BioAppetito

ORGANIC FOOD STRAIGHT FROM THE MOUNTAINS

Business Plan

Business and Project Management project

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CHAPTER 1: INTRODUCTION AND STRATEGY OUTLOOK

This chapter introduces the idea of the business comprehensively and slowly paves a way to develop a better understanding of the idea with the help of certain analyses performed.

1.1. GENERAL IDEA OF THE BUSINESS

Who would not want to imagine being in small cottage in the heart of the mountains, enjoying a hot herbal tea mixed with hand-picked forest spices or a dish made with ingredients coming directly from the garden? We want to bring the tradition of the Italian mountains to your home, letting you try the freshness and goodness of these products whenever you want.

We want to offer an organic, chemical-free, Italian, and healthy food. Nowadays more and more people are concerned in eating in a healthy and tasty way while preserving the environment. Moreover, the life of an increasing number of people is becoming busier and, despite their need to eat consciously but with taste, the time they can devote to cooking is lesser. We want to address these problems, while preserving the quality, combining health, speed of preparation, attention for the environment and Italian traditions.

This is how we want to pursue our goal:

We want to offer a wide range of products that are organic and chemical-free. Our suppliers are small holder farmers in the mountains of Trentino, Italy, so that we can both sustain and preserve the Italian traditions and offer the higher quality to our customers (providing them products that are grown and harvested in places where there is little pollution).

We offer both unprocessed products (like seasonal fresh vegetables and fruits and cereals) and precooked products (like prepared mixtures for risotto and soups). Our precooked products are cooked in our laboratories by expert chefs, starting from our unprocessed products and creating traditional meals ready to be enjoyed in few minutes (simply by heating them). All our recipes pay attention to seasonings and cooking methods, to satisfy even the most health-conscious customers who search for purity and simplicity.

We also offer a great variety of spices and healing herbs harvested in the mountains. They can be used to flavour dishes or to create natural and tasty herbal teas. Also, the more experienced customers looking for original ingredients will be able to find original ideas.

And finally, we plan to organize some events in our laboratory, where people will be invited to taste our products and propose new ideas for recipes and spices mixtures.

1.2. STRATEGIC ANALYSIS

Strategic Analysis is a series of steps that include exploring an organization's environment inside which it works. It frequently highlights the important data about assessment and development of the environment inside and outside the organization and uncovers potential opportunities and threats that should be considered to devise a successful way for the business.

To perform this analysis for our business, we use PESTEL, SWOT and Porter’s Five Forces Model in the following sections.

1.2.1. PESTEL ANALYSIS

External analysis is the thorough examination of the environment our company is going to be placed in. It includes putting a light on macroeconomic, political, social, global, and technological factors that might affect our company in any way.

PESTEL, which evaluates the Political, Economic, Sociocultural, Technological, Ecological and Legal landscape of the industry, is a highly effective analysis tool to help during the process of developing a strategic plan for the business. PESTEL analysis considers the broad environmental context that affects the business and the changes that occur in this context.

Political and Legal Factors:

Political factors tell us about how and to what extent the government can intervene and influence our industry. Adjacently, Legal factors include specific laws and legal regulations which should be known comprehensively to run our business. Since there is a noticeable overlap between Political and Legal factors, we are going to discuss them together for the ease of understanding:

In 2010, the organic logo was introduced and since 2012, it is deemed necessary in the packaging of organic food produced in the EU. The Ministry of Agricultural, Food and Forestry Policies and ICE which is the Agency for the promotion abroad and internationalization of Italian companies, in 2015, has created a unique Made in Italy distinctive sign "The Extraordinary Italian Taste" which is aimed at promoting the culture and values that represent the strength of the national agriculture and food chains in the world, through certain information campaigns and communication activities.

European Union Commission has always been performing efforts to sustain organic production as a fundamental aspect to preserve the environment and protect biodiversity.

The Common Agricultural Policy (CAP) is a set of rules which combines social, economic, and environmental approaches on the way to achieving a sustainable agricultural system in the EU. CAP aligns agriculture with the European Green Deal which aims to create an inclusive, competitive, and environmentally friendly future for Europe. Recently in March, the EU commission presented an action plan for the development of organic production whose main objective is to stimulate the production and consumption of organic products, to ensure that by 2030, 25% of agricultural land is destined for organic farming and that organic aquaculture records a significant increase. Later in May, the strategies "A Farm to Fork" and “Biodiversity 2030” were presented as an integral part of the Green Deal. They are based on the principle that food, environment, health and agriculture are connected matters and they must urgently become sustainable and operate within the ecological limits of the planet. The G20 project will have to lay the foundations for a sustainable recovery from the pandemic crisis generated by Covid-19. On the impulse of the Italian Presidency in 2021, it will focus on three pillars of wide and interconnected action: People, Planet, and Prosperity. The Italian Mountain Lab project plans to promote the establishment of a high level training and research laboratory for Italian mountain areas, promoting national and international collaboration for the expansion of activities regarding research, experimentation, technology transfer, training and support to local institutions for the development and valorization of mountain areas.

The EU commission has not only issued standards related to products that can be used in farming of organic products but also formulated a pesticides database guiding about the correct usage of pesticides. There are certifications for organic and quality products: Council Regulation 834/2007 is

setting out the principles, aims and overarching rules of organic production and defining how organic products should be labelled (this regulation also shows how and when the EU organic logo can be used). Council Regulation 178/2002 is all about self-control workshops, general food hygiene and the HACCP (Hazard analysis and critical control points) system. Updated versions about when and how "Qualità Trentino" and "Trentino" logos can be used are also posted. About the use of the "Made in Italy" logo, only products designed, manufactured and packaged all in Italy can bear the 100% Made in Italy brands.

New organic legislation will enter into force on 1 January 2022, further to the postponement of its implementation for a year. The rules will reflect the changing nature of this rapidly growing sector. The new regulation is designed to ensure fair competition for farmers whilst preventing fraud and maintaining consumer trust through simplified production rules, strengthened control system, more organic and production rules and uniform approach for lesser risk of accidental contamination from pesticides.

Economic Factors:

Economic factors are determinants of the economy's performance. These factors may have a direct or indirect long term impact on the company, because it affects the purchasing power of consumers. As a result, it can also affect the pricing of our products and services.

Growth rate is an important factor. Even if we just passed through a difficult period, the economy of organic food is increasing. It is important to note that during the acute phase of the pandemic, in spring 2020, purchases of organic products increased by 11% which is a signal that when there is a strong risk to health, attention to organic products increases. According to the 2020 BioBank report, supermarkets have become the leading sales channel for organic. Almost half of the sales of organic products (47%) now take place in large-scale distribution, with a remarkable growth, if we consider that in 2011 only 27% of purchases were made in a supermarket. The turnover for supermarkets is around 2 billion euros in 2020. As a result, sales in specialized stores drop in a mirror-like manner, from 45% nine years ago to 21% today. Also, the number of organic food e-commerce companies has increased with a large number.

Data about employment of our market matters here as well. According to ISTAT (Italian National Institute of Statistics), on the total, 44% people in Italy are employed while the unemployment rate is 9.2% and it is forecasted to increase by 2% in the following years.

The gross domestic product (GDP) measures national income and output for a given country's economy. The GDP value of Italy represents 1.67 percent of the world economy which is a good percentage. In addition, Italian living standards have a considerable North–South divide: the average GDP per capita in Northern Italy significantly exceeds the EU average, while some regions and provinces in Southern Italy are significantly below, while In Central Italy they are instead average.

Prices of organic food products are of course more expensive than the normal ones. A study on food prices conducted in Italy reported that in 2018, one litre of organic milk cost 0.60 cent more than the normal equivalent. The price difference was greater for other articles: on average, organic wheat cost nearly double of non-organic wheat. The average retail price for organic fruits and vegetables is 50 to 200 percent higher than the conventional one. Generally, consumers pay a higher premium for vegetables than for fruit (especially carrots, onions, garlic and potatoes). Prices are slightly higher

in specialized shops than in hyper/supermarkets, but this is not necessarily the norm, and in some cases the quality differs. Prices are highly dependent on seasonal factors - this is also true for conventional produce - though most specialized shops tend to avoid stocking off-season produce, both for commercial and ecological reasons.

Sociocultural Factors:

This component addresses the attributes, standards, customs and upsides of the people inside which the company works. These components are particularly significant for marketing managers while focusing on specific market segments.

Age is an important factor which has an effect on our business. Almost 40% of the population in Italy is aged from 25-54 years which is the greatest chunk of the people. Moving from the perspective of a producer to that of the consumer, the general assumption about mountain produce in the mind of the consumer is that of high environmental compatibility with a sense of purity and traditional value and high product quality. A study carried out in Italy to understand the perception of consumers towards these products showed that 86 per cent of the consumers interviewed were in favour of a distinct labelling system for mountain products. All said, the way to create a sustainable way of life for these mountain communities is to diversify their product base and develop niche activities like agro-tourism, for example. We also observed the eating habits of people. More and more people try to include fruit and vegetables in their meals. It is also observed that people in the North tend to include more fruit than people in the South. Consumers in Italy have started focusing more on healthy food, prioritising quality over quantity, and preferring to buy less but more premium and natural food. In addition, Italians consider organic products to be sustainable and environmentally friendly. According to Anabio, the association that represents farmers of organic products in Italy, consumers are willing to pay 15% more for an organic product than for its standard counterpart. Also, after COVID, consumers and agro-food markets are focusing more on healthier and more sustainable patterns. Recently, European Institute of Innovation and Technology (EIT) Food Trust Report surveyed consumers in a few European countries to measure the trust local people have in the food system and their confidence in food products. This TrustTracker study examined the responses of regular grocery shoppers and retail consumer’s confidence in food product integrity — measured and marked by a combination of five factors: taste, safety, healthiness, authenticity, and sustainability. Since 2018, people’s confidence in food safety and regulation has improved to 8% overall.

Technological Factors:

The element of technology has been a great influence in any industry. These factors pertain to innovations in technology that may affect the operations of the industry and the market favorably or unfavorably. Technology is vital for competitive advantage and is a major driver of globalisation. In the organic and local food industry, there is a range of technological issues that should be taken into consideration, starting from production and packaging to effectiveness of product delivery. Organic farmers are not able to utilize the same technology as conventional farmers like pesticides and genetic engineering to increase yields. As a result, it is important for entrepreneurs to focus on saving costs and time by using the technology available and gauge the implications that may arise.

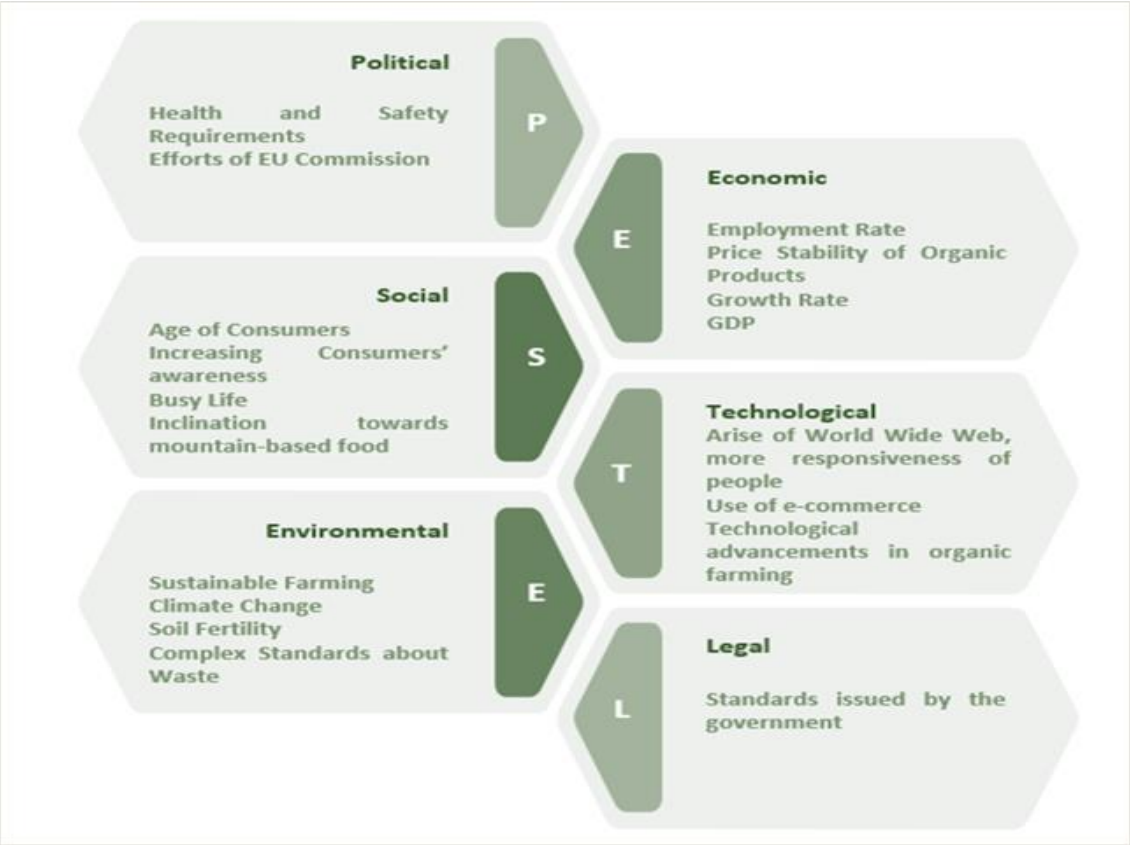
Our company, which wants to produce dried products, can adopt traditional drying systems but to increase production it can use new generation machinery that allows to reduce drying times while maintaining the quality of the finished product. Technology is also important in all those processing stages that can be automated by reducing time and simplifying processes, all without negatively affecting the quality of what we produce. An example is the use of machinery that automates the packaging of products. Then we have e-commerce which gives us an opportunity of having a highly efficient e-commerce site which will be quite favorable for us. World wide web also gives the possibility to the people of being more accurate about the huge importance of the environment and for this reason it helps the people to understand the less impact that an organic farm has on the environment and it gives the possibility to the people to get more awareness about the quality of food and the composition of the product. Social networks are on the rise today and they can direct the habits of the people positively and negatively.

Ecological Factors:

Ecological or Environmental factors consist of the ecological and environmental aspects such as weather, climate change and other environmental offsets which can make our business accept the responsibility of promoting sustainability and becoming environment friendly. Italy is among the ten greatest worldwide producer countries and, among the European countries, ranks third place in terms of land under organic farming. These factors have become significant because of such stats and the increased awareness of consumers about sustainable environment and the rising scarcity of organic food and that too produced in mountains.

These factors consist of more complex standards about the waste and new measures to adopt for fighting against global warming. Moreover, mountain territories are particularly sensitive to climate change. In the Alps, the temperature rise of 1.3°C over the last century has reduced the ice cover by half and due to the lack of effective reductions in greenhouse emissions, by 2100, the additional thermal increase of 3-4°C could lead to the disappearance of glaciers below 3500m and put the availability of water in the summer, biodiversity, forests and winter tourism at risk. The Alps may become a workshop for the application of best practices for climate change mitigation, adaptation and resilience facing new environmental challenges. Climate change will challenge our capacity for adaptation and it will result in the reduction of biodiversity, problems about food production due to reduction of cultivable soil and the pollution of air, water and soil will be a huge problem for our business. Also, technology has made great developments in the field of packaging, creating more and more eco-sustainable packaging that respects the environment. In our case it is important to choose the right packaging for our products, making sure that it is produced with recycled materials and that it is recyclable.

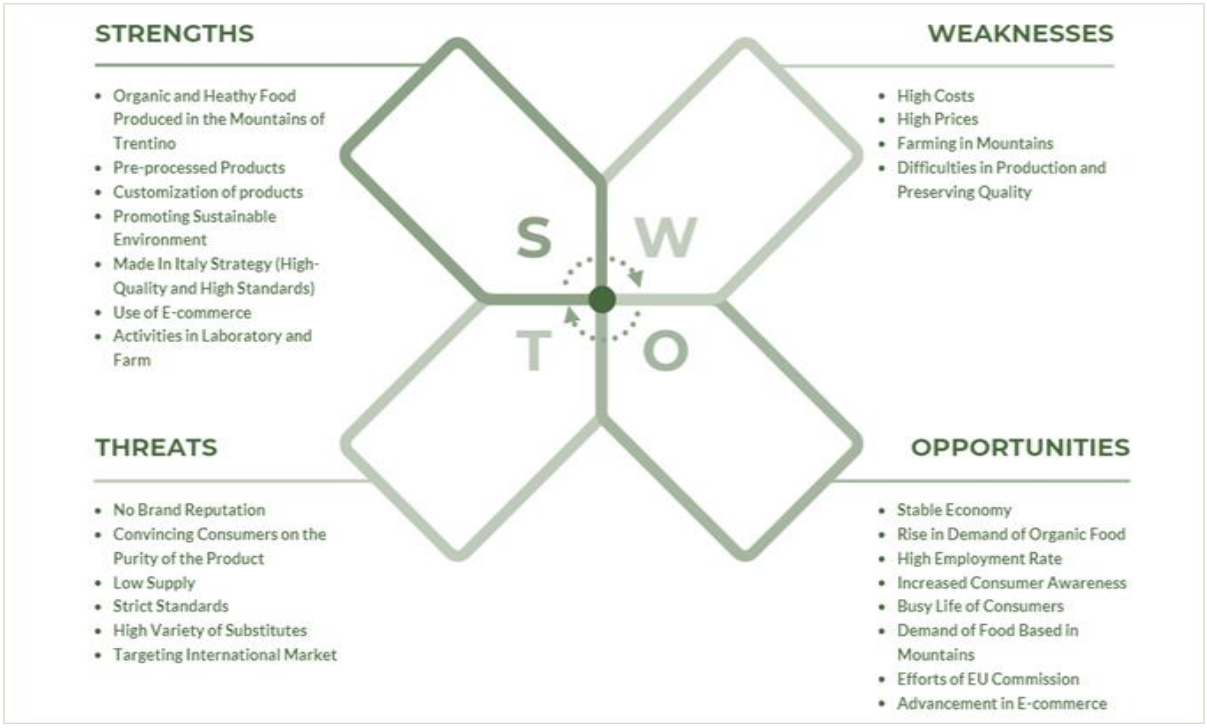
The next diagram summarizes the above-mentioned analysis.



1.2.2. SWOT ANALYSIS

SWOT stands for Strengths, Weaknesses, Opportunities, and Threats, and so a SWOT Analysis is a technique for assessing these four aspects of the business. After PESTEL, SWOT is a helpful tool to understand how to accentuate the strengths, limit the weaknesses, take benefit from the opportunities, and mitigate threats.

Having performed the PESTEL Analysis, the following chart elaborates the overall SWOT analysis.



STRENGTHS

One of the major strengths of our business is the differentiated products that we offer to the consumers. Our products are organic, healthy, and coming straight from the mountains of Trentino. We offer not only fresh food and vegetables but also processed food mixtures and a combination of herbs for teas. We also ensure that our products follow the Made In Italy Strategy which complies with the standards issued by the government about health and safety requirements. This helps in developing a high-quality product which increases the value for the consumers.

Our business then ensures sustainable farming which leads to an eco-friendly atmosphere and a preserved environment. This means that we use the recommended practices provided by the government starting from the farming till the packaging and delivery of the products. Customisation of our products is another important aspect which gives the consumers a sense of importance and control over what they want. It aids them to get a product according to their taste and choice.

Finally, with the use of our e-commerce platform, we can target more consumers with very limited costs in order to achieve a high market share. Last but not the least, we plan to organise consumer engaging activities in our laboratory and the farm to convince the consumers on the purity of our products, and getting their feedback and suggestions side by side.

WEAKNESSES

In order to produce a differentiated product, we will need to incur greater costs which in turn will increase the price of the products as well as compared to that of our competitors. The costs can be financial costs, time and resource costs and all the other costs incurred to face the risks and difficulties faced during the process. High costs will lead to higher prices. And higher prices can increase consumers' unwillingness to pay more. Higher prices can also limit the market share, for example, students might not be able to pay a high price for our food.

We also must face the certain difficulties in farming as discussed in the environmental factors of PESTEL analysis as well. Facing these problems will also increase our costs and further create more problems for us.

Lastly, preserving the freshness and the quality of the food is a major task. We must make sure that the processing on the food items does not take away the essence of freshness and pure flavour from the food. If that happens, consumers will not be able to trust our brand and hence we will not be able to generate profits for ourselves.

OPPORTUNITIES

While there lies a weakness of higher prices for consumers there is also an opportunity for a stable economy of the country which can help us limit that weakness. As discussed already in the external analysis, the employment rate in Italy is high. Almost half of the population is employed which creates a path for us to exploit this opportunity.

We have also evaluated that there is a high demand for not only organic food, but also healthy food based in mountains. Moreover, the efforts of the European Union Commission have resulted in a favourable environment not only locally but also internationally for the increased production of organic products in mountains. All of this has also helped in increasing the awareness of consumers about nutrition in organic food from mountains and the importance of preserving the environment.

Also, the day-to-day life of people is very busy. We can easily exploit this problem by offering pre-processed meals which need little to no time in cooking yet deliver a fresh taste. All of this can result in high demand for our products.
Finally, advancement of technologies and e-commerce must also prove a way to lower production costs, increase supply and attract more people towards our business.

