



"Embrace all of your sides, because these make you unique"



Proposed by

Aniello De Santis **887275**

Riccardo Galanti **888991**

Flaminia Galeani **887244**

Index

1. Introduction
 - *Presentation of our company*
2. Environmental analysis
 - *The context*
 - *Market*
 - *Trend*
3. Our priorities
 - *Corporate strategy*
 - *SWOT analysis*
4. Marketing
 - *Demand forecast*
 - *4P model*
 - *Product*
 - *Price*
5. Distribution
 - *Promotion*
 - *Shops*
 - *Human resources*
 - *Customer service*
 - *Transports*
6. Operations
 - *Raw materials*
 - *Production process*
7. Financial control
 - *Bank loan*
 - *Environmental issues*
8. Bibliography

Introduction

Presentation of our company

Our company, iCarbonari, has been working for many years now producing Fabrics, Fittings and Furniture. It was born as a small company and have been growing with the idea of a high standard company which offers a quality like no others and focuses on its customers. At the beginning of 2020 iCarbonari has changed its management. We now want to work harder on our products to make them more innovative and original than before, so that they can reflect the personality of our customers. To them is dedicated our vision: “Embrace all of your sides, because these make you unique”, in which we strongly believe. The environments that surround us have to make us feel peaceful and comfortable: whether it’s work or home, our goal is to make each of our customer feel like they can fully express themselves. To achieve this, we consider each product as a world apart, basing our organizational structure on them. Our company structure is the following.

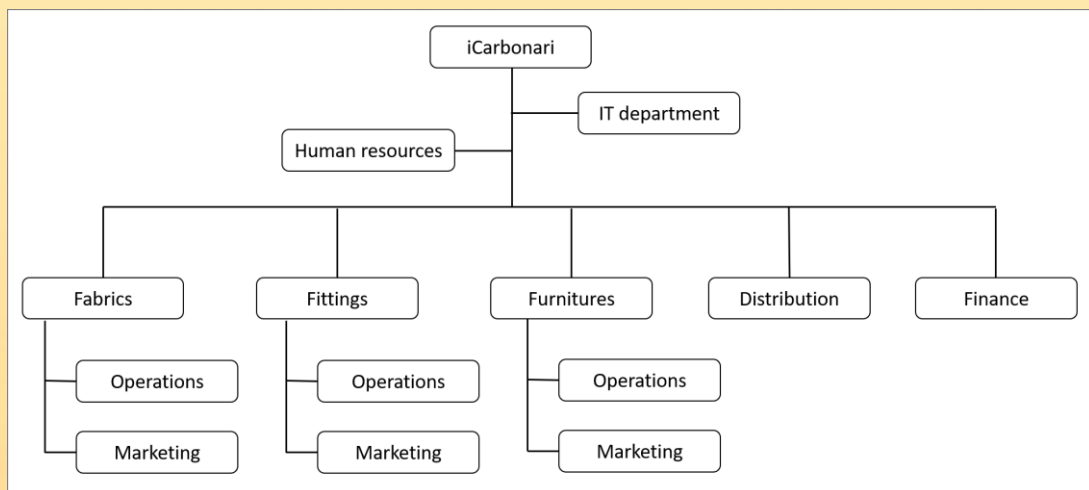


Figure 1.1: Structure of our company.

We have a hybrid structure because the divisional part (Fabrics, Fittings and Furniture) allows us to be very flexible with our products and follow the needs of our customers in order to be effective, while the functional part (Distribution and Finance) allows us to be more efficient in those aspects that are managed in the same way for all products. From another point of view, we can say that our structure is more organic than mechanics: each of our employees has his own importance and gives his unique contribute to the company, so they are not easily replaceable. In order to create an atmosphere of collaboration, we have implemented some coordination mechanisms such as standardization of skills and objectives.

We need the standardization of skills to ensure the high quality of our products, and the standardization of objectives to make everyone move in the same direction and make them understand where we want to arrive.

Environmental Analysis

The context

We need to understand the environment in which we operate in order to achieve the greatest results. The context can be described through the PEST(E) model, because it allows us to consider all the different shades of it. In fact, this model has four main sides plus one additional. The main sides are Politic, Economy, Social and Technology, while the additional one is the Environment.



Figure 2.1: PEST(E) model.

Considering the political side, the first thing we can say is that the government is very concerned about sustainability: in fact, all governments are encouraging banks to lower interest rates for the companies that are more concerned about green issues than the average. The banks have accepted this suggestion, so now they have lowered the interests by 0.2% for every 100.000€ invested in green issues.

For the economical side we can say that the growth rate of the global furniture market, as reported by Csil, was 3.2% in 2019 and is expecting to raise again in 2020. Csil has later analysed the Italian market, finding that it is (according with the global trend) growing, as shown in Figure 2.2.



Figure 2.2: Italian market growth.

The social (and cultural) sides of our context have a lot of different textures: due to the globalization, we have in our country a large variety of different cultures mixed together, so the interests of the consumers are variegated.

Regarding the technological aspect we can say that we are in a technologically advanced country, so there is a continuous search for new and more efficient ways to produce and almost all the companies have a team of experts for this theme. Technology is a very discussed theme because it is strictly connected with the quality of the finished goods of each company.

Regarding the environment, we are lucky because we work in a country in which natural disasters are very rare. The climate is quite mild, so we have no particular problems to operate in this area.

Market

To analyse the market, we must make a specific distinction between the retail market and the wholesales one. These two types of clients of our company have different requests and buy for different reasons.

When talking about the retail market, we are proposing our products directly to the people, and people have desires. We make the most of those desires, and to do this we analyse their habits, lifestyle and personal interests, in order to propose a product that is not only complete but that also integrates some features that make it unique to most of them.

