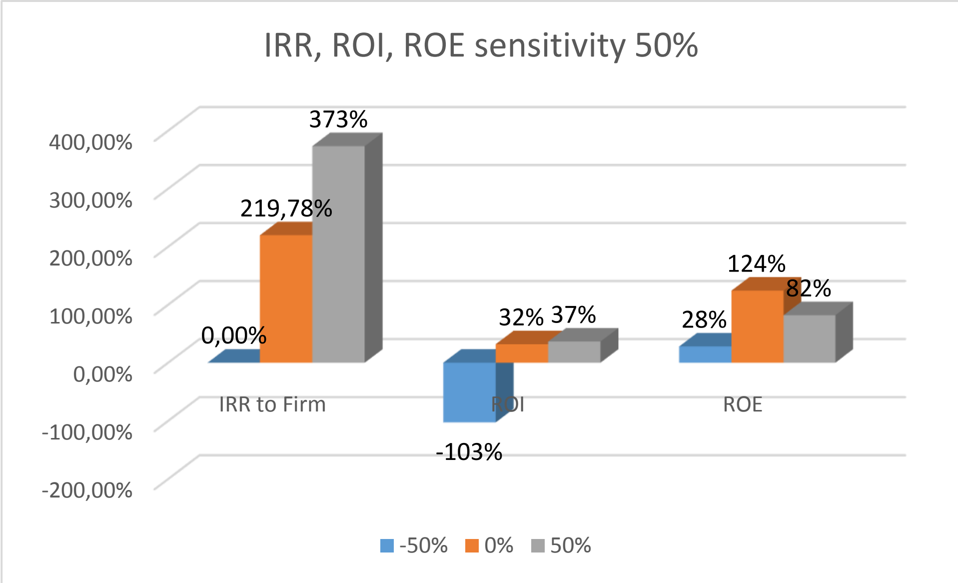

Figure 23 - IRR, ROI, ROE sensitivity 50% of Maxx Supplements

As we can see on figure 22 and figure 23, a variation of 50% on sales it makes a noticeable difference. Even on the worst case scenario, the results are good. An IRR to company of 0% relates to the fact with the initial investment, if we sell 50% of the expected, we will not have a positive IRR. A ROI of -103% is a downer for this investment. Regarding the ROE, 28% is a good result.

When analyzing the best case scenario there is an increase on the IRR to company to 373%, a small increase on the ROI to 37% and a small decrease on the ROE to 82%. However, numbers do not seem correct. How come, if Maxx Supplements produces more and sells more, has lower ROE? Since Maxx Supplements will work with a buy strategy and not make strategy, it will have far greater costs in production, therefore, it will need more money, that it does not have. In this case, Maxx Supplements would need a bigger investment, making so it had to issue more equity, which means the overall equity value would be higher, but at the same time, lower for each one of the shareholders. Also, it would have to pay more taxes per profit, which would lower profits overall. Even though the project seems more attractive (with better Rates of Return/Revenues), the fact it needs more money to produce, as well as the taxes it has to pay for being profitable, it would have a lower ROE. Also, 10% of the total sales go to the Treasury Security Reserve, which is used to make the company running if clients do not pay.

Now, analyzing the 10% variation, on figure 24 and figure 25:

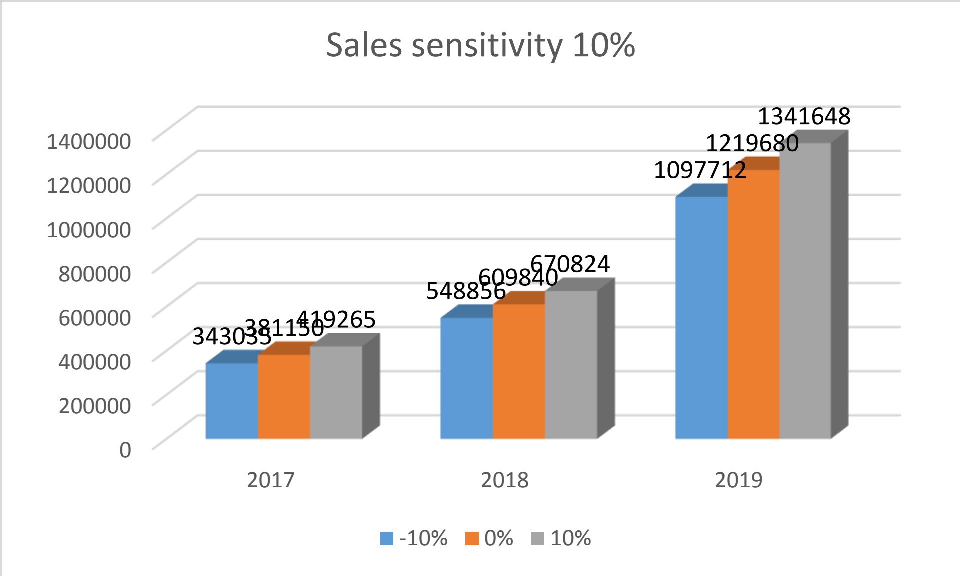

Figure 24 - Sales sensitivity 10% of Maxx Supplements from 2017 to 2019

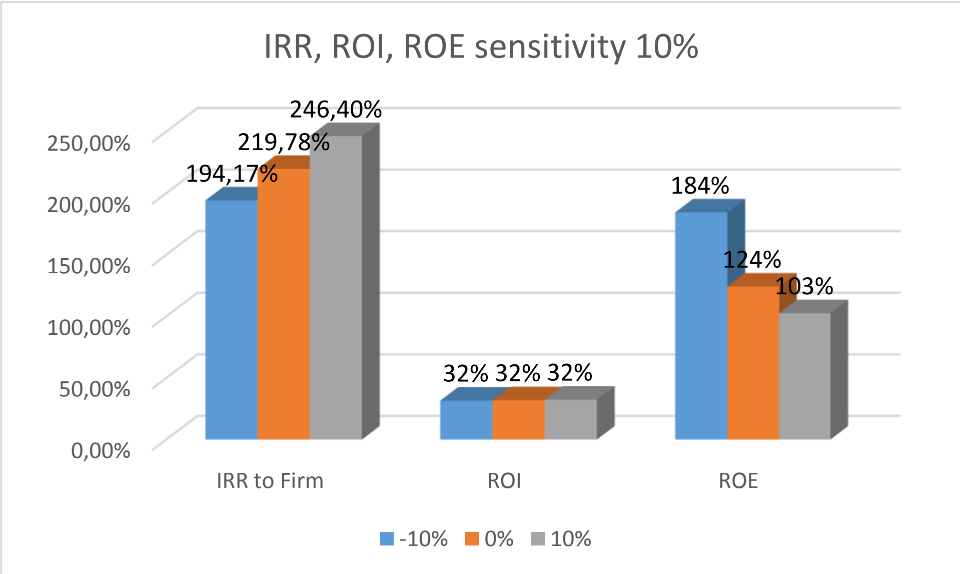

Figure 25 - IRR, ROI, ROE sensitivity 10% of Maxx Supplements

When analyzing figure 24 and figure 25, for the 10% variation, the results are close to the projected values. An IRR of 194,17% and 246,40% for the -10% and +10% respectively. Regarding ROI, a 32% for the -10% and +10%. For the ROE, 184% and 103% for -10% and +10% respectively, are related to the same issue of the -50% and 50%.

VIII. Investment Decision

As previously analyzed on chapter II, the sports supplement market has been increasing over the last few years. Given the fact there is not an absolute leader, no substitute products, low supplier and consumer bargain, this market can be good to invest in. There is a lot of competition, but there is still a gap between consumer supply and products delivered from these companies, since almost every brand sells their product in high quantities, making it riskier for customers. Consumers that do not want to invest large amounts have very few alternatives to the products available. With our product, we expect to fill this gap and deliver to the consumer a cheap alternative. Since this new idea of individual doses is relatively new, there is low competition, which a great opportunity for Maxx Supplements to penetrate the sports supplement market.

When analyzing our project viability, more precisely Net Present Value and Internal Rate of Return we can get some conclusions, such as project's profitability. When looking at our NPV we see it is **13 516 630€,** and we can conclude this is a financially viable project.

Furthermore, and by the IRR analysis we see we have a **219,78%** Internal Rate Return, which means it has a high growth rate. With this analysis we can conclude this is a good project to invest in. In order to create our business, we will finance our project with Capital Supplies and investors (Business Angels). We expect to raise **211 522,02€** from these sources to be able to maintain Maxx Supplements running for the first 3 months. We will then start to sell our product and reinvest the revenues to generate enough profit for our sustainability. Later on we will invest in a warehouse and at the third year on more distribution. At the end of the same year we expect a positive income of **191 960€**. And by the following years our profit will be much higher, since the costs are similar and the income higher.