THREATS
The initial threat for us is that it is a new brand. People do not recognise it yet so there exists a threat if people will like our product or not, or if they are ready to buy products from a new brand which has no reviews yet? Convincing the consumers that our brand offers a high quality, organic product produced in a mountain can also be a major threat. We must devise a way for the

consumers to develop trust in our brand which will make them loyal to the brand and generate lifetime value for the business.
We must comply with strict health and safety standards. We must take into account regulations issued by the government in order to offer quality to the market. This can increase costs for us and result in more responsibility, effort and difficulties. Due to difficulties in production, there might be a threat of low supply as compared to the demand of consumers which can drastically affect our business.
It is also known that there is a wide range of low quality but tasty food which looks like our products in the supermarkets which can attract our targeted customers. It will increase competition in the environment as well. And increased competition means increased effort which in turn can increase costs.
Difficulties in targeting international market pose a threat because it creates more issues like preserving quality of the product, delivery of the product and other standards for globalisation of the business.

1.2.3. ANALYSIS OF COMPETITION

Examination of rivalry in the environment is an important step in order to be more certain on how to gain competitive advantage over our competitors. **Porter's Five Forces** analysis is a framework that helps analyze the level of competition within a certain industry. It is especially useful when starting a new business or when entering a new industry sector. According to this model, the competition in the industry comes from five major factors: threat of new entrants, bargaining power of suppliers, bargaining power of buyers, threat of substitute products or services, and existing industry rivalry. The overall profit potential of the industry is determined by the collective strength of all the forces. Down below, we will elaborate each force:

THREAT OF NEW ENTRANTS
Other companies which want to produce similar organic products may emulate similar business idea but it will be less likely because of the scarcity of organic products based in mountainous regions. There are already less suppliers and that too working in difficult environmental offsets. Moreover, these new entrants will need high initial capital and they will have to take care of the high number

of legal regulations already in action. Lastly, there will be low customer switching costs because customers are usually resistant to put in any monetary or even psychological effort to shift to another brand or product. Hence we can agree that the threat of new entrants is there but it is not that high.

THREAT OF SUBSTITUTE PRODUCTS

There are other companies that provide similar products which are not organic, have low quality and are produced through conventional techniques on low prices as compared to ours and with quicker availability. For example, carbonated drinks can be preferred to organic juice. Hence we can say that the threat of substitute products is high.

BARGAINING POWER OF BUYERS

Since consumers are now more inclined to healthy eating and the preservation of the environment, they are willing to pay a little more for organic mountain based food. Also, as we know now that consumers think of food grown in mountains as pure and environment friendly and with all the policies regarding such products, consumers have developed an inclination towards products similar to which we want to give to them. Hence this is a favourable factor for our business.

BARGAINING POWER OF SUPPLIERS

As we have reflected already that although more and more ways are being planned to enhance agricultural production in mountains yet in present, there are less organic products produced in mountainous regions. The number of suppliers are low, generating not enough supplies as compared to the demand. Also, to purchase natural products (i.e. fertilizers, natural pesticides) to cultivate our plants require a higher cost, or to purchase another spice that we cannot produce like salt will increase the cost, all of it will have an impact on the final price of the product. Lastly, talking about the suppliers producing eco-friendly packaging for us, which can be expensive and hence can result in the elevation of the overall price of the final product.

COMPETITIVE RIVALRY

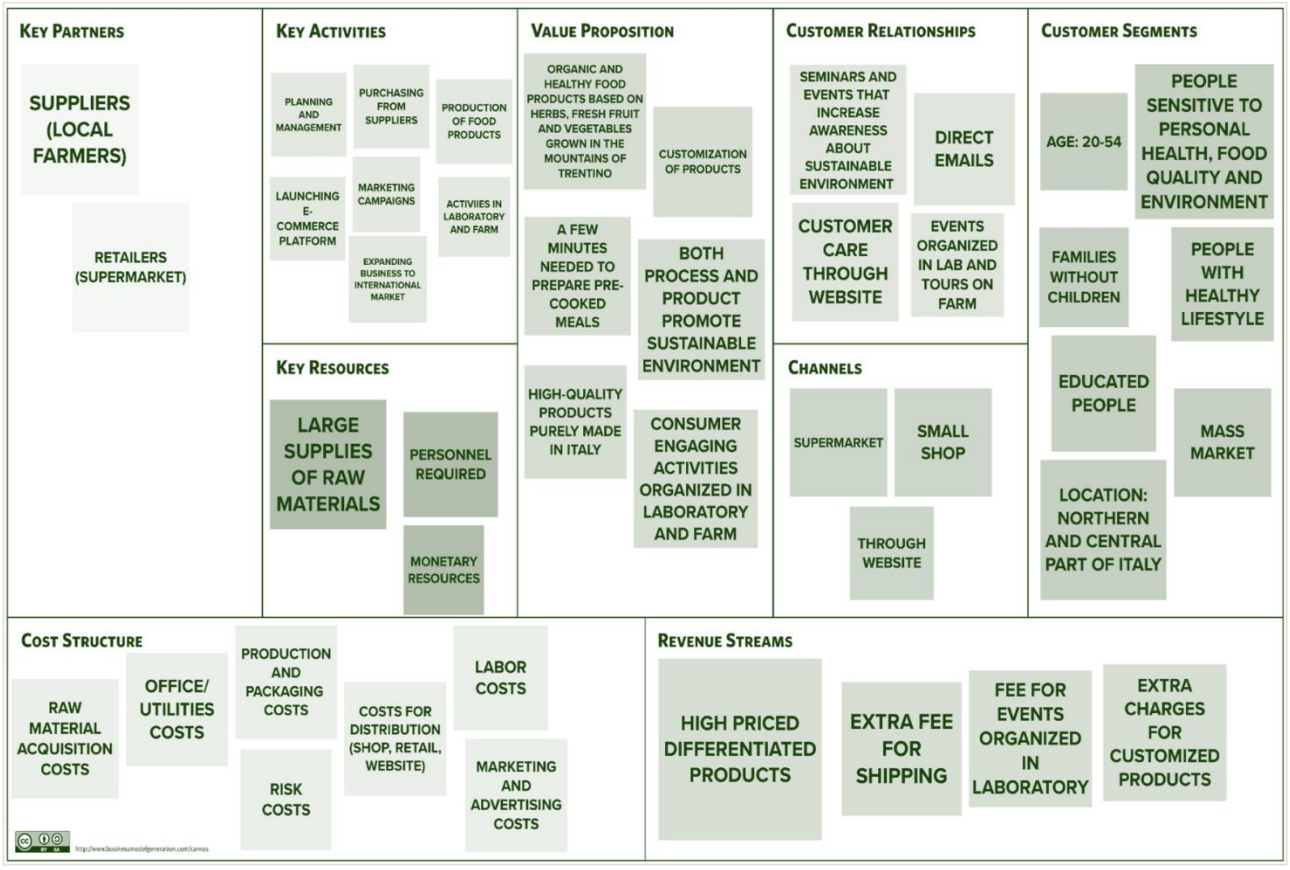
More supermarkets have an organic section now selling quality food which is readily available. There is also a chance that the suppliers which are the local farmers may sell their fruit or vegetables themselves hence decreasing the supply for the business. There are other organic farms which can produce similar products. And they might also sell their products at low prices to attract consumers. Another type of competitors are the companies offering similar products but with low quality and of course low price, which can be also a threat of substitute products. But it is also noticeable that although there are competitors in the organic food industry yet very less rivalry in the food based in mountains. Hence if taken the right strategic choices this can be a favorable factor for us.

1.3. BUSINESS MODEL CANVAS

A business model canvas is a graphical chart which serves as a strategic management tool to illustrate the business model and document it. A brief clarification of our business model canvas is provided below:

1. **Key Partners** are the people, organizations or businesses that can support us. In our business, our suppliers who are the local farmers and retailers (i.e., supermarkets) who will take our products and distribute it to consumers, are our key partners supporting our business.
2. **Key Activities** in our business will be planning and managing the work throughout. It will involve everything that happens in our business like identifying the suppliers, buying from them, processing the raw materials in our established lab and distributing them to consumers.
3. **Key Resources** are the resources we need to turn our business into reality. We will need human resources, monetary resources and large amounts of supplies.
4. **Costs** are the financial expenses that we will have to incur. It involves labour costs, office and utilities costs, costs needed for acquiring raw materials, costs needed for the production, processing, packaging, advertisement and distribution of end products, and last but not the least costs saved for any risk that might occur.
5. **Revenue Streams** are the ways on how we get profits. We offer highly differentiated products so we will charge high price as compared to our competitors. Also, we generate revenue by offering customized products, shipping products to consumers and organizing events in the laboratory.

6. **Value Proposition** in brief words is what makes our product and us unique! This part is better explained in the next part of this document.
7. **Customer Relationships** are the type of interactions we are going to have with our customers. We will interact with our customers by taking part in seminars spreading awareness about importance of organic eating and sustainable environment. We also do direct emails to the consumers to increase visibility of our brand. Then we also give them support through website and interact with them face to face in the laboratory.
8. **Customer Segments** are the groups of customers who might buy our products. So our customer segments include educated people who are sensitive to healthy and environment, from age 20-54, families without children and located in the North of Italy.
9. **Channels** is how we plan to distribute our products to the consumers. We make use of retailers (supermarket) and we also sell the products directly through our website and a small shop as well.



1.3.1. VALUE PROPOSITION AND UNIQUE SELLING POINT

Now it is the time to put more detail in the identification of the unique selling point of our business. We can describe our value proposition in the following points:

- The foremost feature that makes our products unique is the location where we grow the supplies. Trentino is a magnificent region in the far north of Italy especially known for the Dolomites. There are various beautiful farms in the mountainous region of Trentino where we plan to grow our food supplies.

- Secondly, the first thing that comes to the mind when we think about food products based on mountains is purity! Our products are pure, organic, high-quality, and fresh grown with utmost love and efforts of the farmers in the mountains.
- Not only the products that we offer but also the process is eco-friendly. We ensure that all the products that we grow, and manufacture follow strict quality standards leading to a sustainable environment.
- We leave no opportunity to make the consumer feel valued. Hence, we offer customized products so that the consumers can mould the product according to their needs and taste.
- Life of people in the North is so busy and our pre-cooked products are a good solution for busy people who cannot spend much time in cooking but still want healthy, good quality food. The pre-cooked food mixtures need only a few minutes to get prepared, giving the consumers a healthy dose of quality.
- Italians take pride in their identity and traditions and our business does the same. All our products are 100% Made In Italy!
- Lastly, we organize visits to the farms and events in the laboratory so that consumers can come to engage with the experts.

To summarize all the above in a rather sophisticated way:

"Bio Appetito – Organic Food Straight From The Mountains!

Experience a pure and fresh taste of our organic, healthy, and eco-friendly food coming straight from the mountains of Trentino. It is not just high-quality food, it's a bundle of refreshment from the above!

Mix and match according to your taste. The option to customize your product is available on the website! After all, our customers' preference is our preference!

Got less time to cook? Let us put all the extra effort in our pre-cooked recipes and you take out just a few minutes to prepare your good meal!"

1.4. WHAT IS OUR STRATEGY?

A simple definition of strategy is a set of goal-directed actions analysed, formulated, and then implemented to achieve competitive advantage and then sustain it.

1.4.1. BUSINESS STRATEGY:

Business strategy, in simple words, is a clear set of plans, actions and goals that states how a business will compete in the market, with a product or number of products or services. Our business strategy will help us to not only generate competitive advantage hence creating more value and reducing costs as compared to our competitors, but also achieve a sustainable competitive advantage. Before illustrating the business strategy, it should be clear that we have enough knowledge to make the right decisions. Previously, we have discussed comprehensively about external factors which might affect our company and about competitive forces which have a role in our strategic decisions. We know both the industry effects and firm effects and their influence on our business. Hence we have identified the competitive challenges the strategy has to face and

mitigate. It must be noted that the business strategy is open to change when necessary (i.e. when shifts in industry occur).

We have seen that there is already a rise in the growth of the organic food industry and more and more people are ready to spend more on healthy and high-quality food but we have also noticed that not much work is done on the organic food based in mountains. This may be due to lack of enough resources and environmental factors discussed above already. If we consider all the factors deeply discussed above, we come to the conclusion that although there are certain environmental offsets to this business idea yet there is a demand for this idea. Moreover, it offers consumers unique products with desired features. We are using BROAD DIFFERENTIATION STRATEGY which implies building a brand that is different in some way from its competitors. It is applied to the industry and will appeal to a vast range of consumers. The products that we offer are unique because they are organic, high quality, eco friendly, grown in the mountainous regions of Trentino. These products adhere to the local heritage of the region and comply with the Made in Italy strategy. In order not to restrict products, we also introduce services in our laboratory where certain activities like food processing will be carried out. These laboratories tend to serve as a direct link from producers to consumers. In order to give our consumers more importance, their suggestions must be taken in order to innovate a new recipe or a new mixture or even about organising events in the laboratory. Moreover, high level packaging of our products is ensured so that the environment remains preserved and the biodiversity is protected.

The benefits of using this strategy are that we enter a market where there is less price competition but more rivalry in uniqueness of the products and services. Since we offer differentiated products and services, we can experience price gain and hence leading to competitive advantage.

1.4.2. CORPORATE STRATEGY:

Corporate strategy is a top-level strategy formulated by high level managers to implement strategic decision making by looking across all of the firm's businesses to determine how to create the most value. Corporate Strategy builds on top of business strategy, which is concerned with the strategic decision making for an individual business. Business strategy tends to focus on a product line in the same market but the corporate strategy tends to guide similar product lines in different geographical regions hence different markets, for example.

In our case, the strategy we are going to implement is Globalisation. By accepting globalisation as our reference strategic choice, we agree to offer our products and services not only in Italy but also in the rest of Europe through our e-commerce platform. Doing so will increase our profits and will enable us to generate more value for our consumers and ourselves. But all of this is planned to be done in the fifth year of our business, at least for now. As already said, our strategy can be changed depending upon the shifts in the industry.

1.5. STRATEGIC PLAN

The following is a general idea of how we plan to manage our business through the years:

First year:

- Planning and Management of our products and key activities.

- Identifying suppliers and launching operations.
- Launching the brand's website and other social media platforms.
- Increasing awareness in customers about our products.
- Developing good relations with stakeholders.
- Shipping: Delivering the (dried) products through companies rather than through our own transportation.

Following years:

- Enlarging the business by deploying shops in major Italian cities (starting from the North towards the South)
- Shipping: Usage of Vacuum Package to deliver the products.
- Addressing the international market through a Made In Italy strategy (through the website) in the last year.

1.6. ORGANIZATIONAL STRUCTURE

An organizational structure is a system that summarizes how particular activities are addressed in order to achieve the goals of an organization. These activities can include rules, roles, and responsibilities. These activities also include how the information flow occurs between different resources of the organization. By having a defined organizational structure, a company stays more organized and well-established to perform its functions efficiently.

1.6.1. MACRO-ORGANIZATIONAL STRUCTURE

Macrostructure is instead the set of choices related to the grouping of the individual positions in organizational units, with the definition of the size of these organizational units, the hierarchical levels and the coordination among different units.

Since we start with a small organization hence a functional structure will be the best choice for us. A functional structure is the one which divides the organization into departments based on their function. Each is headed by a functional manager and employees are grouped as per their role. Functional managers have experience in the roles they supervise. In addition, we are going to have a project manager who is going to enhance communication between different departments and manage the overall business.

1.6.2. MICRO-ORGANIZATIONAL STRUCTURE

This section involves the possible roles and responsibilities of staff and how these roles descriptions are managed. The managerial team in our business is:

- Leena Aizdi, as Project Manager
- Ludovica Cocchella, as Marketing Manager
- Matteo Castrignano, as Operations Manager
- Erica Dallatomasina, as Finance Manager

Other than the managerial team, we will have 1 quality control expert, 1 supervisor, 1 warehouse worker, 1 person as security guard and janitor and 1 person for maintenance.

In the next section, we will talk about the major responsibilities and activities performed by the above-mentioned managerial roles.

1.6.3. TOP RESPONSIBILITIES AND ACTIVITIES PERFORMED

The top responsibilities (also expressed in detail in the Work Breakdown Structure in Appendix) needed in our business are:

Planning and Management which includes all the managerial activities needed to run the business. At this phase, we define the goals and objectives and the key activities needed to achieve those goals. We draft out a detailed schedule of the business with duration of tasks and estimating the critical path. Here, we also consider the assessment of risks that might come in our way and their mitigation. Lastly, if in any case, we have to close our project, we have to discuss and plan the activities we need to perform in this task as well.

Operations Management is a broad responsibility in our business. It includes setting up an office, setting up the plat and laboratory, identifying suppliers, purchasing from the suppliers, and then manufacturing the products, packaging them and the shipping them to consumers. It also includes designing, developing and launching the digital platform. Although, IT team will be responsible for the digital platform but we have included this specific task in Operations Management. This also includes managing quality throughout the schedule which involves defining standards and processes, implementing them and then controlling and improving them.

Marketing Management starts with a detailed market research and analysis leading to strategic marketing plan and operational marketing plan. It throws light on the product policy, distribution strategy, product promotion activities and product pricing strategy.

Finance and Accounting Management is another important aspect of the business. Here we do budget management, investment study and planning, economic analysis, detailed financial projections, description of profits and loss and cashflows. We also include auditing and accounting in this phase so that everything can be monitored financially during the business life cycle.
In the following table we illustrate a Responsibility Assignment Matrix also known as RACI. R stands for Responsible, A for accountable, C for Consulted and I for informed. In the table, we talk about the tasks and who is responsible/accountable/should be consulted/must be informed about them. The numbering scheme is derived from Work Breakdown Structure present in the appendix.

TASKS/ SUBTASKS/ WORK PACKAGES	Project Manager	Operations Department	Marketing Department	Finance and Accounting Department
1.1.1. Defining Goal And Key Activities	R/A	C	C	C
1.1.2. Scheduling	R/A	C	C	C
1.1.3. Risk Assessment And Mitigation	R/A	I	I	R
1.1.4.1. Estimating Required Human Resources	R/A	C	C	C

1.1.4.2. Initial Scrutiny During Hiring	R/A	C	C	C
1.1.4.3. Preparing Contracts	R/A			
1.1.5. Key Activities Coordination	R/A	R	R	R
1.1.6. Project Closure	R/A	R	R	R
1.2.1. Production Planning	I	R/A	C	I
1.2.2. Establishment Of Production Plant And Laboratory	C	R/A	I	C
1.2.3.1. Identification Of Suppliers	C	R/A		
1.2.3.2. Purchasing	I	R/A	I	C
1.2.3.3. Transportation Of Raw Materials	I	R/A		C
1.2.4.1. Food Processing	I	R/A	I	I
1.2.4.2. Packaging	I	R/A	I	I
1.2.5. Shipping Management	I	R/A	I	C
1.2.6. Capacity Planning	I	R/A	I	C
1.2.7. Identification Of Operational Costs	I	R/A	I	R
1.2.8. Launch Of Digital Platform	I	R/A	C	C
1.2.9.1. Defining Work Standards And Regulations	R	R/A	I	I
1.2.9.2. Defining Standard Processes	R	R/A	I	I
1.2.9.3. Implementation Of Standards		R/A		
1.2.9.4. Monitoring Implementation Of Standards		R/A		
1.2.9.5. Inspection Of Raw Materials	I	R/A		
1.2.9.6. Maintaining Work Environment	R	R/A		
1.2..10. Setting Up Office	C	R/A	I	C
1.3.1.1. Market Research	C	I	R/A	I
1.3.1.2. Competitive Analysis	C	I	R/A	I
1.3.2.1. Market Segmentation	I	I	R/A	
1.3.2.2. Target Market	C	I	R/A	I

1.3.2.3. Positioning	C	I	R/A	I
1.3.3.1. Product And Services Definition	C	C	R/A	C
1.3.3.2. Product Distribution	I	C	R/A	C
1.3.3.3. Product Pricing	I	C	R/A	C
1.3.3.4. Product Communication and Promotion	I	I	R/A	I
1.4.1. Costs Identification	C	C	C	R/A
1.4.2.1. Cash Flow Analysis	I	I	I	R/A
1.4.2.2. Balance Sheet Projections	I	C	C	R/A
1.4.2.3. Calculation of Profit and Loss	I	C	C	R/A
1.4.2.4. Break-Even Analysis	I			R/A
1.4.2.5. Risk Costs Calculation	C	C	C	R/A
1.4.2.6. Financial and Economic Ratios Definition	I	I	I	R/A
1.4.3.1. Acquiring Funds	C			R/A
1.4.3.2. Identifying Investment Size	C			R/A
1.4.3.3. Proposing Investment Plan	C	C	C	R/A
1.4.4. Book-Keeping	I	C	C	R/A

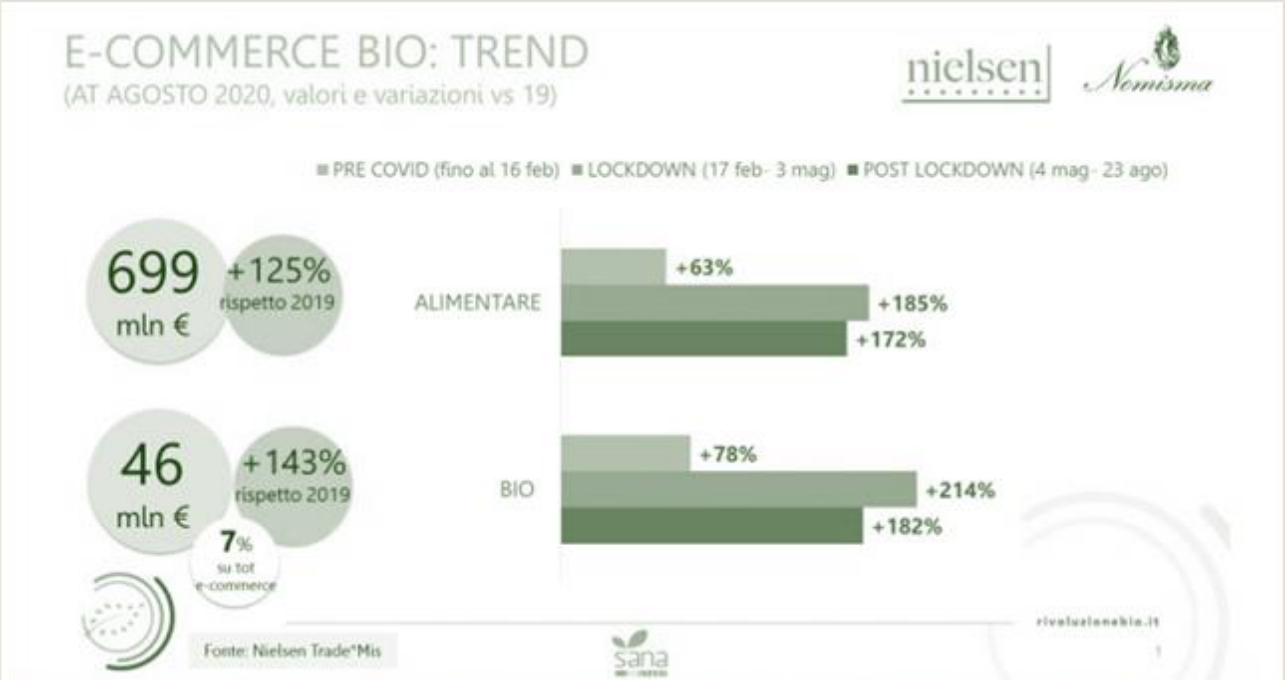
Now that we have given a detailed introduction about the organization, let us move forward to the marketing plan in the next chapter.