For the wholesales market instead, things are more “mechanical” and less emotional. The wholesalers request a certain quantity of the product and specify their acceptability threshold for some aspects, such as quality and price (as shown in Figure 3.2). They make their decision between one company or another only based on quality and features of the product.

Wholesalers market			
	Fabrics	Fittings	Furniture
Minimum quality	65,0%	65,0%	65,0%
Maximum price	236 €	65 €	640 €
Requested quantity	250.000	120.000	5.000

Figure 2.3: requests of the wholesalers for Jan-Mar 2020.

We know the wholesalers to whom we offer our products: we studied how their companies are structured and have acknowledged their supply chain, so we are now able to offer the best service with our products, in terms of time and quality. We have also increased our terms of payment from 1 month to 2 months.

In order to have a defined overview of the market in which we operate, we have decided to analyse it with Porter’s five forces model. Porter’s five forces model is a method to analyse the level of competition in the market where our company works. These five forces are: competitive rivalry, threat of new entrants, threat of substitutes, bargaining power of suppliers and bargaining power of clients.

Considering the competitive rivalry, there are other five companies in our market: at the beginning, the market share is equally divided between us. Unfortunately, it is impossible for us to predict the future market share, because we don’t know the next moves of our competitors, since all companies in the market have just changed their management. All the companies sell the same three products. The only difference is given by the quality of the product, which depends on the hi-tech investment. Also, there are some exit barriers, such as the penalty in case you decide to dismiss one outlet, which prevent all companies from exiting the market. Finally, the companies own a lot of machines, which are difficult to convert to other productions.

Regarding the threat of new entrants, if profits will continue to grow, new actors could try to enter in our market. Companies could make it difficult for new ones to enter the market by exploiting entrance barriers. In fact, high investments in technology will increase the average quality of the products in our market: for newcomers it would be difficult to achieve this quality in short term, and this could deter them to enter the market. In order to prevent the

entrance of new companies, it is also important to create a strong loyalty between company and clients and to improve your own brand image.

The treat of substitutes refers to the possibility that a different product could satisfy the same need of your product and replace it: in our case there aren't replacement products.

In order to discuss the bargaining power of suppliers, we need to analyse them. In the market there are two types of suppliers of raw materials (local and imported) and actors can freely choose one of them. Furthermore, a company can choose to buy finished goods directly. For this reason, the bargaining power of supplier over companies is low.

Regarding the clients, since they can freely choose between six different companies and there are no switching costs, they have a medium-high bargaining power.

Trend

In these years, there are some trends that are taking on particular importance. The first two of the list are certainly innovation and sustainability.

That of innovation has always been a very relevant theme, and nowadays, since there are the new generations of the so called "millennials", is very discussed. We are in an era in which there are many important scientific discoveries, and we want to take the most out of them. There is a continuous search for progress: we are amazed about the capacity of the researchers to find new ways to make products or to do processes in a more efficient and effective way. We are always in connection with some teams of researchers to be always updated about what's on the market, and to be able to integrate this news as soon as possible in our company.

Sustainability is not less important: we all know that we live in this historical moment in which climate change is a very discussed theme. We, as iCarbonari, are deeply involved in spreading positive messages and let people know that we care about our planet. For this reason, our company, along with many others, decided to use renewable energy as much as possible. Also, almost all companies in this market already use recyclable packages and avoid waste at all times, especially in the return process.

Our priorities

Corporate strategy

To explain our corporate strategy, we have decided to use a causal map, because it is a useful tool to explain the cause-effect relationships of the company's variables, and it allows us to show the reasons behind our investment decisions.

There are four types of variables: decisional, external, causal and objective. The decisional variables are those on which we have control, such as the amount of money we decide to invest in something. The external ones are those on which we do not have any type of control: they are usually competitors' decisions or environmental factors. The causal variables are like an intermediate objective, which can connect a decisional variable to an objective one. Then there are the objective ones, which represent the final purpose of the company. In our case the objectives are the share value and the profit: considering this, a group of internal engineers has studied the following dynamics.

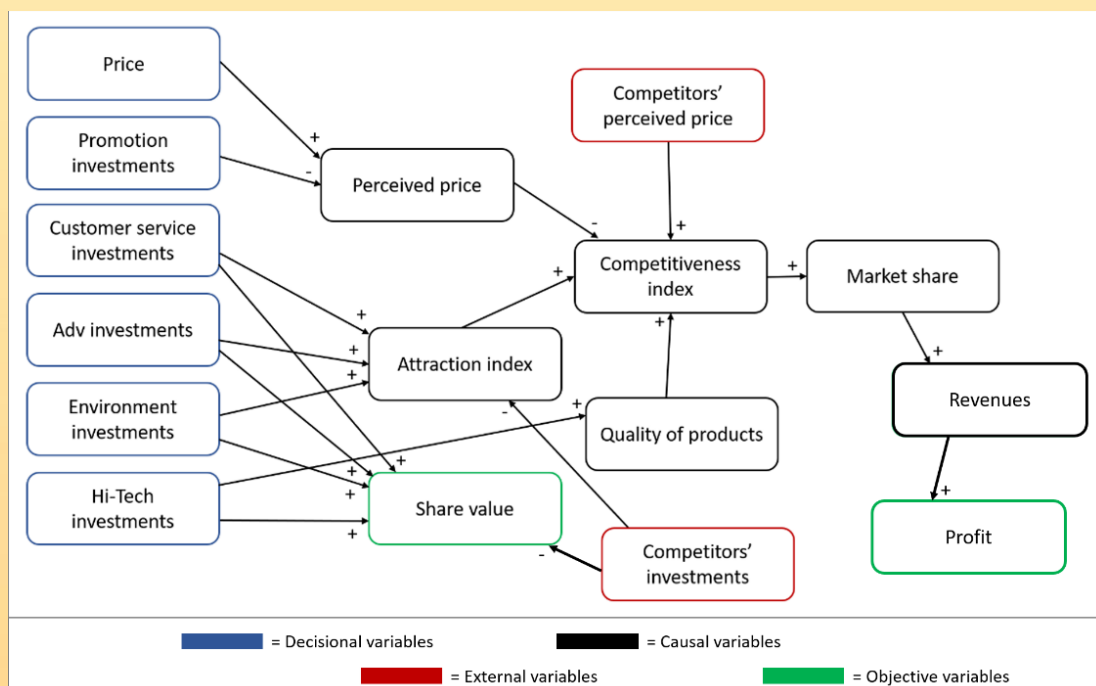


Figure 3.1: Causal map.