It is important, however, not to forget that a business plan is a complex study that requires deep analysis and reflection from the entrepreneur. This does not mean a business plan is 100% reliable, since it is not possible to predict exactly how an investment will turn out in just a matter of months. The entrepreneur and investor should take in consideration that many factors (both internal and external) may affect the project if this was to be implemented.

IX. Conclusion

This thesis was done with the intention of analyzing, discussing and concluding about a very specific market niche viability. After this project, it was clearly noted this industry still has a lot of potential, and this one in particular could be a very good business to invest in. Without the need of a large amount of investment, high potential of growth and a market that is growing each year, it can attract many investors, making it easier to stablish in the market. Truth be told, the competition in this area (Supplements) is enormous, but at the same time, only a few are investing in vending machines, hence why this project is extremely viable. It is obvious that this project has potential, which was shown throughout this thesis. We opted by gathering money through Family, Friends and Fools, and after, we got the remaining money with the help of a Business Angel. This process is not easy, but with a good project and the willingness to win, we were able to get it going. This project was extremely satisfying, since it allowed me to explore part of the Financial Industry, Investments and Project Management.

Regarding the project itself, our main goal is to build Maxx Supplements from the ground with the help of experienced Business Angel. After some years buyback the part of the company that was acquired by the investor, and later on, sell it to a bigger player. This thesis proves that the sports supplement market is a very good market to invest in. Even though this project is risky, the returns are good, and with the experience and money of a Business Angel, and all the data mining of this project, I am sure it would be profitable. Please keep in mind all these values are estimations, but the expected value are (on the projects perspective vs investors perspective):

- Net Present Value of 13 516 630€ vs 13 320 903€
- Internal Rate of Return of 220% vs 220%
- Around 30% Return On Investment for the third to sixth year
- Return on Equity of 124% on the third year and around 70%~60% for the remaining
- Growth Rate of around 60% for all years except the second (with 100%)
- Positive Cash Flow of 199 150€ on the third year

X. Assumptions

- Quantity sold/Production – Assuming we get a deal with just 3 gyms initially (with an average of 2000 members/day), with an average of 200 doses (post-workout) sold per day. (Percentage of adherence to the product =200/2000=10%). Assuming we get the previously stated deal, with an average of 150 doses (pre-workout) sold per day (Percentage of adherence to the product =150/2000=7,5%).
- (Remark: Virgin Active and Holmes Place have an average of 5000 members per club. Assuming 2000 frequent the club on a daily basis and 10/7,5% acquire our product).
- Days when the clubs are open (363 per year. They close only at Christmas and New Years)
- End Price of a dose (1,5€ – simplified change in vending machines).
- Every 2 years, we renegotiate the price of our raw materials and subsidiaries, since we buy them in larger quantities. (4% first two years and 6% next two years).
- External Services and Supplies:
- FSE: Specialized Works– 5000€ designer (Site development/Package/Car and Vending Machine stamps/Business Cards/Logo)
- Advertisement – first year – Car (250€) + Machinery (100€ each) + Sales Promoter 200€ per day for 3 times a week in 3 stores (200*3*156)
    - Other years - Machinery (100€ each) + Sales Promoter 200€ per day for 3 times a week in X stores (200*X*156)
- Fees –75€/hour *7 hours/month
- Warehouse – Rent beginning in the second year – 1000€ per month
- Fuel – Average 1100 km's monthly
- Rent per month – 150€ per machinery; machinery costs 10% of the sales per month (to the gym)
- Car Insurance – 41,46€ per month (VW Polo comprehensive car insurance)
  Third year – 41,46€ * 3 cars per month
- Communications – Vodafone: 48€ first number + 20€ per additional number
- Certification's Brand Initial Expenses – (123€ brand + 123€ logo) + 123€ per year to brand renovation
- Representation expenses – (30€ per person) once per month
- Treasury Security Reserve – 10% of annual sales volume
- Packaging costs – 0,05€ per dose
- Price per dose – Price per dose rounded annually to facilitate our costumer's payment
- Car – We will use our own vehicle to distribute our product
- Third year – Investment in two more vehicle
- Initial Investment:
- Car
- COGS (25% - First 3 months)
- Working Capital
- ESS (25% - First 3 months)
- Financial Sources: Capital Supplies (Salary – retention)
- Investors – Remaining value

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