CHAPTER 2: MARKETING PLAN

This chapter analyses the market in which we plan to deploy our business and then puts forth the marketing strategy.

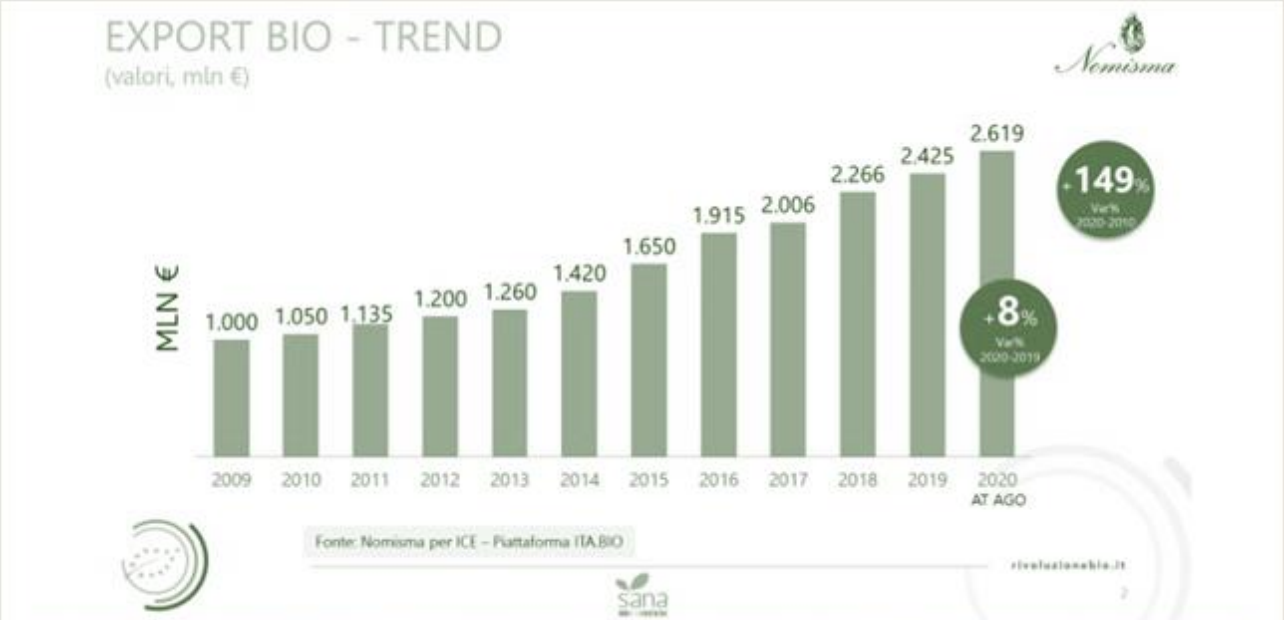
2.1. MARKET ANALYSIS

The sales of organic Italian products on the domestic market exceed € 4.3 billion in 2020. In particular, € 3.9 billon refer to domestic consumption (+ 7% compared to the same period of the previous year). Domestic market confirms the positive trend favoured by the growing attention of Italian consumers toward green, local and sustainable product. This is confirmed by the progressive increase in purchasing families (88% had at least one opportunity to purchase an organic product in 2020 - Nomisma 2020 survey for Bio Revolution - compared to 53% in 2012) and the incidence of organic on the total shopping cart food (which goes from 2.2% in 2014 to 3.6% this year). In 2020 it is registered an excellent performance in e-commerce in which organic sales (+143% compared to 2019) are higher than sales of food products in general (+125%). After the boom marked in the lockdown period, organic sales though e-commerce continue to maintain a high and more performing growth rate than not organic food.



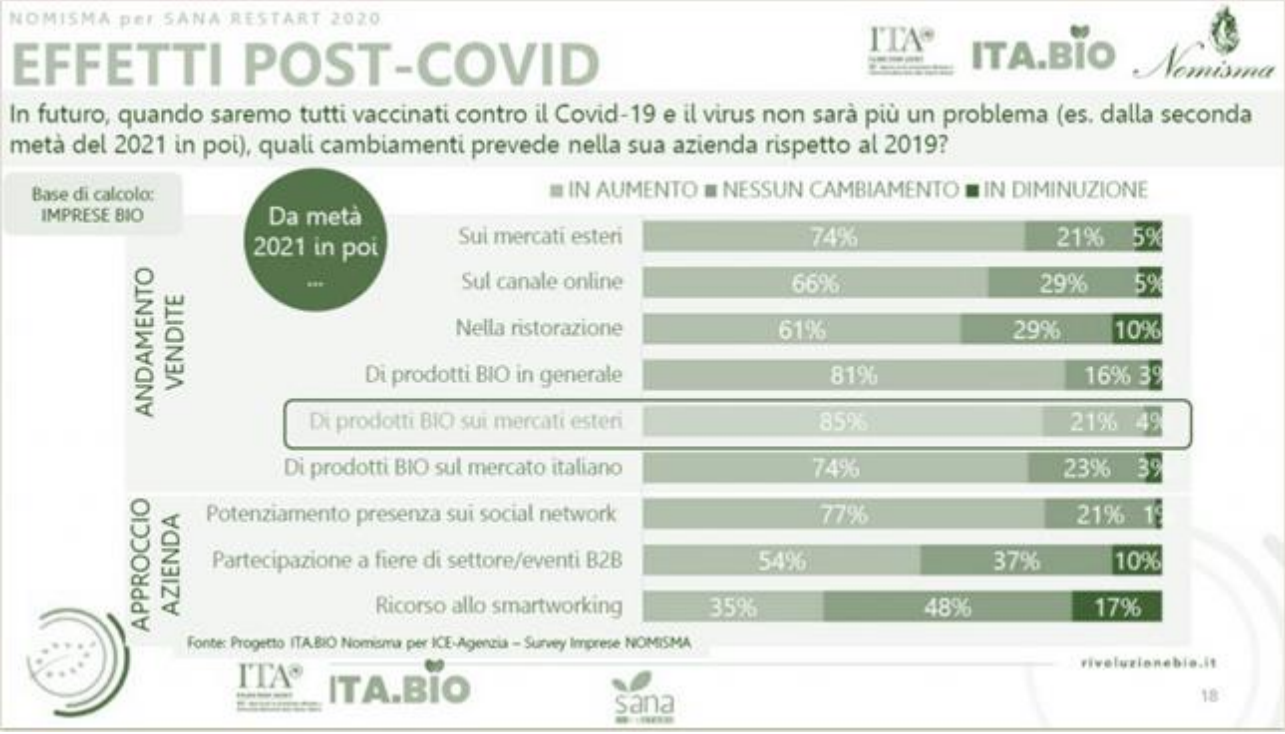
Fonte: Osservatorio SANA 2020 a cura di Nomisma e promosso da BolognaFiere – elaborazioni su dati NIELSEN

The brightest channel in 2020 for purchasing organic food is still the supermarket (+11% compared to 2019) moreover this channel, unlike other, shows greater stability in the sales of organic products. More than positive was the performance of organic exports: in 2019 the sales of Italian organic food products on international markets, confirming their important role in Made in Italy products, reached € 2,425 million, recording a growth of 7% compared to the previous year. In 2020, exports of organic products reached € 2,619 million (Nomisma estimates), maintaining a growth rate of 8% compared to 2019.



Fonte: Osservatorio SANA 2020 a cura di Nomisma e promosso da BolognaFiere - Survey imprese Nomisma per ICE

From a survey about the future of organic after covid we will see that there will be an increase of sales on the foreign market, an increase in online sales and an enhancement of the presence in the social world and the most promising markets appears to be Germany, followed by Scandinavia and the USA.



From the previous analysis we can deduce how Italians pay more and more attention to health food but also to environmental sustainability and how the pandemic has helped to bring more and more people to the world of organic products. We can also notice that e-commerce plays a very important role in sales.

2.2. MARKET SEGMENTATION, TARGETING AND POSITIONING

Market segmentation, targeting and positioning are essentials for understanding our markets and develop strategies for service our costumer better than the competition. Through market segmentation we can examine opportunities and expand our business.

Who is our future consumer?

Through some publications found on web we have been able to define what will be the features of our future consumers and the reason why they should buy our products. All these features are listed below following the consumer segmentation criteria that might be considered when segmenting a consumer market:

-Behavioural

Benefit sought: Organic farming is a type of agriculture that exploit the natural fertility of the soil and it wants to promote the biodiversity of the species excluding the use of chemical products and genetically modified organism. The main difference between organic farming and conventional farming consists in the level of chemical products introduced into agroecosystem. People buying organic food decide to support the philosophy behind organic farming. This philosophy consists basically to offer products without residues of chemical pesticides or synthetic chemical fertilisers and to have respect of the environment, in particular to pay attention to the quality of soil and for these reasons organic food grown in more organic soils has higher levels of micronutrients. So, in conclusion our future client by purchasing our food could eat healthier respecting environment.
Purchase occasion: Self-buy.
Purchase behaviour: Price has a huge impact on behavioural loyalty on organic food brands, so our future customers will have both brand loyal behaviour and brand-switching behaviour.
Usage: heavy users because the people who usually decide to eat organic food decide to introduce the organic food into their lifestyle, therefore it becomes a habit.

-Psychographic

Lifestyle: people who decide to approach to organic food are usually people who pay attention to the environment and usually people who want to have a healthy lifestyle. Lot of people who consume organic food are typically vegetarian or vegan.
Personality: people who are sensitive to the topic that regard the environment and how farm try to respect it and also people who are aware about the importance of the quality of the food and want to check and pay attention in what they eat.

-Profile

Age: 20 – 54
Gender: Most people who buy organic food are female.
Life cycle: people who are responsible for purchasing food for only themselves or for family without children.
Social class: high level of education. The education rate is in fact related to the propensity to purchase organic products.

Geographic: North and center of Italy are the area where there is the highest percentage of people who buy organic food instead in the south of Italy and in the islands the rate of people who buy organic food is less that the rest of Italy.

Who is our target market?

The target market of our business that we selected is the Undifferentiated marketing with focus on mass marketing because we see everyone as a potential customer. We recognize market heterogeneity but, rather than try to re respond to all differences, we will focus only on the critical ones in order to develop offerings that appeal to as large a slice of the market as possible. We want to produce products with the intention to reach as many people as possible and we want also to try to raise people's awareness about the importance of respecting the environment and the importance of eating healthy and quality food in everyday life. Under these circumstances we decide to develop a single marketing mix for the whole market. Only through e-commerce the target marketing of our business is the customised marketing because we give the possibilities to our costumer to customize their herbal tea composing a mixture of different dried herbs to their liking.

What is our position in the market?

We decided what position occupy in the target customer's mind taking into consideration three variables:

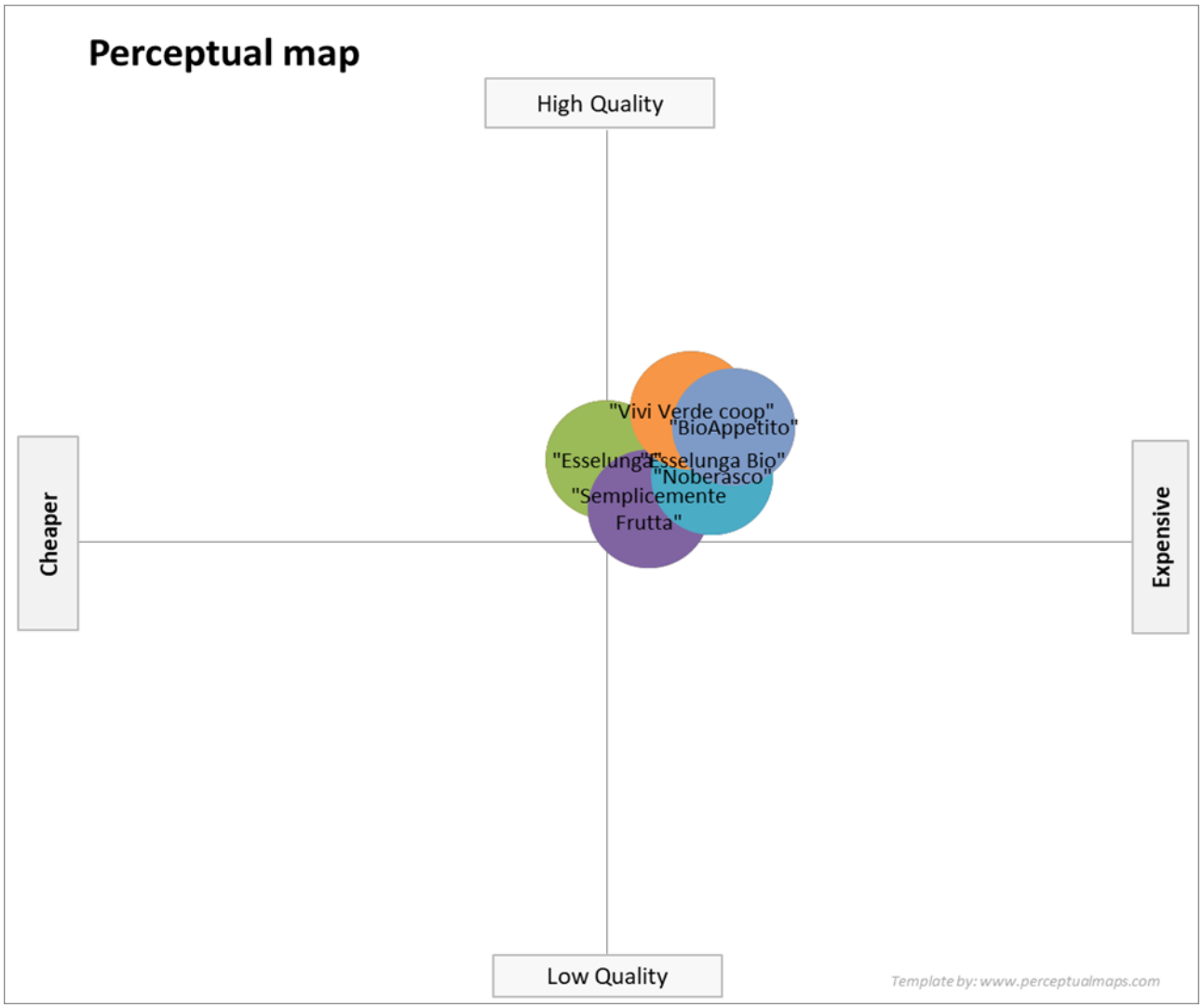
- The customers: we live in an over-communicated society and people are increasingly sceptical about the quality, healthiness and origin of the food. For these reasons we are going to be transparent with our customer about the way we work (from the first step of cultivation to the moment that products arrive on supermarket shelves). How are we going to be transparent? We decided to introduce tour visit of our farm and give the possibility to people to see directly how we work, where we are growing the primary materials that they are going to eat and to see all the processing steps of our products.
- The competitors: our products are characterized by high quality, but our goal is to offer high quality food but cheaper than other organic high level food companies (products at a good value for money).
- The company: we are a small company and we want to build strong relations with our customers in order to convince them to believe in the quality and healthiness of our products. So, the characteristics that distinguish our company are environment friendly, high-quality, healthiness and Made in Italy.

From the previous analysis we can say that the positioning of our company is based on following features quality, ethical and benefits.

2.3. PERCEPTUAL MAPPING

In addition to the competitor analysis, we used the perceptual map which is a useful tool for determining the position of our business in the marketplace. This tool gives us a visual representation of consumer perceptions of our brand and its competitors, using attributes that are important to consumers. For producing the perceptual map of our brand, we are first of all identify

our competitors which are the most famous and popular in supermarkets: “Esselunga Bio”, “Esselunga”, “Semplicemente Frutta”, “Noberasco”, “Vivi Verde coop”. After that we conducted a marketing research where hypothetical consumers scores each brand on two attributes: price and quality. Once completed our research we plotted brands on a two-dimensional map which we show below:



From this plot we can identify only one cluster and this means that all these brands, including us, are close rivals, as measured by consumers’ perception. This analysis was really useful in considering strategic moves and in this case we understand that we have to create a differential advantage to be able to distinguish ourselves from the others.

2.4. PRODUCT POLICY

To understand fully both the nature of the product offering and how it can be distinguished from those of competitors, it is useful to think our products in terms of different levels of product. Below we illustrate the three levels of product model:

Core Benefit: offering food which is healthier and more ethical than food produced in a conventional way.

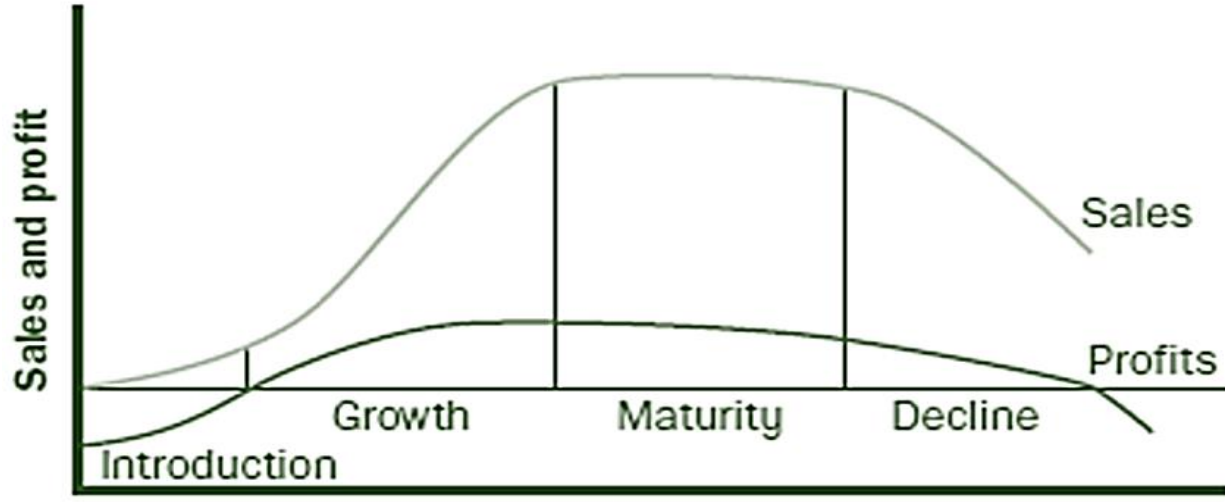
Actual Product: high quality of food, ethical food, "Organic" certification, "Made in Italy" certification, "Qualità Trentino" and other top-level certification, eco-friendly packaging which are decorated with cool and high-quality prints with food safe inks. We are going to use pure cellulose papers which guarantee hygiene and food safety and at the same time offer a packaging which is truly sustainable for the environment. In addition to that we will try to avoid plastic waste as much as possible and for this reason, where it is impossible to avoid use of plastic, we are going to use 100 per cent recycled plastic. Regarding herbal tea packaging we are going to use compostable tea packaging.
Augmented product: Free shipping and fast delivery of our product directly at home.

In addition to the physical product, we will offer an experience to our client which consist in tour visit inside our farm. With this service we give the possibility to our customer to see directly how we work, to discover how an organic farm works and to spend a day off in close contact with nature.

Which is our product portfolio?
Below we show our product portfolio:

Dried Fruit	Dried mushrooms	Food mixtures	Herbal Tea
Apples from Val di Non	Porcini	Polenta with mushrooms	Biancospino
Pears	Finferli	Ready risotto with mushrooms	Finocchio
Cherries	Mix of mushrooms	Trentin soup	Rosa canina
Raspberries		Ready risotto with blueberries	Sambuco
Blueberry			Raspberries
Blackberry			Blueberry
Ribes			Blackberry
Wild strawberry			Wild strawberry
			Ribes
			Mixture of different dried herbs

Which are our marketing objectives and strategies over the product life cycle?
Products lines need to be managed over time. A useful tool for conceptualizing the changes that may take place during the time is on the market is called product life cycle.