According to the map, we have decided to keep high the environment, customer service and high tech investments to obtain a good share value and to increase both attraction index and quality of products, which allows us to increase the revenues and then the profit.

Quality is a big issue for us: it allows us to increase our competitiveness and thus increasing our revenues: furthermore, the good quality of our products maintains high our image as a brand. For these reasons, we have studied the sensitivity diagrams of the last years and found out that quality has a high and almost steady trend.

To describe our strategy in terms of price and quality, we can use the quality-price matrix. It allows us to show our approach to the market, which includes a high price and a very high quality.

		<u>Price</u>		
		Low	Medium	High
<u>Quality</u>	High	Liquidation	Penetration	Premium price
	Medium	Convenient price	Average value	Margin development
	Low	Cheap	Apparent convenience	Speculation

Figure 3.2: Quality-price matrix.

As can be seen from this matrix, we use a premium price strategy: only for the fittings in the first period we will use an average value strategy, because we don't have the quality we need to take the step and become a premium price.

To do this, we need to set our production planning. Planning is a tactical activity that has the purpose to enliven the supply chain in function of the market demand. We intend to plan the sourcing and the manufacturing processes in order to define the approximate production (according to our production capacity) and amount of supply for each quarter.

We have decided to keep the priority on the retail market because it gives us higher profits than the wholesalers' one. For what concerns the wholesalers market, our strategy is to analyze in each quarter the price and the quality required: if it is convenient and if it's possible according with our retail's demand, we will offer an amount of quantity computed as the 18% of the total wholesalers' market demand.

Instead, for the retail market, we have decided to do a more accurate planning. For the raw materials, we have considered appropriate to use the MRP procedure, which will be explained in the Operations' section.

For the production plan we won't use some specific model: we only have the priority to guarantee a high level of customer service, so we can't afford any stock-out.

The following charts show the expected trend of demand forecast, production, bought-in goods and initial stock for every quarter from Jan-Mar 2020 to Jan-Mar 2021, based on the planning made in the Operations section.

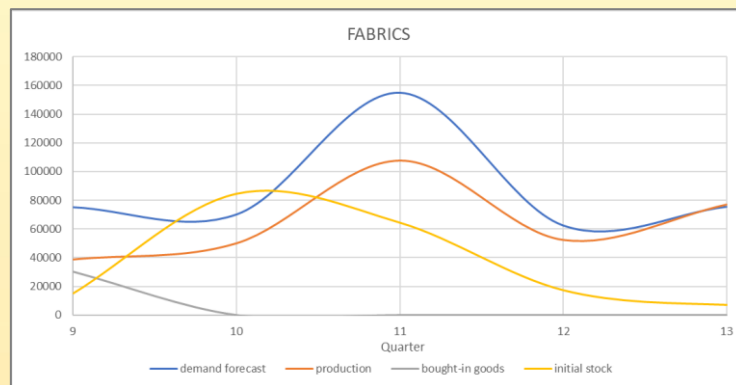


Figure 3.3: Fabrics' trends for this year.

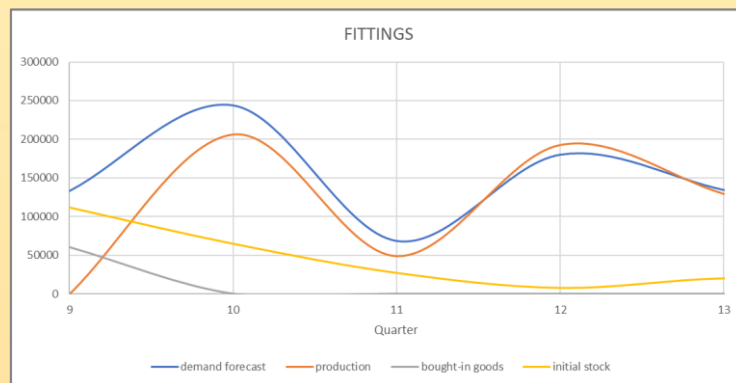


Figure 3.4: Fittings' trends for this year.

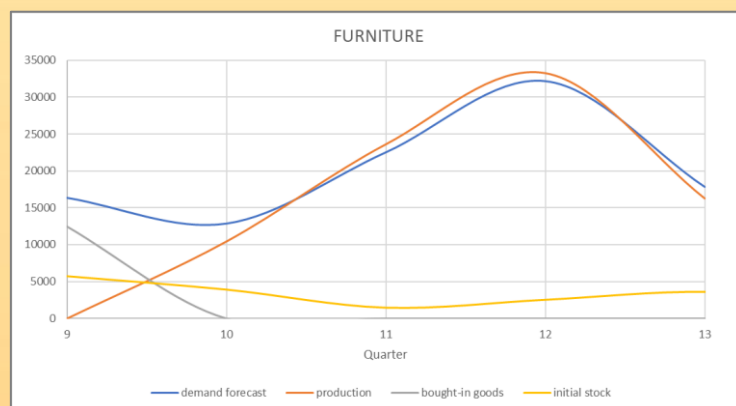


Figure 3.5: Furniture's trends for this year.

As can be seen from the graph, the production plan looks like a chase plan, that is a case in which the production level tries to follow the demand. To respond at the peak demand the management has decided to anticipate some production in previous periods.

SWOT analysis

The SWOT analysis is a useful tool to do internal analysis of our company: it allows us to search our strengths, to catch opportunities, and our weaknesses, to work on them and defend ourselves from threats.

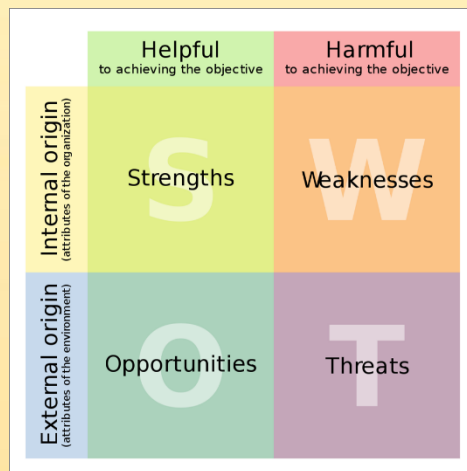


Figure 3.6: SWOT analysis.

- Strengths: our aim is to create a product that differentiates from the others for the quality over the average and to build our brand image. This requires high investments in technology, customer service, advertisement and environment. With these efforts we hope to create a strong loyalty with our clients. We decided to put a price over the average because we offer a product with the best quality in the market, so we think that our clients are willing to pay this price.
- Weaknesses: as said before, we decided to do a lot of investments, so if the demand will be minor than our forecast, we're afraid that we could have a low profit. Also, if customers won't understand our decision to set a price over the average, we could lose some revenues in favor of other companies.
- Opportunities: we operate only in one market and we can't enter in other ones, so in this case we have no opportunities.
- Threats: if other companies start to increase their investments in technology, they could reach our level of quality. In this case we will be forced to decrease our products' prices or to increase our investment in technology.

Marketing

Demand forecast

In order to provide a guide for the production planning we have decided to implement a demand forecasting model. The demand (D_t) can be influenced by four factors: seasonality (S_t), trend (T_t), cyclicity (C_t) and instability (ϵ_t).

$$D_t = f(S_t, T_t, C_t, \epsilon_t)$$

The seasonality explains a repetitive flow of demand through the period, while the trend defines an increasing or decreasing flow of demand through the period: in our case it is connected to a general variation of the market volume. The cyclicity is a factor that represents the economic situation of the sector: our products are consumer durables so the cyclicity can be influenced by the economic situation. The instability is a factor that considers casual fluctuation of the demand.

First, we analysed the historical series of the past two years, for each product: we noticed that the demand has a seasonality of one year and a linear trend. We hypothesized that cyclicity (even though our products are consumer durables) and instability have no effect on our market demand.

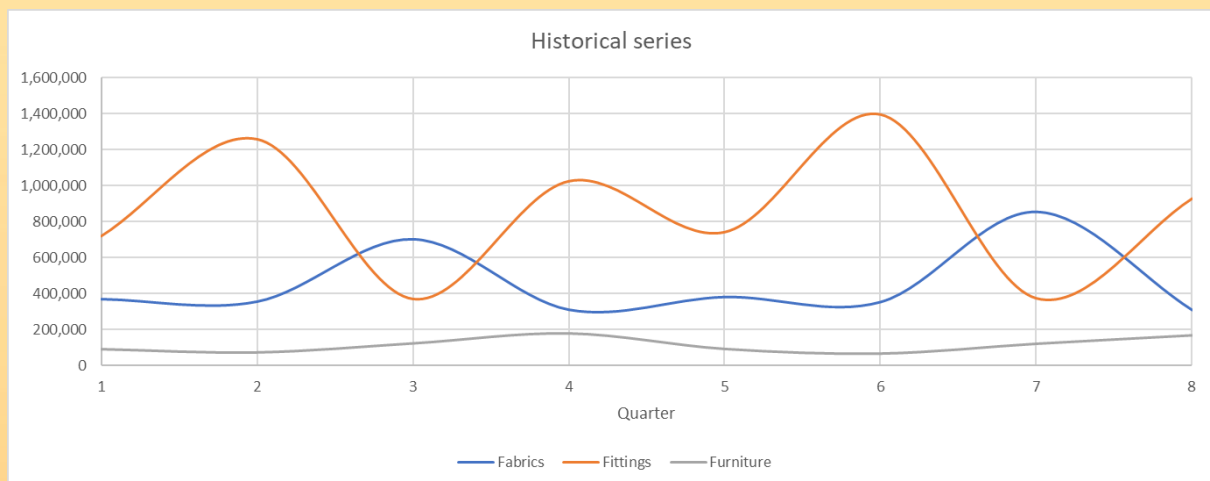


Figure 4.1: Fabrics, Fittings and Furniture historical series.

Since the demand is affected by a seasonality and a linear trend, we have decided to use the Holt Winters model to predict the demand, because it fits perfectly our scenario.

The first thing we have to do is to initialize the model with the computation of the initial value of trend (T), seasonality (S) and average (M) with the following formulas:

$$T(0) = \frac{M_{2019} - M_{2018}}{n}$$

$$M(0) = M_{2019} + \frac{n}{2}T(0)$$

$$S(0)_i = \frac{1}{2} \left(\frac{D_{i,2018}}{M_{2018}} + \frac{D_{i,2019}}{M_{2019}} \right) \quad i = 1, 2, \dots, n$$

Where n is the number of periods in a year (in this case n=4), and M_k is the average demand in the year k.