The PLC emphasizes the need to review marketing objectives and strategies as products pass through the various stages.

	Introduction	Growth	Maturity	Decline
Strategic marketing objective	Research and Build	Build	Hold	Find new advantages
Strategic focus	Let people know the company	Expand market and Penetration	Product improvements	Exploring and develop solution
Brand objective	Product awareness	Brand preference	Brand loyalty	Brand exploitation
Products	Basic	Differentiated	Differentiated	Rationalized
Promotion	Creating awareness	Raise awareness/repeat purchasers	Maintaining awareness/repeat purchase	Cut/eliminated
Price	high	Lower	Lowest	Rising

Introduction phase: The strategic marketing objective is to do research with the goal to find the top quality of our future product and start to build sales through e-commerce. The strategic focus is to start to try to make the company known to as many people as possible. The brand objective will be to create awareness about the quality of our food and the way our company work and respect the environment so the costumers will become familiar with generic product benefits. At this phase, our products will be basic with the intent to improve them as much as possible thanks to our continuous research in the organic field. Promotions are useful for creating awareness for the brand and products offered. Typically, in this phase, the price will be high and the distribution will be slow because people will be wary of our products until they begin to gain full awareness and confidence in the company's philosophy.

Growth phase: The strategic marketing objective in this phase is characterized by a period of increased production, faster sales and profit growth. The strategic focus is to expand our market

providing the possibility for our customers to be able to purchase our products, in addition to e-commerce, directly in supermarkets offering the possibility to use our products in their daily life, so in this way we become part of people's everyday life. The expansion of our market will not be limited to the Italian supermarket but in addition to that we will expand the possibility of purchasing our product even outside of Italy through e-commerce. The brand objective is to build brand preference penetrating the market and start to make known and use our products outside Italy. For achieving our goal is necessary to differentiate our products lines introducing new benefits for improving basic version. Promotions in this phase have the role of raise awareness and specifically focus on repeat purchasers. Price will start to be lower and the distribution will be wider thanks to the increase in sales.

Maturity: The strategic marketing objective is to maintain the sales level. The strategic focus is to introduce products improvements using advertising, sales offers and price cutting with the aim of continuing to entice people to buy our products and for this reason the brand objective in this phase is to build brand loyalty. As regards products we will create differentiation with the aim of guaranteeing more and more appetizing and high-quality products thanks to our continuous research in the field of organic. The promotion in this phase is addressed to maintain awareness with specifically focus on repeat purchasers. Price will be the lowest and the distribution will be intensive.

Decline: the strategic marketing objective in the decline phase is to find new advantages for contrasting our competitor, so the strategic focus is to explore new benefits that we can add to our product to offer to our clients that our competitors are not able to offer. The brand objective is brand exploitation and our products will be rationalized and intended for a selective distribution so in this phase the sales associate to our current products will decrease.

2.5. DISTRIBUTION

We are a B2C companies because we are going to sell product and services directly to consumers who are the end-users.

Which is our channel strategy?

The design of the distribution channel is an important strategic decision that needs to be integrated with other marketing decision. Through the channel strategy we can do a selection of the most effective distribution channel for our products. Below are listed our choice which compose our channel strategy:

- **Channel selection**: Buyers may prefer to buy locally or online, for that reason we chose to distribute our products both physically, through supermarket and small shop inside our farm, and digitally, through e-commerce. In this way we can reach as many people as possible.

- **Distribution intensity**: at the beginning we adopt a selective distribution because we decided that firstly we focus our distribution only to the north and center of Italy because they are the geographical areas where there is a good percentage of people who buy organic food. After we want to expand our market to the rest of Italy and also outside of Italy adopting in this case an intensive distribution for arriving to as many people as possible.
- **Channel integration**: conventional marketing channels.

2.6. PRICING

The pricing strategy portion of the marketing plan it is useful for determining how we will price our products. The price has to be competitive but still allow us to make a reasonable profit. An important aspect, to take into consideration, is how much the consumer is willing to pay, so our pricing strategy needs to take this consumer threshold into account. We have to do a calculation of our costs, estimate the benefits to consumer and compare our products and price to other that are similar, so we are going to set our pricing by examining how much it cost us to produce the product and adding a fair price for the benefits that the customer will enjoy.

Which is our cost-based?

Cost-based pricing is a pricing method that is based on the cost of production, manufacturing, and distribution.

What are the elements that we include in calculating cost-based pricing?

- The cost of the raw materials.
- The cost of packaging materials.
- The cost of production.
- The corresponding financial costs associated with production.
- The selling costs.
- Administrative costs.

Essentially, the price of a product is determined by adding a percentage of costs to the selling price to make a profit.

Which is our value-based?

Value-based pricing depends on the strength of benefits that a company can prove and offer to their customers. This value is the most important driving force in every business decision as value focuses on the price the potential customers are willing to pay based on the benefit offered by the business. The value that our customers would be willing to pay are:

- Better quality and healthiness compared to conventional products because, thanks to organic agriculture techniques, our products contain more micronutrient than the conventional one because grown in more organic soils.
- Our customers, purchasing our product, have the possibilities to be environment friendly.
- Through e-commerce our customer has the possibilities to customize herbal tea and, in this way, to purchase a product that best meets their needs. This service represents for us a

competitive advantage because we give to our customers the possibilities to obtain the most suitable product for their needs that they can hardly find in other companies.

- In addition to customize product for everyone who decide to purchase through e-commerce we will guarantee free shipping, so in this way everyone who do not have time to go to supermarket have the possibilities to purchase our products without extra-cost.

Our products are characterized by high quality and quality has its price, but at the same time we know how important it is for people to start having a quality, healthy and environmentally friendly diet, so our goal is to give the opportunity to as many people as possible to buy our products trying to offer them the best possible quality ratio.

2.7. COMMUNICATION

To avoid wasting valuable organizational resources, marketing communications should be planned and evaluated carefully. For this reason, we created a promotional mix that we show below:

- **Advertising**: the advertising objective in our case is to create awareness about the importance of buying organic food from both a healthy and an ethical point of view and to help position products in the minds of consumers. At the beginning we are going to use Google AdWords, advertising on Instagram and Facebook. After that we will introduce advertising on YouTube and advertising on tv. The company advertisements are going to show to our customers daily work scenes with the intention to give the idea of simplicity and transparency towards the activity we carry out and transmit our respect and passion of nature and soil.
- **Sales promotion**: our company use sales promotion for increasing purchasing and for obtaining new costumers offering additional benefits when they buy some of our products or applying special offers to their purchases. So, sales promotions have the intention to motivate customers to purchase company's products. The main promotion techniques that we are going to use are Money-off, Bonus packs and free goods.
- **Public relations**: the company implements public relations as a way of addressing environmental issues through seminars, publications, advertising, experiences and guided tours into the farm with the aim to raise awareness on the importance of environment and getting more people to switch from conventional to organic food.
- **Sponsorship**: Sponsorship can be very expensive and it is also necessary to have a well-planned sponsorship strategy to see results so for the moment we decide to not consider sponsorship.
- **Direct Marketing**: we are going to use direct mail for communicating to our client, which are members, promotions offer to them. In this way we can improve brand preference.

We live in a digital age where most of the people have a smartphone with connectivity and spend lot of time on social network and surfing the web. For these reasons it is important for a company to have a strong presence in digital world, and it is useful to build a digital plan. The objectives of our digital media plan are to grow sales through wider distribution and to get closer to customers through social network creating a dialogue and interaction with them. Through social network we

have the possibility to transmit our philosophy and convince people to change their food habits. We are going to open an account on the most used social networks, which are Facebook and Instagram, where we can post some picture where we can show to people how we work and interact with them with the intent to clarify any doubts or satisfy any curiosity. A key objective of online communication is to drive people to our website which contains general information about us and the possibility to purchase our product though e-commerce for covering up as many geographical areas as possible. We have also to focus on web design, so we are going to pay attention about the quality of our website and social media account and we have also to pay attention about the usability because we want to give the possibility to everyone, specifically to that people that they do not have experience and capacity with web, to complete their task easily. For that reasons, we are going to create a user-friendly website and e-commerce. We are going to exploit online advertising through media advertising and social advertising. The use of social media is extremely fundamental because most of the people who have an electronic device connected to the internet spend their time on social network and for this reason the use of social network enables us to reach a global audience and enables us to have a quick feedback from users.

How are we going to manage and evaluate online campaigns?

Digital marketing is very important for our business but it also extremely important to measure the profitability of our activities. The digital footprint, left by users, is an important source of data but it is also important to find the most suitable metrics for online performance.

Nowadays the most important social networks offer basic measure by default so we are going to exploit built-in analytics tools of both Facebook and Instagram, which can give us information regarding our activity, interaction, and performance and from that data we can check and control for example our target audience, satisfaction of our followers and so on.

For monitoring the performance of our e-commerce web site, we are going to use google Analytics. The latter will help us since it is already filled with the most common KPIs. We have only to customize it with the specific metric that we need for our strategies and objectives. We are going to use KPIs that we give us valuable information about buying behaviour and economic return.

CHAPTER 3: OPERATIONS PLAN

This chapter puts light on the operations part of our business.
Let us start with:

3.1. OUR RAW MATERIALS:

Our company treats only local crops that can be grown or easily found in nature, it supplies itself with some raw materials typical of the area:

- **Mountain potato:** The quality of the Trentino potato derives from the fact that it is grown in mountain areas and is richer in ascorbic acid (vitamin C), is less prone to pulp browning and is preserved for longer.
- **Carrots**: they are diuretic and depurative, rich in beta-carotene and vitamin C that have antioxidant properties, useful in counteracting free radicals and strengthening the immune system, useful to the eye, also improving night vision, and in case of cataracts.
- **Cavolo cappuccio**: Cabbage is a natural anti-inflammatory and can prevent and give relief to inflammatory pathologies. It is also rich in fibre and has powerful digestive properties. The antioxidant properties are also recognized.
- **Apples of the Val di Non** (apples from Val di Non). They are tasty, juicy, healthy, and nutritious. It contains various antioxidant substances, which prevent the action of free radicals, as well as numerous vitamins.
- **Pears**: they are rich in vitamins; they strengthen the immune system and have antioxidant power.
- **Late cherries:** They are rich in vitamin C, which is useful for strengthening the immune system and for skin health, potassium, a mineral useful for regulating blood pressure, muscles, and nerves. The antioxidants reduce inflammation and all associated diseases.
- **Orzo:** It has remineralizing properties, containing, in fact, a fair amount of phosphorus, potassium, magnesium, iron, zinc, silicon and calcium. It also contains B vitamins and vitamin E and has anti-inflammatory properties.
- **Mais:** It is particularly digestible and is rich in dietary fibre, for this reason it is a valuable ally for the stomach and intestines. Finally, the fibres contained in ma corn slow down the absorption of sugars, thus helping to keep blood glucose levels low.
- **Rice:** it is rich in fiber and having a high satiating power, it is perfect in low-calorie diets and to combat constipation

As for what grows spontaneously in nature and what next use to create our organic products, we will make use of fruits and herbs like:

- **Mashrooms**: They do not contain fats, they are low in calories and therefore excellent for those who have to follow a low-fat diet. They are an excellent source of minerals, especially phosphorus, potassium, selenium and magnesium. In addition, they contain lysine and

tryptophan, B vitamins and some antioxidant substances. Thanks to their characteristics they help the cardiovascular system to keep fit.

- **Raspberries:** They are a panacea for the skin: they are rich in vitamin C and E, they keep the skin more elastic, thanks to their antioxidant power and facilitate the production of collagen. Raspberries are also very powerful anti-inflammatory and anticancer agents, this property derives from the high content of vitamin C, antioxidants and the presence of ellagic acid. It seems that this acid inhibits the development of tumours by blocking carcinogens and reducing their absorption.
- **Blueberries:** They contain various elements such as sugars, mineral salts and vitamins A, C and B. They contain myrtillin which is an excellent ally for the circulatory system: it reduces the permeability of capillaries, strengthening blood vessels and improving them elasticity.
- **Blackberries:** They are rich in vitamins, minerals, dietary fibres and antioxidants, also they contain anthocyanins and flavonoids, substances with antioxidant and anti-inflammatory properties that also perform a significant anti-tumour action. They are rich in vitamins, from the well-known C, up to A and B9, fibre and mineral salts.
- **Ribes:** They are delicious and incredibly rich in properties that are vital for your health. Like other berries, currants contain antioxidants, vitamins, and minerals. These are very useful for your body for their astringent, diuretic, purifying and refreshing action.
- **Wild strawberries:** They are diuretic, refreshing, purifying and rich in nutrients, contain phosphorus, iron, calcium and vitamins A, B1, B2 and C.
- **Arnica**: the part used are flowers. It has antibacterial, anti-inflammatory properties, treatment of hematomas, sprains, and muscle aches.
- **Biancospino**: the flowering tops are sought after for vaso-dilator activity and regulation of heart rate and arterial hypertension.
- **Finocchio**: the seeds exert an antispasmodic, refreshing and digestive action.
- **Ortica**: the leaves are diuretic and anti-inflammatory.
- **Rosa canina**: antioxidant, diuretic and rich in vitamin C.
- **Valeriana**: the root is a sedative and a natural anxiolytic.
- **Tarasco**: the boiled and filtered flower was used to make an o syrup.
- **Sambuco**: fights flu and fever and favours the digestion.

3.2. WHAT WE PRODUCE

We want start to produce:

- **Herbal tea**: a mixture of dried herbs ready to add in a bug of boil water. The mixtures can contain dried Biancospino, finocchio, Rosa canina, sambuco, lamponi, mirtilli, more, fragoline di bosco, ribes. The package is done with recycle paper to preserve the quality of our dried product. It will contain 50 grams of product. It can be customizer.
- **Dried mushrooms**: dried mushrooms ready to add in every dish. It is characterized by high quality and are sold in small sachets of 50 grams.

- **Dried fruits**: A practical snack ready to eat composed by dried ciliegie tardive, ribes, more lamponi, mirtilli, mele and pere. It is characterized by high quality and are sold in small sachets done with recycle paper of 50 grams.
- **Food mixtures**: 4 food mixture ready to cook:
    - Polenta with mushrooms: a dried mixture of local corn bought from local producers and our dried mushrooms.
    - Risotto mushrooms: a ready mixture of dried mushrooms and rice ready to cook.
    - Risotto blueberries: a ready mixture of dried blueberries and rice ready to cook.
    - Trentino soup: a ready mixture of dried carrot, potatoes, cavolo cappuccino and orzo bought from local producers.

3.3. AGGREGATE PLANNING

Period	1	2	3	4	5	6	Total
Forecast	100	150	200	320	350	200	**1320**
Output							
Regular time	180	180	180	180	180	180	**1080**
Overtime	-	-	20	80	120	20	**240**
Subcontract	-	-	-	-	-	-	**-**
Output – Forecast	80	30	0	(60)	(50)	0	**0**
Inventory							
Beginning	0	80	110	110	50	0	**-**
Ending	80	110	110	50	0	0	**-**
Average	40	95	110	80	25	0	**350**
Backlog	0	0	0	0	0	0	**0**
Costs							
Output							
Regular	1800 €	1800 €	1800 €	1800 €	1800 €	1800 €	**10800 €**
Overtime	0 €	0 €	300 €	525 €	450 €	300 €	**1575 €**
Subcontract	-	-	-	-	-	-	**-**
Hire/Lay off	-	-	-	540 €	1080 €	-	**1620 €**
Inventory	40 €	95 €	110 €	80 €	25 €	0 €	**350 €**
Back orders	0 €	0 €	0 €	0 €	0 €	0 €	**0 €**
Total	**1840 €**	**1895 €**	**2210 €**	**2945 €**	**3355 €**	**2100 €**	**14.345 €**

The company aims to keep production constant but since it deals with products that are more available at certain times than others, a change in demand in this regard is also expected because consumers often and willingly make use of certain products at certain times. For that, it has been

decided to adopt the level capacity strategy, in such a way you can satisfy the variation of the demand to use seasonal workers, stocks and overtime.

We assume that our company has 4 workers, and can produce in overtime up to 20% plus, but in the periods of greatest production it is necessary to have an more worker. Each of them can handle 45 kg of materials. The supply and demand are defined in terms of quantities in kilogrammes, while for the costs it has been forecast:

- Regular time = 10 €/kg
- Overtime = 15 €/kg
- Subcontract = 20 €/kg
- Hire/Layoff = 12 €/kg
- Inventory = 1 €/kg
- Back orders = 3 €/kg

Each period is two months, so you have a 12-month forecast. The subcontracting is not expected, because we want to keep production under control at all costs in order to ensure always guarantee the quality of our products. In the case of periods where production becomes more intense, overtime is used.

3.3.1. DISAGGREGATING THE AGGREGATE PLAN

Product	*Quantity (Kg)*
Herbal tea	10
Dried mushrooms	15
Dried fruits	25
Polenta with mushrooms	30
Risotto mushrooms	15
Risotto blueberries	15
Trentino soup	70
Total	180

Since it has been decided to maintain, in general, constant production throughout the year, we assume that we do the same thing for each individual product. This you can do by the fact that, the raw materials produced directly by us once harvested and dried, they can be stored even up to 12 months before packaging. Once hermetically packed in a bag, it is assumed that the products can last up to 18 months. In this way we also manage to have available throughout the year a whole series of products that have a certain seasonality.

3.4. BILL OF MATERIALS

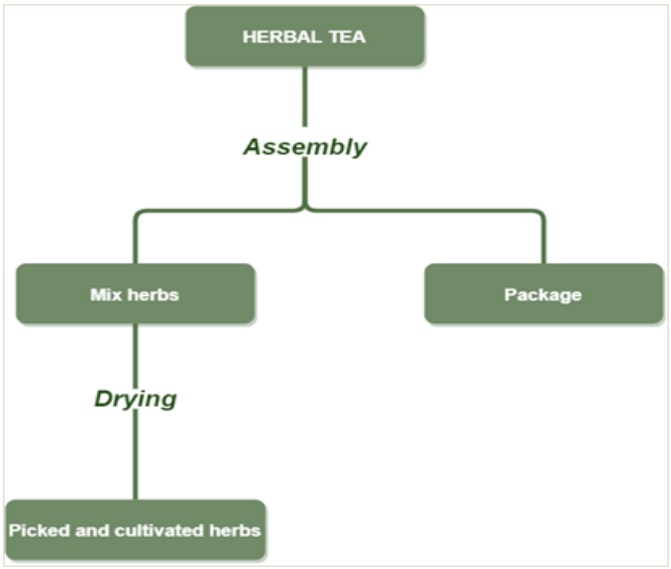
Below is the bill of materials of each product and its product structure.

3.4.1. HERBAL TEA

It is a mixture of dried:

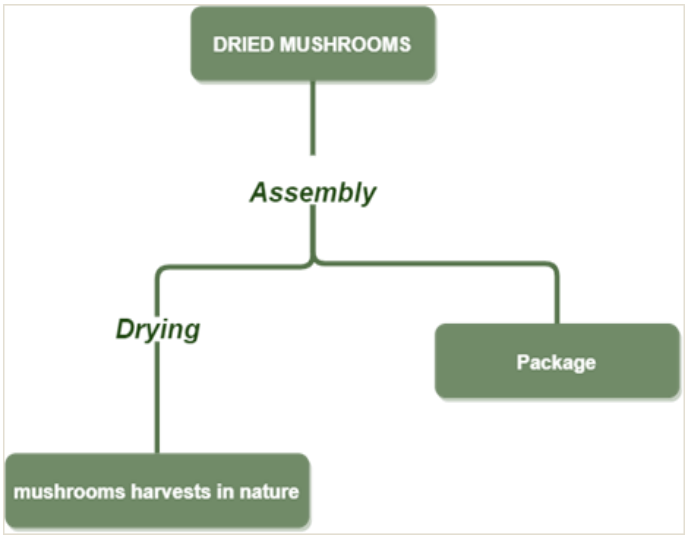
- Biancospino
- Finocchio
- Rosa canina
- Sambuco
- Lamponi
- Mirtilli
- More
- Fragoline di bosco
- Ribes

It is put in a recycle paper package.



3.4.2. DRIED MUSHROOMS

- Mushrooms harvests in nature and dried.
- Small sachets

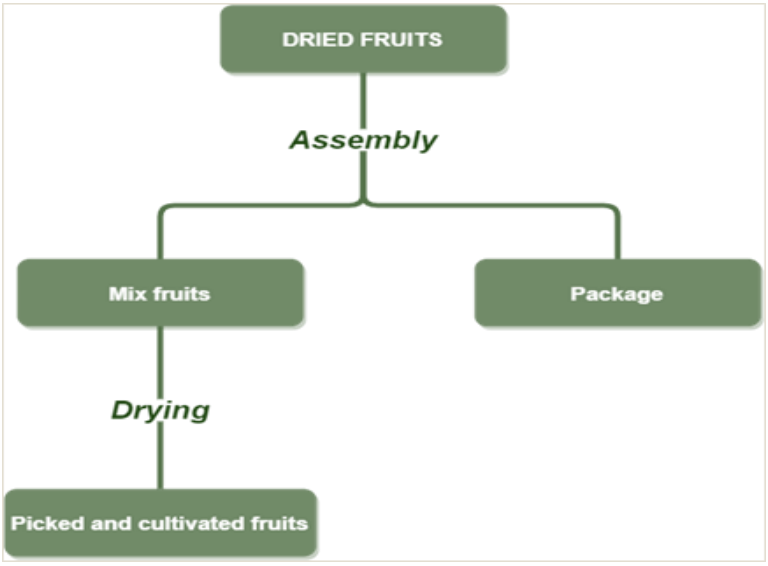


3.4.3. DRIED FRUITS

It is a snack composed by dried:

- ciliegie tardive
- ribes
- more
- lamponi
- mirtilli
- mele
- pere

It is put in a recycle paper package.