	M_{2018}	M_{2019}	$T(0)$	$M(0)$	$S(0) \text{ jan-mar}$	$S(0) \text{ apr-jun}$	$S(0) \text{ jul-sep}$	$S(0) \text{ oct-dec}$
FABRICS	435,866.5	475,731.8	9,966.3	495,664.4	0.83	0.78	1.71	0.68
FITTINGS	844,456.5	861,315.5	4,214.8	869,745.0	0.86	1.56	0.44	1.15
FURNITURE	116,416.0	112,136.8	-1,069.8	109,997.1	0.81	0.62	1.07	1.51

Figure 4.2: Initialization of Holt Winters model.

When the real value of demand will be available, it will be necessary to update these factors, with the following formulas:

$$M(t) = \alpha \frac{D_t}{S_{t-L}} + (1 - \alpha)(M_{t-1} + T_{t-1})$$

$$T(t) = \gamma(M_t - M_{t-1}) + (1 - \gamma)T_{t-1}$$

$$S(t) = \beta \frac{D_t}{M_t} + (1 - \beta)S_{t-L}$$

Where L is the step of seasonality, and α , β and γ are the damping coefficients: we have decided to set them on 0,5 in order to give the same importance to the historical data and the more recent ones.

In each period the demand of a generic future period t+m is estimated by the following formula:

$$P_{t+m} = (M_t + m \cdot T_t)S_{t-L+m}$$

This allows us to know the first demand forecast for every period, shown below.

	$P_{\text{jan-mar 2020}}$	$P_{\text{apr-jun 2020}}$	$P_{\text{jul-sep 2020}}$	$P_{\text{oct-dec 2020}}$	$P_{\text{jan-mar 2021}}$
FABRICS	418,146	402,907	897,686	366,055	451,113
FITTINGS	749,748	1,367,885	385,826	1,017,137	764,211
FURNITURE	87,930	66,784	114,056	159,161	84,475

Figure 4.3: Demand forecast for the next quarters.

Basing on this we will set our production planning.

4P model

Taking into account a graphic in which we analyse price and quality of our products compared to competitors' (Figure 4.4), we define our products' strategy. As can be seen from the graph, our purpose is to offer products of upper middle class, which have a high price justified by our high quality and brand.



Figure 4.4: Positioning of our brand.

In order to establish our marketing mix, we will use the 4P model. The 4P model allows us to analyse our marketing levers in four different aspects: Product, Price, Place and Promotion. In this paragraph we analyse Product and Price, while Place and Promotion will be discussed in the Distributions section.

Product

Our products are unique.

Each of our products is made with passion and attention to every detail. For us it's not only a matter of physical objects, because what we want to do is to create and offer comfort, pleasant aesthetics and functionality.

The fabrics that we produce are closely supervised by our expert artisans in all their production process. We are firmly convinced that their experience is like no others and even if we have a quite automatized process, we still want to include always some human experiences whose contribution can be seen in the final products. In fact, our artisans give us

some special tips that makes our fabrics softer and easier to wash compared to the average of our competitors.

Our fittings are the most customizable items on the market. From our website you can try on our virtual articles all the possible combination of colour and choose what you like the most. This method allows us to analyse some data in order to know which colours are more popular and notice if there are some trends: anyway, at least one version of all the possible combinations is in every shop we own, so that customers can always find what they want.

The furniture of our brand is different from the others' because it is made with walnut wood, which is a very fine type of wood. Common furniture is made by a structure of rough wood with a coating of a fine one. Ours, instead, is entirely made by walnut wood: this particular wood has long parallel veins that make it very nice, has a very intense colour and is incredibly resistant. It comes out from the production process as a single piece, not a set: it doesn't need to be assembled. This allows us to offer a product that has not only a high quality but also a very good duration: as we like to say, "our furniture is forever".

So, we do not offer essential products but tangible ones: our products are not basic, they have high quality and a great customer service. Since we've operated in this market for many years, we gained a quite good reputation as a brand of upper middle class. Our products are popular and known, they are not something new: considering the life cycle of a product (Figure 4.5), we can say that all three products are in their so called "maturity" phase. This means that we have to decide wisely how to invest our money in order to maintain our brand image.

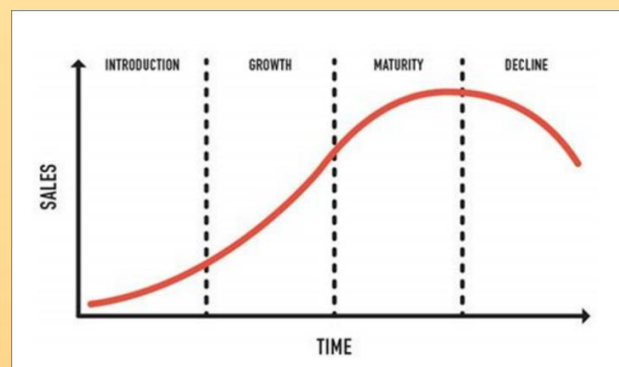


Figure 4.5: Life cycle of a product.

Price

To establish our price, first we asked ourselves about the elasticity of demand. Based on some surveys, we discovered customers' sensibility on themes like price, quality and brand (results in Figure 4.6). We saw that the price has not a defined trend, so there are periods in which price is important for our customers and periods in which it's less important. Quality and brand, instead, have a quite high and steady trend: we decided to base our strategy on them, because even if in some periods they might be less important for our customers than price, they have always a medium/high importance and have not the big swings of the price.

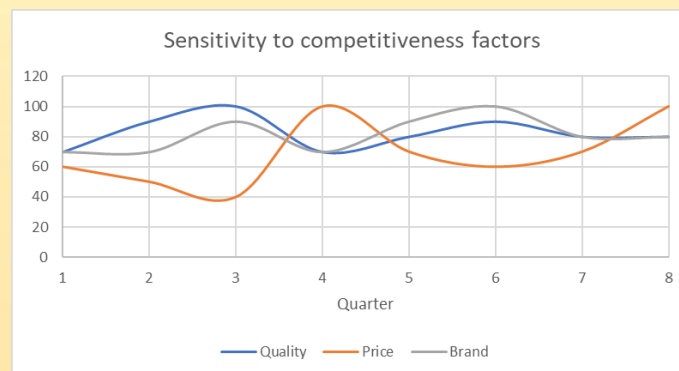


Figure 4.6: Sensitivity to Competitiveness factors.

We decided to set our prices (only for the retail market) with the mark-up model. This model considers all the costs related to the product (direct and indirect) and applies a mark-up percentage to have the margin.

First, we analysed the past mark-ups applied on the three products. We found out that the mark-ups applied are quite different from one another, as we can see in Figure 4.7.

Past mark-ups		
	Maximum	Average
Fabrics	40%	20%
Fittings	52%	34%
Furniture	20%	12%

Figure 4.7: Average and maximum of the past mark-ups (from Q1 to Q8).

We then calculated the costs (direct plus indirect) for each product, as shown in Figure 4.8.

Cost of production	
Fabrics	352€
Fittings	66€
Furniture	733€

Figure 4.8: Cost of production for each product in the quarter Jan-Mar 2020.

The next phase was to decide the mark-up we wanted to apply on each product. Since we decided to produce only Fabrics for the first quarter of 2020, we know that indirect costs will be higher than the case in which we produce all three items. The mark-up model does not consider these cases, so we decided to apply it knowing that it can return sometimes a price too high for the market. The mark-ups we decided for each of our products for Jan-Mar 2020 are shown in Figure 4.9.

Mark-up	
Fabrics	1%
Fittings	52%
Furnitures	28%

Figure 4.9: Mark-up established for each product.

For the Fabrics, we decided to go for a mark-up very low due to the high indirect costs: we expect to rise it in the next quarters. Regarding Fittings and Furniture, we established high mark-ups in order with our strategy of differentiation. In particular, for the Fittings we decided to set a very high mark-up to test the reaction of the market.

Regarding the wholesales market, in order to pursue a strategy of differentiation, we will offer the highest price possible, counting on our quality and brand.

Distribution

Promotion

Returning to the 4P model for the marketing mix, we now discuss the Promotion strategy. Since we are a well-known brand, we believe that much advertisement is not necessary: we still invest some money in it, but not too much. In case needed, we will do both institutional and product advertising, to boost up both brand and products. We will also participate at the “Milan furniture fair”, which takes place every year in Milan and allows us to show our

products to potential customers and let them taste the quality. We may also invest in partnerships with Instagram influencers to have more visibility and start showing our brand to the new generations that will possibly be our future customers.

Shops

Shops are a very important theme: they are the last P (Place) of the 4P model for marketing mix. We have two main marketing channels: the shops and the wholesalers; in both cases we have only one intermediate between the production and the final customer.

For the retail market, we now have 8 central shops and 13 out-of-town shops. Our goal is to invest, in the next year, in some more central shops, in order to promote our brand and increase our visibility. More shops will also facilitate the distribution and let our staff work better.

Human resources

Our staff is trained to satisfy all customers' desires. We are convinced that at the basis of the proper functioning of the shop there is a good and motivated shop assistant, and a supervisor with experience. For this reason, we provide our staff with courses to keep them updated. We teach the staff how to perfectly accompany each customer in the process of buying one of our products, in order to advise them about what fits them the most. Since we make sure that we have effective and efficient staff, we think that we do not need many persons for every shop. "Less is more": one shop assistant who knows what to do and advises well is worth more than five that don't know what to do and not even what to say.

Customer service

The customer service is defined as the "whole of intangible performances associated to the products with the objective to satisfy the needs and expectations of the customers".

Customer service investments contribute to increase the revenues and the share value: so, following the corporate strategy, we have decided to keep high the amount of money used in this area. To take major care of our customers, we have decided to include a packet of five

free wood treatment for every new bought furniture and to increase the warranty period from 3 to 5 years.

Other factors that affect the customer service are the effectiveness of our staff and the efficiency of the shops: we have decided to keep high the value of effectiveness by doing a 200.000€ investment in training.

Transports

Finished goods for the retail market cannot be stored at the factory but must be transported in a central warehouse by road transportation. The shops are supplied directly from the central warehouse, so the supply chain for the retail market is the following.

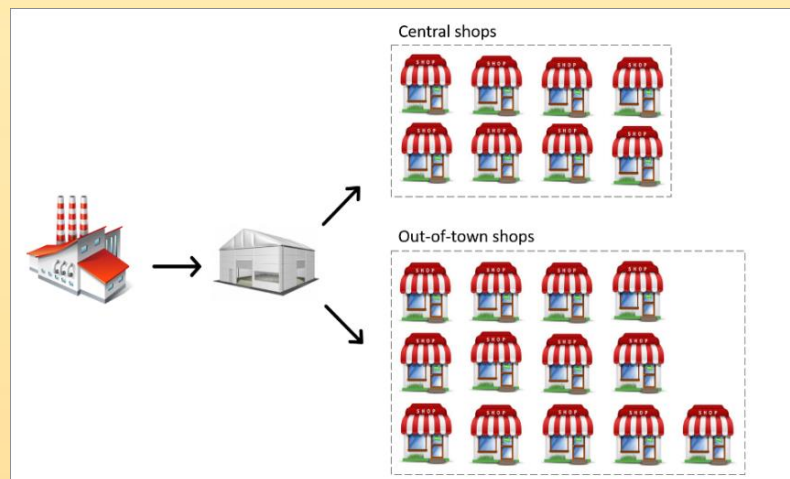


Figure 5.1: Supply chain for the retail market.