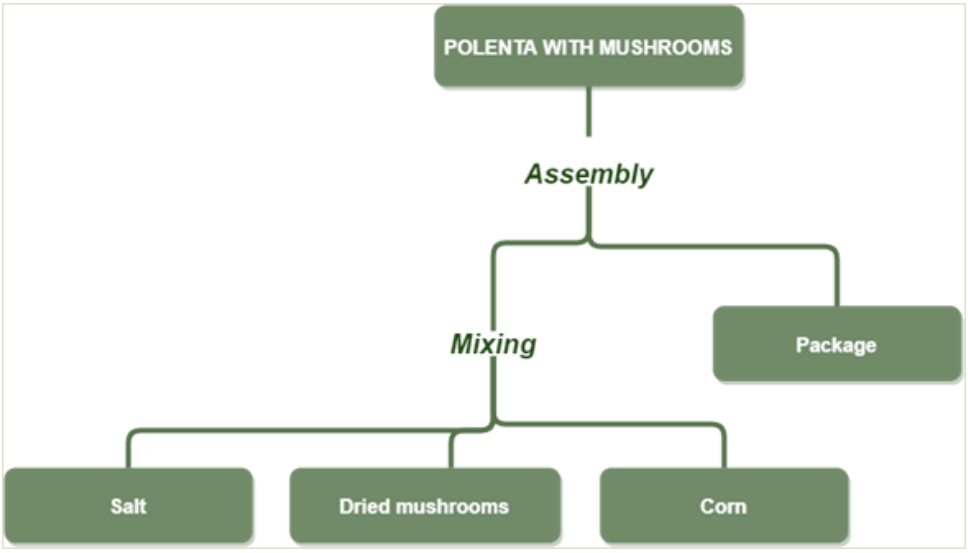


3.4.4. FOOD MIXTURE

Polenta with mushrooms

It is composed by:

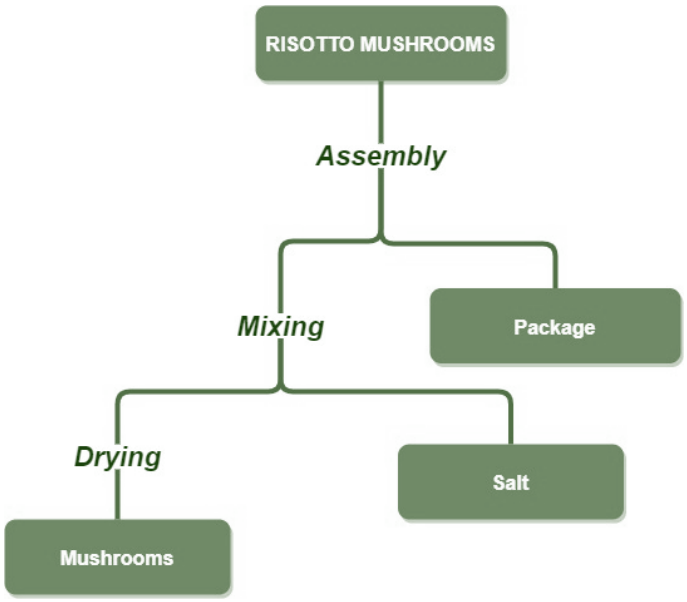
- Salt
- Dried mixture of corn.
- Dried mushrooms.



3.4.5. RISOTTO MUSHROOMS

It is composed by:

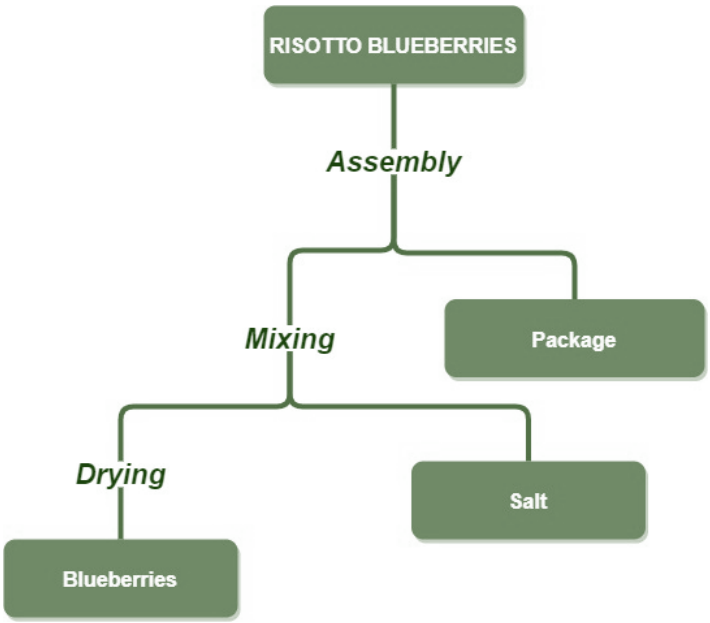
- Salt
- Rice
- Dried mushrooms



3.4.6. RISOTTO BLUEBERRIES

It is composed by:

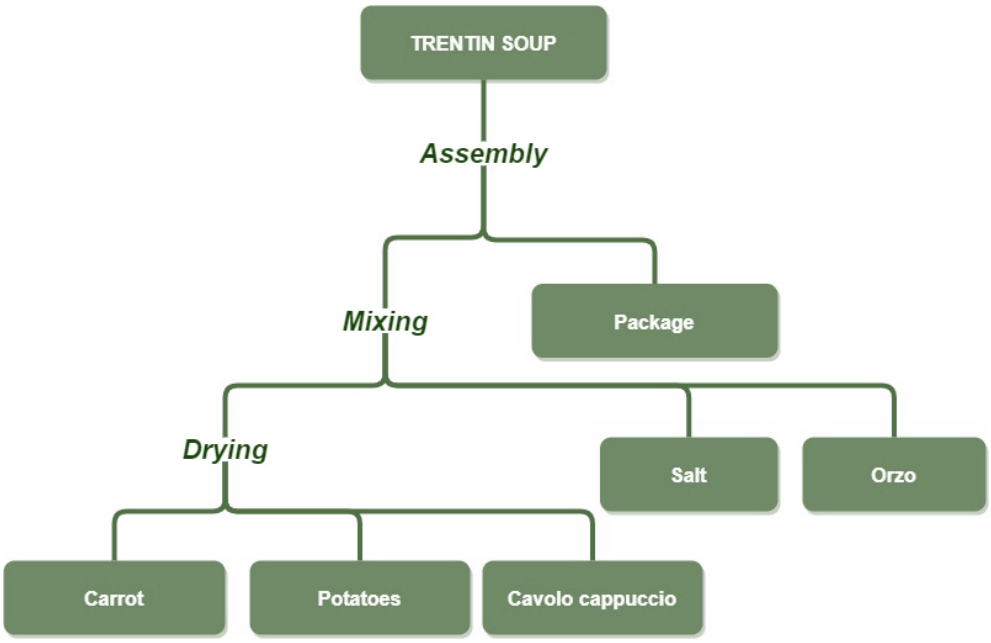
- Salt
- Rice
- Dried Blueberries



3.4.7. TRENTIN SOUP

It is composed by:

- Salt
- Dried carrot
- Dried potatoes
- Dried cavolo cappuccino
- Orzo



3.5. MASTER SCHEDULE

These tables illustrate the time to produce our products. Remembering that our raw materials all have their own seasonality but that by drying them they can also be used for a long time, by storing them in the warehouse, the production time will be shorter. But to make the analysis more truthful, we do the calculation of the production time in the worst-case scenario or starting from the moment in which the various plants (spontaneous or cultivated) will begin to produce their fruits.

HERBAL TEA

WEEK	1	2	3	4	5	6	7	8
				Mixing and Assembly				
		Harvesting and Drying						

Cumulative lead time: 3 weeks

DRIED MUSHROOMS

WEEK	1	2	3	4	5	6	7	8
				Assembly				
		Harvesting and Drying						

Cumulative lead time: 3 weeks

DRIED FRUITS

WEEK	1	2	3	4	5	6	7	8
				Mixing and Assembly				
		Harvesting and Drying						

Cumulative lead time: 3 weeks

FOOD MIXTURES

WEEK	1	2	3	4	5	6	7	8
				Mixing and assembly				
		Harvesting and Drying						
			Procurement					

Cumulative lead time: 3 weeks

3.6. MASTER PRODUCT SCHEDULE

Below we will go to analyze the product "*Trentin Soup*" in all its details, since it is the product made in greater quantities. It is assumed that to produce 70 kg of this product it is necessary:

Product	*Quantity (Kg)*
Dried cavolo cappuccio	9,5
Salt	1
Orzo	35
Dried carrots	10,5
Dried potatoes	14
Total	70

The tables showed the MPS of the product "*Trentin Soup*" and its sub-products to produce them. These tables provide an eight-week forecast, particularly for June and July considering also the extra production respecting the proportions on quantities.

Trentino soup

Start inventory: 43	**June**				**July**			
Forecast	9,5	9,5	9,5	9,5	15,5	15,5	15,5	15,5
Customer orders (committed)	10	8	10	8	8	17	11	12
Projected on-hand inventory	33	43	33	43	27,5	35,5	20	29,5
MPS		19,5		19,5		25		25
Available to promise inventory (uncommitted)	33	1,5		3,5		-3		14

In the second week of July there is a negative ATP, so in case all available inventory was actually sold in previous periods we would not be able to fulfill orders in the second and third weeks of July, but

since the ATP of the previous period is positive, we can reserve a part of them to be used in the second and third weeks of July.

Now we analyse the sub ingredients produced by us (potatoes, carrots, cabbage) since they are required in varying quantities in the packaging of the various items we produce, they need a drying process. Since we are seasonal, we will have periods when production will be high (typically the spring and summer period) and periods when their production will be completely absent and therefore it will be necessary to use inventory in stock.

Dried cavolo cappuccino

Start inventory: 18	**June**				**July**			
Forecast	5	0	5	0	7	0	7	0
Customer orders (committed)	5	0	5	0	7	0	7	0
Projected on-hand inventory	25	25	32	32	37	37	42	42
MPS	12		12		12		12	
Available to promise inventory (uncommitted)	7		7		7		7	

Dried carrots

Start inventory: 24	**June**				**July**			
Forecast	6	0	6	0	7,5	0	7,5	0
Customer orders (committed)	6	0	6	0	7,5	0	7,5	0
Projected on-hand inventory	33	33	42	42	49,5	49,5	57	57
MPS	15		15		15		15	
Available to promise inventory (uncommitted)	9		9		7,5		7,5	

Dried potatoes

Start inventory: 30	**June**				**July**			
Forecast	8	0	8	0	10	0	10	0
Customer orders (committed)	8	0	8	0	10	0	10	0
Projected on-hand inventory	44	44	58	58	70	70	82	82
MPS	22		22		22		22	
Available to promise inventory (uncommitted)	14		14		12		12	

These MPSs reflect, in proportion, the quantity needed to produce the main product. The forecast is proportionate to the Trentino Soup MPS and for this reason is not distributed along the time. As we can see in summer the production is much greater than the quantity needed so the ATP is always positive, and inventory grows up.

3.7. MATERIALS RESOURCE PLANNING - MRP

To simplified just a little bit the tables and the example, we suppose that our firm produce the *Trentino soup* quantities required for the month of June and July at fourth week. Thus, the week number one is referred to as the first week of June and so on.

Trentino soup

Week Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Gross Requirements				39				62	
Scheduled Receipts									
Projected on hand	43	43	43	43	43	43	43	43	31
Net requirements				39				50	
Planned-order-receipt				39				50	
Planned-order release			39				50		

Orzo

Week Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Gross Requirements			19,5				25	
Scheduled Receipts								
Projected on hand								
Net requirements			19,5				25	
Planned-order-receipt			19,5				25	
Planned-order release		19,5				25		

Salt

Week Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Gross Requirements			0,5				0,7	
Scheduled Receipts								
Projected on hand				0,5	0,5	0,5	0,5	0,8
Net requirements			0,5				0,2	
Planned-order-receipt			1				1	
Planned-order release		1				1		

Dried cavolo cappuccino

Week Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Gross Requirements			10				14	
Scheduled Receipts								

Projected on hand	18	18	18	32	32	32	32	42
Net requirements			0				0	
Planned-order-receipt			24				24	
Planned-order release	24				24			

Dried carrots

Week Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Gross Requirements			12				15	
Scheduled Receipts								
Projected on hand	24	24	24	42	42	42	42	57
Net requirements			0				0	
Planned-order-receipt			30				30	
Planned-order release	30				30			

Dried potatoes

Week Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Gross Requirements			16				20	
Scheduled Receipts								
Projected on hand	30	30	30	58	58	58	58	82
Net requirements			0				0	
Planned-order-receipt			44				44	
Planned-order release	44				44			

As we can see, in this period the dried products are produced in large quantities thus feeding the stock in order to use it in the winter period when the cultivation is not possible. About raw materials such as salt and barley that are purchased by our suppliers, let us assume that they are found in the necessary quantities from time to time in order to reduce their storage in stock as much as possible. Regarding the final product, the production is constant but is a bit increased during this period to counter high demand.

3.8. MAKE OR BUY CHOICE

Regarding the choice to produce or buy certain raw materials the choice is quite simple. Given the location of our company, it will be easier for us to supply all the raw materials that can be collected spontaneously in nature given their "proximity" but also because by doing so ourselves, we have direct control over the various products especially in terms of quality and moreover, they do not have a purchase cost but only need the manpower for the collection that will be carried out directly by our workers.

As far as vegetables are concerned, since we assume that we have a small field near our company, it could be carried out a direct production because they are simple to grow and do not require

special care. In this way we know the quality of our product and it is also assumed that the production costs are lower than the costs of a possible purchase.
But since the start-up costs for the realization of a direct production can affect our company, we assume to postpone it after the first years and then to supply ourselves from local producers for these the raw materials. In addition, in the design of our company we assume that it will be able to manage all aspects deriving from direct production.
Instead for raw materials such as barley, corn, pears, rice, cherries, and apples we decided to buy them from local producers. For fruit it would be necessary to create an orchard, which requires a lot of work for its maintenance and will not be immediately productive, while for barley and corn, since we need a considerable amount of it, we find it impractical to cultivate it directly because we would need more land and the cost of its purchase and maintenance can have a considerable impact on our company.
For their purchase we intend to turn to small local producers able to recognize the quality of their products through certifications such as organic branding or ISO certification and in the quantities established through MRPs to have the freshest possible product and not have unnecessary surpluses in stock.

3.9. QUALITY MANAGEMENT

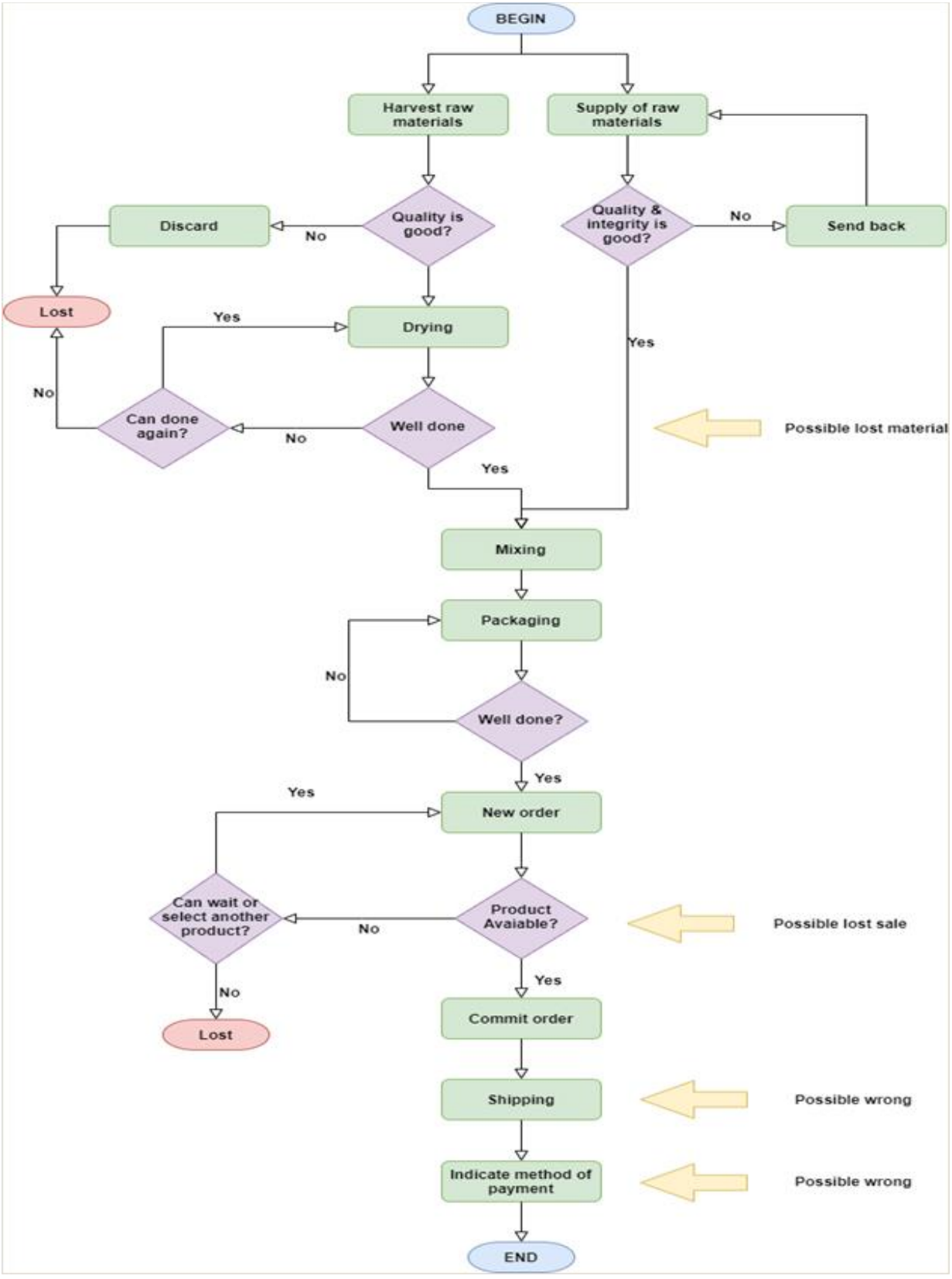
The quality of each of our products is affected by the following factors:

- The product must be highly healthy, made with organic products and without the use of non-natural products.
- The product must be pleasant to the eye, the various components of it must be clearly distinguished and its packaging must recall the idea of an organic, healthy, and environmentally friendly product.
- The quality of raw materials is important, both for what we produce directly and for what we go to buy from our suppliers because they affect the final product.
- You can find suggestions for consumption in your packaging.
- The fact that all products are dry and dried makes it possible to have a long deadline.
- Each product must be the same in terms of quality.

Since not always in the distribution of products everything can be fine, to collect any complaints we assume to make available on our site a special area that can collect feedback from our customers. In this way we can collect information to understand the positive and negative things about our products and make up for any shortcomings.
Another aspect to take into account, is that the products ordered from our site are shipped. Any problems or delays of the shipping company may lead to a potentially dissatisfied customer. It will be up to our company to remedy any problems, perhaps through the reimbursement of expenses or by returning the ordered product, and to retaliating against the shipping company.
Another way to guarantee the quality of our products and our company is to have ISO 9000 and ISO 14000 certifications. Respectively, the first defines a set of quality management and quality assurance standards, which are fundamental to the international business, while the second sets

out sets of international standards for assessing a company's environmental performance. These standards can be useful to us to guarantee the quality of our products also in the international field if one day we decide to export abroad.

3.10. PROCESS IMPROVEMENT



We go to analyze the production process of our company through a flowchart to search for any points where problems may occur.

As we can see in the initial part when finding raw materials, we go to check their quality. In the case of raw materials produced directly by us, by quality control we mean that they are not subject to fungi, rot, the presence of small insects and so on... basically we aim to have the product as whole as possible. While in the case of raw materials purchased from our suppliers, we make sure that they are intact and have not been tampered with.

In this case, a possible problem forces us to discard the product and send it back to the manufacturer, which can cause delays. On the other hand, the raw materials produced directly by us who present problems cannot be used and therefore immediately represent a loss in economic terms, as well as the fact that they can slow down production or even, in the worst case, lead to the total lack of a product that we have decided to produce. The risk of these assumptions occurring is low because whole matches of raw materials should be entirely corrupted.

The drying process of raw materials, if not well executed, can be re-performed if a first cycle is not sufficient but can lead to the complete loss of several products if the materials are treated excessively.

When a new order arrives, you should always check whether it can be fulfilled or not. As expressed in the previous chapters, no such problems should be created because it is always expected to meet demand but if this is not possible, customers will be forced to wait longer than they should or change the product to buy otherwise if they lose their sale.