Following the planning, we have decided, for the first quarter, to buy 6 new vehicles to avoid excessive expenses caused by the external hire.

For the wholesalers' market there isn't any need of vehicles: they come directly to our production site to take their merchandise, and transportation is their responsibility.

Operations

Raw materials

For what concerns the raw materials, we have noticed a considerable initial stock of fittings at the beginning of January 2020, with very low quality. We have approximately computed the quality of the stock as a weighted average of the quality of initial stock and the quality of bought raw materials. We have decided, according to the corporate strategy, to increase the amount of fittings' stock in order to increase their quality.

To set our sourcing plan we have adopted an MRP different from the classic one: following the strategy, we have necessity to keep track of the stock quality. For this reason we have hired an engineer, expert in sourcing activities, that has designed a customized MRP which allows us to approximately calculate the quality of the final stock. Unfortunately, the quality can be calculated just for the next period.

Since our employees are very expert and our processes are very precise (thanks to our hi tech technologies), the engineer has decided to assume the production waste as 0%. In addition, the contracts with our suppliers ensure a 0% product waste. This is our customized MRP for each of the three products.

Fabrics - Raw materials	Q9	Q10	Q11	Q12	Q13
Needed	88673,82	104000	135212,6	58063,24	136656,2
Local raw materials bought	76000	94000	120000	60000	133000
Local quality	75,0%	-	-	-	-
Global raw materials bought	18900	0	0	0	0
Global available immediately	12600	0	0	0	0
Global from previous period	22000	6300	0	0	0
Global raw materials quality	61,0%	-	-	-	-
Initial stock	1000	22926,18	19226,18	4013,601	5950,364
Initial stock quality	68,3%	-	-	-	-
Tot available	111600	123226,2	139226,2	64013,6	138950,4
Use for production	88673,82	104000	135212,6	58063,24	136656,2
End stock	22926,18	19226,18	4013,601	5950,364	2294,156
End stock quality	73,0%	-	-	-	-

Figure 6.1: MRP for Fabrics' raw materials.

Fittings - Raw materials	Q9	Q10	Q11	Q12	Q13
Needed	0	213203,4	91020,94	237880,6	143914,3
Local raw materials bought	60000	83000	90000	235000	140000
Local quality	75,0%	-	-	-	-
Global raw materials bought	0	0	0	0	0
Global available immediately	0	0	0	0	0
Global from previous period	0	0	0	0	0
Global raw materials quality	63,0%	-	-	-	-
Initial stock	81000	141000	10796,61	9775,67	6895,072
Initial stock quality	63,2%	-	-	-	-
Tot available	141000	224000	100796,6	244775,7	146895,1
Use for production	0	213203,4	91020,94	237880,6	143914,3
End stock	141000	10796,61	9775,67	6895,072	2980,787
End stock quality	68,2%	-	-	-	-

Figure 6.2: MRP for Fittings' raw materials.

Furniture - Raw materials	Q9	Q10	Q11	Q12	Q13
Needed	900	17634,69	26725,23	38022,88	17968,92
Local raw materials bought	8500	15000	24000	38000	18000
Local quality	75,0%	-	-	-	-
Global raw materials bought	0	0	0	0	0
Global available immediately	0	0	0	0	0
Global from previous period	0	0	0	0	0
Global raw materials quality	65,0%	-	-	-	-
Initial stock	0	7600	4965,314	2240,084	2217,201
Initial stock quality	0	-	-	-	-
Tot available	8500	22600	28965,31	40240,08	20217,2
Use for production	900	17634,69	26725,23	38022,88	17968,92
End stock	7600	4965,314	2240,084	2217,201	2248,28
End stock quality	75,0%	-	-	-	-

Figure 6.3: MRP for Furniture's raw materials.

We now have to decide our sourcing strategy, and to do this we need to analyze the importance of raw materials for our products and the difficulty of the market from which we take them. To do this, we use Kraljic's matrix: we define two axes of classification (complexity of the market and strategic importance of the materials) and see in which box our raw materials stand.

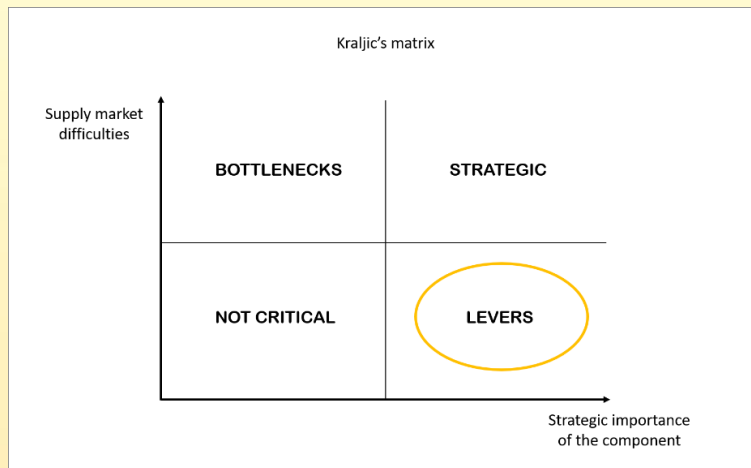


Figure 6.4: Kraljic's matrix.

All of our components are “levers”, because they have an high impact on the quality of our products (the quality of our products is approximately computed as a weighted average between the quality of raw materials and the quality of production) and the market from which we take them is not difficult: there are many suppliers and all of them have components that fit our processes. For this reason, our supply strategy is to take advantage of our bargaining power in order to make the most out of the market.

The last but not less important thing that we have to decide is from who we want to buy our components: we can choose between local or global suppliers. We have analyzed the quality of local and imported raw materials over the years and found out that the local ones have a high quality with a positive trend, while the imported ones have minor quality and a variable trend: according to our strategy, we have decided to buy mainly from local suppliers.

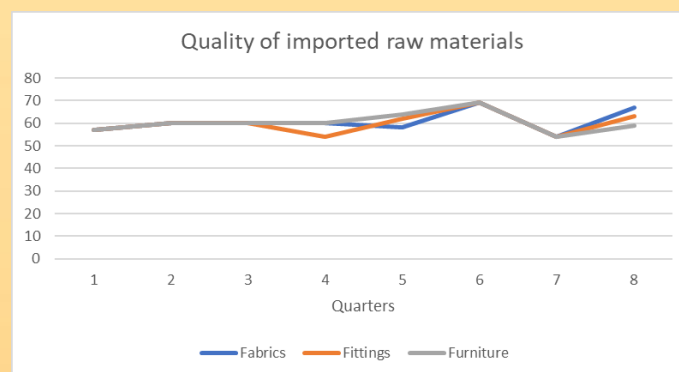


Figure 6.5: Quality of imported raw materials.

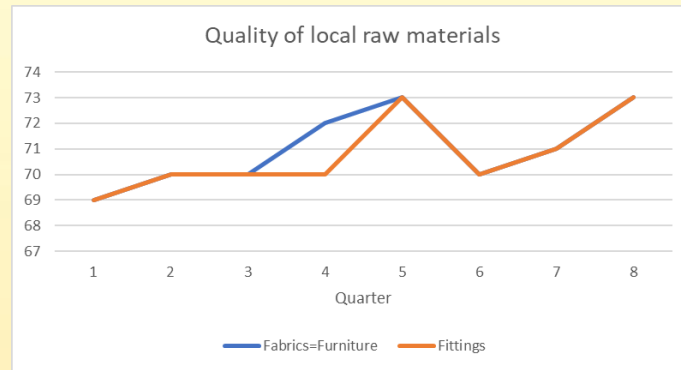


Figure 6.6: Quality of local raw materials.

Production process

In order to explain operation decisions, we need to introduce the Wellman's model which is a tool that describes our strategy for the manufacturing process.

It consists in defining the way in which a company makes its products: it can be on forecast or on order. The model defines it by positioning a decoupling point, which can be set in one of the intersections between one phase and another of the ordinary supply chain: design, supplying, manufacture, assembly, shipment.

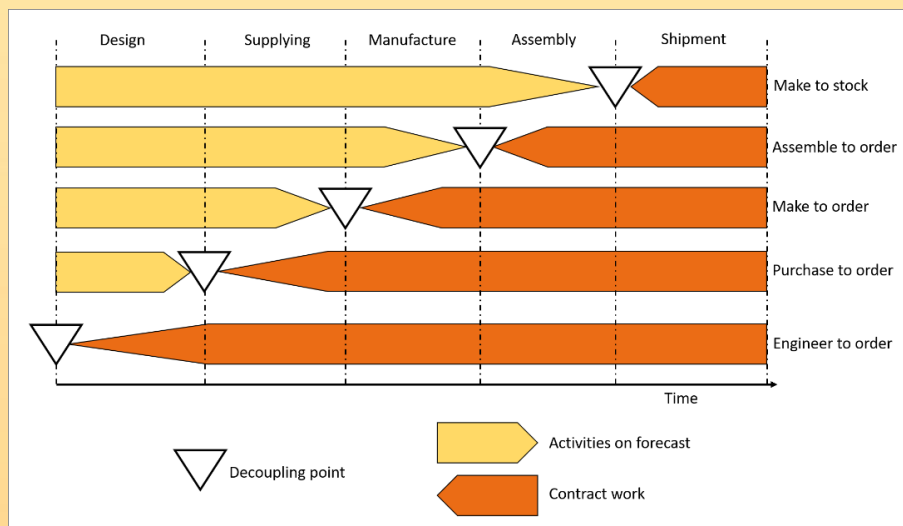


Figure 6.7: Positioning of the decoupling point.

The strategy of our company is the MTS (Make to stock), which consists in producing goods to stock them in the outlets until they are purchased by the customers. The activities of Design, Supplying, Manufacture and Assembly are all based on forecasting, whereas the Delivery is completed when production is over. Considering this strategy, we can assert that

there is no lead time for the customers: this can help us to maximize the level of effectiveness of the sales.

Wellman teaches us that if the decoupling point is far from the customer, it's harder to forecast the demand: so, in our case, the demand forecasts should be very accurate. For this reason, we decided to plan our production basing on those forecasts, with an estimated initial market share of 18% which is intended to increase with our investments.

Analysing the demand forecast we have realized that our manufacturing system doesn't have the required production capacity on Q10 (Apr-Jun 2020) and Q11 (Jul-Sep 2020), so we have decided to invest in forty new machines that can guarantee the production capacity we need.

Financial control

Bank loan

We have the opportunity to borrow cash from banks. The previous management has already borrowed 32.634.594€. In order to control if we are investing this capital in a profitable way, we monitor an index which is the return on capital (ROC). ROC is an index calculated as operating profit after tax divided total invested capital. In the previous period we had a ROC of 11,4%, due to an operating profit after tax of 9.242.822€ and a total invested capital of 80.768.800€. We want to improve it by investing wisely the capital we have borrowed to obtain a major operating profit. If we will gain a certain financial stability with the possibility to retain some earnings, we will give back some of the money we borrowed.

Environmental issues

As said before, the Government is asking banks to lower their interests in order to encourage environmental investments by companies. We want to do a big investment in environment, because we are aware of this problem and it could give a good image of our company.

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