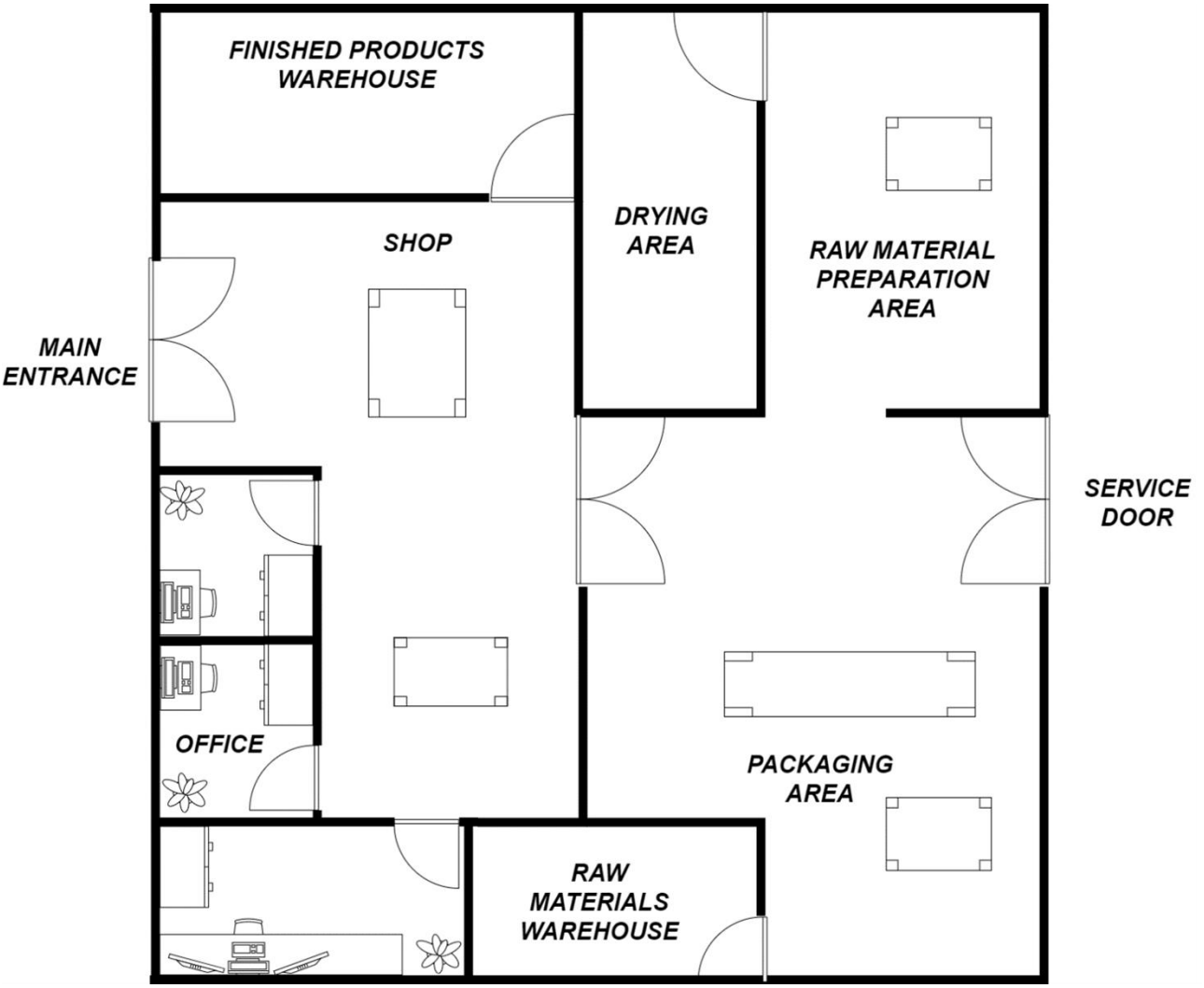
As far as the shipping phase is concerned, as mentioned above, there may be problems and the customer will be directly on us when they occur. At this point it is up to our company to refund or resubmit the ordered product and then subsequently complain to the shipping company to which we rely.

Finally, attention will have to be paid to payments, especially electronic payments, relying on a reliable system every time a transaction is made.

Since we focus on the quality of our raw materials especially at source, therefore in the initial phases, our company lends itself well to implementing a Lean approach of type Jidoka. Also, because in case our quality standards are not respected, the process stops leading to its repetition or even in rare cases at its complete interruption. In particular, there are steps in which to pay more attention (raw materials, drying) in which you can also have losses in economic terms and affect the quality of the product, while in others (shipping and payment) you can create dissatisfaction in the customer.

3.11. PLANT LAYOUT

In this image we want to show the various areas of work of our company:



We can distinguish seven different areas:

- Shop: small part dedicated to the direct sale of our products
- Offices: administrative offices
- Raw materials warehouse: warehouse for the storage of all raw materials, it is assumed that it has approximately a maximum capacity of 300 kg
- Finished product warehouse: warehouse for storage all finished products, it is assumed that it has approximately a maximum capacity of 200 kg
- Raw materials preparation area: area dedicated to the control, cleaning and cutting of all the raw materials that enter our company
- Drying area: room used raw materials
- Packaging area: mixing and packing area of finished products

The main areas of the area are the last three and for each of them we are now going to report an estimate of maximum production capacity:

Area	*Capacity (Kg/Hour)*
Raw materials preparation area	*20*
Drying area	*10*
Packaging area	*2*

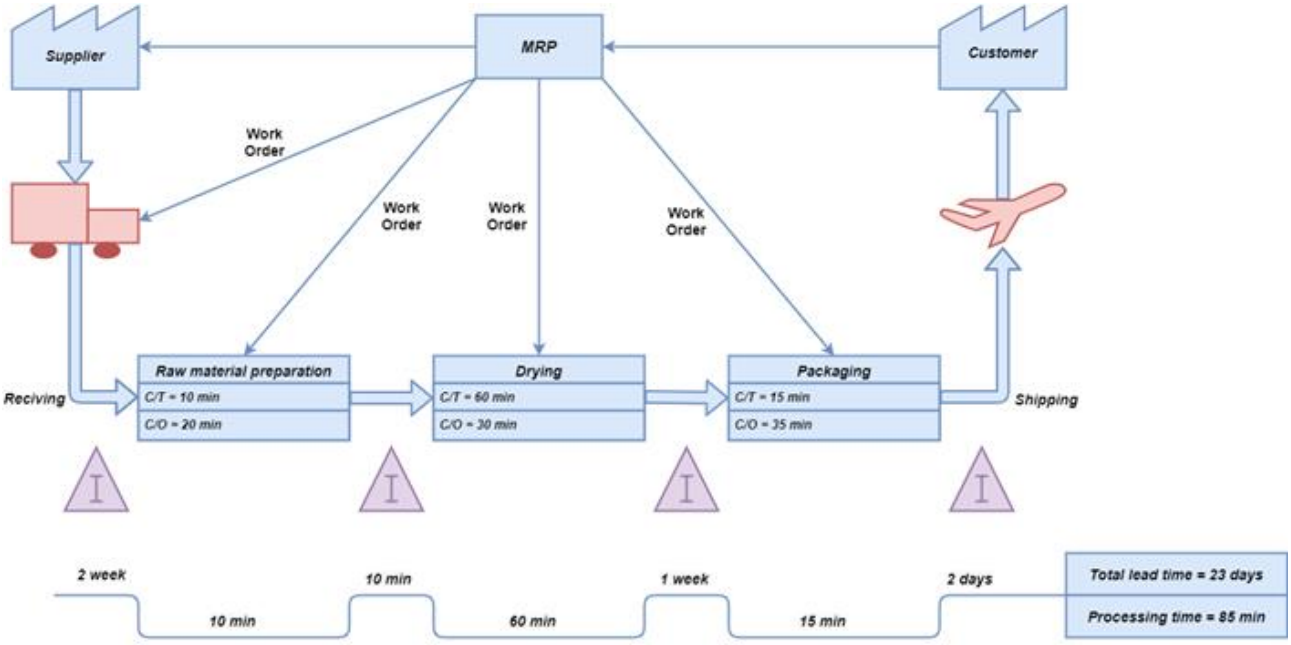
For each of the four workers in our company, we assume that working hours over a two-month period will be distributed as follows:

- 5 days a week
- 8 weeks in two months
- A unique 8-hour shifts with an hour break for lunch and coffee-breaks

From this we can easily calculate the tack time, the cycle time needed in a production system to match the pace of production to demand rate.

*Net available time = Total time – Break time = 8 hour * 60 – 1 hour * 60 = 420 min*
*Daily demand = Demand in a bimester / Total workday = 180 kg / (5*8) day = 4,5 kg*
Tack Time = Net available time / Daily demand = 420 / 4,5 *= 93 min per cycle*

At this point we are going to estimate the total lead time and the processing time, respectively the total time it takes to move from the supply of raw materials to the finished product and the actual time for its realization. The changeover time collects all the stall times, as well as the time necessary for maintenance and to switch from one product to another.



As we can see from the image, processing time is well below tack time, which is a good indicator that suggests that demand can be met on time. In according to the master schedule, the total lead time is about 23 days, the total time needed to go from planning to shipping the finished product.

3.12. COST ESTIMATION

The following table shows the cost of raw materials and other relevant costs.

Materie prime	*€/kg*
Cavolo cappuccio	0,20
Patate	0,30
Carote	0,20
Frutti rossi	1,00
Mele/pere	0,60
Mashrooms	8,00
Blueberries	1,00
Salt	0,1
Orzo	1,00
Rice	0,90
Polenta flour	0,50
Herbs	7,00

Altri costi		
Electric power	0,3	€/kw
Water	0,9	€/mc
Package	0,1	€ per units
Manodopera	18	€/hour

Prodotti	***Materie prime/intermedie***	***Costo in €***	***Costo totale per kg di prodotto***
Dried mashrooms	*Mashrooms*	*20,00*	*20,00*
Dried blueberris	*Blueberries*	*2,50*	*2,50*
Dried apples/pears	*Apples/pears*	*1,50*	*1,50*
Dried red fruits	*Red fruits*	*2,50*	*2,50*
Dried carrots	*Carrots*	*0,50*	*0,50*
Dried potatoes	*Potetoes*	*0,75*	*0,75*
Dried cavolo cappuccio	*Cavolo cappuccio*	*0,50*	*0,50*
Trentino soup	*Dried cavolo cappuccio*	*0,07*	*0,80*
	Dried carrots	*0,08*	
	Dried potatoes	*0,15*	
	Salt	*0,00*	
	Orzo	*0,50*	
Polenta mashrooms	*Dried mashrooms*	*0,56*	*1,02*
	Salt	*0,00*	

	Polenta flour	*0,46*	
Risotto mashrooms	*Dried mashrooms*	*0,19*	*1,04*
	Salt	*0,00*	
	Rice	*0,85*	
Risotto bluberries	*Dried blueberries*	*0,22*	*1,00*
	Salt	*0,00*	
	Rice	*0,78*	
Herbal tea	*Dried herbs*	*17,50*	*17,50*

	Quantità	***Costo totale per bimestre €***
Dried mashrooms	*15*	*300,00*
Trentino soup	*70*	*55,90*
Polenta mashrooms	*30*	*30,57*
Risotto mashrooms	*15*	*15,28*
Dried fruits	*25*	*62,50*
Risotto bluberries	*15*	*15,01*
Herbal tea	*10*	*175,00*
Eletric power	*1500*	*450,00*
Water	*100*	*90,00*
Package	*1800*	*180,00*
Manodopera	*1280*	*23040,00*
Totale		*24414,27*

This final table gives a small estimate of the total costs to be incurred for two months to produce 180 kg of products. It will be up to the financial manager to estimate the costs in detail and the real amount of products to be produced to make our company have profits.

CHAPTER 4: FINANCIAL PLAN

This chapter talks about identification of relevant costs that might incur and some financial projections explained in detail ahead.

4.1. CLASSIFICATION OF RELEVANT COSTS

4.1.1. MANUFACTURING COSTS (PRODUCT COSTS)

Direct materials:

- Raw materials that can be easily traced to a single unit of product. For example, for a prepared mixture for mushrooms risotto we have to consider the rice, the mushrooms and the spices that goes into a single unit of prepared mixture. For a single unit of dried fruit the direct material to consider is only the fresh fruit.
- Packaging materials

Direct labour:

- Cost incurred for paying the production workers

Manufacturing overhead (they are the costs associated with operating the factory that cannot be easily traced to a single unit of product):

- Indirect labour
  - cost incurred for security guards and janitors
  - cost incurred for the supervisor
  - cost incurred for the quality control
  - cost incurred for the warehouse worker
- Factory utilities
- Depreciation on factory buildings and equipment
- Insurance on manufacturing facilities and factory area

4.1.2. NON-MANUFACTURING COSTS (PERIOD COSTS)

Selling costs (they represent all the costs incurred to get the finished product to the customer):

- Advertising
- Shipping
- Costs for constructing the web site and for its maintenance

Administrative costs (they represent all the costs associated with the general management of the company):

- Travel costs for securing suppliers and public relations costs (purchasing department)
- General administration costs
- Costs for professional consultants

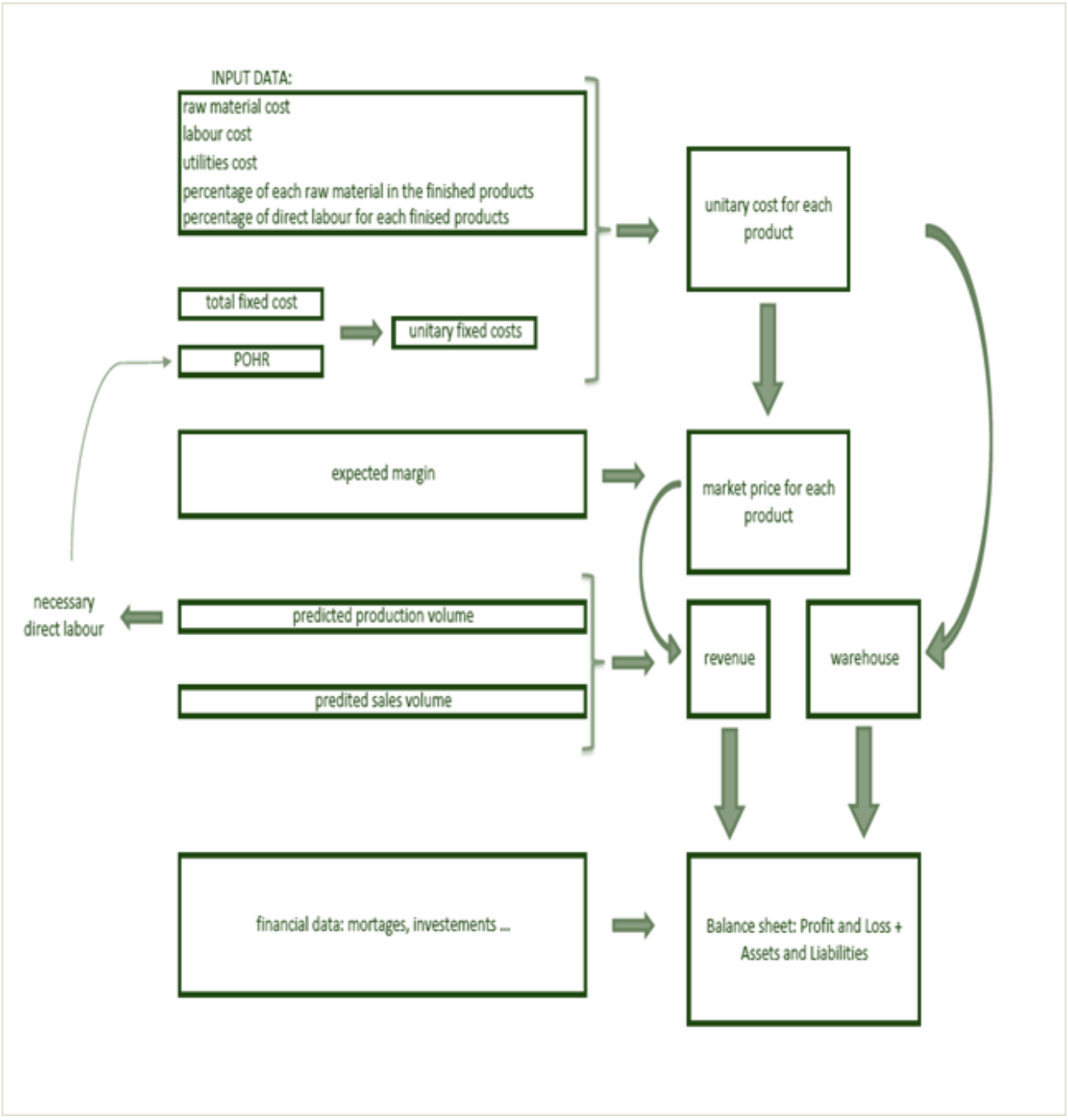
4.1.3. PREMISES

The planned cost for the equipment is 60000 €. The depreciation is calculated in 3 years resulting in 20000 € of fixed costs for each year.

The funding is obtained from a bank loan for the total amount of 200000 €. The interest rate is fixed at 1,2% so for the first year the interests result in 2400 € of fixed costs.

4.2. LOGIC FLOW OF THE CALCULATION

In the following image is shown the logic flow adopted to calculate the budget and the balance sheets of the firm. All the calculation has been implemented using *Excel* so that one can change the input data and the system automatically calculates the *Profit and Loss* and the *Assets and Liabilities* documents.



4.3. YEAR 1

4.3.1. START-UP COSTS

They are costs attributable only to the first year and necessary to start the activity.

One-time costs	Total cost
Licences and permits fees	1.000,00
Web site development	1.000,00
Administrative expenses and professional consultants (like registering the business and cost for legal support)	5.000,00
Production set up costs	2.000,00
Total	9.000,00

4.3.2. FIXED COST FOR THE YEAR

In the following image the selling costs, administrative costs and overhead costs has been grouped using colours (respectively green, orange and yellow).

	Total
Rent for the building	5.000,00
Website hosting and support service	1.200,00
Advertising, marketing and market research	10.000,00
Travel costs for securing suppliers	2.000,00
General adminisration costs (1 person)	40.000,00
Cost for professional consultants	1.000,00
Utilities (water, electricity, gas, internet, phone)	3.000,00
Insurance on manufacturing facilities and factory area	3.000,00
Quality control (1 person)	40.000,00
Security guards and janitors (1 people, external agency)	25.000,00
Supervisor (1 person)	40.000,00
Warehouse workers (1 person)	30.000,00
Maintainance (1 person)	30.000,00
Total	230.200,00
Depretiation in 3 years	20.000,00
Annual interest	2.400,00

Summing up all the start-up costs and the fixed costs, we obtain for the first year a **total amount of fixed costs equals to 261600 €**.

4.3.3. VARIABLE COSTS

The following table shows all the direct costs for each of our finished products (both for kilogram and for single pack).

	Variable cost/kg	Pack dimension (kg)	Variable cost/pack
Trentino soup	3,16	0,50	1,58
Dried red fruits	6,52	0,10	0,65
Dried apples/pears	2,65	0,25	0,66
Mashrooms risotto	1,85	1,00	1,85
Mashrooms polenta	2,57	1,00	2,57
Bluberries risotto	1,77	1,00	1,77
Herbal tea	21,12	0,10	2,11
Dried mashrooms	60,47	0,15	5,45

In the following it is shown an example of the calculation of the direct costs for the *Trentino soup*. All the costs of the other products are calculated in the same manner.

- **Example of the calculation of the variable cost for *Trentino soup***

Here is the table that is used to calculate the variable cost per single pack of *Trentino soup*. To calculate it we consider the raw materials, the electricity, the direct labour and the material for the packaging.

	quantity	component quantity/kg finished product	unitary cost	cost/kg finished product	weight on the final unitary cost
Dried cavolo cappuccio (kg)	9,5	0,14	5,60	0,77	24%
Dried carrots (kg)	10,5	0,15	3,12	0,47	15%
Dried potatoes (kg)	14	0,20	3,43	0,69	22%
Salt (kg)	0,5	0,01	0,01	0,00	0%
Orzo (kg)	35	0,50	1,00	0,50	16%
Electricity (kW/h)	1,5	0,02	0,30	0,01	0%
Labour (h)	2,316667	0,03	17,00	0,57	18%
Packs (number of packs)	139	2,00	0,08	0,16	5%
final quantity obtained (kg)	69,5	1,00		3,16	
Variable cost per single pack				1,58	

Where the columns have the following meaning:

- *Quantity* → defined by operations and finance managers assuming the batch size.
- *Component quantity/kg finished product* → ratio between the quantity of the single component and the obtained quantity of finished product.
- *Unitary cost* → unitary cost for each component. For the raw materials the price is automatically taken from a table reporting all the raw materials costs. The cost of electricity is estimated as 0,30 €/kW and the unitary cost of the labour is estimated as 17 €/labour hour[1].
- *Cost/kg finished product* → cost of each component per kilogram of finished product (obtained as the product between the unitary cost and the *component quantity/kg finished product*). For example each kg of Trentino soup has a cost of 0,47 € that comes from the dried carrots.
- *Weight on the final unitary cost* → it represents the weight that each component has on the final variable cost. It is useful to quickly see the impact that each cost item has on the final direct cost.

The variable cost per single pack of *Trentino Soup* is highlighted in yellow and is equal to 1,58 €. It is obtained by multiplying the total *cost/kg of finished product* by the dimension of the pack (assumed to be 0,5 kg for *Trentino Soup*).

[1] The labour cost is estimated as the cost for a single worker hat the company must afford, assuming that a worker costs 30000 € per year and that the total number of working hours is 220*8.

It's important to notice that in the *Trentino soup* we have as ingredients some dried products that ourselves manufacture. So the unitary cost for each one of them has been separately calculated (without considering the packaging material because we need them only as intermediate product). This is the example for the dried cavolo cappuccio.

	Quantity	component quantity/kg finished product	unitary cost	cost/kg finished product	weight on the final unitary cost
Cavolo cappuccio (kg)	100,00	5,00	0,20	1,00	18%
Electricity (kW/h)	250,00	12,50	0,30	3,75	67%
Labour (h)	1,00	0,05	17,00	0,85	15%
Dried cavolo cappuccio (kg)	20,00	1,00		5,60	

4.3.4. ASSIGNMENT OF THE FIXED COSTS

First of all the *predetermined overhead rate* (*POHR*) has been calculated assuming as cost driver the labour hours. This is the formula for the *POHR*:

$$POHR = \frac{\sum_i Fixed\_cost_i}{Total\_hours}$$

The final assigned fixed cost is calculated for each product by multiplying the POHR by the total number of hours dedicated to the targeted product.
For the first year we have POHR = 15,82 €/labor_hour .
Since the total number of hours depends on the estimated production volume, also the *POHR* (and therefore the quantity of fixed costs assigned to each product) depends on it. For the first year we assume the following production volume:

	packaging (kg)	total kg of finished product	total production volume (packs)
Trentino soup	0,50	2500	5.000,00
Dried red fruits	0,10	500	5.000,00
Dried apples/pears	0,25	2500	10.000,00
Mashrooms risotto	1,00	10000	10.000,00
Mashrooms polenta	1,00	10000	10.000,00
Bluberries risotto	1,00	8000	8.000,00
Herbal tea	0,10	1000	10.000,00
Dried mashrooms	0,15	37,5	250,00

4.3.5. ASSIGNMENT OF THE FINAL COST PER PACK

Having the fixed and the variable costs per pack for each product, we can simply calculate the final cost for each unitary product as the sum of the fixed and variable costs. Considering a margin (we assumed a margin of 10% but it can be simply modified) we obtain the final price on the market.
The following table shows the total production cost and the market price for each product.

Finished	Direct cost/kg	Direct cost/pack	attributed fixed cost per kg	packaging (kg)	attributed fixed cost per pack	total production cost	market price
Trentino soup	3,16	1,58	8,97	0,50	4,48	6,06	6,67
Dried red fruits	6,52	0,65	44,83	0,10	4,48	5,13	5,65
Dried apples/pears	2,65	0,66	17,93	0,25	4,48	5,14	5,66
Mashrooms risotto	1,85	1,85	4,48	1,00	4,48	6,33	6,96
Mashrooms polenta	2,57	2,57	4,48	1,00	4,48	7,05	7,76
Bluberries risotto	1,77	1,77	4,48	1,00	4,48	6,25	6,88
Herbal tea	21,12	2,11	44,83	0,10	4,48	6,59	7,25
Dried mashrooms	60,47	5,45	43,03	0,15	6,45	11,91	13,10

4.3.6. FORECAST FOR THE SALES AND THE WAREHOUSE

To calculate the value of the warehouse, given in input the percentage of the forecast on the sales the system calculates the total volume of unit sold and the number of unit in the warehouse[2]. Then the value of the warehouse is calculated multiplying the production cost of each product by the number of remained units.

	total production volume (packs)	total sales volume (packs)	production cost per pack	market price per pack	Total revenue	Packs in warehouse	Value of the warehouse
Trentino soup	5.000,00	3.500,00	6,06	6,67	23.347,59	1.500,00	9.096,46
Dried red fruits	5.000,00	3.500,00	5,13	5,65	19.766,63	1.500,00	7.701,28
Dried apples/pears	10.000,00	7.000,00	5,14	5,66	39.610,25	3.000,00	15.432,57
Mashrooms risotto	10.000,00	7.000,00	6,33	6,96	48.727,73	3.000,00	18.984,83
Mashrooms polenta	10.000,00	7.000,00	7,05	7,76	54.289,45	3.000,00	21.151,73
Bluberries risotto	8.000,00	5.600,00	6,25	6,88	38.528,93	2.400,00	15.011,27
Herbal tea	10.000,00	7.000,00	6,59	7,25	50.775,25	3.000,00	19.782,57
Dried mashrooms	250,00	175,00	11,91	13,10	2.291,91	75,00	892,95
	-	-			-	-	-
	58.250,00	40.775,00			277.337,75	17.475,00	108.053,67

4.3.7. BALANCE SHEET

With the data obtained until now we can define the *Profit and Loss* and the *Assets and Liabilities* sheets. They are automatically calculated by the system (a change in the input data will automatically change them, so it's simple to simulate and study different situations) .
This is a summary of what we have obtained until now.

	market price	production volume (packs)	sales volume (packs)	revenue	wharehouse (packs)	wharehouse value (euro)
Trentino soup	6,67	5.000,00	3.500,00	23.347,59	1.500,00	9.096,46
Dried red fruits	5,65	5.000,00	3.500,00	19.766,63	1.500,00	7.701,28
Dried apples/pears	5,66	10.000,00	7.000,00	39.610,25	3.000,00	15.432,57
Mashrooms risotto	6,96	10.000,00	7.000,00	48.727,73	3.000,00	18.984,83
Mashrooms polenta	7,76	10.000,00	7.000,00	54.289,45	3.000,00	21.151,73
Bluberries risotto	6,88	8.000,00	5.600,00	38.528,93	2.400,00	15.011,27
Herbal tea	7,25	10.000,00	7.000,00	50.775,25	3.000,00	19.782,57
Dried mashrooms	13,10	250,00	175,00	2.291,91	75,00	892,95
		-	-	-	-	-
		58.250,00	40.775,00	277.337,75	17.475,00	108.053,67

[2] For the first year we assumed a percentage of sales of 75% of the production volume.

PROFIT AND LOSS

Income Statement	
Revenue	**Year 1**
Sales	277.337,75
Cost of Goods Sold	
Raw materials	83.437,33
Packaging	3.583,33
Labor	16.535,33
Utilities	2.545,43
Overhead	171.000,00
Total Cost of Goods Sold	**277.101,43**
Gross Profit	**236,32**
Operating Expenses	
Selling expenses	11.200,00
Administrative expenses	43.000,00
Rent for the factory area	5.000,00
Depreciation	20.000,00
Total Operating expenses	**79.200,00**
Operating income	**(78.963,68)**
Other Income and Expenses	
Interest revenue	2.400,00
Total other income and expenses	**2.400,00**
Income before tax	**(81.363,68)**

ASSETS AND LIABILITIES

Assets	Year 1
Fixed assets	
Intangibles	1.000,00
Long term investements	-
Research and development	-
Net fixed accounts	40.000,00
Total fixed assets	**41.000,00**
	-
Current assets	**-**
Cash	98.636,32
Inventories	108.053,67
Accounts receivable	-
Miscellaneous	-
Total current assets	**206.689,99**
Total assets	**247.689,99**
	-
Liabilities	**-**
Owners' funds	**-**
Issued common stock	-
Capital reserves	47.689,99
Revenue reserves	-
Total owners'funds	47.689,99
	-
Long term loans	**200.000,00**
	-
Current liabilities	**-**
Short term loans	-
Accounts payble	-
Miscellaneous	-
Total current liabilities	-
	-
Total liabilities	**247.689,99**

4.3.8. CASH FLOW

Having defined all the fixed costs and the variable costs, the system can also calculate the cash flow for the year.

Cash Flow Year 1		
	Cash at Beginning of Year	-
	Cash at End of Year	108.712,32
		Year 1
Operations		
Cash receipts from		
	Customers	276.413,75
	Other operations	-
Cash paid for		
	Start-up expenses	- 9.000,00
	Rent for the building	- 5.000,00
	Selling expensenses	- 11.200,00
	Administrative expenses	- 43.000,00
	Research and development	-
	Inventory purchases	- 87.020,67
	Direct labour and manufacturing overhead	-190.080,76
Cash Flow from Operations		- 68.887,68
Investing Activities		
Cash receipts from		
	Sale of property and equipment	-
	Collection of principal on loans	-
	Sale of investment securities	-
Cash paid for		
	Purchase of property and equipment	- 20.000,00
	Making loans to other entities	-
	Purchase of investment securities	-
Cash Flow from Investing Activities		- 20.000,00
Financing Activities		
Cash receipts from		
	Issuance of stock	-
	Bank loan	200.000,00
Cash paid for		
	Repurchase of stock (treasury stock)	-
	Interest on loan	- 2.400,00
	Repayment of loans	-
	Dividends	-
Cash Flow from Financing Activities		197.600,00
Cash Flow		108.712,32

4.4. PLANNED FIXED COSTS FOR YEAR 2 AND YEAR 3

	Year 2	Year 3
Rent for the building	5.000,00	5.000,00
Website hosting and support service	1.200,00	1.200,00
Advertising, marketing and market research	10.000,00	10.000,00
Travel costs for securing suppliers	2.000,00	2.000,00
General adminisration costs (1 person)	40.000,00	40.000,00
Cost for professional consultants	1.000,00	2.000,00
Research and development (1 person)	30.000,00	30.000,00
Utilities (water, electricity, gas, internet, phone)	3.000,00	3.000,00
Insurance on manufacturing facilities and factory area	3.000,00	3.000,00
Quality control (1 person for the 2nd year, 2 people for the 3th year)	40.000,00	80.000,00
Security guards and janitors (1 people, external agency)	25.000,00	25.000,00
Supervisor (1 person)	40.000,00	40.000,00
Warehouse workers (1 person)	30.000,00	30.000,00
Maintainance (1 person)	30.000,00	30.000,00
Depretiation of equipement	20.000,00	20.000,00
Interest on bank loan	2.400,00	2.400,00
Total	282.600,00	323.600,00

As we can see from the table showing the planned fixed costs, in the second year we plan to assume one person for the R&D (resulting in 30000 € of fixed costs per year). Moreover in the third year we plan to assume one more person for the quality control.

4.5. BALANCE SHEET FOR THE FIRST 3 YEARS

To define the *Profit and Loss* and the *Assets and Liabilities* sheets we assumed to pay 20000 € to the bank as reimbursement both in the second and in the third year.
In the following we show the resulted balance sheets for the first three years[3].

[3] The production and the sales volumes (and therefore the warehouse forecasts) has been changed a bit but it seems useless to show these details. If needed we have them in the excel file

4.5.1. INCOME STATEMENT

Income Statement			
Revenue	**Year 1**	**Year 2**	**Year 3**
Sales	277.337,75	397.559,18	483.513,11
Cost of Goods Sold			
Raw materials	83.437,33	98.279,92	98.279,92
Packaging	3.583,33	4.383,33	4.383,33
Labor	16.535,33	20.785,33	20.785,33
Utilities	2.545,43	2.848,88	2.848,88
Overhead	171.000,00	171.000,00	211.000,00
Total Cost of Goods Sold	**277.101,43**	**297.297,47**	**337.297,47**
Gross Profit	**236,32**	**100.261,72**	**146.215,65**
Operating Expenses			
Selling expenses	11.200,00	11.200,00	11.200,00
Administrative expenses	43.000,00	43.000,00	44.000,00
R&D	0,00	30.000,00	30.000,00
Rent for the factory area	5.000,00	5.000,00	5.000,00
Depreciation	20.000,00	20.000,00	20.000,00
Total Operating expenses	**79.200,00**	**109.200,00**	**110.200,00**
Operating income	**(78.963,68)**	**(8.938,28)**	**36.015,65**
Other Income and Expenses			
Interest revenue	2.400,00	2.400,00	2.400,00
Total other income and expenses	**2.400,00**	**2.400,00**	**2.400,00**
Income before tax	**(81.363,68)**	**(11.338,28)**	**33.615,65**

4.5.2. ASSETS AND LIABILITIES

Assets and liabilities			
Assets	**Year 1**	**Year 2**	**Year 3**
Fixed assets			
Intangibles	1.000,00	2.000,00	2.000,00
Long term investements	-	-	-
Research and development	-	-	2.000,00
Net fixed accounts	**40.000,00**	**20.000,00**	**-**
Total fixed assets	**41.000,00**	**22.000,00**	**4.000,00**
Current assets			
Cash	98.636,32	47.298,04	40.913,69
Inventories	108.053,67	137.176,10	159.304,85
Accounts receivable	-	-	-
Miscellaneous	-	-	-
Total current assets	**206.689,99**	**184.474,14**	**200.218,53**
Total assets	**247.689,99**	**206.474,14**	**204.218,53**
Liabilities			
Owners' funds			
Issued common stock	-	-	-
Capital reserves	47.689,99	26.474,14	44.218,53
Revenue reserves	-	-	-
Total owners'funds	**47.689,99**	**26.474,14**	**44.218,53**
Long term loans	**200.000,00**	**180.000,00**	**160.000,00**
Current liabilities			
Short term loans	-	-	-
Accounts payble	-	-	-
Miscellaneous	-	-	-
Total current liabilities	**-**	**-**	**-**
Total liabilities	**247.689,99**	**206.474,14**	**204.218,53**

4.6. CASH FLOW FOR THE FIRST THREE YEARS

3-Year Cash Flow				
	Cash at Beginning of Year	-	108.712,32	77.374,04
	Cash at End of Year	108.712,32	77.374,04	90.989,69
		Year 1	**Year 2**	**Year 3**
Operations				
Cash receipts from				
	Customers	276.413,75	397.559,18	483.513,11
	Other operations			
Cash paid for				
	Start-up expenses	- 9.000,00	-	-
	Rent for the building	- 5.000,00	- 5.000,00	- 5.000,00
	Selling expensenses	- 11.200,00	- 11.200,00	- 11.200,00
	Administrative expenses	- 43.000,00	- 43.000,00	- 44.000,00
	Research and development	-	- 30.000,00	- 30.000,00
	Inventory purchases	- 87.020,67	-102.663,26	-102.663,26
	Direct labour and manufacturing overhead	-190.080,76	-194.634,21	-234.634,21
Cash Flow from Operations		- 68.887,68	11.061,72	56.015,65
Investing Activities				
Cash receipts from				
	Sale of property and equipment			
	Collection of principal on loans			
	Sale of investment securities			
Cash paid for				
	Purchase of property and equipment	- 20.000,00	- 20.000,00	- 20.000,00
	Making loans to other entities			
	Purchase of investment securities			
Cash Flow from Investing Activities		- 20.000,00	- 20.000,00	- 20.000,00
Financing Activities				
Cash receipts from				
	Issuance of stock			
	Bank loan	200.000,00	-	-
Cash paid for				
	Repurchase of stock (treasury stock)			
	Interest on loan	- 2.400,00	- 2.400,00	- 2.400,00
	Repayment of loans	0	- 20.000,00	- 20.000,00
	Dividends			
Cash Flow from Financing Activities		197.600,00	- 22.400,00	- 22.400,00
Cash Flow		108.712,32	- 31.338,28	13.615,65

4.7. RISK ASSESMENT AND RISK MANAGEMENT

Two main risks have been analysed:

- A great increase in the cost of the raw materials (that can be caused by seasonal factors)
- A dramatic drop in the demand of customers

Defining the *Profit and Loss* for these two situations, we assessed that a drop in demand has a more dramatic effect in our business than the one that the increase in cost of raw materials has.

4.7.1. EFFECT OF THE INCREASE OF RAW MATERIALS

The simulation has been done by doubling the cost of all raw materials (for the second year). As we can see, we have a greater loss with respect to the original situation (18900,34 € vs 11338,28 €). Clearly the change in the cost of raw material involved also an increase of the cost of the market price.

Income Statement			
Revenue	**Year 1**	**Year 2**	**Year 3**
Sales	277.337,75	473.002,50	483.513,11
Cost of Goods Sold			
Raw materials	83.437,33	181.285,29	98.279,92
Packaging	3.583,33	4.383,33	4.383,33
Labor	16.535,33	20.785,33	20.785,33
Utilities	2.545,43	2.848,88	2.848,88
Overhead	171.000,00	171.000,00	211.000,00
Total Cost of Goods Sold	**277.101,43**	**380.302,84**	**337.297,47**
Gross Profit	**236,32**	**92.699,66**	**146.215,65**
Operating Expenses			
Selling expenses	11.200,00	11.200,00	11.200,00
Administrative expenses	43.000,00	43.000,00	44.000,00
R&D	0,00	30.000,00	30.000,00
Rent for the factory area	5.000,00	5.000,00	5.000,00
Depreciation	20.000,00	20.000,00	20.000,00
Total Operating expenses	**79.200,00**	**109.200,00**	**110.200,00**
Operating income	**(78.963,68)**	**(16.500,34)**	**36.015,65**
Other Income and Expenses			
Interest revenue	2.400,00	2.400,00	2.400,00
Total other income and expenses	**2.400,00**	**2.400,00**	**2.400,00**
Income before tax	**(81.363,68)**	**(18.900,34)**	**33.615,65**

4.7.2. EFFECT OF A DECREASE IN CUSTOMER DEMAND FOR THE SECOND YEAR

The following is the *Income statement* obtained by setting the forecast of the sales of the second year to the 75% of the production volume (in the original situation we supposed the sales as 90% of the production volume for the second year).

Income Statement			
Revenue	Year 1	Year 2	Year 3
Sales	277.337,75	331.299,32	483.513,11
Cost of Goods Sold			
Raw materials	83.437,33	98.279,92	98.279,92
Packaging	3.583,33	4.383,33	4.383,33
Labor	16.535,33	20.785,33	20.785,33
Utilities	2.545,43	2.848,88	2.848,88
Overhead	171.000,00	171.000,00	211.000,00
Total Cost of Goods Sold	**277.101,43**	**297.297,47**	**337.297,47**
Gross Profit	**236,32**	**34.001,85**	**146.215,65**
Operating Expenses			
Selling expenses	11.200,00	11.200,00	11.200,00
Administrative expenses	43.000,00	43.000,00	44.000,00
R&D	0,00	30.000,00	30.000,00
Rent for the factory area	5.000,00	5.000,00	5.000,00
Depreciation	20.000,00	20.000,00	20.000,00
Total Operating expenses	**79.200,00**	**109.200,00**	**110.200,00**
Operating income	**(78.963,68)**	**(75.198,15)**	**36.015,65**
Other Income and Expenses			
Interest revenue	2.400,00	2.400,00	2.400,00
Total other income and expenses	**2.400,00**	**2.400,00**	**2.400,00**
Income before tax	**(81.363,68)**	**(77.598,15)**	**33.615,65**

The following is the simulation for a decrease in demand for both the second and the third year (we considered as sales the 75% of the production volume instead of 90% for the second year and 95% for the third year). As we can see these changes in customer demand make us at loss also in the third year.

Income Statement			
Revenue	Year 1	Year 2	Year 3
Sales	277.337,75	331.299,32	381.720,88
Cost of Goods Sold			
Raw materials	83.437,33	98.279,92	98.279,92
Packaging	3.583,33	4.383,33	4.383,33
Labor	16.535,33	20.785,33	20.785,33
Utilities	2.545,43	2.848,88	2.848,88
Overhead	171.000,00	171.000,00	211.000,00
Total Cost of Goods Sold	**277.101,43**	**297.297,47**	**337.297,47**
Gross Profit	**236,32**	**34.001,85**	**44.423,41**
Operating Expenses			
Selling expenses	11.200,00	11.200,00	11.200,00
Administrative expenses	43.000,00	43.000,00	44.000,00
R&D	0,00	30.000,00	30.000,00
Rent for the factory area	5.000,00	5.000,00	5.000,00
Depreciation	20.000,00	20.000,00	20.000,00
Total Operating expenses	**79.200,00**	**109.200,00**	**110.200,00**
Operating income	**(78.963,68)**	**(75.198,15)**	**(65.776,59)**
Other Income and Expenses			
Interest revenue	2.400,00	2.400,00	2.400,00
Total other income and expenses	**2.400,00**	**2.400,00**	**2.400,00**
Income before tax	**(81.363,68)**	**(77.598,15)**	**(68.176,59)**

4.8. BREAK-EVEN ANALYSIS

The break-even analysis is useful to understand if we are selling enough to cover the fixed costs. The following tables show that in the first year we are below the break-even point, but in the second and third years we are above it.

The overall break-even turnover is calculated dividing the fixed costs by the sum of the weighted contribution margins. Than multiplying that value by the sales mix for the specific product we obtain the break-even turnover per product. Dividing this last value by the price of the product we calculate the break-even volume for the product.

YEAR 1	Trentino soup	Dried red fruits	Dried apples/pears	Mashrooms risotto	Mashrooms polenta	Bluberries risotto	Herbal tea	Dried mashrooms	Total
sales volume	3.500,00	3.500,00	7.000,00	7.000,00	7.000,00	5.600,00	7.000,00	175,00	40.775,00
price (px)	6,67	5,65	5,66	6,96	7,76	6,88	7,25	13,10	
variable unitary cost (cv)	6,06	5,13	5,14	6,33	7,05	6,25	6,59	11,91	
unitary contribution margin (px -cv)	0,61	0,51	0,51	0,63	0,71	0,63	0,66	1,19	
fixed costs									261.600,00
contribution margin = 1 - (cv/px)	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	
revenue (px * sales volume)	23.347,59	19.766,63	39.610,25	48.727,73	54.289,45	38.528,93	50.775,25	2.291,91	277.337,75
sales mix (sales volume/total sales)	9%	9%	17%	17%	17%	14%	17%	0%	100%
weihgted contribution margin (sales mix * (1-(cv/px)))	1%	1%	2%	2%	2%	1%	2%	0%	9%
break-even turnover									2.877.600,00
break-even turnover per product	247.004,29	247.004,29	494.008,58	494.008,58	494.008,58	395.206,87	494.008,58	12.350,21	2.877.600,00
break-even volume per product	37.028,02	43.736,09	87.302,14	70.966,98	63.696,72	57.441,47	68.105,22	943,01	429.219,66

YEAR 2	Trentino soup	Dried red fruits	Dried apples/pears	Mashrooms risotto	Mashrooms polenta	Bluberries risotto	Herbal tea	Dried mashrooms	Total
sales volume	9.000,00	9.000,00	9.000,00	13.500,00	9.000,00	7.200,00	9.000,00	225,00	65.925,00
price (px)	5,98	4,95	4,97	6,27	7,06	6,19	6,56	12,10	
variable unitary cost (cv)	1,58	0,65	0,66	1,85	2,57	1,77	2,11	5,45	
unitary contribution margin (px -cv)	4,40	4,30	4,30	4,42	4,49	4,41	4,45	6,65	
fixed costs									282.600,00
1 - (cv/px)	0,7	0,9	0,9	0,7	0,6	0,7	0,7	0,5	
revenue (px * sales volume)	53.796,82	44.588,63	44.687,63	84.615,16	63.560,88	44.545,32	59.042,63	2.722,11	397.559,18
sales mix (sales volume/total sales)	14%	14%	14%	20%	14%	11%	14%	0%	100%
weihgted contribution margin (sales mix * (1-(cv/px)))	10%	12%	12%	14%	9%	8%	9%	0%	74%
break-even turnover									381.369,60
break-even turnover per product	52.064,11	52.064,11	52.064,11	78.096,16	52.064,11	41.651,29	52.064,11	1.301,60	381.369,60
break-even volume per product	8.710,12	10.508,89	10.485,61	12.459,92	7.372,10	6.732,23	7.936,25	107,59	64.312,70

YEAR 3	Trentino soup	Dried red fruits	Dried apples/pears	Mashrooms risotto	Mashrooms polenta	Bluberries risotto	Herbal tea	Dried mashrooms	Total
sales volume	9.500,00	9.500,00	9.500,00	14.250,00	9.500,00	7.600,00	9.500,00	237,50	69.587,50
price (px)	6,89	5,82	5,83	7,20	8,03	7,11	7,50	13,57	
variable unitary cost (cv)	1,58	0,65	0,66	1,85	2,57	1,77	2,11	5,45	
unitary contribution margin (px -cv)	5,31	5,17	5,17	5,35	5,46	5,34	5,39	8,12	
fixed costs									323.600,00
1 - (cv/px)	0,8	0,9	0,9	0,7	0,7	0,8	0,7	0,6	
revenue (px * sales volume)	65.472,54	55.310,98	55.420,23	102.534,59	76.247,53	54.042,02	71.261,48	3.223,75	483.513,11
sales mix (sales volume/total sales)	14%	14%	14%	20%	14%	11%	14%	0%	100%
weihgted contribution margin (sales mix * (1-(cv/px)))	11%	12%	12%	15%	9%	8%	10%	0%	77%
break-even turnover									417.725,78
break-even turnover per product	57.027,41	57.027,41	57.027,41	85.541,12	57.027,41	45.621,93	57.027,41	1.425,69	417.725,78
break-even volume per product	8.274,62	9.794,81	9.775,50	11.888,29	7.105,28	6.415,87	7.602,43	105,03	60.961,84

4.9. MAIN ECONOMIC AND FINANCIAL RATIOS

	Formula	Year 1	Year 2	Year 3		Notes
EBIT (Earnings Before Interest and Taxes)		-78963,679	-8938,282667	36015,648		In our case since we do not have non operating expenses and other sources of income different from the sales of manufactured products, EBIT equals the contribution margin
EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization)		-98963,679	-28938,28267	16015,648		considering a depreciation on equipement of 20000 euros
CE (Capital employed)	Fixed assets + current assets - current liabilities	247.689,99	206.474,14	204.218,53		
WC (Working capital)	Current assets - current liabilities	206.689,99	184.474,14	200.218,53		
Profitability ratios						
ROTA (Return On Total Assets)	EBIT/Total assets	-32%	-4%	18%		The ratio is considered to be an indicator of how effectively a company is using its assets to generate earnings
Evaluating the operating performance						
Sales margin	EBIT/Sales	-28%	-2%	7%		It gives an indication of the profitability of the operational activities of a firm
Sales/Total assets		1,12	1,93	2,37		This ratio can be interpreted as a measure of the «rotation» of capital invested, or the speed at which the investment into various types of assets returns into cash via the generation of sales
Sales /Inventory		2,57	2,90	3,04		For the first year, this ratio means that on average the inventories are transformed into sales 2,57 times in a year. That is, they are sold once each 365/2,57 = 142 days

APPENDIX

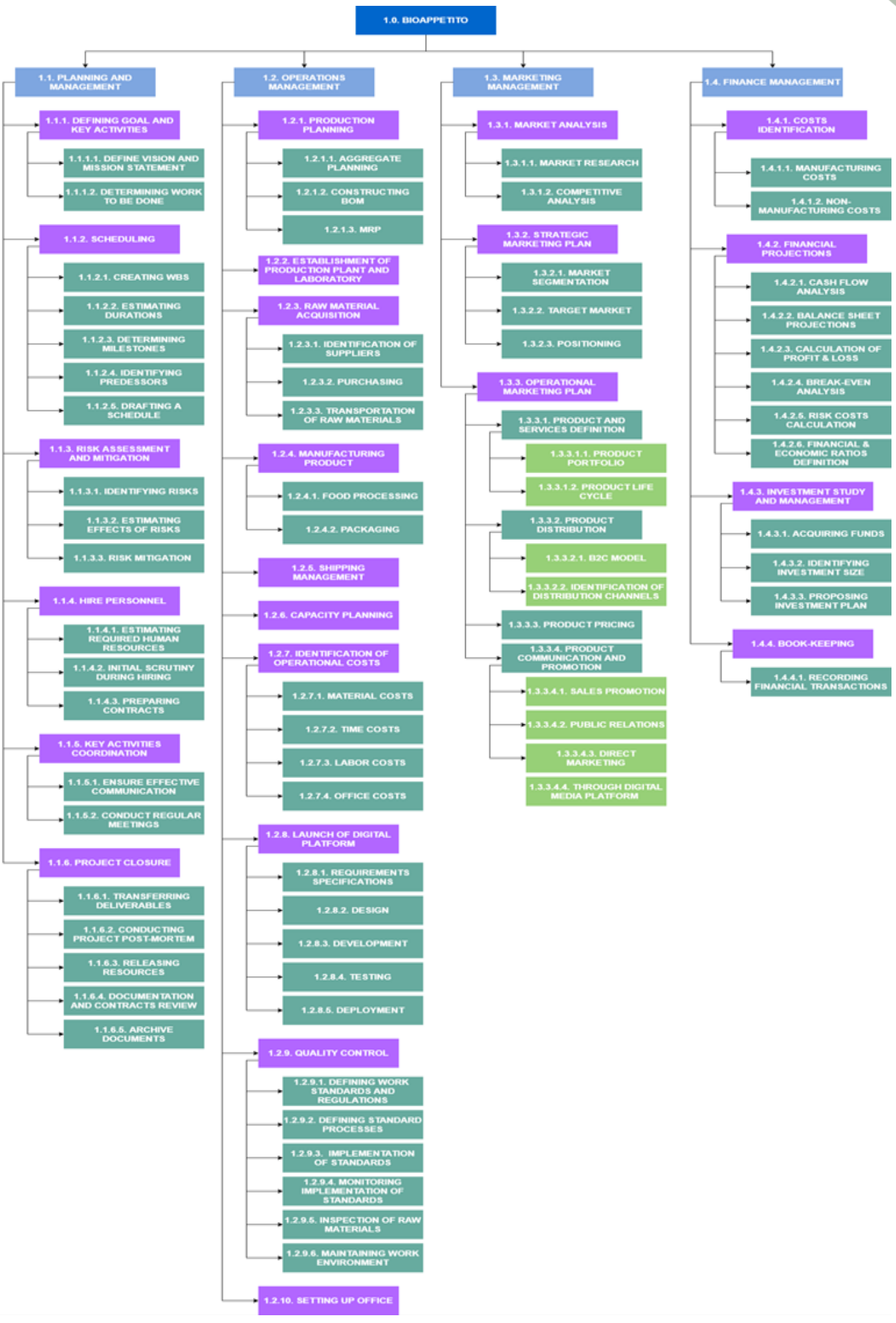
WORK BREAKDOWN STRUCTURE

Work Breakdown Structure (WBS) is a hierarchical division of the total work to be done by a project team in order to achieve project objectives and deliver the required deliverables. A WBS is needed for effective project planning, execution, controlling, monitoring, and reporting.

In the following WBS, we have five levels:

- The highest level is for our organization. This level is the parent level in our WBS named as 1.0. Bio Appetito.
- The second level is the major four areas in which our organization is divided. These four areas are:
    - 1.1. Planning and Management
    - 1.2. Operations Management
    - 1.3. Marketing Management
    - 1.4. Finance Management
- The next lower level is further division of tasks within a major area. For example, 1.1. Planning and Management has the first task named as: 1.1.1. Defining Goal and Key Activities. This level further divides the major areas with respect to the major tasks they have to perform.
- Then in the fourth level, we further divide those tasks into subtasks creating more granular structure. For example, task 1.1.1. Defining Goal and Key Activities has two sub tasks.
- We can also notice that in some sub tasks, there is another further division. For example, in 1.3. Marketing Management, there is a sub task named, 1.3.3.1. Product and Services Definition which is further divided into two work packages. This is done so that larger chunks of work are divided properly and a more defined schedule can be obtained.

Rest of the WBS is self-explanatory.


1.0. BIOAPPETITO
1.1. PLANNING AND MANAGEMENT
1.1.1. DEFINING GOAL AND KEY ACTIVITIES
1.1.1.1. DEFINE VISION AND MISSION STATEMENT
1.1.1.2. DETERMINING WORK TO BE DONE
1.1.2. SCHEDULING
1.1.2.1. CREATING WBS
1.1.2.2. ESTIMATING DURATIONS
1.1.2.3. DETERMINING MILESTONES
1.1.2.4. IDENTIFYING PREDESSORS
1.1.2.5. DRAFTING A SCHEDULE
1.1.3. RISK ASSESSMENT AND MITIGATION
1.1.3.1. IDENTIFYING RISKS
1.1.3.2. ESTIMATING EFFECTS OF RISKS
1.1.3.3. RISK MITIGATION
1.1.4. HIRE PERSONNEL
1.1.4.1. ESTIMATING REQUIRED HUMAN RESOURCES
1.1.4.2. INITIAL SCRUTINY DURING HIRING
1.1.4.3. PREPARING CONTRACTS
1.1.5. KEY ACTIVITIES COORDINATION
1.1.5.1. ENSURE EFFECTIVE COMMUNICATION
1.1.5.2. CONDUCT REGULAR MEETINGS
1.1.6. PROJECT CLOSURE
1.1.6.1. TRANSFERRING DELIVERABLES
1.1.6.2. CONDUCTING PROJECT POST-MORTEM
1.1.6.3. RELEASING RESOURCES
1.1.6.4. DOCUMENTATION AND CONTRACTS REVIEW
1.1.6.5. ARCHIVE DOCUMENTS
1.2. OPERATIONS MANAGEMENT
1.2.1. PRODUCTION PLANNING
1.2.1.1. AGGREGATE PLANNING
1.2.1.2. CONSTRUCTING BOM
1.2.1.3. MRP
1.2.2. ESTABLISHMENT OF PRODUCTION PLANT AND LABORATORY
1.2.3. RAW MATERIAL ACQUISITION
1.2.3.1. IDENTIFICATION OF SUPPLIERS
1.2.3.2. PURCHASING
1.2.3.3. TRANSPORTATION OF RAW MATERIALS
1.2.4. MANUFACTURING PRODUCT
1.2.4.1. FOOD PROCESSING
1.2.4.2. PACKAGING
1.2.5. SHIPPING MANAGEMENT
1.2.6. CAPACITY PLANNING
1.2.7. IDENTIFICATION OF OPERATIONAL COSTS
1.2.7.1. MATERIAL COSTS
1.2.7.2. TIME COSTS
1.2.7.3. LABOR COSTS
1.2.7.4. OFFICE COSTS
1.2.8. LAUNCH OF DIGITAL PLATFORM
1.2.8.1. REQUIREMENTS SPECIFICATIONS
1.2.8.2. DESIGN
1.2.8.3. DEVELOPMENT
1.2.8.4. TESTING
1.2.8.5. DEPLOYMENT
1.2.9. QUALITY CONTROL
1.2.9.1. DEFINING WORK STANDARDS AND REGULATIONS
1.2.9.2. DEFINING STANDARD PROCESSES
1.2.9.3. IMPLEMENTATION OF STANDARDS
1.2.9.4. MONITORING IMPLEMENTATION OF STANDARDS
1.2.9.5. INSPECTION OF RAW MATERIALS
1.2.9.6. MAINTAINING WORK ENVIRONMENT
1.2.10. SETTING UP OFFICE
1.3. MARKETING MANAGEMENT
1.3.1. MARKET ANALYSIS
1.3.1.1. MARKET RESEARCH
1.3.1.2. COMPETITIVE ANALYSIS
1.3.2. STRATEGIC MARKETING PLAN
1.3.2.1. MARKET SEGMENTATION
1.3.2.2. TARGET MARKET
1.3.2.3. POSITIONING
1.3.3. OPERATIONAL MARKETING PLAN
1.3.3.1. PRODUCT AND SERVICES DEFINITION
1.3.3.1.1. PRODUCT PORTFOLIO
1.3.3.1.2. PRODUCT LIFE CYCLE
1.3.3.2. PRODUCT DISTRIBUTION
1.3.3.2.1. B2C MODEL
1.3.3.2.2. IDENTIFICATION OF DISTRIBUTION CHANNELS
1.3.3.3. PRODUCT PRICING
1.3.3.4. PRODUCT COMMUNICATION AND PROMOTION
1.3.3.4.1. SALES PROMOTION
1.3.3.4.2. PUBLIC RELATIONS
1.3.3.4.3. DIRECT MARKETING
1.3.3.4.4. THROUGH DIGITAL MEDIA PLATFORM
1.4. FINANCE MANAGEMENT
1.4.1. COSTS IDENTIFICATION
1.4.1.1. MANUFACTURING COSTS
1.4.1.2. NON-MANUFACTURING COSTS
1.4.2. FINANCIAL PROJECTIONS
1.4.2.1. CASH FLOW ANALYSIS
1.4.2.2. BALANCE SHEET PROJECTIONS
1.4.2.3. CALCULATION OF PROFIT & LOSS
1.4.2.4. BREAK-EVEN ANALYSIS
1.4.2.5. RISK COSTS CALCULATION
1.4.2.6. FINANCIAL & ECONOMIC RATIOS DEFINITION
1.4.3. INVESTMENT STUDY AND MANAGEMENT
1.4.3.1. ACQUIRING FUNDS
1.4.3.2. IDENTIFYING INVESTMENT SIZE
1.4.3.3. PROPOSING INVESTMENT PLAN
1.4.4. BOOK-KEEPING
1.4.4.1. RECORDING FINANCIAL TRANSACTIONS

GANTT CHART AND CRITICAL PATH

Gantt Chart is a well-known technique to develop a well-suited schedule for the project. In our project, we use WBS as an input in order to develop Gantt Chart.

The Gantt Chart is formulated on Project Libre. Some activities in the Gantt chart are to be done continuously throughout the time so for ease of understanding, we are not including them in Gantt Chart. These activities include: 1.1.5. Key Activities Coordination, 1.2.9.3. Implementation of Standards, 1.2.9.4. Monitoring Implementation of Standards, 1.2.9.6. Maintaining Work Environment, 1.3.3.4. Product Communication and Promotion and 1.4.4. Book-Keeping. These activities are supposed to be carried out recurringly throughout the lifecycle of the project.

The critical path, moreover, is calculated automatically through the tool we used. It is marked in the red bars (as seen in the Gantt Chart).

The zoomable version of the Gantt Chart can be located at:

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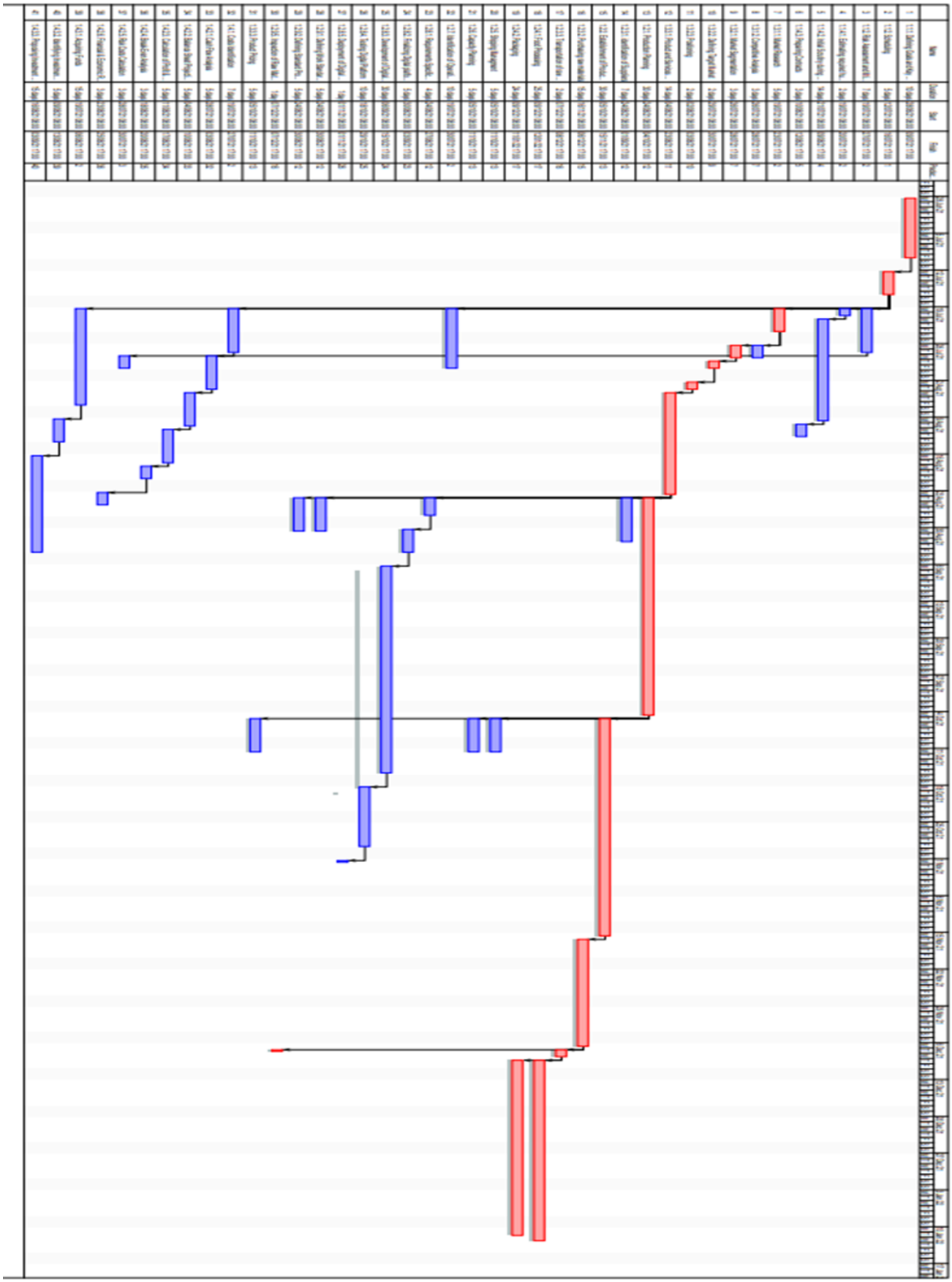

RISK ASSESSMENT AND MITIGATION

In this section we will discuss the possible risks that can occur in different phases of the project. We also highlight mitigation steps to counter these risks.

- The foremost risk is not being able to acquire the require investment in order to sustain our business on the long term. Most of the start-ups have the great possibilities of this risk to occur, but we can lower down the effect of the risk by planning ahead and trying to create highly reliable projections. We might also need to put our own financial resources in order to start at a small scale.
- The next possible risk that might be encountered is not being able to manage effective communication between different departments. In order to mitigate this risk, weekly meetings should be arranged discussing inter departmental activities, possible challenges, and cooperation between departments.
- Unpredictable environmental situations can affect the cultivation of ingredients used in our products, which can lead to possible shortage of supplies. The mitigation strategy to this risk is to adapt a smart purchase strategy of supplies throughout the year. Smart purchase strategy involves identifying weather conditions periodically and smartly making purchase decisions accordingly to overcome the risk of shortages.
- Poor target market selection or poor execution of marketing strategy can be very harmful for star-ups. The worst effect can be a product-market unfit, which means the market is not happy with your product in terms of its pricing which could possibly be high comparing nonorganic similar products. Hence the consumers will not be ready to pay primum price for our products which can lead to less or not profits at all. This is a risk which can not be fully mitigated, but it can be reduced by conducting proper market research and analysis and then formulating a robust well defined marketing strategy.
- Poor management of supply and demand chain is also a very classic risk with new start-ups, which occurs due to wrong estimation of supply and demand. Specially, with our business having smooth and efficient supply line is very important because of the short life of ingredients. A wrong strategy for the assessment of demand can lead to wrong purchase of material and waste of resources, on the other hand it can also cause shortage of supplies. To mitigate supply and demand risks, effective resource management and efficient assessment of demand is required.
- Not being able to convince the consumer on the quality of the product can be a risk. As a consumer, why should I buy this product? What is difference between your product and other products available in the market? These are some common consumer questions. An effective marketing strategy for a startup, should effectively address these concerns of the consumer. It could be done by conducting awareness campaigns and effective advertisement.
- Another possible risk can be, the risk of not finding people with the skills needed to execute the project or the sudden unavailability of key people on the project. This risk can be mitigated by periodically searching people with required skills and managing their contacts for future use.

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